



Application

10354 - 2018 Roadway Modernization

10887 - Scott County CSAH 16 Modernization

Regional Solicitation - Roadways Including Multimodal Elements

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Primary Contact

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

Organization Information

Name: SCOTT COUNTY

Jurisdictional Agency (if different):

Organization Type:

County Government

Organization Website:

Address:

600 COUNTRY TRAIL E

*

JORDAN

Minnesota

55352

City

State/Province

Postal Code/Zip

County:

Scott

Phone:*

612-496-8355

Ext.

Fax:

PeopleSoft Vendor Number

0000024262A3

Project Information

Project Name

CSAH 16 Modernization

Primary County where the Project is Located

Scott

Cities or Townships where the Project is Located:

Savage, Shakopee

Jurisdictional Agency (If Different than the Applicant):

The project is a reconstruction of 1.1 miles of CSAH 16 (McColl Drive), an A-Minor Reliever Arterial, in the cities of Savage and Shakopee from CSAH 18 to Trunk Highway (TH) 13. The project proposes a modernization of the highway from an undivided two-lane rural roadway to a divided two-lane urban roadway with turn lanes at intersections and wider shoulders to provide safety enhancements. The project includes installation of a sidewalk on the north side and a trail on the south side of CSAH 16.

The modernization of CSAH 16 is needed as the 2040 forecasted daily traffic volumes on CSAH 16 between CSAH 18 and TH 13 exceed the current roadway geometry design capacity, however the need for an additional travel lane is not justified. The proposed two-lane divided roadway will enhance both capacity and safety by managing access and removing turning movements from the travel lanes using a more cost-effective design. Direct driveways will be converted to right-in/right-outs to reduce conflict points and local road intersections will have dedicated right and left turn lanes. The project will also improve pavement condition issues along CSAH 16 and address existing stormwater deficiency and erosion issues, particularly related to the road being located at the top of the Minnesota River Valley bluffs.

In addition to the new two-lane divided CSAH 16 with turn lanes, the improved CSAH 16 will complete sidewalk and trail gaps on both sides of the road. Currently, non-motorized users must use the shoulders along the 50-mph roadway, which does not support walking and most biking conditions. The project will complete the trail link between Shakopee and Savage and better connect adjacent neighborhoods to the local trail networks.

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

Furthermore, the project will provide a multiuse trail to serve as the alignment for the RBTN Tier 2 Corridor. Therefore, the proposed project will play an integral role in improving the condition and continuity of the regional bikeway network by completing the gaps and providing a bicycle and pedestrian connection between Shakopee and Savage. The City of Savage's recent Pedestrian and Bicycle Master Plan identified this segment of CSAH 16 as a top priority gap that should be built to improve access between the two cities.

(Limit 2,800 characters; approximately 400 words)

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

Reconstruction of CSAH 16 (McColl Drive) between TH 13 and CSAH 18 in Savage to a two-lane divided roadway with turn lanes, sidewalk and trail.

Project Length (Miles)

1.1

to the nearest one-tenth of a mile

Project Funding

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

If yes, please identify the source(s)

Federal Amount \$6,394,400.00

Match Amount \$1,598,600.00

Minimum of 20% of project total

Project Total \$7,993,000.00

Match Percentage 20.0%

Minimum of 20%

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

Source of Match Funds Scott County

A minimum of 20% of the total project cost must come from non-federal sources; additional match funds over the 20% minimum can come from other federal sources

Preferred Program Year

Select one: 2023

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

Additional Program Years:

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

Project Information-Roadways

County, City, or Lead Agency	Scott County
Functional Class of Road	A-Minor Reliever
Road System	CSAH
<i>TH, CSAH, MSAS, CO. RD., TWP. RD., CITY STREET</i>	
Road/Route No.	16
<i>i.e., 53 for CSAH 53</i>	
Name of Road	McColl Drive
<i>Example; 1st ST., MAIN AVE</i>	
Zip Code where Majority of Work is Being Performed	55378
(Approximate) Begin Construction Date	04/01/2023
(Approximate) End Construction Date	11/15/2023
TERMINI:(Termini listed must be within 0.3 miles of any work)	
From: (Intersection or Address)	CSAH 18
To: (Intersection or Address)	Trunk Highway 13
<i>DO NOT INCLUDE LEGAL DESCRIPTION</i>	
Or At	
Primary Types of Work	GRADE, AGG BASE, BIT BASE, BIT SURF, SIDEWALK, CURB AND GUTTER, STORM SEWER, BIKE PATH, PED RAMPS
<i>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.</i>	
BRIDGE/CULVERT PROJECTS (IF APPLICABLE)	
Old Bridge/Culvert No.:	NA
New Bridge/Culvert No.:	NA
Structure is Over/Under (Bridge or culvert name):	NA

Requirements - All Projects

All Projects

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

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

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

Goal A, Objective A page 2.20; Strategy B1 page 2.20; Strategy B6 page 2.23
Goal C, Objective A page 2.24; Strategy C2 page 2.25; Strategy C9 page 2.32

Goal E, Objective A page 2.42

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

Goal E, Objective B page 2.42

Goal E, Objective C page 2.42

Goal E, Objective D page 2.42; Strategy E3 page 2.44; Strategy E5 page 2.45; Strategy E7 page 2.47

Goal F page 2.48; Strategy F3 page 2.50

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.

Scott County CSAH 16 Corridor Planning Study, 2002

City of Shakopee Transportation Plan, Page 12

List the applicable documents and pages:

City of Savage Comprehensive Plan, Page 5-25

City of Savage Pedestrian and Bicycle Master Plan, Page 40

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

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

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

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

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

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

7. The requested funding amount must be more than or equal to the minimum award and less than or equal to the maximum award. The cost of preparing a project for funding authorization can be substantial. For that reason, minimum federal amounts apply. Other federal funds may be combined with the requested funds for projects exceeding the maximum award, but the source(s) must be identified in the application. Funding amounts by application category are listed below.

Roadway Expansion: \$1,000,000 to \$7,000,000

Roadway Reconstruction/ Modernization Modernization and Spot Mobility: \$1,000,000 to \$7,000,000

Traffic Management Technologies (Roadway System Management): \$250,000 to \$7,000,000

Bridges Rehabilitation/ Replacement: \$1,000,000 to \$7,000,000

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

8. The project must comply with the Americans with Disabilities Act (ADA).

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

9. In order for a selected project to be included in the Transportation Improvement Program (TIP) and approved by USDOT, the public agency sponsor must either have, or be substantially working towards, completing a current Americans with Disabilities Act (ADA) self-evaluation or transition plan that covers the public right of way/transportation, as required under Title II of the ADA.

The applicant is a public agency that employs 50 or more people and has an adopted ADA transition plan that covers the public right of way/transportation.

Date plan adopted by governing body

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

01/01/2016

09/30/2018

Date process started

Date of anticipated plan completion/adoption

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

Date self-evaluation completed

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

Date process started

Date of anticipated plan completion/adoption

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

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

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

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

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

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

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

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

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

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

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

Roadways Including Multimodal Elements

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

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

Roadway Expansion and Reconstruction/Modernization and Spot Mobility projects only:

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

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

Bridge Rehabilitation/Replacement projects only:

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

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

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

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

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

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

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

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

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

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

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

Requirements - Roadways Including Multimodal Elements

Specific Roadway Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES

	Cost
Mobilization (approx. 5% of total cost)	\$338,000.00
Removals (approx. 5% of total cost)	\$165,000.00
Roadway (grading, borrow, etc.)	\$1,262,000.00

Roadway (aggregates and paving)	\$1,234,000.00
Subgrade Correction (muck)	\$0.00
Storm Sewer	\$891,000.00
Ponds	\$0.00
Concrete Items (curb & gutter, sidewalks, median barriers)	\$561,000.00
Traffic Control	\$116,000.00
Striping	\$62,000.00
Signing	\$36,000.00
Lighting	\$0.00
Turf - Erosion & Landscaping	\$138,000.00
Bridge	\$0.00
Retaining Walls	\$834,000.00
Noise Wall (not calculated in cost effectiveness measure)	\$0.00
Traffic Signals	\$0.00
Wetland Mitigation	\$0.00
Other Natural and Cultural Resource Protection	\$0.00
RR Crossing	\$0.00
Roadway Contingencies	\$1,332,000.00
Other Roadway Elements	\$318,000.00
Totals	\$7,287,000.00

Specific Bicycle and Pedestrian Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Path/Trail Construction	\$280,000.00
Sidewalk Construction	\$406,000.00
On-Street Bicycle Facility Construction	\$0.00
Right-of-Way	\$0.00
Pedestrian Curb Ramps (ADA)	\$20,000.00
Crossing Aids (e.g., Audible Pedestrian Signals, 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

\$706,000.00

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

Totals

Total Cost	\$7,993,000.00
Construction Cost Total	\$7,993,000.00
Transit Operating Cost Total	\$0.00

Congestion on adjacent Parallel Routes:

Adjacent Parallel Corridor	Trunk Highway 13/CSAH 101 transition area/US 169
Adjacent Parallel Corridor Start and End Points:	
Start Point:	TH 169/CSAH 101/CSAH 21
End Point:	TH 13 E
Free-Flow Travel Speed:	54

The Free-Flow Travel Speed is black number.

Peak Hour Travel Speed: 23

The Peak-Hour Travel Speed is red number.

Percentage Decrease in Travel Speed in Peak Hour Compared to Free-Flow (calculation): 57.41%

Upload the "Level of Congestion" map: 1530285943686_ScottCoCSAH16-LevelofCongestionMap.pdf

Principal Arterial Intersection Conversion Study:

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

(65 Points)

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

(55 Points)

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

(45 Points)

Not listed as a priority in the study: Yes

(0 Points)

Congestion Management and Safety Plan IV:

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

(65 Points)

Not listed as a CMSP priority location: Yes

(0 Points)

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

Existing Employment within 1 Mile: 5294

Existing Manufacturing/Distribution-Related Employment within 1 Mile: 1558

Existing Post-Secondary Students within 1 Mile: 0

Upload Map 1530286043577_ScottCoCSAH16-EconomyMap.pdf

Please upload attachment in PDF form.

Measure C: Current Heavy Commercial Traffic

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

Along Tier 1:

Along Tier 2:

Along Tier 3:

The project provides a direct and immediate connection (i.e., intersects) with either a Tier 1, Tier 2, or Tier 3 corridor: Yes

None of the tiers:

Measure A: Current Daily Person Throughput

Location	CSAH 16 between TH 13 and CSAH 18
Current AADT Volume	6500
Existing Transit Routes on the Project	491

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

Upload Transit Connections Map	1530286149936_ScottCoCSAH16-TransitMap.pdf
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Please upload attachment in PDF form.

Response: Current Daily Person Throughput

Average Annual Daily Transit Ridership	0
Current Daily Person Throughput	8450.0

Measure B: 2040 Forecast ADT

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

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

OR

Identify the approved county or city travel demand model to determine forecast (2040) ADT volume	Scott County 2040 Travel Demand Model
Forecast (2040) ADT volume	11000

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

Select one:

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

(up to 100% of maximum score)

Project located in Area of Concentrated Poverty:

(up to 80% of maximum score)

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

Yes

(up to 60% of maximum score)

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

(up to 40% of maximum score)

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

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

The project area has a high Native American Indian population due to its proximity to the Shakopee Mdewakanton Sioux Community (SMSC) reservation lands. While it is not expected that the project will negatively impact this population, they will be invited to participate in the design process. Adjacent property owners will also be engaged so they can evaluate potential impacts to property and changes in access.

Response:

As the project enters the design phase, Scott County will host public meetings at neighborhood locations to provide residents, employers, workers, and roadway users the opportunity to be engaged in the design process and understand potential impacts to property and current roadway operations. Other public engagement opportunities to be used include a project website, newsletter mailings, updates on the County's social media feeds, press releases, meetings with city officials, and one-on-one meetings with property owners and neighborhoods. The county utilizes both traditional meetings and web-based content to ensure all interested populations have the opportunity to provide input. The county encourages community participation from disadvantaged populations, and in the past has held special meetings at alternate locations to enhance engagement. Translation and interpretation services will be utilized as needed.

(Limit 1,400 characters; approximately 200 words)

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

The modernization of CSAH 16 is important for addressing future issues regarding congestion and roadway operations. The current roadway is expected to exceed capacity based on the 2040 forecasted daily traffic volumes. To help mitigate this matter in the future, the proposed divided two-lane roadway with turn lanes at intersections on CSAH 16 is crucial in managing the accessibility and travel time without the need to expand the road to four lanes. Roadways that exceed capacity will likely experience increased travel time, congestion and induce other negative externalities such as air and noise pollution. Especially when the surrounding area is highly residential, the modernization of the roadway will help prevent these future issues.

Response:

The modernization of CSAH 16 will relieve US 169 and TH 13 to handle more locally destined trips. This will benefit the surrounding area and reduce negative externalities such as congestion and air and noise pollution that may have a significant impact on residents living along the roadway. With the addition of a raised median and turn lanes at intersections, the modernization of CSAH 16 will also help reduce crashes for turning vehicles.

The project area primarily consists of single-family residential homes. Residents who wish to walk or bike are currently discouraged to do so due to the lack of pedestrian and bicyclist facilities along CSAH 16. This makes it challenging to connect between neighborhoods and to employment areas east and west of the project area (where trails exist). The addition of a new trail and sidewalk as part of the roadway modernization will provide a safer environment and community for pedestrians and most bicyclists - especially children, elderly, and individuals with disabilities - to feel comfortable

and safe. The sidewalk and trail on both sides of CSAH 16 as part of the modernization project will eliminate gaps, increase regional bikeway network connectivity, and allow the crossing of CSAH 16 to be facilitated at appropriate locations.

(Limit 2,800 characters; approximately 400 words)

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

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

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

Increased noise.

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

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

Increased speed and/or cut-through traffic.

Removed or diminished safe bicycle access.

Inclusion of some other barrier to access to jobs and other destinations.

Displacement of residents and businesses.

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

Other

This project is a roadway modernization project that is not expected to create negative externalities on disadvantaged populations or the general public. The project elements are intended to enhance safety, improve pedestrian and bicyclist access, and reduce traffic and air quality concerns.

With the installation of the center raised median, turning movements for existing direct driveways onto CSAH 16 will be restricted to right-in/right-out only. This will alter how to access these properties from current conditions. However, property owners will have the ability to use the new turn lanes at street intersections to turn around for the left turn movement. This change in access has a minimal change in travel time in comparison to the safety benefits it provides.

During project construction, there may be temporary impacts that will be mitigated including increased levels of noise and dust and traffic disruptions. The county will require the contractor to utilize best management practices for dust control, erosion control, traffic control, and follow local ordinances to meet all relevant noise regulations.

Response:

(Limit 2,800 characters; approximately 400 words)

Upload Map

1530286683530_ScottCoCSAH16-SocioEconMap.pdf

Measure B: Affordable Housing

City	Segment Length (For stand-alone projects, enter population from Regional Economy map) within each City/Township	Segment Length/Total Project Length	Score	Housing Score Multiplied by Segment percent
Savage	1.0	0.91	58.0	52.727
Shakopee	0.1	0.09	68.0	6.182

Total Project Length

Total Project Length (as entered in the "Project Information" form) 0

Affordable Housing Scoring

Total Project Length (Miles) or Population 1.1
Total Housing Score 58.909

Affordable Housing Scoring

Measure A: Year of Roadway Construction

Year of Original Roadway Construction or Most Recent Reconstruction	Segment Length	Calculation	Calculation 2
1972	1.1	2169.2	1972.0
	1	2169	1972

Total Project Length

Total Project Length (as entered in "Project Information" form) 1.1

Average Construction Year

Weighted Year 1972

Total Segment Length (Miles)

Total Segment Length 1.1

Measure B: Geometric, Structural, or Infrastructure Improvements

Improved roadway to better accommodate freight movements: Yes

Response:

(Limit 700 characters; approximately 100 words)

Improved clear zones or sight lines:

Response:

(Limit 700 characters; approximately 100 words)

Improved roadway geometrics:

Response:

(Limit 700 characters; approximately 100 words)

Access management enhancements:

The divided roadway will improve freight traffic flows by separating directional traffic with a raised median, dedicated turn lanes, and wider shoulders. This will enhance safety and provide delineation between travel lanes which benefits heavy truck operations.

Yes

The improved intersections will be reconstructed to improve sight lines and extend turn lanes. The existing Hillsboro Avenue and Boone Avenue intersections with CSAH 16 currently have bypass lanes to allow for left turns. This requires through traffic to shift to the right to avoid left turning vehicles, which diminishes visibility at the intersection. The new intersections will be reconstructed with dedicated left and right turns to improve sight lines for through movements. Side streets will be adjusted at the intersections as needed to improve sight lines. All obstacles will be removed to meet clear zone requirements.

Yes

Lane geometry at the TH 13 and CSAH 16 intersection will be updated so that the reconstructed road properly aligns with the four-lane configuration east of TH 13. Turn lanes will also be adjusted to ensure improved geometrics for the through lanes on CSAH 16. The poor turn lane geometry results in tight turns and traffic queues along CSAH 16. The curves near Boone Avenue will be smoothed out as much as possible to enhance safety and improve visibility.

Yes

Response:

The proposed two-lane divided roadway will implement access management practices by converting direct driveways to right-in/right-outs. This will reduce conflict points at these locations. Drivers will be able to make left turn movements by making U-turns at the nearest local road intersection. This will reduce impact to property owners and increase roadway capacity and safety on CSAH 16. Local road intersections will have dedicated right and left turn lanes. The intersections are generally consistent with the Scott County access spacing guidelines.

(Limit 700 characters; approximately 100 words)

Vertical/horizontal alignment improvements:

Yes

As part of the project, vertical/horizontal alignment will be improved to help enhance sight lines and road visibility. As CSAH 16 travels east towards the TH 13 intersection, there is a steep vertical decline of the roadway. The design will explore opportunities to minimize the grade change while tying in to the existing TH 13/CSAH 16 intersection. The proposed divided two-lane roadway will be adjusted to meet current State Aid roadway design standards to improve safety, accessibility, and mobility in the area.

Response:

(Limit 700 characters; approximately 100 words)

Improved stormwater mitigation:

Yes

Existing drainage and erosion issues occur within the road ditches due to steep slopes and improper drainage flows. The County has had to install rip rap in several areas to prevent further erosion damage. However, the reconstruction project is needed to resolve the issues and better handle the road's stormwater.

Response:

The project includes storm sewer and curb and gutter installation to manage stormwater runoff and drainage. The project will meet all required stormwater standards, an improvement over the existing outdated infrastructure. This will provide a benefit for the area as the project is located above the bluffs. Controlling stormwater will reduce risks for off-site slope failures.

(Limit 700 characters; approximately 100 words)

Signals/lighting upgrades:

Yes

Intersection street lighting will be enhanced at the local road intersections to improve visibility and safety for turning vehicles.

Response:

(Limit 700 characters; approximately 100 words)

Other Improvements

Yes

Sidewalk and trail conditions will be improved. There are existing trails adjacent to the project area that are not easily accessible because of the trail gap along CSAH 16. The addition of a trail on the south side and a sidewalk for pedestrians on the north side of CSAH 16 will improve mobility and accessibility for non-motorized modes of transportation. In addition, the trail on the south side of CSAH 16 will provide better connectivity to the regional bicycle system.

Response:

Wider shoulders will also be provided to enhance safety and provide an on-road bike route.

(Limit 700 characters; approximately 100 words)

Measure A: Congestion Reduction/Air Quality

Total Peak Hour Delay Per Vehicle Without The Project (Seconds/Vehicle)	Total Peak Hour Delay Per Vehicle With The Project (Seconds/Vehicle)	Total Peak Hour Delay Reduced by Project (Seconds/Vehicle)	Volume (Vehicles per hour)	Total Peak Hour Delay Reduced by the Project:	EXPLANATION of methodology used to calculate railroad crossing delay, if applicable.	Synchro or HCM Reports
57.0	46.0	11.0	3747	41217.0		15302906812 80_SynchroResults.pdf

Vehicle Delay Reduced

Total Peak Hour Delay Reduced 41217.0

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

Total (CO, NOX, and VOC) Peak Hour Emissions without the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions with the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):
15.32	14.44	0.88
15	14	1

Total

Total Emissions Reduced: 0.88

Upload Synchro Report 1531410593812_SynchroResults.pdf

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

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

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

0

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

0

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

0

Total Parallel Roadway

Emissions Reduced on Parallel Roadways 0

Upload Synchro Report

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

New Roadway Portion:

Cruise speed in miles per hour with the project: 0

Vehicle miles traveled with the project: 0

Total delay in hours with the project: 0

Total stops in vehicles per hour with the project: 0

Fuel consumption in gallons: 0

Total (CO, NOX, and VOC) Peak Hour Emissions Reduced or
Produced on New 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: Roadway Projects that do not Include Railroad Grade-Separation Elements

Crash Modification Factor Used:

CMF 2219 - Install Raised Median
CMF 2265 - Improve Pavement Friction (increase skid resistance) - All Crashes

CMF 2276 - Improve Pavement Friction (increase skid resistance) - Rear End Crashes

(Limit 700 Characters; approximately 100 words)

Rationale for Crash Modification Selected:

Three Crash Modification Factors (CMF) were applied to this project. CMF 2219 - Install Raised Median - was used to demonstrate the benefit of converting the roadway to a two-lane divided facility. CMF 2265 and CMF 2276 were used to demonstrate the benefit of a new roadway surface to reduce rear ends and property damage crashes. See attachment for calculations.

(Limit 1400 Characters; approximately 200 words)

Project Benefit (\$) from B/C Ratio

\$1,453,393.00

Worksheet Attachment

1531410994046_BenefitCost-CMFsheets.pdf

Please upload attachment in PDF form.

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

The CSAH 16 Modernization project will complete sidewalk and trail gaps on both sides of CSAH 16 and have wider shoulders for on-road bikers. Incorporating facilities on both sides of the roadway provides the opportunity for users to avoid the need to cross CSAH 16 to access the sidewalk or trail. It also provides multimodal opportunities and gives the ability to separate walking activities from bicyclists. The project will complete the trail link between Shakopee and Savage and better connect adjacent neighborhoods to the local trail networks in both cities as well as improve access to nearby commercial areas.

Response:

The project will provide a multiuse trail to serve as the alignment for the RBTN Tier 2 Corridor. The proposed project will play an integral role in improving the condition and continuity of the regional bikeway network by completing the gap and provide a bicycle and pedestrian connection between Shakopee and Savage. Continuing north along CSAH 18 in Shakopee, the RBTN provides access to the Minnesota Valley State Trail and the Bloomington Ferry Bridge pedestrian crossing over the Minnesota River near US Highway 169. This project improves access for Savage residents to these regional bikeway connections.

The City of Savage's recent Pedestrian and Bicycle Master Plan identified this segment of CSAH 16 as a top priority gap that should be built to improve access between the two cities. The project implements the Master Plan by completing connections to existing trails along CSAH 18 in Shakopee and CSAH 16 east of TH 13 in Savage. This is a key connection that enhances access for adjacent neighborhoods and completes loops to support recreational trips.

There is no fixed route transit service currently provided on this segment of CSAH 16, however service is provided by Smartlink dial-a-ride and nearby park and rides. Route 491 runs along CSAH 18 at the project limits. The Southbridge Park and Ride in Shakopee is located near CSAH 18 and TH 169. The CSAH 16 project will offer multimodal access to CSAH 18 to connect to the Southbridge Park and Ride for Savage residents. The Southbridge Park and Ride is a key access point for MVTA express bus routes connecting across the Minnesota River along the US Highway 169 corridor.

(Limit 2,800 characters; approximately 400 words)

Transit Projects Not Requiring Construction

If the applicant is completing a transit application that is operations only, check the box and do not complete the remainder of the form. These projects will receive full points for the Risk Assessment.

Park-and-Ride and other transit construction projects require completion of the Risk Assessment below.

Check Here if Your Transit Project Does Not Require Construction

Measure A: Risk Assessment - Construction Projects

1)Layout (30 Percent of Points)

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

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

100%

Attach Layout

Please upload attachment in PDF form.

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

Yes

50%

Attach Layout

1531410501000_1b-ProjectLayout.pdf

Please upload attachment in PDF form.

Layout has not been started

0%

Anticipated date or date of completion

12/20/2021

2)Review of Section 106 Historic Resources (20 Percent of Points)

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

Yes

100%

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

100%

Historic/archeological property impacted; determination of no adverse effect anticipated

80%

Historic/archeological property impacted; determination of adverse effect anticipated

40%

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

0%

Project is located on an identified historic bridge

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

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

100%

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

50%

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

Yes

25%

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

0%

Anticipated date or date of acquisition

11/20/2022

4)Railroad Involvement (20 Percent of Points)

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

Yes

100%

Signature Page

Please upload attachment in PDF form.

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

50%

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

0%

Anticipated date or date of executed Agreement

Measure A: Cost Effectiveness

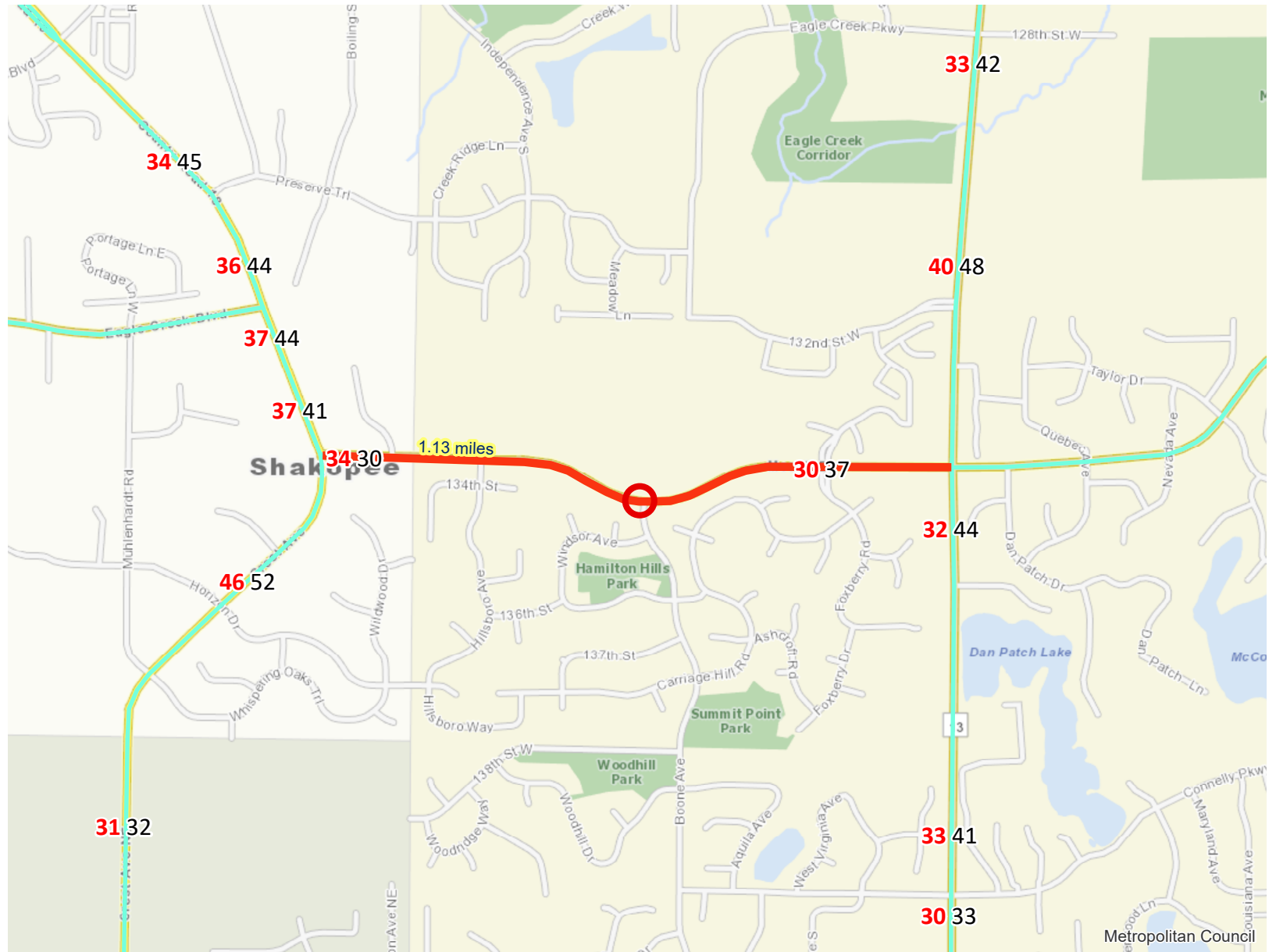
Total Project Cost (entered in Project Cost Form):	\$7,993,000.00
Enter Amount of the Noise Walls:	\$0.00
Total Project Cost subtract the amount of the noise walls:	\$7,993,000.00
Points Awarded in Previous Criteria	
Cost Effectiveness	\$0.00

Other Attachments

File Name	Description	File Size
1-One-pageSummary.pdf	One-Page Summary	139 KB
2-Photos.pdf	Existing Condition Photos	376 KB
3-ProjectLocationMap.pdf	Project Location Map	2.8 MB
4-SidewalkTrailMap.pdf	Sidewalk/Trail Map	3.4 MB
5-Savage Letter of Support.pdf	Savage Letter of Support	295 KB
6-MnDOT Letter of Support.pdf	MnDOT Letter of Support	468 KB
7-Shakopee Letter of Support.pdf	Shakopee Letter of Support	111 KB
TAB resolution.pdf	Scott County Resolution	74 KB

Level of Congestion

Roadway Reconstruction/Modernization Project: Scott County CSAH 16 Modernization | Map ID: 1528402267264



Project Points Principal Arterials Principal Arterials Planned

Project A Minor Arterials A Minor Arterials Planned



Created: 6/7/2018
LandscapeRSA1



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



Regional Economy

Results

WITHIN ONE MI of project:
Postsecondary Students: 0

Totals by City:

Prior Lake

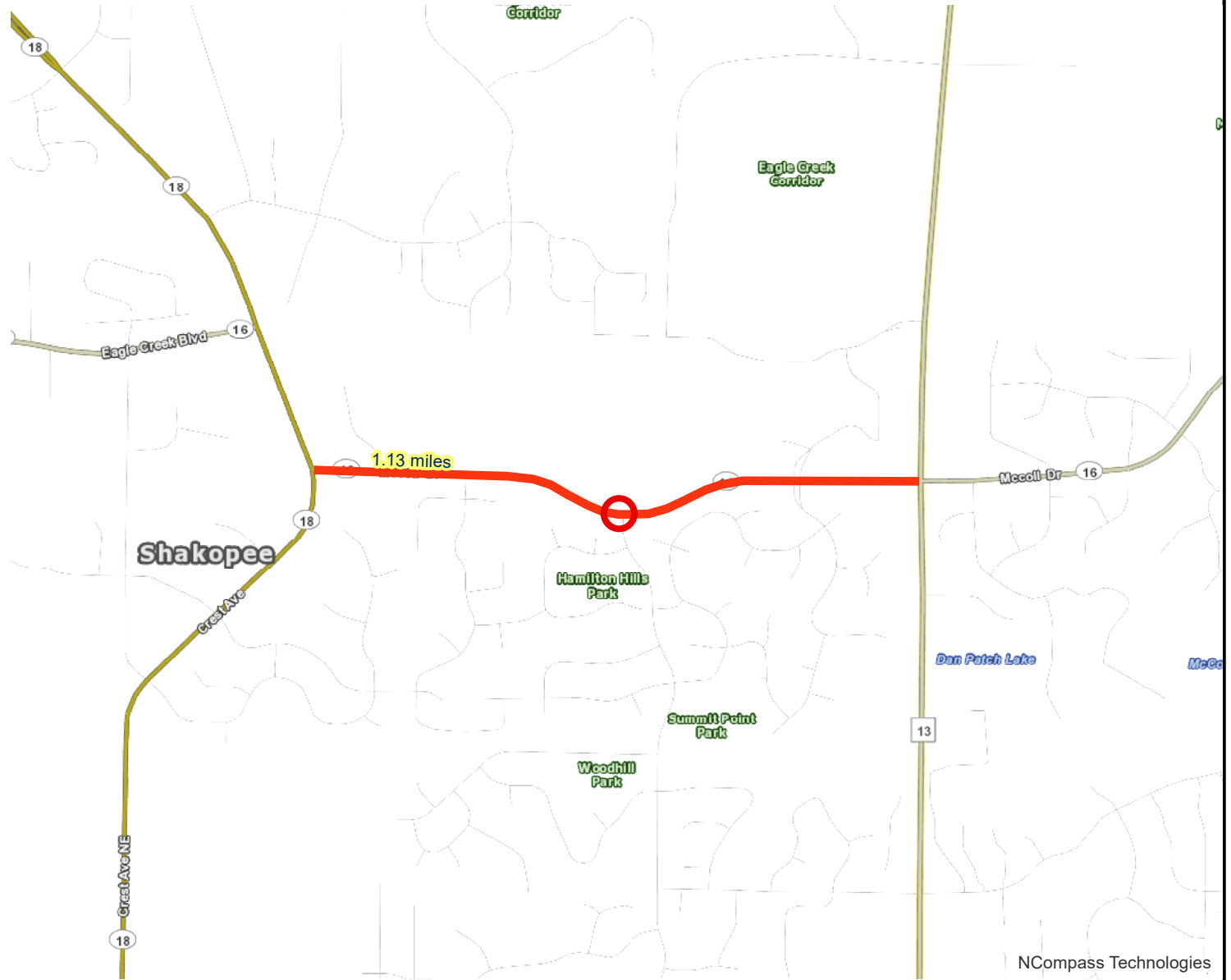
Population: 4690
Employment: 531
Mfg and Dist Employment: 32

Savage





Population: 6953
Employment: 3663
Mfg and Dist Employment: 1333

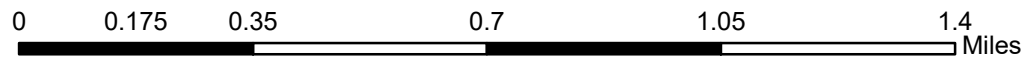
Shakopee

Population: 1993
Employment: 1100
Mfg and Dist Employment: 193



NCompass Technologies

-  Project Points
-  Project
-  Manufacturing/Distribution Centers
-  Job Concentration Centers



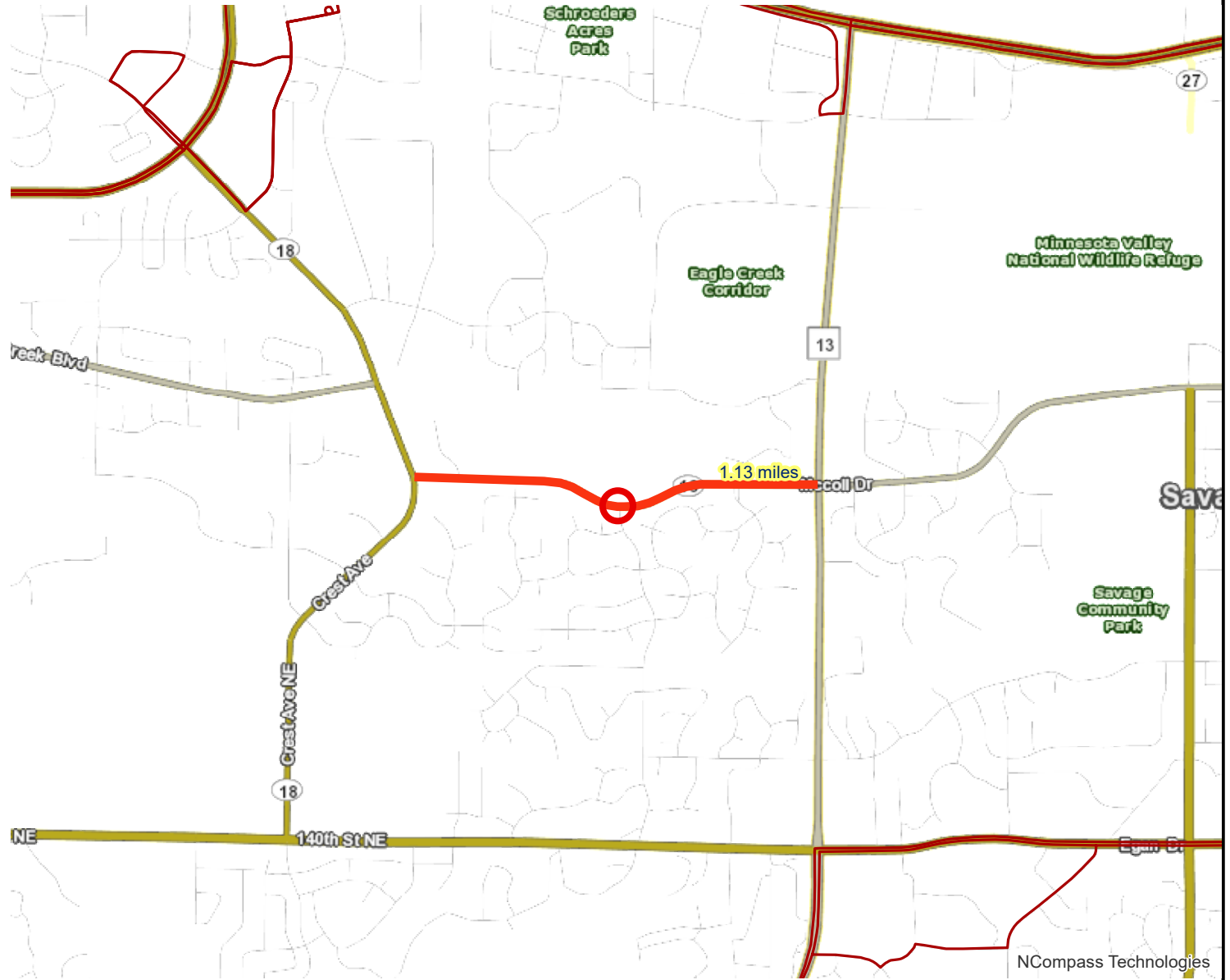
Created: 6/7/2018
LandscapeRSA5



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<http://giswebsite.metc.state.mn.us/gissitenew/notice.aspx>



Transit Connections



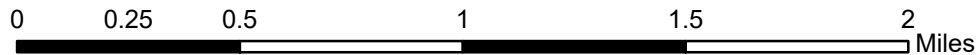
Results

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

**indicates Planned Alignments*

 Project Points  Transit Routes

 Project



Created: 6/7/2018
LandscapeRSA3



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

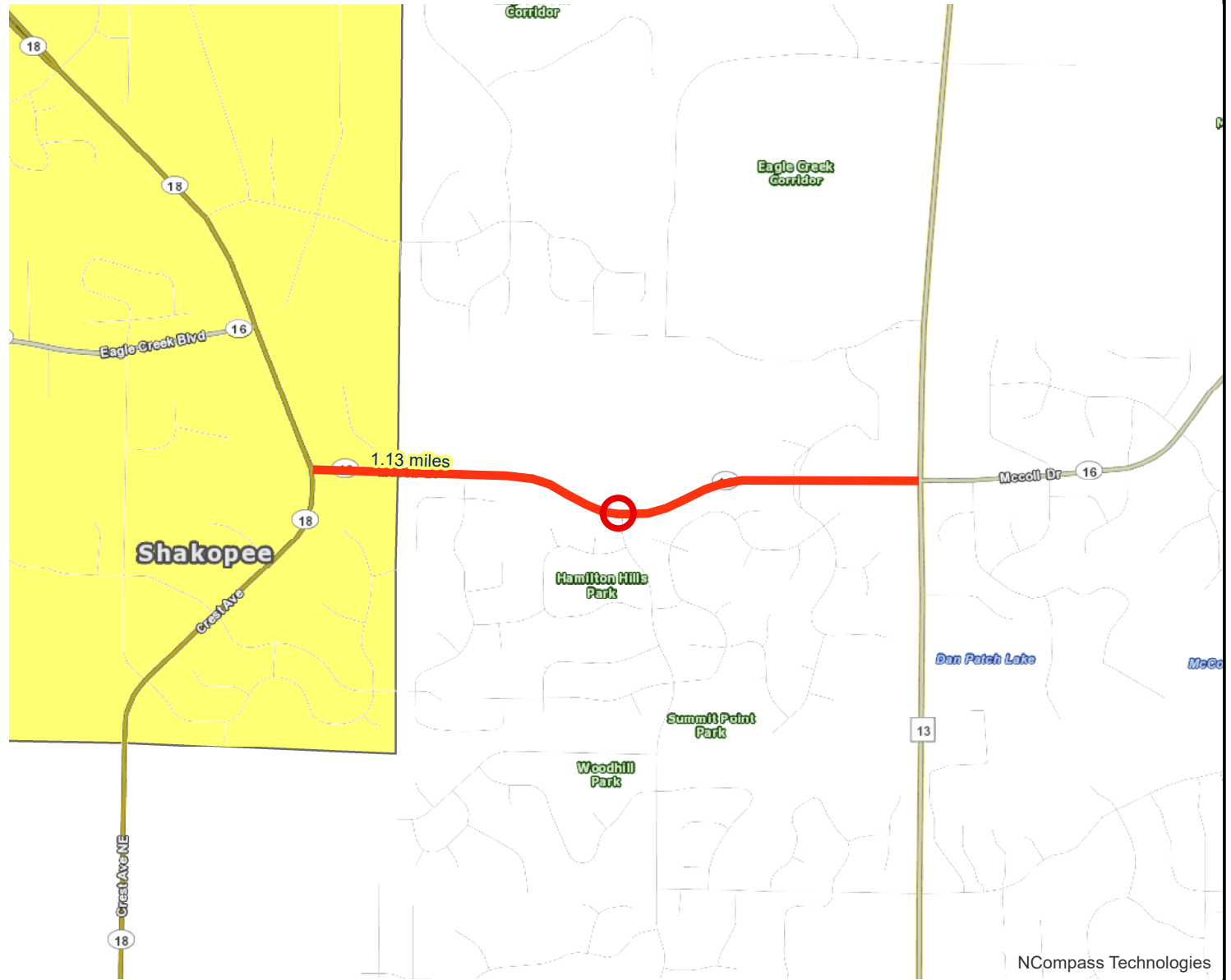





NCompass Technologies



Socio-Economic Conditions

Results

Project census tracts are above the regional average for population in poverty or population of color: (0 to 18 Points)



-  Project Points
-  Project
-  Area of Concentrated Poverty > 50% residents of color

-  Area of Concentrated Poverty
-  Above reg'l avg conc of race/poverty



1: TH 13 & CSAH 16

Direction	All
Future Volume (vph)	3747
Total Delay / Veh (s/v)	57
CO Emissions (kg)	10.74
NOx Emissions (kg)	2.09
VOC Emissions (kg)	2.49

Timings
1: TH 13 & CSAH 16

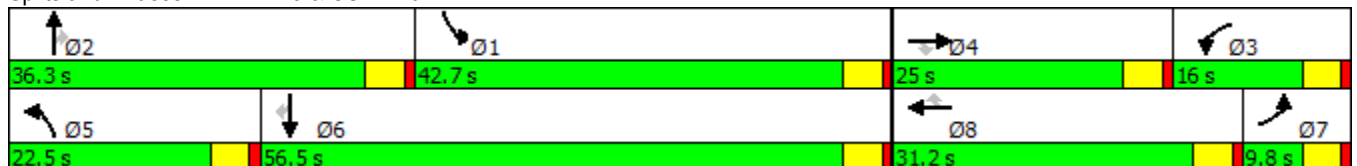
06/28/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	285	54	149	204	141	140	719	80	504	1405	52
Future Volume (vph)	14	285	54	149	204	141	140	719	80	504	1405	52
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.8	25.0	25.0	16.0	31.2	31.2	22.5	36.3	36.3	42.7	56.5	56.5
Total Split (%)	8.2%	20.8%	20.8%	13.3%	26.0%	26.0%	18.8%	30.3%	30.3%	35.6%	47.1%	47.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	6.2	20.5	20.5	11.5	31.7	31.7	18.0	31.8	31.8	38.2	52.0	52.0
Actuated g/C Ratio	0.05	0.17	0.17	0.10	0.26	0.26	0.15	0.26	0.26	0.32	0.43	0.43
v/c Ratio	0.16	0.97	0.14	0.96	0.45	0.29	0.57	0.83	0.17	0.97	1.00	0.07
Control Delay	58.4	94.4	0.7	113.6	42.1	7.7	56.9	50.7	1.9	72.9	56.3	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.4	94.4	0.7	113.6	42.1	7.7	56.9	50.7	1.9	72.9	56.3	0.2
LOS	E	F	A	F	D	A	E	D	A	E	E	A
Approach Delay		78.6			53.8			47.5			59.0	
Approach LOS		E			D			D			E	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 120
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 57.3
 Intersection LOS: E
 Intersection Capacity Utilization 86.1%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1: TH 13 & CSAH 16



1: TH 13 & CSAH 16

Direction	All
Future Volume (vph)	3747
Total Delay / Veh (s/v)	46
CO Emissions (kg)	10.12
NOx Emissions (kg)	1.97
VOC Emissions (kg)	2.35

Timings
1: TH 13 & CSAH 16

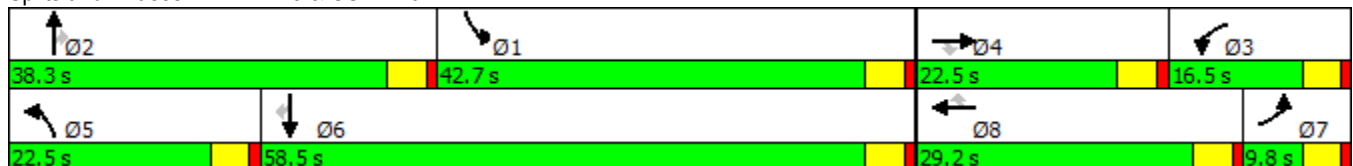
06/28/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	285	54	149	204	141	140	719	80	504	1405	52
Future Volume (vph)	14	285	54	149	204	141	140	719	80	504	1405	52
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.8	22.5	22.5	16.5	29.2	29.2	22.5	38.3	38.3	42.7	58.5	58.5
Total Split (%)	8.2%	18.8%	18.8%	13.8%	24.3%	24.3%	18.8%	31.9%	31.9%	35.6%	48.8%	48.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	5.7	15.1	15.1	12.0	27.4	27.4	18.0	33.8	33.8	38.2	54.0	54.0
Actuated g/C Ratio	0.05	0.13	0.13	0.10	0.23	0.23	0.15	0.29	0.29	0.33	0.46	0.46
v/c Ratio	0.17	0.68	0.16	0.90	0.51	0.20	0.56	0.77	0.16	0.95	0.94	0.07
Control Delay	59.1	56.7	1.0	97.0	45.1	6.9	55.2	44.2	1.8	66.5	42.2	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.1	56.7	1.0	97.0	45.1	6.9	55.2	44.2	1.8	66.5	42.2	0.2
LOS	E	E	A	F	D	A	E	D	A	E	D	A
Approach Delay		48.2			49.9			42.3			47.3	
Approach LOS		D			D			D			D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 117.1
 Natural Cycle: 110
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 46.5
 Intersection LOS: D
 Intersection Capacity Utilization 78.9%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 1: TH 13 & CSAH 16



1: TH 13 & CSAH 16

Direction	All
Future Volume (vph)	3747
Total Delay / Veh (s/v)	57
CO Emissions (kg)	10.74
NOx Emissions (kg)	2.09
VOC Emissions (kg)	2.49

Timings
1: TH 13 & CSAH 16

06/28/2018

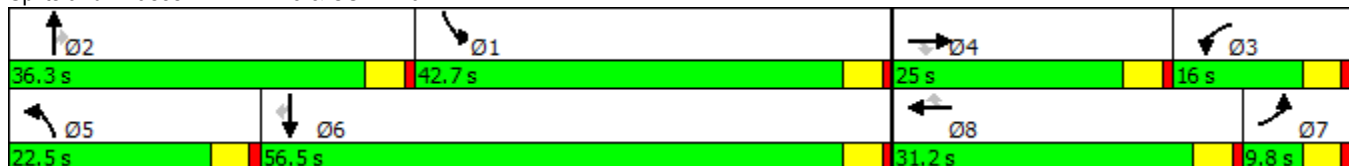


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↖	↗	↖	↖	↗	↖	↖	↗	↖
Traffic Volume (vph)	14	285	54	149	204	141	140	719	80	504	1405	52
Future Volume (vph)	14	285	54	149	204	141	140	719	80	504	1405	52
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.8	25.0	25.0	16.0	31.2	31.2	22.5	36.3	36.3	42.7	56.5	56.5
Total Split (%)	8.2%	20.8%	20.8%	13.3%	26.0%	26.0%	18.8%	30.3%	30.3%	35.6%	47.1%	47.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	6.2	20.5	20.5	11.5	31.7	31.7	18.0	31.8	31.8	38.2	52.0	52.0
Actuated g/C Ratio	0.05	0.17	0.17	0.10	0.26	0.26	0.15	0.26	0.26	0.32	0.43	0.43
v/c Ratio	0.16	0.97	0.14	0.96	0.45	0.29	0.57	0.83	0.17	0.97	1.00	0.07
Control Delay	58.4	94.4	0.7	113.6	42.1	7.7	56.9	50.7	1.9	72.9	56.3	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.4	94.4	0.7	113.6	42.1	7.7	56.9	50.7	1.9	72.9	56.3	0.2
LOS	E	F	A	F	D	A	E	D	A	E	E	A
Approach Delay		78.6			53.8			47.5			59.0	
Approach LOS		E			D			D			E	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Natural Cycle: 120
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 57.3
 Intersection LOS: E
 Intersection Capacity Utilization 86.1%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1: TH 13 & CSAH 16



1: TH 13 & CSAH 16

Direction	All
Future Volume (vph)	3747
Total Delay / Veh (s/v)	46
CO Emissions (kg)	10.12
NOx Emissions (kg)	1.97
VOC Emissions (kg)	2.35

Timings
1: TH 13 & CSAH 16

06/28/2018

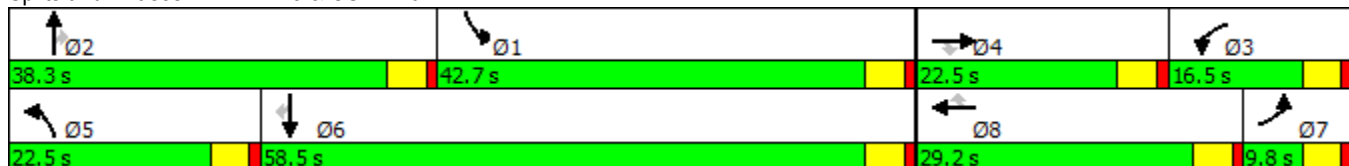


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	14	285	54	149	204	141	140	719	80	504	1405	52
Future Volume (vph)	14	285	54	149	204	141	140	719	80	504	1405	52
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.8	22.5	22.5	16.5	29.2	29.2	22.5	38.3	38.3	42.7	58.5	58.5
Total Split (%)	8.2%	18.8%	18.8%	13.8%	24.3%	24.3%	18.8%	31.9%	31.9%	35.6%	48.8%	48.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	5.7	15.1	15.1	12.0	27.4	27.4	18.0	33.8	33.8	38.2	54.0	54.0
Actuated g/C Ratio	0.05	0.13	0.13	0.10	0.23	0.23	0.15	0.29	0.29	0.33	0.46	0.46
v/c Ratio	0.17	0.68	0.16	0.90	0.51	0.20	0.56	0.77	0.16	0.95	0.94	0.07
Control Delay	59.1	56.7	1.0	97.0	45.1	6.9	55.2	44.2	1.8	66.5	42.2	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.1	56.7	1.0	97.0	45.1	6.9	55.2	44.2	1.8	66.5	42.2	0.2
LOS	E	E	A	F	D	A	E	D	A	E	D	A
Approach Delay		48.2			49.9			42.3			47.3	
Approach LOS		D			D			D			D	

Intersection Summary






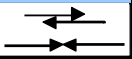
Cycle Length: 120
 Actuated Cycle Length: 117.1
 Natural Cycle: 110
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 46.5
 Intersection LOS: D
 Intersection Capacity Utilization 78.9%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 1: TH 13 & CSAH 16



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 16	Between CSAH 18 and TH 13 in City of Savage			Scott County	1/1/2013	12/31/2015
Description of Proposed Work		Reconstruct two-lane roadway to two-lane divided roadway with center median					

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	Other	Total
									

Study Period: Number of Crashes	Fatal	F							
	Personal Injury (PI)	A							
		B			1				1
		C							
Property Damage	PD	7	1	2			2	12	

% Change in Crashes	Fatal	F							
	PI	A							
		B			-64%				
		C	-82%						
Property Damage	PD	-82%	-64%	-64%			-64%		

**Use Desktop Reference for Crash Reduction Factors*

Change in Crashes = No. of crashes X % change in crashes	Fatal	F							
	PI	A							
		B			-0.64				-0.64
		C							
Property Damage	PD	-5.74	-0.64	-1.28			-1.28	-8.94	

Year (Safety Improvement Construction) **2023**

Project Cost (exclude Right of Way)	Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
\$ 7,993,000	F			\$ 11,000,000	
Right of Way Costs (optional)	A			\$ 590,000	
Traffic Growth Factor	B	-0.64	-0.21	\$ 170,000	\$ 36,300
Capital Recovery	C			\$ 87,000	
1. Discount Rate	PD	-8.94	-2.98	\$ 7,800	\$ 23,265
2. Project Service Life (n)					
Total				\$ 59,565	

B/C = 0.18

Using present worth values,
B = \$ 1,453,393
C = \$ 7,993,000
See "Calculations" sheet for amortization.

Calculating Dual CRF for CSAH 16 Modernization

Improvements include installation of a raised median and improving pavement friction.

CR1 = install raised median (CRF 39%) - CMF ID 2219

CR2 = improve pavement friction (CRF 41.1%) - CMF ID 2265;

(CRF 69.6%) - CMF ID 2276 rear ends

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

$$\text{Rear end: } CR = (1 - 0.39) * (1 - 0.696) = 0.82$$

$$\text{Left Turn: } CR = (1 - 0.39) * (1 - 0.411) = 0.64$$

$$\text{Right Angle: } CR = (1 - 0.39) * (1 - 0.411) = 0.64$$

$$\text{Other: } CR = (1 - 0.39) * (1 - 0.411) = 0.64$$



CMF / CRF Details

CMF ID: 2219

Install raised median

Description:

Prior Condition: *No Prior Condition(s)*

Category: Access management

Study: [Correlating Access Management to Crash Rate, Severity, and Collision Type, Schultz et al., 2008](#)

Star Quality Rating: [View score details]

Crash Modification Factor (CMF)

Value: 0.29

Adjusted Standard Error:

Unadjusted Standard Error: 0.184

Crash Reduction Factor (CRF)

Value: 70.77 (This value indicates a **decrease** in crashes)

Adjusted Standard Error:

Unadjusted Standard Error: 18.37

Applicability

Crash Type: All

Crash Severity: All

Roadway Types: Principal Arterial Other

Number of Lanes:

Road Division Type:

Speed Limit:

Area Type: Urban

Traffic Volume:	Minimum of 1390 to Maximum of 51200 Average Daily Traffic (ADT)
Time of Day:	All
<i>If countermeasure is intersection-based</i>	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Development Details

Date Range of Data Used:	2002 to 2004
Municipality:	
State:	UT
Country:	
Type of Methodology Used:	Regression cross-section
Sample Size (site-years):	525 site-years

Other Details

Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	Dec-01-2009
Comments:	

[\[View the Full Study Details\]](#)

[Export Detail](#)
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For more information, contact Karen Scurry at karen.scurry@dot.gov

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



CMF / CRF Details

CMF ID: 2265

Improve pavement friction (increase skid resistance)

Description:

Prior Condition: Sections of pavement with both a high proportion (35-40%) of wet-road crashes and low friction numbers (<32).

Category: Roadway

Study: [Safety Effects of a Targeted Skid Resistance Improvement Program, Lyon and Persaud, 2008](#)

Star Quality Rating:  [\[View score details\]](#)

Crash Modification Factor (CMF)	
Value:	0.589
Adjusted Standard Error:	0.216
Unadjusted Standard Error:	0.216
Crash Reduction Factor (CRF)	
Value:	41.1 <i>(This value indicates a decrease in crashes)</i>
Adjusted Standard Error:	21.6
Unadjusted Standard Error:	21.6
Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	Not Specified
Number of Lanes:	
Road Division Type:	
Speed Limit:	

Area Type:	All
Traffic Volume:	
Time of Day:	All
<i>If countermeasure is intersection-based</i>	
Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	4-leg
Traffic Control:	Yield sign
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Development Details

Date Range of Data Used:	1994 to 2003
Municipality:	
State:	NY
Country:	
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Sample Size (site-years):	33 site-years before, 30 site-years after

Other Details

Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	
Comments:	

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CMF / CRF Details

CMF ID: 2276

Improve pavement friction (increase skid resistance)

Description:

Prior Condition: Sections of pavement with both a high proportion (35-40%) of wet-road crashes and low friction numbers (<32).

Category: Roadway

Study: [Safety Effects of a Targeted Skid Resistance Improvement Program, Lyon and Persaud, 2008](#)

Star Quality Rating:  [\[View score details\]](#)

Crash Modification Factor (CMF)	
Value:	0.304
Adjusted Standard Error:	0.086
Unadjusted Standard Error:	0.086
Crash Reduction Factor (CRF)	
Value:	69.6 <i>(This value indicates a decrease in crashes)</i>
Adjusted Standard Error:	8.6
Unadjusted Standard Error:	8.6
Applicability	
Crash Type:	Rear end
Crash Severity:	All
Roadway Types:	Not Specified
Number of Lanes:	
Road Division Type:	
Speed Limit:	

Area Type:	All
Traffic Volume:	
Time of Day:	All
<i>If countermeasure is intersection-based</i>	
Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	3-leg
Traffic Control:	Yield sign
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Development Details

Date Range of Data Used:	1994 to 2003
Municipality:	
State:	NY
Country:	
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Sample Size (site-years):	33 site-years before, 30 site-years after

Other Details

Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	
Comments:	

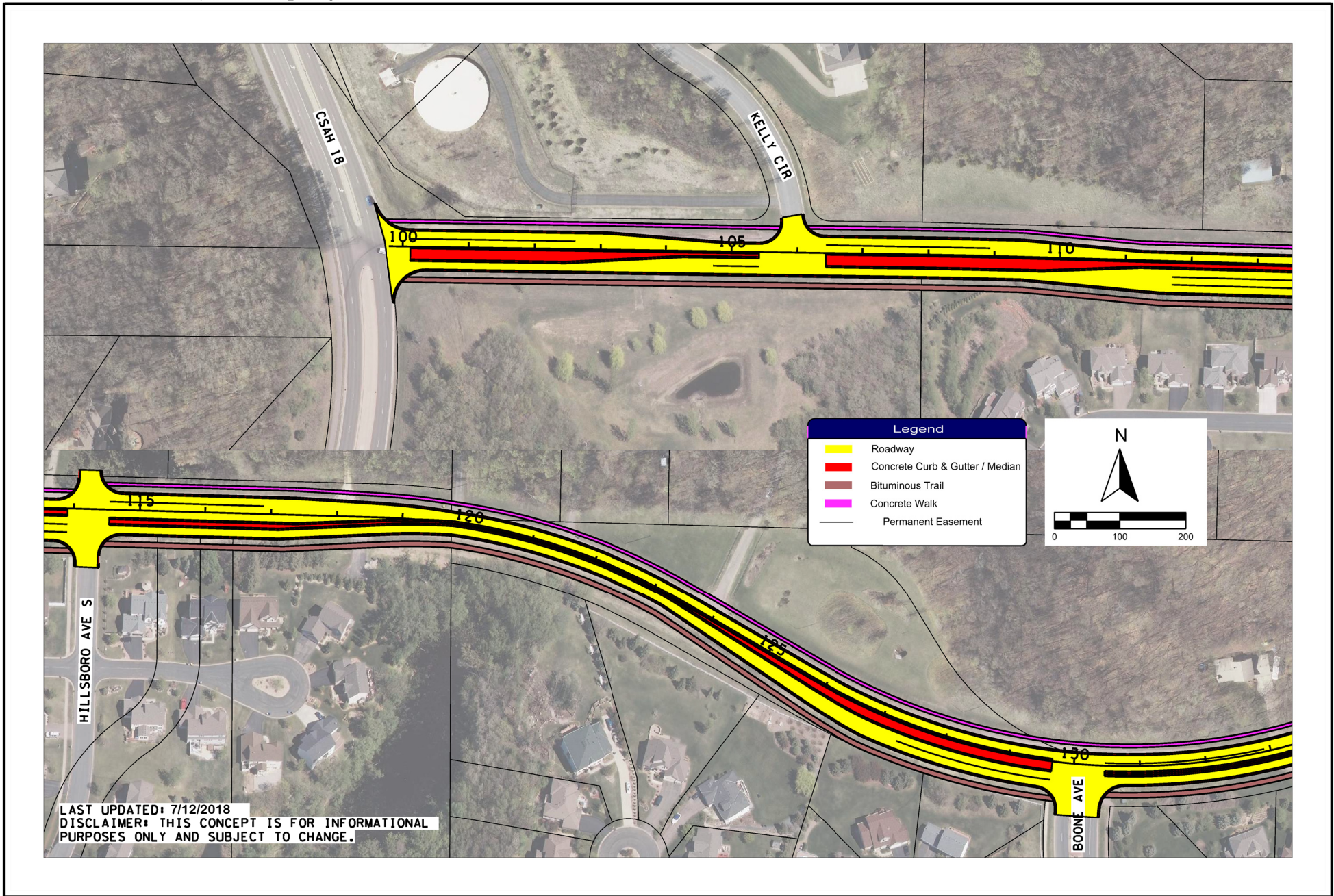
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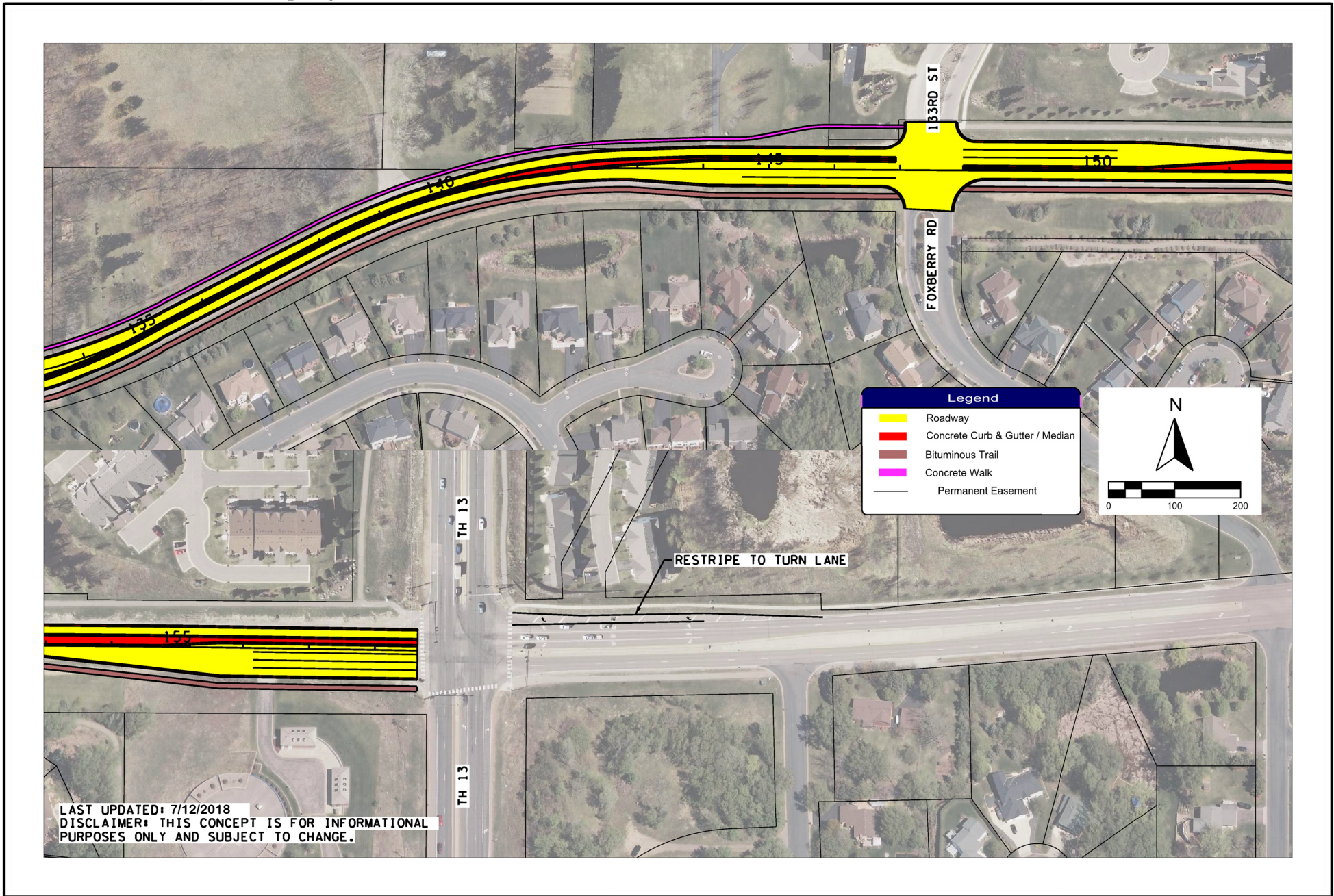


CSAH 16 Modernization

Scott County, Minnesota

Project Layout-1a





Project Name: CSAH 16 Modernization



Applicant: Scott County

Project Location: CSAH 16 between CSAH 18 and TH 13 in Savage and Shakopee

Total Project Cost: \$5,120,000

Requested Federal Award Amount: \$4,096,000

Local Match: \$1,024,000 (20% of total)

Project Description:

Scott County is proposing the reconstruction of CSAH 16 (McColl Drive) from an undivided two-lane rural roadway to a divided two-lane urban roadway with turn lanes at intersections. The project will enhance both capacity and safety by managing access and turning movements with the installation of a raised center median and converting direct driveway accesses to right-in/right-out only. Pavement condition and drainage issues along CSAH 16 will also be addressed. The improved CSAH 16 will also complete sidewalk and trail gaps on both sides of CSAH 16, completing multimodal links between Shakopee and Savage and better connecting adjacent neighborhoods to the local trail networks.

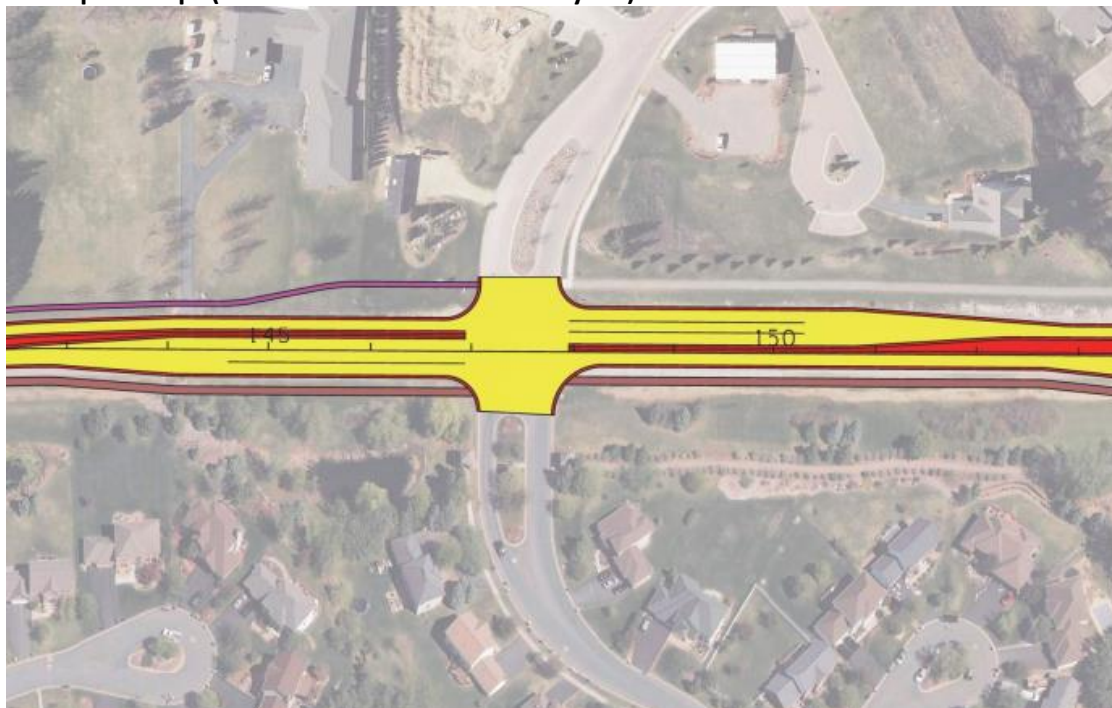
Project Benefits:

- Serves a reliever function to TH 13/CSAH 101 between Savage and Shakopee
- Reduce risk of serious injury crashes with installation of raised center median
- Address vertical and horizontal geometric issues
- Modernize roadway and stormwater management
- Access to regional and local bikeways
- Improve comfort and safety for bicyclists and pedestrians

Key Connections:

- Southbridge Park and Ride
- Regional and local bikeway system
- Minnesota Valley State Trail
- Bloomington Ferry Bridge (alt. route)
- RBTN (Tier 1 & Tier 2 access)

Concept Excerpt (see attachments for entire layout):



Existing Condition Photos



CSAH 16 - looking west



CSAH 16 – looking east towards Trunk Highway 13 intersection



Figure 1: Project Location
CSAH 16 Roadway Modernization
Scott County



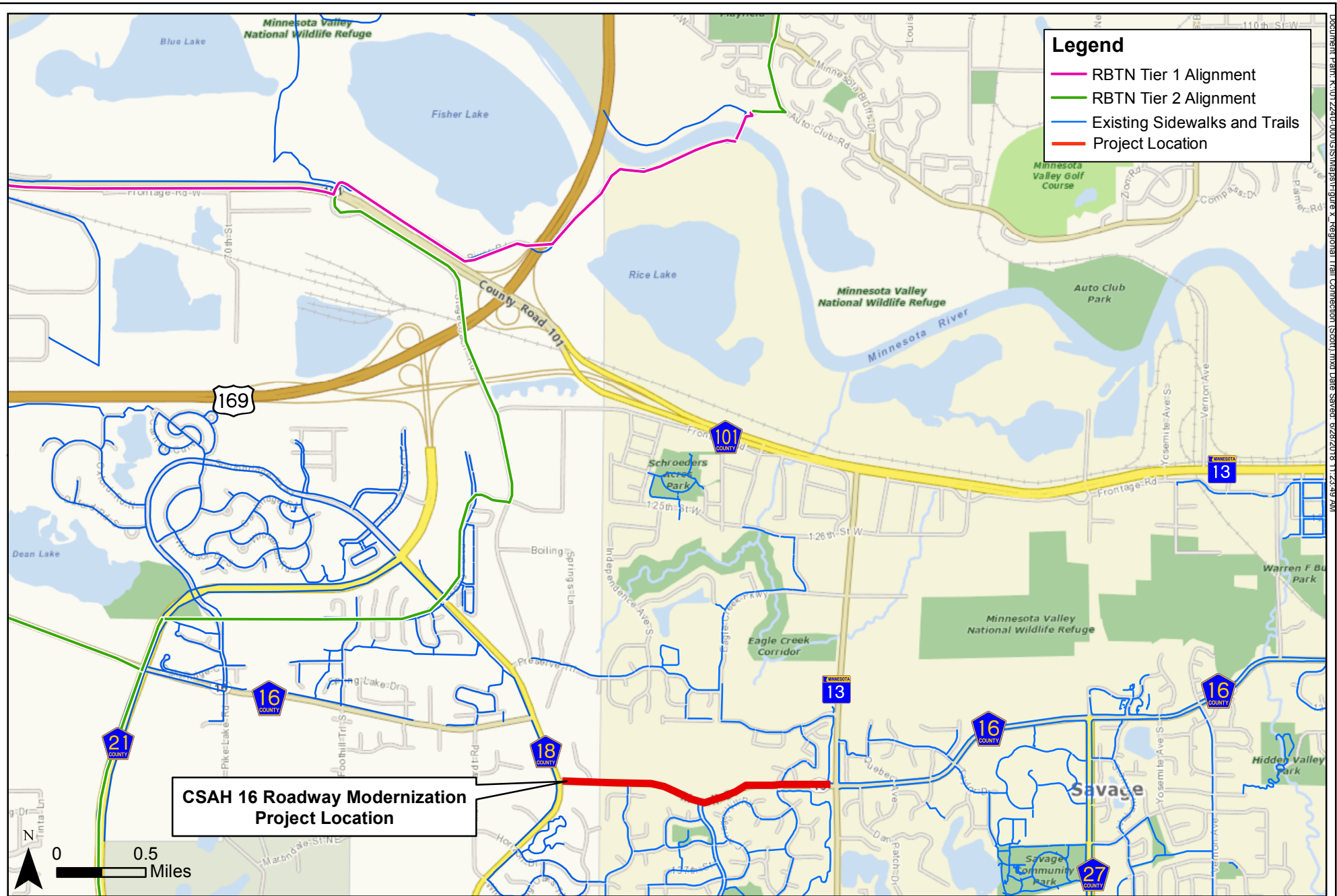


Figure 2: Existing Sidewalk/Trail Network
CSAH 16 Roadway Modernization
Scott County





June 27, 2018

Craig Jenson
Transportation Planning Manager
Scott County Transportation Services
600 Country Trail East
Jordan, MN 55352

RE: CSAH 16 Modernization

Dear Mr. Jenson:

The City of Savage is aware Scott County is applying for federal funding through the Metropolitan Council's Regional Solicitation for road reconstruction, under the Modernization category.

The project will reconstruct a section of CSAH 16 from CSAH 18 to TH 13. The project will not only provide shoulders and turn lanes, but also have bike/ped facilities.

The City of Savage supports the layout and we are supportive of the Regional Solicitation application. Please let me know if there is any additional information you need from us regarding this funding application. You may contact me at 952-224-3419 or sthongvanh@ci.savage.mn.us.

Sincerely,
City of Savage

Seng Thongvanh, P.E.
City Engineer



MnDOT Metro District
1500 West County Road B-2
Roseville, MN 55113

June 20, 2018

Lisa Freese
Transportation Services Director
Scott County Highway Department
600 Country Trail East
Jordan, MN 55352

**Re: Letter of Support for Scott County
Metro Council/Transportation Advisory Board 2018 Regional Solicitation Funding Request for
County 16 Modernization**

Dear Ms. Freese,

This letter documents MnDOT Metro District's support for Scott County's funding request to the Metro Council for the 2018 regional solicitation for 2022-23 funding for the County 16 Modernization project.

As proposed, this project would impact MnDOT right-of-way on TH 13. As the agency with jurisdiction over TH 13, MnDOT will support Scott County and will allow the improvements proposed in the application for the County 16 Modernization project. Details of a future maintenance agreement with Scott County will need to be determined during project development to define how the improvements will be maintained for the project's useful life.

No funding from MnDOT is currently programmed for this project. In addition, the Metro District currently does not anticipate any available discretionary funding in years 2022-23 that could fund project construction, nor do we have the resources to assist with construction or with MnDOT services such as the design or construction engineering of the project. However, I would request that you please continue to work with MnDOT Area staff to coordinate project development and to periodically review needs and opportunities for cooperation.

MnDOT Metro District looks forward to continued cooperation with Scott County as this project moves forward and as we work together to improve safety and travel options within the Metro Area.

If you have questions or require additional information at this time, please reach out to your Area Manager at Jon.Solberg@state.mn.us or 651-234-7729.

Sincerely,

A handwritten signature in blue ink that reads 'Scott McBride'.

Scott McBride
Metro District Engineer

CC: Jon Solberg, Metro District South Area Manager
Lynne Bly, Metro Program Director
Dan Erickson, Metro State Aid Engineer



July 12, 2018

Craig Jenson
Transportation Planning Manager
Scott County Transportation Services
600 Country Trail East
Jordan, MN 55352

RE: CH 16 Modernization Project

Dear Mr. Jenson:

The City of Shakopee is aware Scott County is applying for federal funding through the Metropolitan Council's Regional Solicitation for a modernization project on CSAH 16 from CSAH 18 to TH 13.

The project will construct median, trail, and sidewalk along CSAH 16. These improvements will separate bike and pedestrians from vehicles on the roadway. The project will also provide turn lanes at intersections where there are no turn lanes today.

The City of Shakopee supports the layout and we are supportive of the Regional Solicitation application. Please let me know if there is any additional information you need from us regarding this funding application.

Sincerely,

Steven L. Lillehaug, PE, PTOE
City Engineer/Public Works Director

**BOARD OF COUNTY COMMISSIONERS
SCOTT COUNTY, MINNESOTA**

Date:	July 10, 2018
Resolution No.:	2018-111
Motion by Commissioner:	Beard
Seconded by Commissioner:	Ulrich

**RESOLUTION NO. 2018-111; AUTHORIZING SUBMITTAL OF
TRANSPORTATION PROJECTS TO THE TRANSPORTATION ADVISORY BOARD
FOR CONSIDERATION IN THE 2018 REGIONAL SOLICITATION PROCESS**

WHEREAS, the Transportation Advisory Board (TAB) is requesting project submittals for federal funding under the Surface Transportation Block Grant Program (STBGP), the Transportation Alternatives Program (TAP), and the Congestions Mitigation and Air Quality Program (CMAQ); and

WHEREAS, funding is available in the 2020-2023 federal fiscal years; and

WHEREAS, funding provides up to 80 percent of project construction costs; and

WHEREAS, this federal funding of projects reduces the burden on local taxpayers for regional improvements; and

WHEREAS, Scott County has identified projects that improve the safety and transportation system of the region; and

WHEREAS, the projects are also consistent with the Scott County Transportation Plan and Scott County Parks Plan; and

WHEREAS, the Scott County Board of Commissioners desires to submit and support these projects:

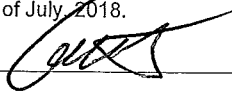
1. CH 16 from CH 18 to TH 13
2. TH 13 and Dakota Interchange
3. CH 17 Bike/Ped Overpass of US 169 & MRTS connection
4. Merriam Junction Trail
5. CH 16 ADA Project – Savage
6. Scott County Transportation Demand Management (TDM)
7. TH169 Interim Bus Service (from Shakopee to Golden Valley)

NOW, THEREFORE BE IT RESOLVED, that the Scott County Board of Commissioners hereby supports the submittal of the above named projects to the Transportation Advisory Board for consideration in the 2018 Regional Solicitation Process.

COMMISSIONERS	VOTE			
Weckman Brekke	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Absent	<input type="checkbox"/> Abstain
Wolf	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Absent	<input type="checkbox"/> Abstain
Beard	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Absent	<input type="checkbox"/> Abstain
Beer	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Absent	<input type="checkbox"/> Abstain
Ulrich	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Absent	<input type="checkbox"/> Abstain

State of Minnesota)
County of Scott)

I, Gary L. Shelton, duly appointed qualified County Administrator for the County of Scott, State of Minnesota, do hereby certify that I have compared the foregoing copy of a resolution with the original minutes of the proceedings of the Board of County Commissioners, Scott County, Minnesota, at their session held on the 10th day of July, 2018 now on file in my office, and have found the same to be a true and correct copy thereof.
Witness my hand and official seal at Shakopee, Minnesota, this 10th day of July, 2018.



County Administrator

Administrator's Designee