Application

04751 - 2016 Roadway Expansion

05083 - TH 41 Expansion Project - Arboretum Area Phase

Regional Solicitation - Roadways Including Multimodal Elements

Status:	Submitted
Submitted Date:	07/14/2016 9:11 AM

Primary Contact

Name:*		Darin	Neil	Mielke
	Salutation	First Name	Middle Name	Last Name
Title:	Deputy County Engineer			
Department:	Public Works			
Email:	dmielke@co.carver.mn.us			
Address:	11360 Highway 212, Suite 1			
*	Cologne	Minnesota	55322	
	City	State/Province	Postal Code/Zip	
Phone:*	952-466-5200			
	Phone		Ext.	
Fax:				
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 TH 41 Expansion from CSAH 18 to TH 5

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 will expand Trunk Highway (TH) 41, approximately one mile in length between CSAH 18 (Lyman Blvd) and TH 5 in Carver County (see Figure 1). This A-Minor Expander is currently a two lane undivided facility and is proposed to be expanded to a four lane divided facility with a trail along the east side of the road. The preferred concept for the signal controlled intersection at TH 41/CSAH 18 (Lyman Blvd.) is proposed to be converted to a roundabout. Capacity and sight distance improvements are also proposed for the TH 41/TH 5 intersection (see Figure 2).

The proposed project is a result of continuous growth in the area; average annual daily traffic is currently 12,700 vehicles and is expected to increase to 17,400 vehicles by 2040. Given current volumes of traffic and expected demand, the existing two-lane facility is no longer adequate and poses significant safety and congestion issues during peak periods.

TH 41 is a critical link in the roadway system of the western metropolitan area, providing direct access to four trunk highways (TH 5, TH 7, TH 212, and TH 169) and a network of local east-west A- Minor Arterials (e.g., CSAH 10, CSAH 14, CSAH 18 and CSAH 61). The proposed project is also the primary north/south connector between Chaska and Chanhassen. TH 41 is a critical freight and commuter link between TH 212 and TH 5 to a significant regional business center along TH 41 in the cities of Chanhassen and Chaska (approximately 8,500 people are employed within a mile of the project).

The Chanhassen 2030 Comprehensive Plan identifies the TH 41/TH 5 intersection as having safety and capacity issues that need to be

corrected. The project limits within the City of Chanhassen have been identified in the city's Comprehensive Plan as having numerous site distance issues. In anticipation of growth along the corridor, the City of Chaska Comprehensive Plan notes that the roadway is currently over capacity, and recommends that TH 41 from Hundertmark Road to the north city border be improved to a four lane divided highway.

The project will reduce delay and congestion and improve safety for multiple modes along TH 41. Both access and mobility will be significantly improved for nearby schools serving students in both Chanhassen and Chaska and for adjacent regional employment areas serving the entire metro region.

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

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

TH41, CHASKA AND CHANHASSEN, FROM JCT CSAH 18/LYMAN BLVD TO JCT TH5/ARBORETUM BLVD, 1 MILE PED./BIKE TRAIL, WIDENING, INTERSECTION IMPROVEMENTS

Project Length (Miles)

1.02

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

$6,590,000.00

Minimum of 20% of project total

Project Total

$13,590,000.00

Match Percentage

48.49%

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

Source of Match Funds

Carver County and Local Cost Share Policy

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: 2020

For TDM projects, select 2018 or 2019. For Roadway, Transit, or Trail/Pedestrian projects, select 2020 or 2021.

Additional Program Years:

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

Project Information: Roadway Projects

County, City, or Lead Agency Carver County

Functional Class of Road A-Minor Expander

Road System TH

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

Road/Route No. 41

i.e., 53 for CSAH 53

Name of Road Hazeltine Blvd

Example; 1st ST., MAIN AVE

Zip Code where Majority of Work is Being Performed 55318

(Approximate) Begin Construction Date 06/01/2020

(Approximate) End Construction Date 07/30/2021

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

From:
(Intersection or Address) TH 5 (Arboretum Blvd) and TH 41

To:
(Intersection or Address) CSAH 18 (Lyman Blvd) and TH 41

DO NOT INCLUDE LEGAL DESCRIPTION

Or At

Primary Types of Work Grade, Paved Surface, Multiuse Trails, Storm Sewer, Traffic Signal, Roundabouts, ADA Ramps, Sidewalk, Curb and Gutter, Raised Median, Landscaping

Examples: GRADE, AGG BASE, BIT BASE, BIT SURF, SIDEWALK, CURB AND GUTTER,STORM SEWER, SIGNALS, LIGHTING, GUARDRAIL, BIKE PATH, PED RAMPS, BRIDGE, PARK AND RIDE, ETC.

BRIDGE/CULVERT PROJECTS (IF APPLICABLE)

Old Bridge/Culvert No.:

New Bridge/Culvert No.:

Structure is Over/Under
(Bridge or culvert name):

Specific Roadway Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Mobilization (approx. 5% of total cost)	$518,000.00
Removals (approx. 5% of total cost)	$217,000.00
Roadway (grading, borrow, etc.)	$2,560,000.00
Roadway (aggregates and paving)	$4,121,000.00
Subgrade Correction (muck)	$233,000.00
Storm Sewer	$981,000.00
Ponds	$150,000.00
Concrete Items (curb & gutter, sidewalks, median barriers)	$851,000.00
Traffic Control	$519,000.00
Striping	$36,000.00
Signing	$29,000.00
Lighting	$50,000.00
Turf - Erosion & Landscaping	$491,000.00
Bridge	$0.00
Retaining Walls	$133,000.00
Noise Wall (do not include in cost effectiveness measure)	$0.00
Traffic Signals	$305,000.00
Wetland Mitigation	$30,000.00
Other Natural and Cultural Resource Protection	$0.00
RR Crossing	$0.00
Roadway Contingencies	$2,178,000.00
Other Roadway Elements	$0.00
Totals	**$13,402,000.00**

Specific Bicycle and Pedestrian Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Path/Trail Construction	$149,000.00
Sidewalk Construction	$0.00
On-Street Bicycle Facility Construction	$0.00
Right-of-Way	$0.00
Pedestrian Curb Ramps (ADA)	$39,000.00

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	**$188,000.00**

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
Contingencies	$0.00
Right-of-Way	$0.00
Other Transit and TDM Elements	$0.00
Totals	**$0.00**

Transit Operating Costs

Number of Platform hours	0
Cost Per Platform hour (full loaded Cost)	$0.00
Substotal	$0.00
Other Costs - Administration, Overhead,etc.	$0.00

Totals

Total Cost	$13,590,000.00
Construction Cost Total	$13,590,000.00
Transit Operating Cost Total	$0.00

Requirements - All Projects

All Projects

1.The project must be consistent with the goals and policies in these adopted regional plans: Thrive MSP 2040 (2014), the 2040 Transportation Policy Plan, the 2040 Regional Parks Policy Plan (2015), and the 2040 Water Resources Policy Plan (2015).

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

2.The project must be consistent with the 2040 Transportation Policy Plan. Reference the 2040 Transportation Plan objectives and strategies that relate to the project.

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

Goal B: Safety and Security (2040 TPP, pg. 2.7)- The regional transportation system is safe and secure for all users.

o Objectives: Reduce crash rates and improve safety and security for all modes of passenger travel and freight transport.

Strategies:
B1 - Regional transportation partners will incorporate safety and security considerations for all modes and users throughout the processes of planning, funding, construction, operation.

B3 - Regional transportation partners should monitor and routinely analyze safety and security data by mode and severity to identify priorities and progress.

B6 - Regional transportation partners will use best practices to provide and improve facilities for safe walking and bicycling, since pedestrians and bicyclists are the most vulnerable users of the transportation system.

Goal D: Competitive Economy (2040 TPP, pg. 2.11) - The regional transportation system supports the economic competitiveness, vitality, and prosperity of the regions and state.
o Objectives: Support the region's economic competitiveness through the efficient movement of freight.

Strategies:
D5 - The Council and MnDOT will work with transportation partners to identify the impacts of highway congestion on freight and identify cost-effective mitigation.

Goal F: Leveraging Transportation Investment to Guide Land Use (2040 TPP, pg. 2.14) The region leverages transportation investments to guide land use and development patterns that advance the regional vision of stewardship, prosperity, livability, equity, and sustainability.

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

Strategies:

F7 - Local governments should include bicycle and pedestrian elements in local comprehensive plans.

3.The project or the transportation problem/need that the project addresses must be in a local planning or programming document. Reference the name of the appropriate comprehensive plan, regional/statewide plan, capital improvement program, corridor study document [studies on trunk highway must be approved by the Minnesota Department of Transportation and the Metropolitan Council], or other official plan or program of the applicant agency [includes Safe Routes to School Plans] that the project is included in and/or a transportation problem/need that the project addresses.

List the applicable documents and pages:

Carver County Comprehensive Plan: Chapter 1: Consistent with Plan's Goals

4.The project must exclude costs for studies, preliminary engineering, design, or construction engineering. Right-of-way costs are only eligible as part of bicycle/pedestrian projects, transit stations/stops, transit terminals, park-and-ride facilities, or pool-and-ride lots. Noise barriers, drainage projects, fences, landscaping, etc., are not eligible for funding as a standalone project, but can be included as part of the larger submitted project, which is otherwise eligible.

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

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

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

6.Applicants must not submit an application for the same project elements in more than one funding application category.

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

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

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

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

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

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

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

10.The owner/operator of the facility must operate and maintain the project for the useful life of the improvement.

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

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

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

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

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

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

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

Roadways Including Multimodal Elements

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

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

Roadway Expansion and Reconstruction/Modernization projects only:

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

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

Bridge Rehabilitation/Replacement projects only:

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

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

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

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

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

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

6. The bridge must have a sufficiency rating less than 80 for rehabilitation projects and less than 50 for replacement projects. Additionally, the bridge must also be classified as structurally deficient or functionally obsolete.

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

Requirements - Roadways Including Multimodal Elements

Expander/Augmentor/Non-Freeway Principal Arterial

Select one:	Expander
Area	3.714
Project Length	0.997
Average Distance	3.7252
Upload Map	

Reliever: Relieves a Principle Arterial that is a Freeway Facility

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

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

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

Non-Freeway Facility Volume/Capacity Table

Hour	NB/EB Volume	SB/WB Volume	Capacity	Volume exceeds capacity
12:00am - 1:00am			0	
1:00am - 2:00am			0	
2:00am - 3:00am			0	
3:00am - 4:00am			0	
4:00am - 5:00am			0	
5:00am - 6:00am			0	
6:00am - 7:00am			0	
7:00am - 8:00am			0	
8:00am - 9:00am			0	
9:00am - 10:00am			0	
10:00am - 11:00am			0	

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

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

Existing Employment within 1 Mile:	8524
Existing Manufacturing/Distribution-Related Employment within 1 Mile:	5109
Existing Students:	0
Upload Map	1467984388344_TH 41_MC_Map_RE.pdf

Measure C: Current Heavy Commercial Traffic

Location:	TH 41 at CSAH 18 (Lyman Blvd.)
Current daily heavy commercial traffic volume:	900
Date heavy commercial count taken:	2015

Measure D: Freight Elements

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

TH 41 is one of the few continuous north-south freight corridors west of the I-494 beltway, providing vial links to east-west highways (e.g., TH 5, TH 7, and TH 212). A key component of the proposed project is the emphasis on conveying freight (via trucks/heavy commercial vehicles) to the major regional employment and manufacturing businesses (see Figure 1) abutting the proposed project and within a mile of the proposed project.

The proposed project incorporates a roundabout at the intersection of TH 41/CSAH 18 (Lyman Blvd.) to reduce the need for starting and stopping and increase overall intersection safety. A signal will continue to be utilized at the intersections of TH 41/TH 5 and TH 41/82nd St.; however, existing capacity and safety issues with the intersections will be improved through the addition of through lanes, left turn lanes, and a raised median. Where the existing cross section of TH 41 includes one ten foot paved shoulder, the proposed cross section includes paved shoulders on both sides to better accommodate heavy commercial vehicles (see Figure 2). The existing two lane roadway will be improved to a four lane, divided roadway, which will both improve capacity and safety for heavy commercial vehicles.

Measure A: Current Daily Person Throughput

Location	TH 41 South of TH 5 in Chanhassen
Current AADT Volume	12700
Existing Transit Routes on the Project	684
For New Roadways only, list transit routes that will be moved to the new roadway	
Upload Transit Map	1467986795804_TH 41_MC_Map_TC.pdf

Response: Current Daily Person Throughput

Average Annual Daily Transit Ridership	0

Current Daily Person Throughput	16510.0

Measure B: 2040 Forecast ADT

Use Metropolitan Council model to determine forecast (2040) ADT volume	No
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	Carver County Travel Demand Model
Forecast (2040) ADT volume	17400

Measure A: Project Location and Impact to Disadvantaged Populations

Select one:

Project located in Area of Concentrated Poverty with 50% or more of residents are people of color (ACP50):	
Project located in Area of Concentrated Poverty:	
Projects census tracts are above the regional average for population in poverty or population of color:	
Project located in a census tract that is below the regional average for population in poverty or populations of color or includes children, people with disabilities, or the elderly:	Yes

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

TH 41 provides a significant benefit to the region's social equity goals. Examples include:

o Children make the vicinity of the proposed project unique and beneficial to the surrounding community. According to the 2014 American Community Survey, two of three census tracts adjacent to the proposed project have a higher concentration of children (both 28 percent) than the seven-county metro average (24 percent). The proposed project is focused along a key segment of TH 41 that connects the cities of Chanhassen and Chaska, where both cities have a concentration of children (29 and 28 percent, respectively) that are higher than the seven-county metro average.

o The proposed project segment of TH 41 is a key connection for children attending a number of schools within Carver County School District 112, with particular importance for students attending Chanhassen High School, Chaska High School, and Pioneer Ridge Middle School. The role of TH 41 as an important connection within School District 112 also highlights the route's importance as a regional connection between Chanhassen and Chaska.

o The Minnesota Landscape Arboretum is a valuable regional asset located along the northwest edge of the proposed project. The Arboretum is both a cultural and environmental resource to the region that benefits children not only in the seven-county metro area, but especially the high concentration of children found in the vicinity of the proposed project. The Arboretum benefits children through free admission and numerous classes and programs.

o The proposed project includes a trail for pedestrian and bicycle use located along the east side of TH41. The trail will provide a safe pathway for pedestrians and bicyclists where none currently exists. For students, the trail will enable middle and high school students residing in northern Chaska and Chanhassen the opportunity to safely travel to school.

o The proposed project will reduce transportation costs, especially for local residents who are already in housing that is cost burdened. In both Chaska and Chanhassen combined, over 53 percent of renters are cost burdened (pay more than 30 percent of the income on housing). This is five percent higher than the regional average. The proposed project will benefit renters who live in both Chaska and Chanhassen by 1) reducing congestion and lowering driving costs and 2) providing an addition to the regional trail system that will provide additional options for residents to walk or bicycle to local destinations, thereby reducing the need to spend money on driving.

The response should address the benefits, impacts, and mitigation for the populations affected by the project.

Upload Map 1467984604485_TH 41_MC_Map_SE.pdf

Measure B: Affordable Housing

City/Township	Segment Length in Miles (Population)
Chanhassen	0.5
Chaska	0.515
	1

Total Project Length

Total Project Length (Total Population) 1.02

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
		0	**0**	**0**	**0**

Affordable Housing Scoring - To Be Completed By Metropolitan Council Staff

Total Project Length (Miles)	1.015
Total Housing Score	0

Measure A: Infrastructure Age

Year of Original Roadway Construction or Most Recent Reconstruction	Segment Length	Calculation	Calculation 2
1923.0	1.015	1951.845	1923.0
	1	**1952**	**1923**

Average Construction Year

Weighted Year	1923.0

Total Segment Length (Miles)

Total Segment Length	1.015

Measure A: Vehicle Delay Reduction

Total Peak Hour Delay Per Vehicle Without The Project	Total Peak Hour Delay Per Vehicle With The Project	Total Peak Hour Delay Per Vehicle Reduced by Project	Volume (Vehicles Per Hour)	Total Peak Hour Delay Reduced by the Project (Seconds)	EXPLANATION of methodology used to calculate railroad crossing delay, if applicable:	Synchro or HCM Reports

64.0	40.1	23.9	4745.0	113405.5	The methodology is consistent with application guidelines.	1468437330714_HCM Reports.pdf

Total Delay

Total Peak Hour Delay Reduced	113405.5

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

Total (CO, NOX, and VOC) Peak Hour Emissions Per Vehicle without the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions Per Vehicle with the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions Reduced Per Vehicle by the Project (Kilograms):	Volume (Vehicles Per Hour):	Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):
11.15	10.62	0.53	4745.0	2514.85
11	**11**		**4745**	**2515**

Total

Total Emissions Reduced:	2514.85
Upload Synchro Report	1468418185807_HCM Reports.pdf

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

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

Total Parallel Roadways

Emissions Reduced on Parallel Roadways	0
Upload Synchro Report	

New Roadway Portion:

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

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

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

Measure A: Benefit of Crash Reduction

TH41/CSAH 18

- CR 1 - Convert Signal to Multilane RAB

- CR 2 - Improve Pavement Friction

TH 41/82nd St. Intersections:

- CR 1 - Increase Lanes

- CR 2 - Improve Pavement Friction

Crash Modification Factor Used:

TH 41 - CSAH 18 to TH 5:

- CR 1 - Increase Number of Lanes

- CR 2 - Install a Raised Median

TH 41 and TH 5 Intersection:

- CR 1 - Increase Number of Lanes

- CR 2 - Install Double Left Turn Lane

See attachment for more information.

(Limit 700 Characters; approximately 100 words)

Rationale for Crash Modification Selected:

The crash modification factors are consistent with the proposed improvements. See attachment for more information.

(Limit 1400 Characters; approximately 200 words)

Project Benefit ($) from B/C Ratio: 6236936.0

Worksheet Attachment 1468359072816_TH 41 Completed Crash Analysis.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 (Limit 2,800 characters; approximately 400 words)

All modes of transportation will benefit from the project's improved access and connections to surrounding businesses, neighborhoods, and local/regional public areas (e.g., schools, parks and open space).

Pedestrians and bicycles will gain some of the strongest benefits from the proposed project. For example, the project includes a separated trail on the east side of TH 41 and improved crossings at the proposed roundabout and traffic signals. Pedestrians and bicyclists currently rely on indirect connections to access established trails in northwest Chanhassen, residential neighborhoods, the Minnesota Landscape Arboretum, local/county parks, and commercial locations in Chaska. The proposed trail is identified in both the Chanhassen 2030 and Chaska 2030 Comprehensive Plans and will serve as a significant step in providing a direct north/south link from northwest Chanhassen along TH 41 to these desired pedestrian and bicycle destinations. The regional importance of the trail underlies the fact that the TH 41 alignment has been adopted by the Metropolitan Council as a Tier 2 Regional Bicycle Transportation Network Alignment, which is also provided in the Chanhassen 2030 Comprehensive Plan as the "Highway 5 Regional Trail".

Furthermore the proposed trail will increase local access between residential neighborhoods, Chanhassen High School, and the Minnesota Arboretum. TH 41 currently serves as an impediment to pedestrians and bicyclists attempting to access the Arboretum from existing trails to the east and northeast. The project will provide ADA access across TH 41 and a raised median to enhance the safety of pedestrians and bicyclists crossing the highway at the intersections of 82nd St. and CSAH 18 (Lyman Blvd.).

SouthWest Transit express bus route 684 utilizes TH 41, including the proposed project segment, and connects Chanhassen and Chaska to major regional destinations, such as downtown Minneapolis and the University of Minnesota. This route serves the nearby East Creek Station park-and-ride facility. The TH 41 expansion will reduce delays for commuters accessing the East Creek park-and-ride facility, and will reduce transit delays on the 684 express bus route by adding additional capacity to the roadway, reducing congestion, and improving intersection operations. According to School District 112 staff, TH 41 is a critical north/south link for school bus access throughout the entire district. At least 100 school buses utilize TH 41 in the morning and afternoon peak periods. The TH 41 expansion will benefit students, teachers, and parents by reducing bus idling time, ensuring reliable trip times, and reducing time and costs for school district bus operations.

Transit Projects Not Requiring Construction

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

Check Here if Your Transit Project Does Not Require Construction

Measure A: Risk Assessment

1)Project Scope (5 Percent of Points)

Meetings or contacts with stakeholders have occurred

100%

Stakeholders have been identified

Yes

40%

Stakeholders have not been identified or contacted

0%

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

Layout or Preliminary Plan completed Yes

100%

Layout or Preliminary Plan started

50%

Layout or Preliminary Plan has not been started

0%

Anticipated date or date of completion 12/02/2019

3)Environmental Documentation (5 Percent of Points)

EIS

EA

PM Yes

Document Status:

Document approved (include copy of signed cover sheet)

100%

Document submitted to State Aid for review

75% date submitted

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

50%

Document not started Yes

0%

Anticipated date or date of completion/approval

4)Review of Section 106 Historic Resources (10 Percent of Points)

No known historic properties eligible for or listed in the National Register of Historic Places are located in the project area, and project is not located on an identified historic bridge Yes

100%

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

80%

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

40%

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

0%

Anticipated date or date of completion of historic/archeological review:

Project is located on an identified historic bridge

5)Review of Section 4f/6f Resources (10 Percent of Points)

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

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

100%

No impact to 4f property. The project is an independent bikeway/walkway project covered by the bikeway/walkway Negative Declaration statement; letter of support received

100%

Section 4f resources present within the project area, but no known adverse effects Yes

80%

Project impacts to Section 4f/6f resources likely coordination/documentation has begun

50%

Project impacts to Section 4f/6f resources likely coordination/documentation has not begun

30%

Unsure if there are any impacts to Section 4f/6f resources in the project area

0%

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

Right-of-way, permanent or temporary easements not required

100%

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

100%

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

75%

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

50%

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

25%

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

0%

Right-of-way, permanent or temporary easements identification has not been completed

0%

Anticipated date or date of acquisition 12/02/2019

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)Interchange Approval (15 Percent of Points)*

**Please contact Karen Scheffing at MnDOT (Karen.Scheffing@state.mn.us or 651-234-7784) to determine if your project needs to go through the Metropolitan Council/MnDOT Highway Interchange Request Committee.*

Project does not involve construction of a new/expanded interchange or new interchange ramps Yes

100%

Interchange project has been approved by the Metropolitan Council/MnDOT Highway Interchange Request Committee

100%

Interchange project has not been approved by the Metropolitan Council/MnDOT Highway Interchange Request Committee

0%

9)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	12/02/2019

10)Letting

Anticipated Letting Date	03/02/2020

Measure A: Cost Effectiveness

Total Project Cost (entered in Project Cost Form):	$13,590,000.00
Enter Amount of the Noise Walls:	$0.00
Total Project Cost subtract the amount of the noise walls:	$13,590,000.00
Points Awarded in Previous Criteria	
Cost Effectiveness	$0.00

Other Attachments

File Name	Description	File Size
Figure 1_project location map.pdf	Figure 1, Project Location	1.2 MB
Figure 3_TH 41_Existing Condition Photo.pdf	Figure 3, Existing Site Photo_1	680 KB
Figure 4_TH 41_Existing Condition Photo.pdf	Figure 4, Existing Site Photo_2	193 KB
Figure 5_TH 41_Existing Condition Photo.pdf	Figure 5, Existing Site Photo_3	206 KB
Figure 6_TH 41_Existing Condition Photo.pdf	Figure 6, Existing Site Photo_4	278 KB
Figure 7_TH 41_Existing Condition Photo.pdf	Figure 7, Existing Site Photo_5	184 KB
Figure_2_160712.pdf	Figure 2, Layout	603 KB
RADth41CarvREX.pdf	RADth41CarvRE	196 KB
TH 41-Lyman Blvd to TH5 MnDOT letter of support.pdf	MnDOT Letter of Support	105 KB
TH 41ChanhassenResolution.pdf	City of Chanhassen Resolution	39 KB
TH 41ChaskaResolution.pdf	City of Chaska Resolution	48 KB

Regional Economy

Roadway Reconstruction/Modernization Project: TH 41 from Lyman Blvd to TH 5 | Map ID: 1465866037449

Results

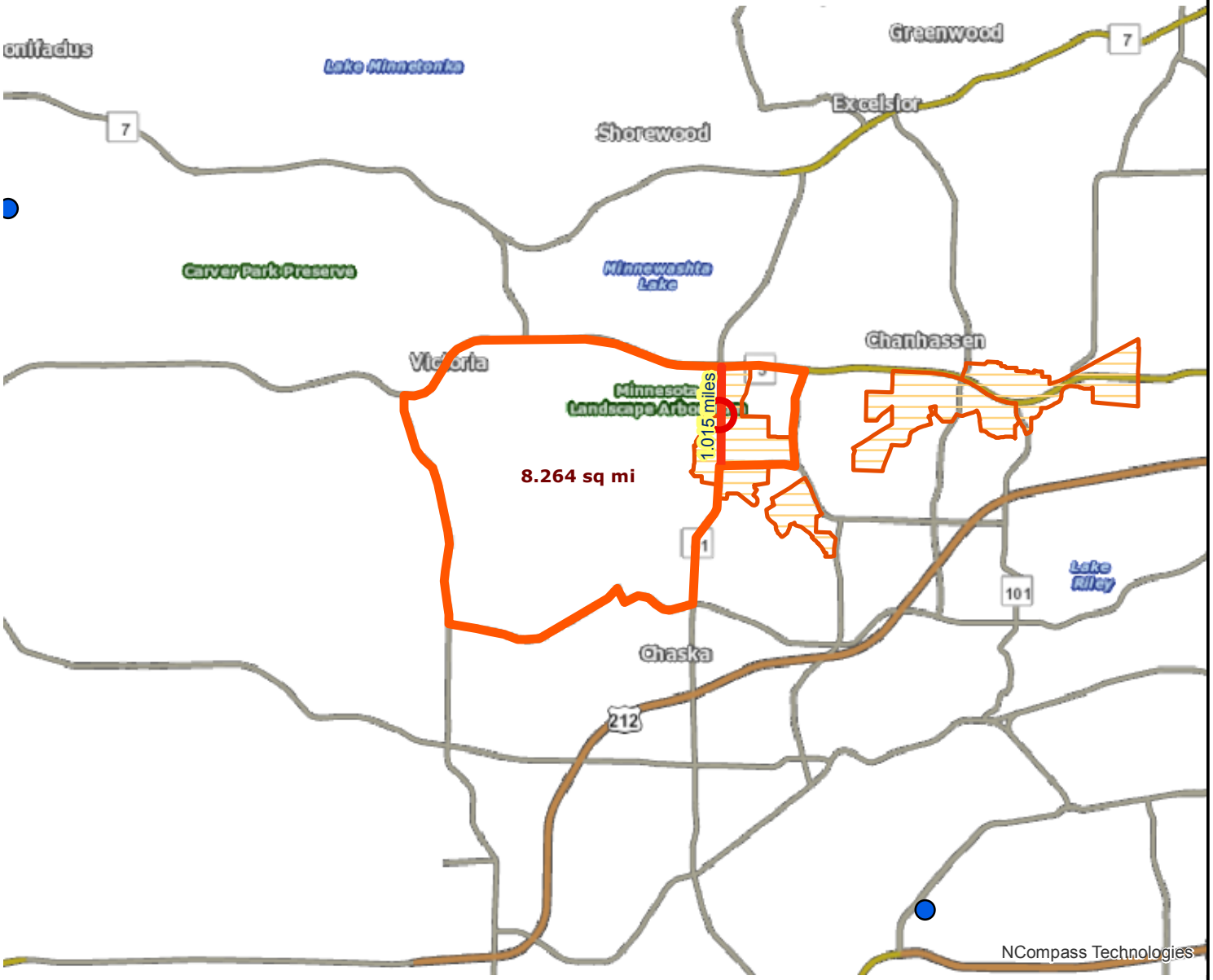
WITHIN ONE MI of project:

Totals by City:

Chanhassen
Population: 9532
Employment: 2138
Mfg and Dist Employment: 276

Chaska
Population: 2731
Employment: 6386
Mfg and Dist Employment: 4833

Postsecondary Students:
0



Project Points
Project
Project Area
PostSecondary Education Centers
Manfacturing/Distribution Centers
Job Concentration Centers

0 1 2 4 6 8 Miles

Created: 6/13/2016
LandscapeRSA5

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

METROPOLITAN COUNCIL

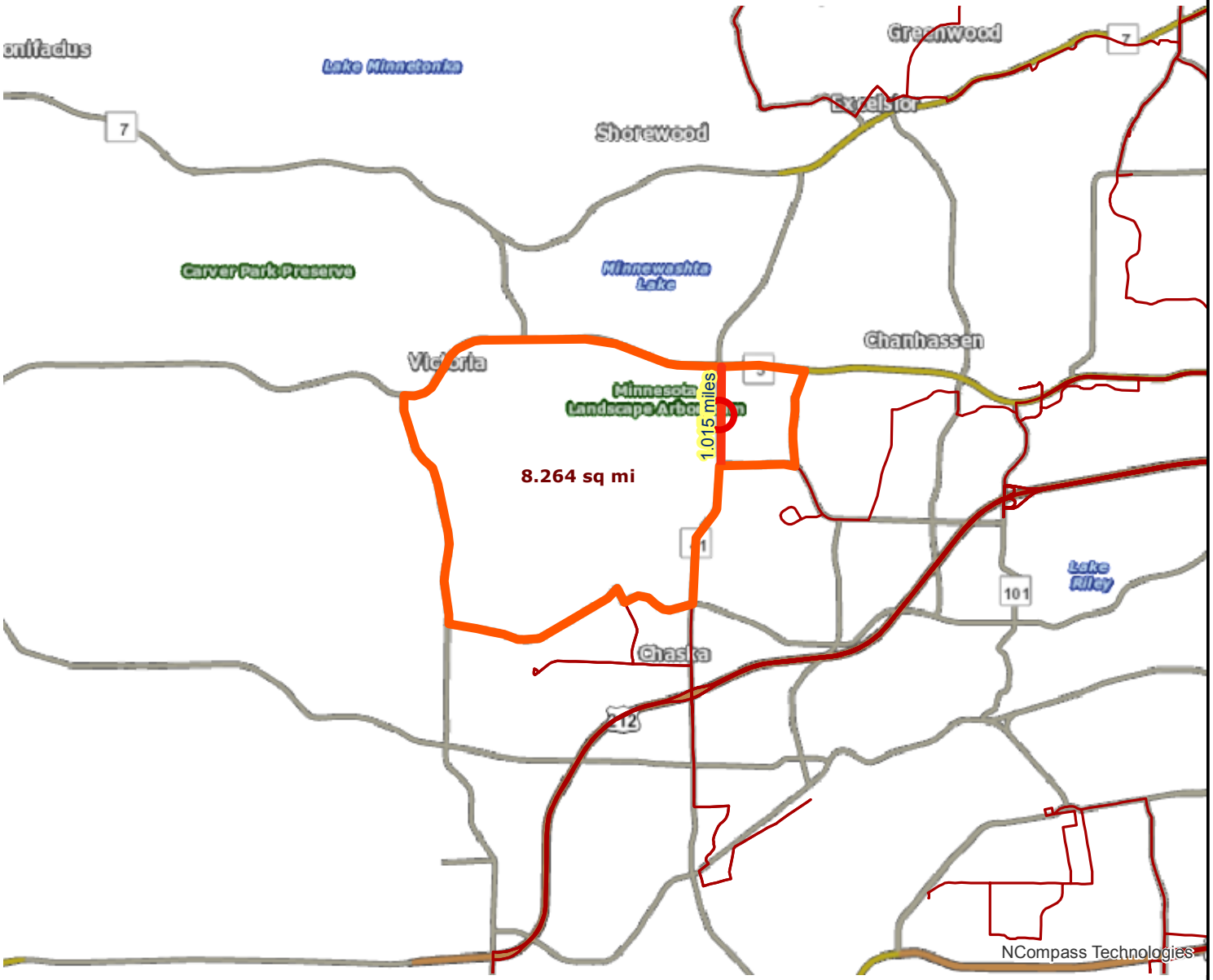
Transit Connections

Roadway Reconstruction/Modernization Project: TH 41 from Lyman Blvd to TH 5 | Map ID: 1465866037449

Results

Transit with a Direct Connection to project: 684

**indicates Planned Alignments*



Project Points | Project Area

Project | Transit Routes

0 1 2 4 6 8 Miles

Created: 6/13/2016
LandscapeRSA3

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

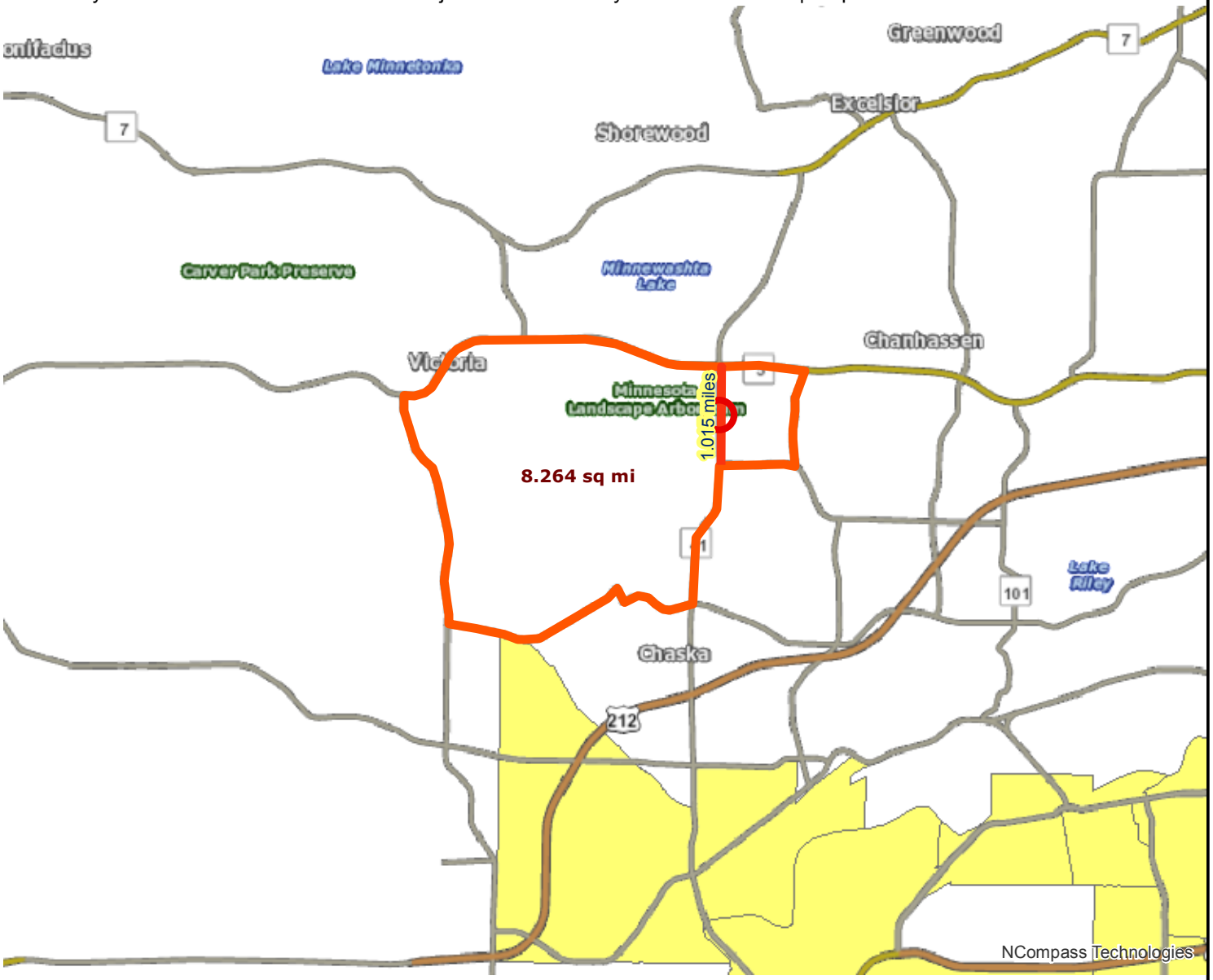
METROPOLITAN COUNCIL

Socio-Economic Conditions

Roadway Reconstruction/Modernization Project: TH 41 from Lyman Blvd to TH 5 | Map ID: 1465866037449

Results

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:
(0 to 12 Points)



Project Points
Project
Project Area

Area of Concentrated Povertry > 50% residents of color
Area of Concentrated Poverty
Above reg'l avg conc of race/poverty

0 1 2 4 6 8 Miles

Created: 6/13/2016
LandscapeRSA2

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

METROPOLITAN COUNCIL

2: TH 41 (Hazeltine Blvd) & Lyman Blvd

Direction	All
Future Volume (vph)	1792
Total Delay / Veh (s/v)	28
CO Emissions (kg)	2.93
NOx Emissions (kg)	0.57
VOC Emissions (kg)	0.68

5: TH 41 & MN 5

Direction	All
Future Volume (vph)	2953
Total Delay / Veh (s/v)	36
CO Emissions (kg)	4.89
NOx Emissions (kg)	0.95
VOC Emissions (kg)	1.13

2: TH 41 (Hazeltine Blvd) & Lyman Blvd

Direction	All
Future Volume (vph)	1794
Total Delay / Veh (s/v)	0
CO Emissions (kg)	2.81
NOx Emissions (kg)	0.55
VOC Emissions (kg)	0.65

5: TH 41 & TH 5

Direction	All
Future Volume (vph)	2953
Total Delay / Veh (s/v)	31
CO Emissions (kg)	4.64
NOx Emissions (kg)	0.90
VOC Emissions (kg)	1.07

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

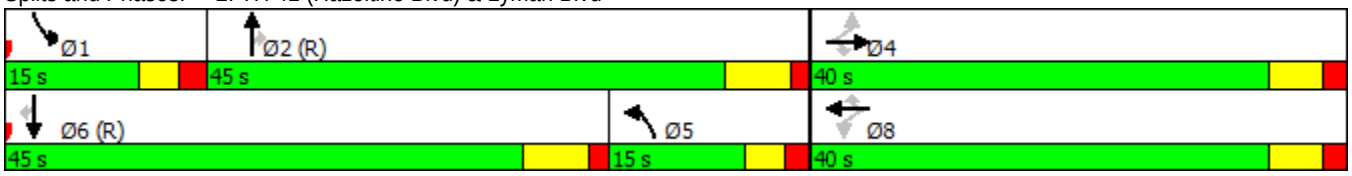
Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	175	495	708	614
Demand Flow Rate, veh/h	182	514	736	639
Vehicles Circulating, veh/h	975	682	159	358
Vehicles Exiting, veh/h	22	213	998	838
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	8.8	11.8	7.7	8.6
Approach LOS	A	B	A	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR
Assumed Moves	LT	TR	L	TR	LT	TR	LT	TR
RT Channelized								
Lane Util	0.473	0.527	0.665	0.335	0.470	0.530	0.469	0.531
Critical Headway, s	4.293	4.113	4.293	4.113	4.293	4.113	4.293	4.113
Entry Flow, veh/h	86	96	342	172	346	390	300	339
Cap Entry Lane, veh/h	544	571	678	701	1003	1011	864	879
Entry HV Adj Factor	0.957	0.967	0.962	0.963	0.961	0.962	0.962	0.960
Flow Entry, veh/h	82	93	329	166	333	375	289	326
Cap Entry, veh/h	520	552	652	675	964	972	831	845
V/C Ratio	0.158	0.168	0.505	0.245	0.345	0.386	0.347	0.385
Control Delay, s/veh	9.0	8.7	13.5	8.3	7.4	7.9	8.4	8.8
LOS	A	A	B	A	A	A	A	A
95th %tile Queue, veh	1	1	3	1	2	2	2	2

Phase Number	1	2	4	5	6	8
Movement	SBL	NBT	EBTL	NBL	SBT	WBTL
Lead/Lag	Lead	Lag		Lag	Lead	
Lead-Lag Optimize	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	None	None	C-Max	None
Maximum Split (s)	15	45	40	15	45	40
Maximum Split (%)	15.0%	45.0%	40.0%	15.0%	45.0%	40.0%
Minimum Split (s)	15	27.5	18	15	27.5	18
Yellow Time (s)	3	5	4	3	5	4
All-Red Time (s)	2	1.5	2	2	1.5	2
Minimum Initial (s)	7	20	10	7	20	10
Vehicle Extension (s)	3	5.5	3.5	3	5.5	2.5
Minimum Gap (s)	3	5.5	3.5	3	5.5	2.5
Time Before Reduce (s)	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0
Walk Time (s)		7	7		7	7
Flash Dont Walk (s)		14	14		14	14
Dual Entry	No	Yes	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	92	7	52	37	92	52
End Time (s)	7	52	92	52	37	92
Yield/Force Off (s)	2	45.5	86	47	30.5	86
Yield/Force Off 170(s)	2	31.5	72	47	16.5	72
Local Start Time (s)	0	15	60	45	0	60
Local Yield (s)	10	53.5	94	55	38.5	94
Local Yield 170(s)	10	39.5	80	55	24.5	80

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	90
Offset: 92 (92%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green	

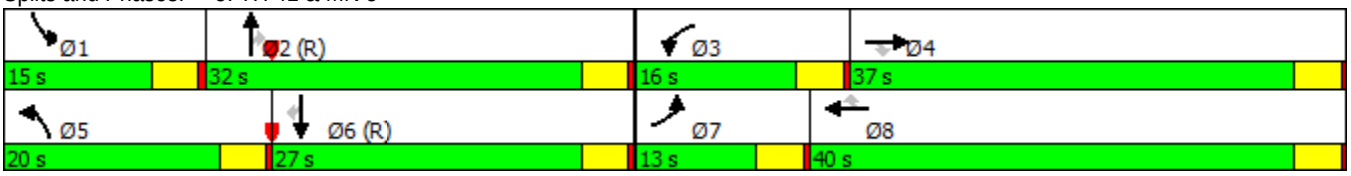
Splits and Phases: 2: TH 41 (Hazeltine Blvd) & Lyman Blvd



Phase Number	1	2	3	4	5	6	7	8
Movement	SBL	NBT	WBL	EBT	NBL	SBT	EBL	WBT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	None	C-Max	None	None
Maximum Split (s)	15	32	16	37	20	27	13	40
Maximum Split (%)	15.0%	32.0%	16.0%	37.0%	20.0%	27.0%	13.0%	40.0%
Minimum Split (s)	8	20	8	20	8	20	8	20
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Minimum Initial (s)	4	4	4	4	4	4	4	4
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		5		5		5		5
Flash Dont Walk (s)		11		11		11		11
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	80	95	27	43	80	0	27	40
End Time (s)	95	27	43	80	0	27	40	80
Yield/Force Off (s)	91	23	39	76	96	23	36	76
Yield/Force Off 170(s)	91	12	39	65	96	12	36	65
Local Start Time (s)	80	95	27	43	80	0	27	40
Local Yield (s)	91	23	39	76	96	23	36	76
Local Yield 170(s)	91	12	39	65	96	12	36	65

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	75
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	

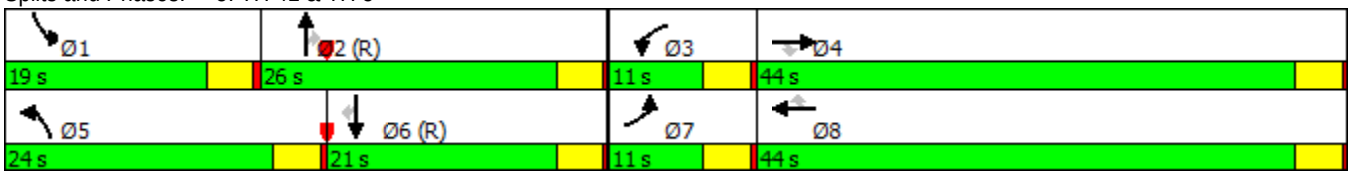
Splits and Phases: 5: TH 41 & MN 5



Phase Number	1	2	3	4	5	6	7	8
Movement	SBL	NBT	WBL	EBT	NBL	SBT	EBL	WBT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	None	C-Max	None	None
Maximum Split (s)	19	26	11	44	24	21	11	44
Maximum Split (%)	19.0%	26.0%	11.0%	44.0%	24.0%	21.0%	11.0%	44.0%
Minimum Split (s)	8	20	8	20	8	20	8	20
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Minimum Initial (s)	4	4	4	4	4	4	4	4
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		5		5		5		5
Flash Dont Walk (s)		11		11		11		11
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	76	95	21	32	76	0	21	32
End Time (s)	95	21	32	76	0	21	32	76
Yield/Force Off (s)	91	17	28	72	96	17	28	72
Yield/Force Off 170(s)	91	6	28	61	96	6	28	61
Local Start Time (s)	76	95	21	32	76	0	21	32
Local Yield (s)	91	17	28	72	96	17	28	72
Local Yield 170(s)	91	6	28	61	96	6	28	61

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	65
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	

Splits and Phases: 5: TH 41 & TH 5



2: TH 41 (Hazeltine Blvd) & Lyman Blvd

Direction	All
Future Volume (vph)	1792
Total Delay / Veh (s/v)	28
CO Emissions (kg)	2.93
NOx Emissions (kg)	0.57
VOC Emissions (kg)	0.68

5: TH 41 & MN 5

Direction	All
Future Volume (vph)	2953
Total Delay / Veh (s/v)	36
CO Emissions (kg)	4.89
NOx Emissions (kg)	0.95
VOC Emissions (kg)	1.13

2: TH 41 (Hazeltine Blvd) & Lyman Blvd

Direction	All
Future Volume (vph)	1794
Total Delay / Veh (s/v)	0
CO Emissions (kg)	2.81
NOx Emissions (kg)	0.55
VOC Emissions (kg)	0.65

5: TH 41 & TH 5

Direction	All
Future Volume (vph)	2953
Total Delay / Veh (s/v)	31
CO Emissions (kg)	4.64
NOx Emissions (kg)	0.90
VOC Emissions (kg)	1.07

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

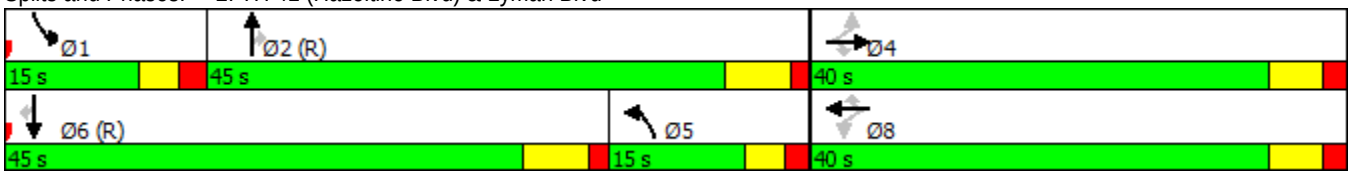
Approach	EB	WB	NB	SB
Entry Lanes	2	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	175	495	708	614
Demand Flow Rate, veh/h	182	514	736	639
Vehicles Circulating, veh/h	975	682	159	358
Vehicles Exiting, veh/h	22	213	998	838
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	8.8	11.8	7.7	8.6
Approach LOS	A	B	A	A

Lane	Left	Right	Left	Right	Left	Right	Left	Right
Designated Moves	LT	TR	LT	TR	LT	TR	LT	TR
Assumed Moves	LT	TR	L	TR	LT	TR	LT	TR
RT Channelized								
Lane Util	0.473	0.527	0.665	0.335	0.470	0.530	0.469	0.531
Critical Headway, s	4.293	4.113	4.293	4.113	4.293	4.113	4.293	4.113
Entry Flow, veh/h	86	96	342	172	346	390	300	339
Cap Entry Lane, veh/h	544	571	678	701	1003	1011	864	879
Entry HV Adj Factor	0.957	0.967	0.962	0.963	0.961	0.962	0.962	0.960
Flow Entry, veh/h	82	93	329	166	333	375	289	326
Cap Entry, veh/h	520	552	652	675	964	972	831	845
V/C Ratio	0.158	0.168	0.505	0.245	0.345	0.386	0.347	0.385
Control Delay, s/veh	9.0	8.7	13.5	8.3	7.4	7.9	8.4	8.8
LOS	A	A	B	A	A	A	A	A
95th %tile Queue, veh	1	1	3	1	2	2	2	2

Phase Number	1	2	4	5	6	8
Movement	SBL	NBT	EBTL	NBL	SBT	WBTL
Lead/Lag	Lead	Lag		Lag	Lead	
Lead-Lag Optimize	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	None	None	C-Max	None
Maximum Split (s)	15	45	40	15	45	40
Maximum Split (%)	15.0%	45.0%	40.0%	15.0%	45.0%	40.0%
Minimum Split (s)	15	27.5	18	15	27.5	18
Yellow Time (s)	3	5	4	3	5	4
All-Red Time (s)	2	1.5	2	2	1.5	2
Minimum Initial (s)	7	20	10	7	20	10
Vehicle Extension (s)	3	5.5	3.5	3	5.5	2.5
Minimum Gap (s)	3	5.5	3.5	3	5.5	2.5
Time Before Reduce (s)	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0
Walk Time (s)		7	7		7	7
Flash Dont Walk (s)		14	14		14	14
Dual Entry	No	Yes	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	92	7	52	37	92	52
End Time (s)	7	52	92	52	37	92
Yield/Force Off (s)	2	45.5	86	47	30.5	86
Yield/Force Off 170(s)	2	31.5	72	47	16.5	72
Local Start Time (s)	0	15	60	45	0	60
Local Yield (s)	10	53.5	94	55	38.5	94
Local Yield 170(s)	10	39.5	80	55	24.5	80

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	90
Offset: 92 (92%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green	

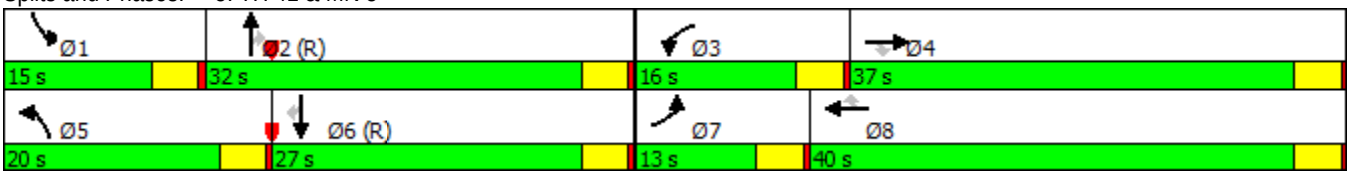
Splits and Phases: 2: TH 41 (Hazeltine Blvd) & Lyman Blvd



Phase Number	1	2	3	4	5	6	7	8
Movement	SBL	NBT	WBL	EBT	NBL	SBT	EBL	WBT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	None	C-Max	None	None
Maximum Split (s)	15	32	16	37	20	27	13	40
Maximum Split (%)	15.0%	32.0%	16.0%	37.0%	20.0%	27.0%	13.0%	40.0%
Minimum Split (s)	8	20	8	20	8	20	8	20
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Minimum Initial (s)	4	4	4	4	4	4	4	4
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		5		5		5		5
Flash Dont Walk (s)		11		11		11		11
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	80	95	27	43	80	0	27	40
End Time (s)	95	27	43	80	0	27	40	80
Yield/Force Off (s)	91	23	39	76	96	23	36	76
Yield/Force Off 170(s)	91	12	39	65	96	12	36	65
Local Start Time (s)	80	95	27	43	80	0	27	40
Local Yield (s)	91	23	39	76	96	23	36	76
Local Yield 170(s)	91	12	39	65	96	12	36	65

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	75
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	

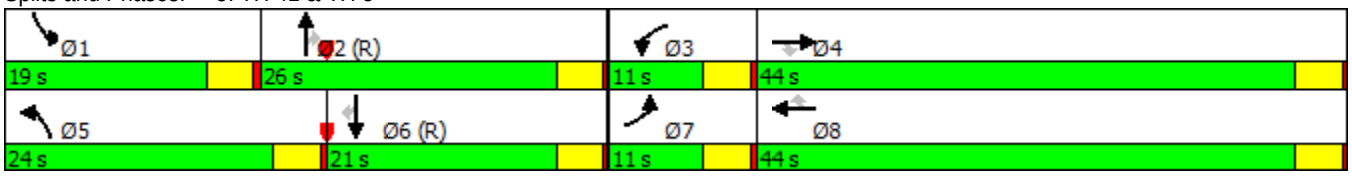
Splits and Phases: 5: TH 41 & MN 5



Phase Number	1	2	3	4	5	6	7	8
Movement	SBL	NBT	WBL	EBT	NBL	SBT	EBL	WBT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	None	C-Max	None	None
Maximum Split (s)	19	26	11	44	24	21	11	44
Maximum Split (%)	19.0%	26.0%	11.0%	44.0%	24.0%	21.0%	11.0%	44.0%
Minimum Split (s)	8	20	8	20	8	20	8	20
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Minimum Initial (s)	4	4	4	4	4	4	4	4
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		5		5		5		5
Flash Dont Walk (s)		11		11		11		11
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	76	95	21	32	76	0	21	32
End Time (s)	95	21	32	76	0	21	32	76
Yield/Force Off (s)	91	17	28	72	96	17	28	72
Yield/Force Off 170(s)	91	6	28	61	96	6	28	61
Local Start Time (s)	76	95	21	32	76	0	21	32
Local Yield (s)	91	17	28	72	96	17	28	72
Local Yield 170(s)	91	6	28	61	96	6	28	61

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	65
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	

Splits and Phases: 5: TH 41 & TH 5



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
	TH 41	TH 41 and TH 5			Carver	1/1/2013	12/31/2015

Description of Proposed Work: Add an additional NBT, SBT and add a dual EBL/WBL

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	2								2
		C	4			1				1	6
	Property Damage	PD	12	3		2	3				20
% Change in Crashes	Fatal	F									
	PI	A									
		B	-66%								
		C	-66%			-56%				-23%	
	Property Damage	PD	-98%	-82%		-48%	-57%				
Change in Crashes = No. of crashes **X** % change in crashes	Fatal	F									
	PI	A									
		B	**-1.32**								**-1.32**
		C	**-2.64**			**-0.56**				**-0.23**	**-3.43**
	Property Damage	PD	**-11.76**	**-2.46**		**-0.96**	**-1.71**				**-16.89**

*Use Crash Modification Factors Clearinghouse

Year (Safety Improvement Construction): **2020**

Project Cost (exclude Right of Way)	**$ 13,590,000**
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			$ 1,400,000	
A			$ 570,000	
B	-1.32	-0.44	$ 170,000	$ 74,868
C	-3.43	-1.14	$ 83,000	$ 94,983
PD	-16.89	-5.64	$ 7,600	$ 42,827
Total				$ 212,679

B/C= 0.27

Using present worth values,

B= $ 3,720,587

C= $ 13,590,000

See "Calculations" sheet for amortization.

Office of Traffic, Safety and Technology 2015

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
	TH 41	TH 41 and 82nd St			Carver	1/1/2013	12/31/2015

Description of Proposed Work: Increase Lanes and Improve Pavement Friction

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	2			1				1	**4**
	Property Damage	PD	1			1					**2**
% Change in Crashes *Use Crash Modification Factors Clearinghouse	Fatal	F									
	PI	A									
		B									
		C	-86%			-57%				-59%	
	Property Damage	PD	-86%			-57%					
Change in Crashes = No. of crashes **x** % change in crashes	Fatal	F									
	PI	A									
		B									
		C	**-1.72**			**-0.57**				**-0.59**	**-2.88**
	Property Damage	PD	**-0.86**			**-0.57**					**-1.43**

Year (Safety Improvement Construction): **2020**

		Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
Project Cost (exclude Right of Way)	**$ 13,590,000**					
Right of Way Costs (optional)		**F**			**$ 1,400,000**	
Traffic Growth Factor	**3%**	**A**			**$ 570,000**	
Capital Recovery		**B**			**$ 170,000**	
1. Discount Rate	**4.5%**	**C**	**-2.88**	**-0.96**	**$ 83,000**	**$ 79,753**
2. Project Service Life (n)	**20**	**PD**	**-1.43**	**-0.48**	**$ 7,600**	**$ 3,626**
		Total				**$ 83,379**

B/C= 0.11

Using present worth values,

B= $ 1,458,622

C= $ 13,590,000

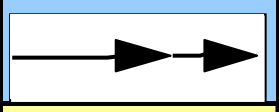
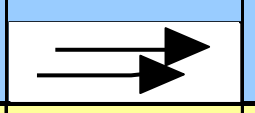
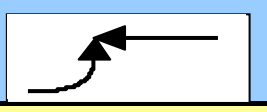
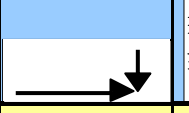
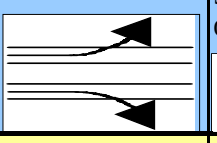
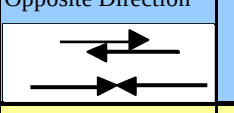
See "Calculations" sheet for amortization.

Office of Traffic, Safety and Technology 2015

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
	TH 41	CSAH 18 and TH 41			Carver	1/1/2013	12/31/2015

Description of Proposed Work: Convert signal to multilane RAB

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									
	PI B									
	PI C	1								1
	Property Damage PD	4		1						5
% Change in Crashes *Use Crash Modification Factors Clearinghouse	Fatal F									
	PI A									
	PI B									
	PI C	-87%								
	Property Damage PD	-69%		-69%						
Change in Crashes = No. of crashes **x** % change in crashes	Fatal F									
	PI A									
	PI B									
	PI C	**-0.87**								**-0.87**
	Property Damage PD	**-2.76**		**-0.69**						**-3.45**

Year (Safety Improvement Construction): **2020**

Project Cost (exclude Right of Way)	**$ 13,590,000**
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			$ 1,400,000	
A			$ 570,000	
B			$ 170,000	
C	-0.87	-0.29	$ 83,000	$ 24,092
PD	-3.45	-1.15	$ 7,600	$ 8,748
Total				$ 32,840

B/C= 0.04

Using present worth values,

B= $ 574,500

C= $ 13,590,000

See "Calculations" sheet for amortization.

Office of Traffic, Safety and Technology 2015

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
	TH 41	TH 41 from CSAH 18 to TH 5			Carver	1/1/2013	12/31/2015

Description of Proposed Work: Expand from 2 to 4 lanes and reconstruct pavement

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					1				1
	Property Damage	PD	2								2
% Change in Crashes *Use Crash Modification Factors Clearinghouse	Fatal	F									
	PI	A									
		B									
		C					-84%				
	Property Damage	PD	-86%								
Change in Crashes = No. of crashes **x** % change in crashes	Fatal	F									
	PI	A									
		B									
		C					**-0.84**				**-0.84**
	Property Damage	PD	**-1.72**								**-1.72**

Year (Safety Improvement Construction): **2020**

		Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
Project Cost (exclude Right of Way)	**$ 13,590,000**					
Right of Way Costs (optional)		**F**			**$ 1,400,000**	
Traffic Growth Factor	**3%**	**A**			**$ 570,000**	
Capital Recovery		**B**			**$ 170,000**	
1. Discount Rate	**4.5%**	**C**	**-0.84**	**-0.28**	**$ 83,000**	**$ 23,261**
2. Project Service Life (n)	**20**	**PD**	**-1.72**	**-0.57**	**$ 7,600**	**$ 4,361**
		Total				**$ 27,623**

B/C= 0.04

Using present worth values,

B= $ 483,227

C= $ 13,590,000

See "Calculations" sheet for amortization.

Office of Traffic, Safety and Technology 2015

MNTH 5 from approx. 550' east and west of MNTH 41 (2013-2015)

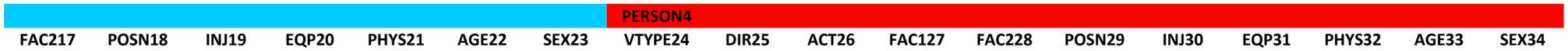
Crash data is managed by the Mn/DOT Office of Traffic, Safety, and Operations.

SYS	NUM	REF_POINT	GIS_ROUTE	GIS_TM	RD_DIR	ELEM	RELY	INV	R_U
03	00000005	042+00.422	0300000005	42.471	Z		A	1	U
03	00000005	042+00.461	0300000005	42.510	Z		A	1	U
03	00000005	042+00.422	0300000005	42.471	Z		A	2	U
03	00000005	042+00.422	0300000005	42.471	W		A	2	U
03	00000005	042+00.422	0300000005	42.471	E		A	1	U
03	00000005	042+00.461	0300000005	42.510	W		A	1	U
03	00000005	042+00.422	0300000005	42.471	Z		A	2	U
03	00000005	042+00.645	0300000005	42.694	E		2	2	U
03	00000005	042+00.419	0300000005	42.468	W		A	2	U
03	00000005	042+00.422	0300000005	42.471	W		A	2	U
03	00000005	042+00.422	0300000005	42.471	Z		A	2	U
03	00000005	042+00.422	0300000005	42.471	E		A	2	U
03	00000005	042+00.422	0300000005	42.471	E		A	2	U
03	00000005	042+00.422	0300000005	42.471	W		A	2	U
03	00000005	042+00.422	0300000005	42.471	Z		A	0	U
03	00000005	042+00.422	0300000005	42.471	E		A	2	U
03	00000005	042+00.422	0300000005	42.471	Z		A	1	U
03	00000005	042+00.422	0300000005	42.471	Z		A	1	U
03	00000005	042+00.422	0300000005	42.471	Z		A	1	U
03	00000005	042+00.737	0300000005	42.786	Z		1	2	U
03	00000005	042+00.393	0300000005	42.442	W		B	2	U
03	00000005	042+00.393	0300000005	42.442	Z		B	0	U
03	00000005	042+00.403	0300000005	42.452	W		A	1	U
03	00000005	042+00.441	0300000005	42.490	Z		A	2	U
03	00000005	042+00.422	0300000005	42.471	W		A	2	U
03	00000005	042+00.422	0300000005	42.471	Z		1	2	U
03	00000005	042+00.440	0300000005	42.489	E		A	2	U
03	00000005	042+00.603	0300000005	42.652	Z		B	1	U

ATP	CO	CITY	DOW	MONTH	DAY	YEAR	TIME	SEV
VEHICLE #1 2 AND 3 WERE WESTBOUND MNTH5. VEHICLE	10	0640	6-Fri	2	7	2014	1527	B
VEHICLE #1 WAS STOPPED IN TRAFFIC IN THE CENTER LA	10	0640	6-Fri	11	15	2013	1622	B
ON 07/31/2013 AT 1622 HOURS, THERE WAS A 2 VEHICLE	10	0640	4-Wed	7	31	2013	1622	C
A FADED, DULL GRAY OLDER MODEL, 2-DOOR HONDA CAR R	10	0640	4-Wed	2	19	2014	1803	C
V3 STOPPED IN LL TRAFFIC. B2 STOPPED DIRECTLY BEH	10	0640	3-Tue	10	28	2014	1739	C
VEH 1 AND VEH 2 WERE TRAVELING WESTBOUND IN THE LE	10	0640	4-Wed	10	23	2013	1626	C
VEHICLE 1 WAS TRAVELING NORTH ON HWY 41, VEHICLE 2	10	0640	3-Tue	2	24	2015	1950	C
DRIVER OF VEH#1 CROSSED OVER MEDIAN INTO FRONT OF VEHICLE #2	10	0640	2-Mon	3	17	2014	0907	C
V1 AND V2 WERE BOTH TRAVELING WEST ON HWY 5. V1 W	10	0640	5-Thu	9	5	2013	1705	N
VEHICLE 2 WAS STOPPED AT THE INTERSECTION WAITING	10	0640	4-Wed	1	9	2013	1758	N
UNIT 1 AND 2 WERE STOPPED IN TRAFFIC IN THE TURNLA	10	0640	3-Tue	10	29	2013	1350	N
VEHICLE 1 WAS SLOWING DOWN IN THE TURN LANE FOR EA	10	0640	6-Fri	12	6	2013	1824	N
VEHICLE 1 WAS WAITING FOR LIGHT TO CHANGE AT INTER	10	0640	5-Thu	2	27	2014	1422	N
V2 WAS YIELDING TO TRAFFIC WEST ON HWY 5 AWAITING	10	0640	2-Mon	3	17	2014	1719	N
	10	0640	6-Fri	7	4	2014	2056	N
BOTH DRIVERS STATED THEY WERE ON HWY 5 FACING EAST	10	0640	6-Fri	8	8	2014	2129	N
BOTH VEH WERE EB 5 TURNING SB 41 WHEN VEH 2 REAREN	10	0640	6-Fri	9	19	2014	0802	N
DRIVER OF THE SUV WAS GOING NORTH ON 41 FROM W/B 5	10	0640	3-Tue	10	21	2014	1744	N
BOTH CARS ON RAMP FROM 5WB TO 41NB. V2 SLOWED TO	10	0640	6-Fri	12	12	2014	1638	N
ON 12/1/2014 AT 0942 HOURS THERE WAS A TWO VEHICLE PROPERTY DAMAGE CRASH AT THE INTERSECTION OF MNT	10	0640	2-Mon	12	1	2014	0942	N
V1 AND V2 WERE WB ON HWY 5, WEST OF HWY. 41. V2 WA	10	0640	5-Thu	1	30	2014	1700	N
	10	0640	6-Fri	1	30	2015	1700	N
SEMI TRUCK WAS IN THE RIGHT LANE OF HIGHWAY 5 WB A	10	0640	1-Sun	12	28	2014	1233	N
UNIT ONE WAS WB MN HWY 5 IN THE TURN LANE FOR NB M	10	0640	4-Wed	11	26	2014	0713	N
NO INJURIES REPORTED. BOTH V1 AND V2 REQUIRED T	10	0640	3-Tue	6	23	2015	1713	N
UNIT01 WAS TRAVELING WEST BOUND HWY 5 APPROACHING THE INTERSECTION OF HWY 41. UNIT01 WAS UNABLE TO	10	0640	6-Fri	7	17	2015	2144	N
UNIT 1 WAS EB ON HWY. 5. UNIT 2 WAS NB ON HWY. 41	10	0640	2-Mon	7	21	2014	0933	N
V1 WAS ON 5WB IN RIGHT LANE. V1 LOST CONTROL ON S	10	0640	7-Sat	1	25	2014	0915	N

															PERSON1				
NUM_KILLED	NUM_VEH	JUNC	SL	TYPE	DIAG	LOC1	TCD	LIT	WTHR1	WTHR2	SURF	CHAR	DESGN	ACC_NUM	VTYPE	DIR	ACT	FAC1	FAC2
0	3	4	55	1	1	1	98	1	1	0	1	1	8	140410225	1	7	11	1	0
0	2	1	55	1	1	1	1	1	1	0	1	1	3	133200171	1	7	1	4	0
0	2	4	55	1	1	1	1	1	1	0	1	1	1	132120111	4	3	11	2	0
0	2	4	55	1	1	1	1	4	1	0	2	1	5	140500262	3	7	1	1	0
0	3	4	55	1	1	1	1	1	2	0	1	1	3	143110170	3	7	1	15	0
0	2	4	55	1	1	1	1	1	2	0	1	1	3	132970176	1	7	11	1	0
0	2	4	55	1	5	1	1	5	1	0	1	1	3	150560010	2	1	1	1	1
0	2	1	55	1	90	1	98	1	5	0	4	1	3	140760075	3	7	2	46	61
0	2	1	55	1	1	1	98	1	1	0	1	1	3	132480160	1	7	1	15	0
0	2	4	55	1	1	2	1	4	1	0	1	1	3	130090206	1	7	1	1	0
0	4	4	55	1	1	1	1	1	1	0	1	1	3	133020164	3	3	11	1	0
0	3	4	55	1	1	1	1	4	90	0	5	1	90	133400396	2	3	1	3	61
0	2	4	55	1	1	1	1	1	1	0	1	1	3	140580297	3	3	1	1	0
0	2	7	55	1	1	1	5	1	1	0	1	5	3	140760142	1	8	9	15	0
0	2	4	0	1	1	0	1	0	0	0	1	0	0	142180055	99	7	1	0	0
0	2	4	55	13	1	1	1	4	1	0	1	1	3	142200164	1	3	11	1	1
0	2	7	55	1	1	1	1	1	1	0	1	2	8	142640156	1	4	11	1	0
0	2	7	55	1	1	1	1	1	1	0	1	5	3	142950235	3	8	10	1	0
0	2	7	55	1	1	1	1	4	2	0	2	5	2	150060521	1	8	1	15	0
0	2	4	55	1	1	1	1	1	1	0	1	1	3	143350054	1	3	5	1	0
0	2	1	55	1	2	1	98	3	1	0	1	1	3	150300129	35	7	1	2	1
0	2	1	0	1	2	0	98	3	1	0	1	0	0	150610046	2	7	16	0	0
0	2	1	55	1	2	1	98	1	2	0	2	1	3	150400178	2	7	1	1	0
0	2	7	55	1	4	1	1	1	4	2	3	1	90	143300215	1	8	5	16	0
0	2	4	55	1	5	1	1	1	1	0	1	1	3	151740184	2	1	1	3	5
0	2	4	55	1	5	1	1	4	2	0	1	1	3	151990044	1	5	1	1	0
0	2	4	55	1	7	1	1	1	1	0	1	1	3	142030014	32	3	1	1	1
0	1	1	55	37	7	2	98	1	1	0	3	1	3	140280601	4	7	1	3	61

						PERSON2											PERSON3			
POSN	INJ	EQP	PHYS	AGE	SEX	VTYPE2	DIR3	ACT4	FAC15	FAC26	POSN7	INJ8	EQP9	PHYS10	AGE11	SEX12	VTYPE13	DIR14	ACT15	FAC116
1	B	3	1	45	M	1	7	1	3	4	1	B	4	1	17	M	1	7		
1	N	4	1	21	F	3	7	11	1	0	1	B	4	1	52	F				
1	N	4	1	29	F	4	3	11	1	0	1	C	4	1	33	M	4	3		
1	C	4	1	40	F	1	7	0	0	0	1	N	0	0	902	Z	3	7		
1	C	4	1	38	F	1	7	11	1	0	1	N	4	1	25	F	3	7		
1	C	4	1	31	F	1	7	1	4	0	1	N	4	1	22	F				
1	N	4	98	34	M	3	7	1	1	1	1	N	4	98	44	M	3	7		
1	N	4	1	32	F	1	3	1	1	1	1	C	4	1	31	M	3	7		
1	N	4	1	45	M	1	7	11	1	0	1	N	4	1	59	F				
1	N	4	1	27	F	1	7	1	4	0	1	N	4	1	18	F				
1	N	4	1	29	F	1	3	1	1	0	1	N	4	1	24	M	2	3		
1	N	4	1	18	M	1	3	11	1	0	1	N	4	1	26	M	99	3		
1	N	4	1	43	F	3	3	0	0	0	1	N	0	0	902	Z				
1	N	4	1	20	M	3	8	11	1	0	1	N	4	1	35	F				
1	N	98	0	38	M	1	7	1	0	0	1	N	0	0	45	M	1	7		
1	N	2	1	26	M	1	3	11	50	0	1	N	4	1	22	M				
1	N	4	1	32	F	2	4	1	15	4	1	N	4	1	36	M				
1	N	4	1	37	M	1	8	1	15	4	1	N	4	1	35	M				
1	N	4	1	28	M	2	8	11	1	0	1	N	4	1	24	M				
1	N	4	1	48	F	2	3	5	15	0	1	N	4	1	40	M				
1	N	4	1	28	M	3	7	1	4	0	1	N	4	1	49	F				
1	N	4	0	903	Z	3	7	1	0	0	1	N	0	0	50	F				
1	N	4	1	71	M	33	7	14	8	0	1	N	4	1	38	M				
1	N	4	1	17	M	2	5	11	1	0	1	N	4	1	46	M				
1	N	4	1	39	M	1	7	9	1	0	1	N	4	1	41	M				
1	N	4	3	29	M	1	7	1	5	0	1	N	4	1	16	F	1	7		
1	N	4	1	57	M	3	3	5	2	0	1	N	4	1	36	F	3	3		
1	N	4	1	75	M															


PERSON4
FAC217
POSN18
INJ19
EQP20
PHYS21
AGE22
SEX23
VTYPE24
DIR25
ACT26
FAC127
FAC228
POSN29
INJ30
EQP31
PHYS32
AGE33
SEX34

TH 41 From Pioneer Tr to TH 5 (2013 - 2015) - created on 06-17-2016 by rile1che

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

SYS	NUM	REF_POINT	GIS_ROUTE	GIS_TM	RD_DIR	ELEM	RELY	INV	R_U
CSAH 18									
03	00000041	006+00.224	0300000041	6.219	N		2	2	U
03	00000041	006+00.230	0300000041	6.225	E		1	3	U
03	00000041	006+00.230	0300000041	6.225	Z		1	1	U
03	00000041	006+00.230	0300000041	6.225	Z		1	3	U
03	00000041	006+00.230	0300000041	6.225	Z		1	3	U
03	00000041	006+00.230	0300000041	6.225	S		1	1	U
TH 41 Segment									
03	00000041	006+00.330	0300000041	6.325	Z		2	1	U
~~03~~	~~00000041~~	~~006+00.672~~	~~0300000041~~	~~6.667~~	~~N~~	~~100~~	~~A~~	~~3~~	~~U~~
03	00000041	006+00.699	0300000041	6.694	N		1	1	U
03	00000041	006+00.931	0300000041	6.926	Z		2	2	U
82nd St									
03	00000041	006+00.703	0300000041	6.698	Z		1	3	U
03	00000041	006+00.709	0300000041	6.704	Z		1	2	U
03	00000041	006+00.709	0300000041	6.704	Z		1	1	U
03	00000041	006+00.709	0300000041	6.704	Z		1	3	U
03	00000041	006+00.709	0300000041	6.704	Z		1	2	U
03	00000041	006+00.709	0300000041	6.704	N		1	3	U

ATP	CO	CITY	DOW	MONTH	DAY
I ARRIVED AT THE ACCIDENT AND SPOKE TO DRIVER OF UNIT 1. DRIVER OF UNIT 1 STATED HE WAS DRIVING NOR	10	0645	1-Sun	9	20
DRIVER OF VEHICLE #1 WAS TRAVELING EAST ON LYMAN BLVD PASSING STRAIGHT THROUGH THE INTERSECTION WIT	10	0645	6-Fri	3	15
D1 STATED SLOWING IN TRAFFIC AND HIT FROM BEHIND. D2 STATED SLID ON RAIN AND HIT V1. V2 TOWED B	10	0645	2-Mon	7	7
DRIVER OF U1 STATED HE WAS TRAVELING SB ON MNTH 41 APPROACHING LYMAN BLVD WHEN THE LIGHT TURNED RED	10	0645	3-Tue	2	3
VEHICLE 1 WAS NB ON MNTH 41 APPROACHING LYMAN BLVD. VEHICLE 2 WAS STOPPED NB 41 AT LYMAN BLVD AS TH	10	0645	6-Fri	8	21
V3 STOPPED IN TRAFFIC. V2 STOPPED DIRECTLY BEHIND. D1 STATED SHE WAS DISTRACTED AND WAS UNABLE TO	10	0645	6-Fri	12	11
THE DRIVER REPORTED THAT HE WAS TRAVELING NORTH ON 41 AND FELT FAINT. HE WENT OFF THE ROAD TO THE	10	0645	2-Mon	11	3
~~DEF WAS DRIVING TRUCK AND COMMERCIAL TRAILER WITH~~	~~10~~	~~0645~~	~~5-Thu~~	~~5~~	~~9~~
V2 STOPPED IN TRAFFIC. V1 TRAVELING DIRECTLY BEHIND WHEN D1 STATED SHE LOOKED DOWN AND THEN WAS UNA	10	0645	4-Wed	8	6
V1 TRAVELING NB AT 55MPH ON HWY 41 APPROACHING INTERSECTION WITH HWY 5. D1 STATED TRAFFIC STOPPED	10	0640	5-Thu	9	25
DRIVERS OF U1 AND U2 BOTH STATED THEY WERE STOPPED IN TRAFFIC	10	0645	3 - Tue	9	16
V2 WAS TRAVELLING WEST ON 82ND ST. V1 WAS EXITING THE HOLIDAY STATION TO PROCEED SOUTH ACROSS 82ND	10	0645	5-Thu	4	18
VEH 1 WAS NB ON MNTH41. VEH 2 WAS WB ON 82ND ST W. VEH 1 RAN THE RED LIGHT AND HIT VEH 2 IN THE D	10	0645	1-Sun	8	25
VEH. 2 TRAVELING NB WAS SLOWING TO A STOP ON MNTH 41 AS IT WAS FACING A SOLID RED LIGHT AT THE INTE	10	0645	1-Sun	10	27
DRIVER 1 STATED VEH 1 WAS TRAVELING AT 50 MPH, SOUTH ON HIGHWAY 41 APPROACHING INTERSECTION WITH W	10	0645	6-Fri	4	4
V1 TRAVELING NB ON MNTH 41 JUST SOUTH OF 82ND ST. V1 STRUCK REAR OF V2, V2 THEN STRUCK REAR OF V3.	10	0645	5-Thu	12	4

YEAR	TIME	SEV	NUM_KILLED	NUM_VEH	JUNC	SL	TYPE	DIAG	LOC1	TCD	LIT	WTHR1	WTHR2	SURF	CHAR	DESGN	ACC_NUM
2015	1700	C	0	2	1	50	1	1	1	1	1	3	2	2	2	8	152640134
2013	1559	N	0	2	4	40	1	3	1	1	1	2	0	2	1	3	130740171
2014	1725	N	0	2	1	55	1	1	1	98	1	3	0	2	1	8	141900238
2015	1526	N	0	2	4	50	1	1	1	1	1	4	0	3	1	5	150340220
2015	1629	N	0	2	4	50	1	1	1	1	1	1	1	1	1	8	152330136
2015	1729	N	0	3	4	50	1	1	1	1	4	1	0	1	1	8	153480317
2014	0852	C	0	1	1	55	1	7	1	98	1	2	0	1	2	8	143070186
~~2013~~	~~1108~~	~~N~~	~~0~~	~~1~~	~~4~~	~~50~~	~~22~~	~~90~~	~~4~~	~~1~~	~~1~~	~~2~~	~~2~~	~~1~~	~~1~~	~~3~~	~~131290057~~
2014	1548	N	0	2	4	50	1	1	1	1	1	1	0	1	1	8	142190224
2014	1520	N	0	2	1	55	1	1	1	98	1	1	1	1	3	1	142680112
2014	726	N	0	3	4	30	1	1	1	1	2	1	0	1	1	06	142590055
2013	1518	N	0	2	1	30	1	5	1	98	1	4	7	4	2	8	131080194
2013	1526	C	0	2	4	50	1	5	1	1	1	1	0	1	1	8	132420239
2013	1713	C	0	2	4	50	1	1	1	1	3	1	1	1	1	5	133000099
2014	0911	C	0	2	4	55	1	6	1	1	1	4	4	3	2	8	140940147
2014	1706	C	0	3	4	50	1	1	1	1	4	1	1	1	1	8	143380168

PERSON1											PERSON2								
VTYPE	DIR	ACT	FAC1	FAC2	POSN	INJ	EQP	PHYS	AGE	SEX	VTYPE	DIR	ACT	FAC1	FAC2	POSN	INJ	EQP	PHYS
1	1	10	1	0	1	C	4	1	61	M	2	1	10	9	0	1	N	4	1
1	3	1	1	0	1	N	4	1	53	M	1	5	6	2	0	1	N	4	1
2	3	10	1	0	1	N	4	1	30	M	1	3	10	4	0	1	N	4	1
3	5	11	1	0	1	N	4	1	33	F	4	5	10	61	15	1	N	4	1
2	1	1	15	15	1	N	4	1	35	M	1	1	11	1	1	1	N	4	1
1	5	11	1	0	1	N	4	1	33	F	3	5	11	1	0	1	N	4	1
4	1	1	21	0	1	C	1	9	64	M									
~~33~~	~~1~~	~~1~~	~~90~~	~~0~~	~~1~~	~~N~~	~~4~~	~~1~~	~~40~~	~~M~~									
31	1	11	1	0	1	N	4	1	21	M	3	1	1	15	0	1	N	4	1
1	1	11	1	1	1	N	4	1	28	M	11	1	1	4	4	1	N	12	1
3	7	11	1	0	1	N	4	1	52	M	1	7	11	1	0	1	N	4	1
1	7	1	1	0	1	N	4	1	17	M	1	5	1	2	0	1	N	4	1
3	1	1	5	0	1	N	4	1	77	F	1	7	1	1	0	1	C	4	1
1	1	1	15	32	1	C	4	1	71	F	1	1	1	1	1	1	N	4	1
2	5	1	3	61	1	N	4	1	42	M	4	7	1	1	1	1	N	4	1
1	1	10	3	16	1	C	4	1	19	M	1	1	11	1	0	1	N	4	1

		PERSON3											PERSON4							
AGE	SEX	VTYPE	DIR	ACT	FAC1	FAC2	POSN	INJ	EQP	PHYS	AGE	SEX	VTYPE	DIR	ACT	FAC1	FAC2	POSN	INJ	EQP
44	M																			
30	F																			
26	M																			
56	M																			
23	F																			
41	M	3	5																	
70	F																			
45	M																			
32	M	1	7																	
60	F																			
28	F																			
49	M																			
44	M																			
52	F	3	1																	


PHYS
AGE
SEX

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
Install left-turn lane (cont'd)	Left-turn	All			No signal			28		68		50	86	
	Left-turn	All			Signal	>5,000/lane(Total)		15		24				Simple Before-After
	Left-turn	All	Urban	4-Leg (1 app)	Signal	4,600-55,100	100-26,000	21	35	13				Yorked Comparison Before-After
	Left-turn	All	Urban	4-Leg (1 app)	Stop	1,520-40,600	80-8,000	21	7	26				EB Before-After
	Left-turn	All	Urban	4-Leg (2 app)	Signal	4,600-55,100	100-26,000	21	35	24				Yorked Comparison Before-After
	Left-turn	All	Urban	4-Leg (2 app)	Stop	1,520-40,600	80-8,000	21	7	45				EB Before-After
	Night	All			Signal	>5,000/lane(Total)		15		28				Simple Before-After
	Overturn	All			Signal	>5,000/lane(Total)		15		28				Simple Before-After
Install left-turn lane (double)	Head-on	Fatal/Injury						15		75				Simple Before-After
	Left-turn	Fatal/Injury						15		47				Simple Before-After
	Left-turn	PDO						15		71				Simple Before-After
	ROR	Fatal/Injury						15		8				Simple Before-After
	ROR	PDO						15		13				Simple Before-After
	Rear-end	Fatal/Injury						15		29				Simple Before-After
	Rear-end	PDO						15		32				Simple Before-After
	Right-angle	Fatal/Injury						15		20				Simple Before-After
	Right-angle	PDO						15		8				Simple Before-After
	Sideswipe	Fatal/Injury						15		50				Simple Before-After

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

Countermeasure(s)	Crash Type	Crash Severity	Area Type	Road Type	Daily Traffic Volume (veh/day)	Ref	Effectiveness				Study Type
							Crash Reduction Factor / Function	Std Error	Range		
									Low	High	
Increase number of lanes (cont'd)	All	All				15	25				
	All	All				15	25				
	All	All				15	25				
	All	Fatal				15	39				
	All	Injury				15	23				
	All	PDO				15	27				
	Head-on	All			<5,000/lane	15	38				
	Head-on	All			>5,000/lane	15	44				
	Head-on	All				15	53				
	Head-on	All				15	53				
	Head-on	PDO				15	50				
	Left-turn	All				15	71				
	Left-turn	PDO				15	67				
	ROR	All				15	44				
	ROR	All				15	26				
	ROR	All				15	44				
	ROR	All				15	44				
	ROR	PDO				15	50				
	Overturn	All			<5,000/lane	15	42				
	Overturn	All			>5,000/lane	15	52				
	Rear-end	All			<5,000/lane	15	42				
	Rear-end	All			>5,000/lane	15	52				
	Rear-end	All				15	32				
	Rear-end	All				15	32				
	Rear-end	All				15	40				
	Rear-end	All				15	53				
	Rear-end	PDO				15	53				
	Right-angle	All			<5,000/lane	15	35				
	Right-angle	All			>5,000/lane	15	45				
	Right-angle	All				15	15				
	Right-angle	PDO				15	46				
	Sideswipe	All			<5,000/lane	15	38				

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

*NOTE: You can compare CMFs across countermeasures, subcategories, and categories.

▼ Countermeasure: Convert signalized intersection to modern roundabout

Compare	CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
☐	0.68	32	★★★★☆	All	Serious injury,Minor injury	Not specified	De Brabander and Vereeck, 2007	Countermeasure name has been slightly ... [read more]
☐	0.4 [B]	60	★★★★☆	All	Serious Injury,Minor Injury	Urban	Rodegerdts et al., 2007	Countermeasure name changed to match ... [read more]
☐	0.33 [B]	67	★★★★☆	All	All	Suburban	Rodegerdts et al., 2007	Countermeasure name changed to match ... [read more]
☐	0.52 [B]	48	★★★★☆	All	All	All	Rodegerdts et al., 2007	Countermeasure name changed to match ... [read more]
☐	0.22 [B]	78	★★★★☆	All	Serious Injury,Minor Injury	All	Rodegerdts et al., 2007	Countermeasure name changed to match ... [read more]
☐	0.79	21	★★★★☆	All	All	Urban and suburban	Gross et al., 2012	Countermeasure name has been slightly ... [read more]
☐	0.34	66	★★★★☆	All	Serious injury,Minor injury	Urban and suburban	Gross et al., 2012	Countermeasure name has been slightly ... [read more]
☐	0.58	42	★★★★☆	All	All	Suburban	Gross et al., 2012	Countermeasure name has been slightly ... [read more]

- 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

0.221	77.9	★★★☆☆	Rear end,Wet road	All	All	Lyon and Persaud, 2008
0.787	21.3	★★★☆☆	Angle	All	All	Lyon and Persaud, 2008
0.828	17.2	★★★☆☆	Angle	All	All	Lyon and Persaud, 2008
0.898	10.2	★★★☆☆	Angle	All	All	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	★★★☆☆	Angle,Wet road	All	All	Lyon and Persaud, 2008

- Countermeasure: Install raised median

CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
0.61	39	★★★★☆	All	All		Schultz et al., 2011	

-

CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
0.56	44	★★★★☆	All	Fatal,Serious injury		Schultz et al., 2011	

-

CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
0.29	70.77	★★★☆☆	All	All	Urban	Schultz et al., 2008	

-

CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
0.45	55.43	★★★☆☆	Angle	All	Urban	Schultz et al., 2008	

-

CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
0.86	14	★★★☆☆	All	All	Urban	Yanmaz-Tuzel and Ozbay, 2010	

Dual CRF for TH 41

Improvements include a 2 lane to 4 lane conversion and installing a median. Both CSAH 18 and 82nd St will be converted from signals to multilane roundabouts. The TH 5 intersection will be reconstructed with dual WBL and EBL and an additional NBT and SBT lane.

TH 41 and CSAH 18 Intersection

CR1=Convert Signal to Multilane RAB
CR2=Improve Pavement Friction

CR=1 – (1-CR1)*(1-CR2)
All = CR = 1 – (1-.48)*(1-.41)= .69
All (injury): CR = 1 – (1-.78)*(1-.41) = .87

TH 41 and 82nd St Intersection
CR1=Increase Lanes
CR2=Improve Pavement Friction

CR=1 – (1-CR1)*(1-CR2)

Rear End (PDO): CR = 1 – (1-.53)*(1-.70)= .86.
Rear End (Injury) : CR = 1 – (1-.52)*(1-.70)= .86
Right Angle (PDO):CR = 1 – (1-.45)*(1-.21)= .57
Right Angle (Injury): CR = 1 – (1-.46)*(1-.21)= .57
All (PDO) = CR = 1 – (1-.23)*(1-.41)= .55
All (injury): CR = 1 – (1-.31)*(1-.41) = .59

TH 41 – CSAH 18 to TH 5
The raised median factor used was for an urban environment since curb and gutter will be implemented.

CR1=Increase Number of Lanes
CR2=Install a raised median

CR=1 – (1-CR1)*(1-CR2)

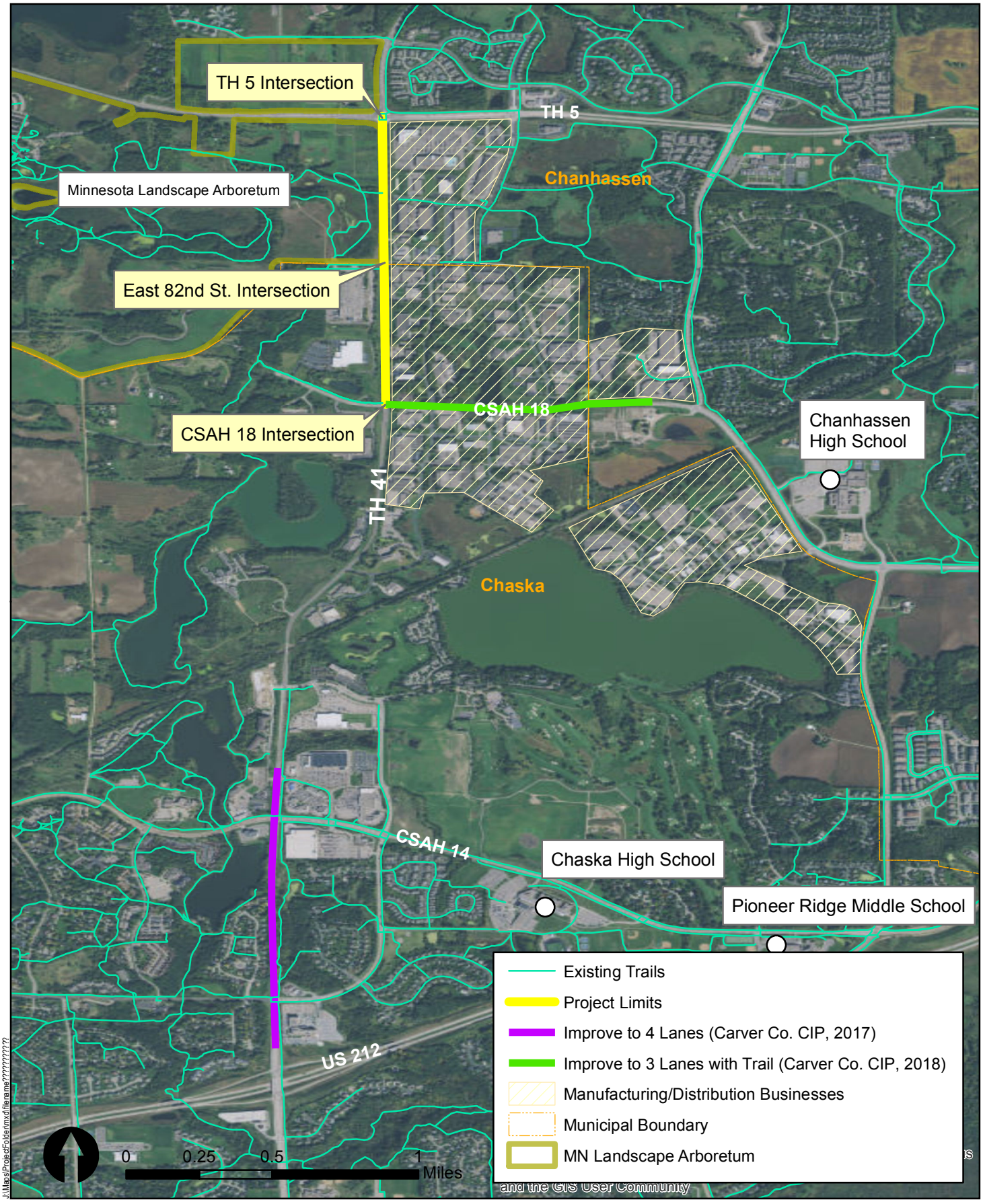
Run off Road/Head On/Sideswipe: CR=1 – (1-.44)*(1-.71) = .84
Right Angle: CR=1 – (1-.45)*(1-.71) = .84
Left-Turn: CR=1 – (1-.71)*(1-.71) = .92
Rear End: CR=1 – (1-.52)*(1-.71) = .86

TH 41 and TH 5 Intersection
CMF's for additional NBT, SBT, EBL, WBL lanes.

CR1=Increase Number of Lanes
CR2=Install Double Left Turn Lane

CR=1 – (1-CR1)*(1-CR2)

Run off Road: CR=1 – (1-.50)*(1-.13) = .57
Sideswipe: CR=1 – (1-.64)*(1-.50) = .82
Right Angle: CR=1 – (1-.46)*(1-.08) = .48
Right Angle (injury): CR=1 – (1-.45)*(1-.20) = .56
Other (injury): CR= .23
Rear End: CR=1 – (1-.53)*(1-.32) = .68
Rear End (injury): CR=1 – (1-.52)*(1-.29) = .66



Project Location

TH 41/Hazeltine Blvd. from CSAH 18/Lyman Blvd. to TH 5

Carver County

TH 41

Photo taken along TH 41, looking north at the intersection of 82nd St. W

Figure 3

Legend

TH 41

Photo taken along TH 41, looking north at the intersection of CSAH 18/Lyman Blvd.

Figure 4

Legend

TH 41

Photo taken along TH 41 approximately 0.25 mile north of the CSAH 18 and TH 41 intersection, looking north.

Figure 5

Legend

TH 41

Photo taken along TH 41, looking north at the TH 41 and TH 5 intersection.

Figure 6

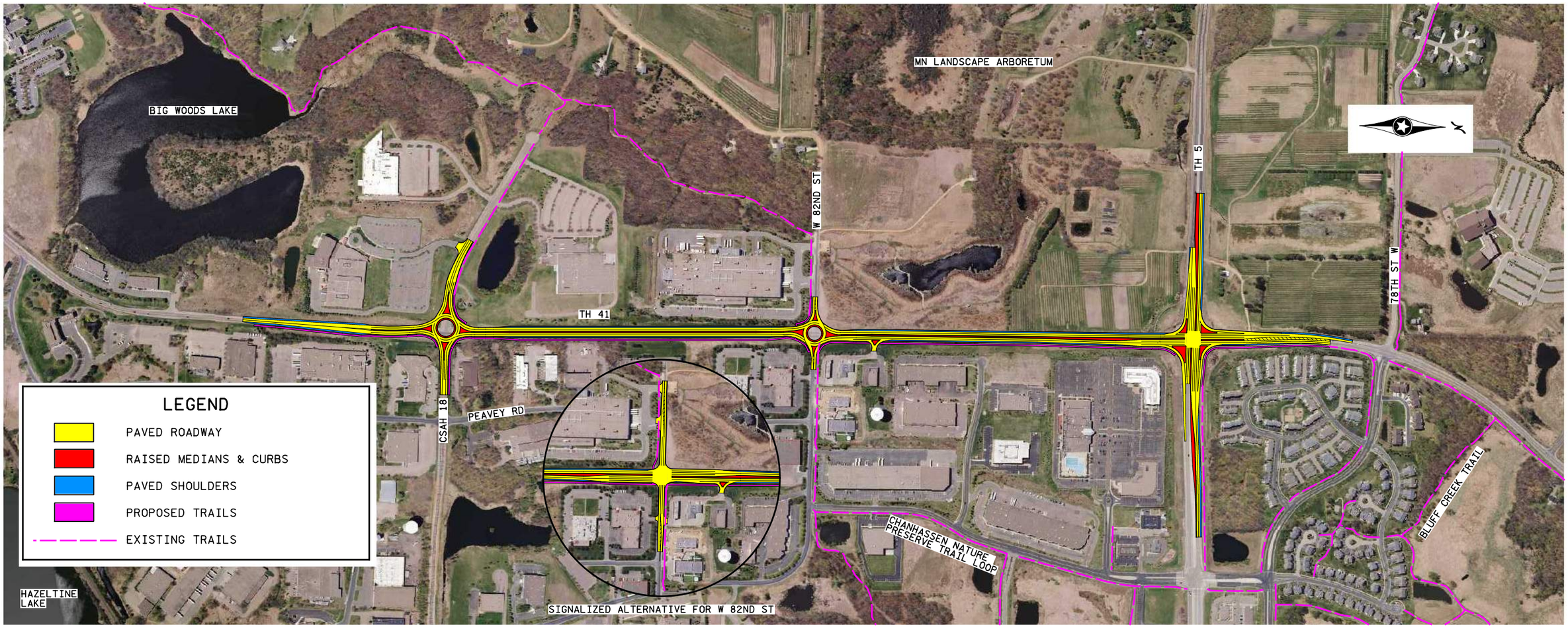
Legend

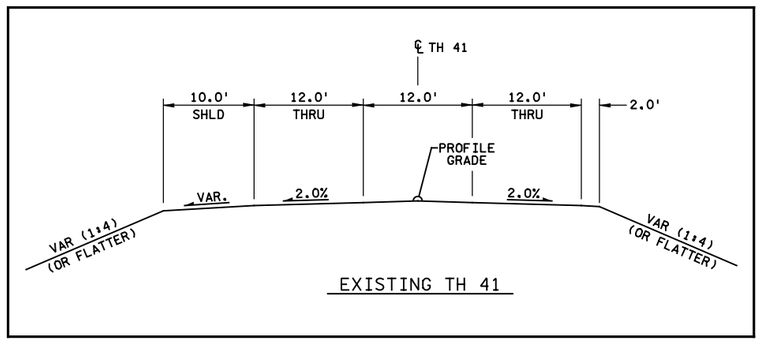
TH 41

Photo taken along TH 41 approximetly 0.25 mile south of TH 5, looking north.

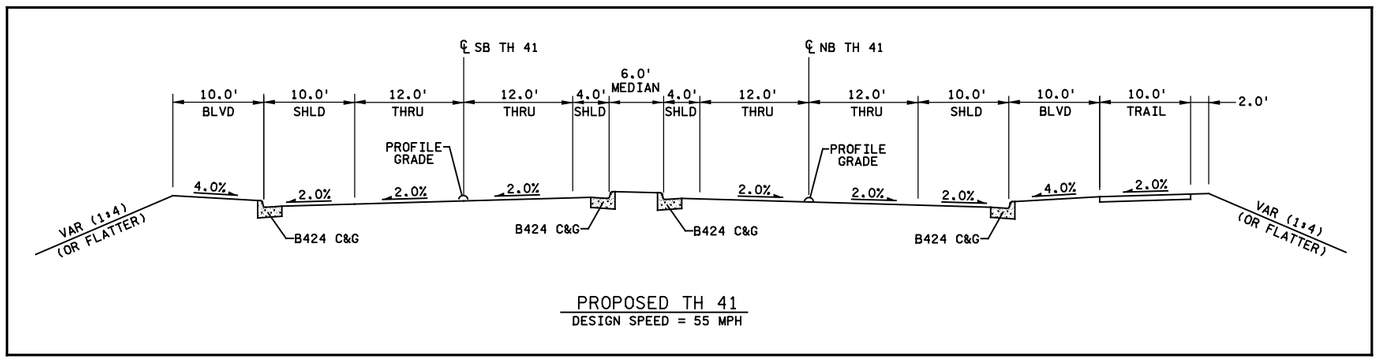
Figure 7

Legend





EXISTING TH 41



PROPOSED TH 41
DESIGN SPEED = 55 MPH

H:\Projects\09000\9282\CAD_BIM\Graphics\9282_gr03.dgn

SRF Consulting Group, Inc.

Job # 9282
7/12/2016

TH 41

TH 41 from CSAH 18 to TH 5
Carver County

Figure 3

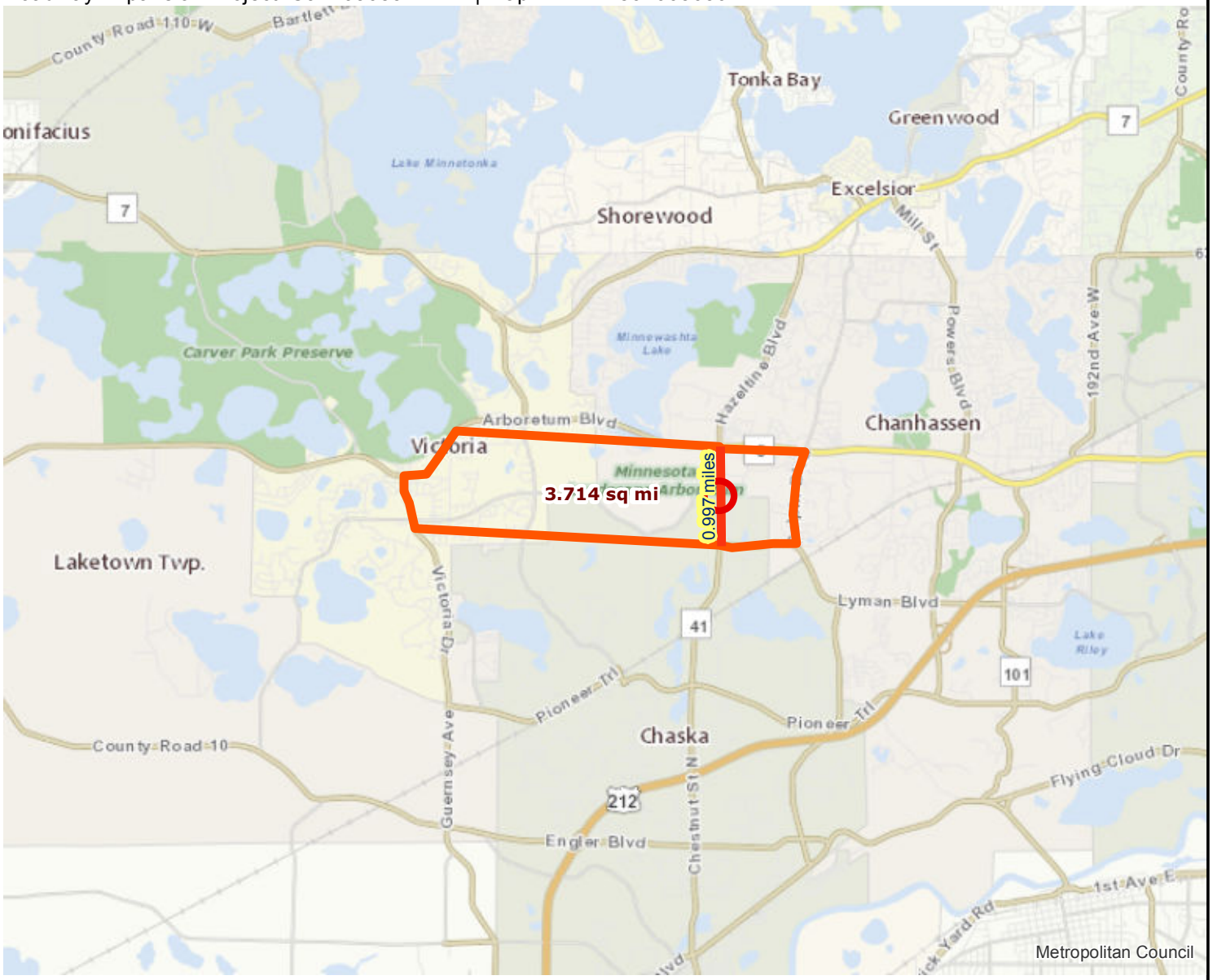
Roadway Area Definition

Roadway Expansion Project: Carv 05083 TH 41 | Map ID: 1471897005030

Results

Project Length: 0.997 miles

Project Area: 3.714 sq mi



Project Points
Project
Project Area
Principal Arterials
A Minor Arterials
Principal Arterials Planned
A Minor Arterials Planned

0 1 2 4 6 8 Miles

Created: 8/22/2016
LandscapeRSA1

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

METROPOLITAN COUNCIL

Minnesota Department of Transportation
Metro District
1500 West County Road B-2
Roseville, MN 5511

July 8, 2016

Darin Mielke PE LSIT PMP
Assistant Public Works Director, Deputy County Engineer
Carver County Public Works
11360 Highway 212, Suite 1
Cologne, MN 55322

RE: Regional Solicitation Application for TH 41 Reconstruction Project - Arboretum Area Phase

Dear Mr. Mielke:

Thank you for requesting a letter of support from MnDOT for the Metropolitan Council/ Transportation Advisory Board (TAB) 2016 Regional Solicitation. Your application for the TH 41 Reconstruction Project - Arboretum Area Phase impacts MnDOT right of way on TH 41.

MnDOT, as the agency with jurisdiction over TH 41, would allow the improvements included in the application for TH 41 Reconstruction Project. Details of a future maintenance agreement with the City would be determined during project development to define how the improvements will be maintained for the project's useful life.

This project has no funding from MnDOT. In addition, the Metro District currently has no discretionary funding in year 2020 of the State Transportation Improvement Program (STIP) or year 2021 of the Capital Highway Investment Plan (CHIP) to assist with construction or assist with MnDOT services such as the design or construction engineering of the project. Please continue to work with MnDOT Area staff to assist in identifying additional project funding if needed.

Sincerely,

Scott McBride, P.E.
Metro District Engineer

Cc: Elaine Koustsoukos, Metropolitan Council
Jon Solberg, MnDOT Metro District – South Area Manager

CITY OF CHANHASSEN
CARVER AND HENNEPIN COUNTIES, MINNESOTA

DATE: June 27, 2016 **RESOLUTION NO:** 2016-46

MOTION BY: Tjornhom **SECONDED BY:** McDonald

APPROVE APPLICATION FOR FEDERAL FUNDING FOR TH 41 (HAZELTINE BLVD.) FROM CSAH 18 (LYMAN BLVD.) TO TH 5 (ARBORETUM BLVD.)

WHEREAS, Trunk Highway (TH) 41 is an A Minor Expander from US 212 in the City of Chaska to Trunk Highway (TH) 5 in the City of Chanhassen; and

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

WHEREAS, said transportation plan demonstrates the need to expand TH 41 from 2 lanes to 4 lanes; and,

WHEREAS, the City of Chanhassen, City of Chaska, Carver County and the Minnesota Department of Transportation are working cooperatively to meet the future needs to TH 41 and adjacent highways and city streets; and

WHEREAS, the expansion of TH 41 will create a highly accessible facility that will help reduce traffic congestion, improve reliability to highway users, improve safety and enhance the economic vitality of the community.

NOW THEREFORE, BE IT RESOLVED by the Chanhassen City Council:

1. That the City of Chanhassen endorses Carver County's regional solicitation application submittal to the Metropolitan Council for federal funding for the Trunk Highway 41 expansion from 2 lanes to 4 lanes from approximately CSAH 18 (Lyman Blvd.) to TH 5 (Arboretum Blvd.).

2. That the City of Chanhassen agrees to financially participate with the City of Chaska, the County of Carver and the Minnesota Department of Transportation in providing the matching funding at such time that the project is awarded federal funding subject to agreement on the project details.

Passed and adopted by the Chanhassen City Council this 27th day of June, 2016.

ATTEST:

Todd Gerhardt, City Manager

Denny Laufenburger, Mayor

YES	NO	ABSENT
Laufenburger	None	None
Campion		
McDonald		
Ryan		
Tjornhom		

CITY OF CHASKA
CARVER COUNTY, MINNESOTA

RESOLUTION

DATE JUNE 20, 2016 RESOLUTION NO. 16-41

MOTION BY COUNCILMEMBER BOE SECOND BY COUNCILMEMBER SCHULZ

A RESOLUTION ENDORSING CARVER COUNTY'S APPLICATION FOR FEDERAL FUNDING FOR TH 41 (HAZELTINE BOULEVARD) EXPANSION FROM CSAH 18 (LYMAN BOULEVARD) TO TH 5 (ARBORETUM BOULEVARD)

WHEREAS, Trunk Highway (TH) 41 is an A Minor Expander from US 212 in the City of Chaska to TH 5 in the City of Chanhassen;

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

WHEREAS, said transportation plan demonstrates the need to expand TH 41 from 2 lanes to 4 lanes;

WHEREAS, the City of Chanhassen, City of Chaska, Carver County and the Minnesota Department of Transportation are working cooperatively to meet the future needs to TH 41 and adjacent highways and city streets; and,

WHEREAS, the expansion of TH 41 will create a highly accessible facility that will help reduce traffic congestion, improve reliability to the highway users, improve safety and enhance the economic vitality of the community;

NOW, THEREFORE, BE IT RESOLVED that the City of Chaska endorses Carver County's regional solicitation application submittal to the Metropolitan Council for federal funding for the Trunk Highway 41 expansion from 2 lanes to 4 lanes from approximately CSAH 18 (Lyman Boulevard) to TH 5 (Arboretum Boulevard); and,

BE IT FURTHER RESOLVED, that the City of Chaska agrees to financially participate with the City of Chanhassen, the County of Carver and the Minnesota Department of Transportation in providing the matching funding at such time that the project is awarded federal funding subject to agreement on the project details.

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

Mark Windschitl, Mayor

Attest: Chaska Deputy Clerk