Application

10353 - 2018 Roadway Expansion

10906 - CSAH 31 (Pilot Knob Rd) at CSAH 32 (Cliff Rd) Intersection in Eagan

Regional Solicitation - Roadways Including Multimodal Elements

Status:	Submitted
Submitted Date:	07/13/2018 12:46 PM

Primary Contact

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

Organization Information

Name:	DAKOTA COUNTY

Jurisdictional Agency (if different):

Organization Type: County Government

Organization Website:

Address: TRANSPORTATION DEPT

14955 GALAXIE AVE

*	APPLE VALLEY	Minnesota	55124
	City	State/Province	Postal Code/Zip

County: Dakota

Phone:* 952-891-7100 Ext.

Fax:

PeopleSoft Vendor Number 0000002621A15

Project Information

Project Name CSAH 31 (Pilot Knob Rd) at CSAH 32 (Cliff Rd) Intersection Improvements

Primary County where the Project is Located Dakota

Cities or Townships where the Project is Located: Eagan

Jurisdictional Agency (If Different than the Applicant):

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

The project improves safety and mobility at the intersection of County State Aid Highway (CSAH) 31 (Pilot Knob Rd) and CSAH 32 (Cliff Rd) in the City of Eagan. CSAH 31 is a four-lane divided, A-Minor Expander roadway. The northbound/southbound approach geometrics consist of an exclusive left turn lane, two through lanes, and a right turn lane. The 2016 (2030) Average Annual Daily Traffic AADT is 19,000 (28,000) north of CSAH 32 and 20,500 (32,000) to the south. The current speed limit is 45 miles per hour.

CSAH 32 (Cliff Rd) is a four-lane divided, A-Minor Expander roadway. The eastbound/westbound approach geometrics consist of an exclusive left turn lane, two through lanes, and a right turn lane. The 2016 (2030) Average Annual Daily Traffic AADT is 15,600 (23,000) west of CSAH 31 and 13,500 (20,000) to the east. The current speed limit is 50 miles per hour.

This is a heavily traveled intersection providing regional access westerly to I-35E (1.7 miles); TH 77 (2.7 miles); TH 13 (3.7 miles) and I-35 (6.2 miles); and access northerly to I-35E (2.7 miles); I-494 (4.9 miles) and TH 55 (5.9 miles).

The project includes the following elements: 10-Ton pavement design; Intersection improvements, including dual left turn lanes on all four approaches; Replacement of aged Traffic Signal, median, ADA compliant ramps, turn lanes and lighting. Installation of the required ADA compliant crossing elements at the intersection, examples of crossing elements include: pedestrian ramps, countdown timers, median islands, accessible pedestrian signals; Replacement of curb & gutter, sidewalks,

storm sewer and lighting. This includes removal of identified sidewalk/trail obstructions currently located within the pedestrian access route.

The project objectives are to improve safety and operations, and facilitate transit, bicycle and pedestrian movements through the area. The CSAH 31 and CSAH 32 corridors are both identified on the Regional Bicycle Transportation Network (RBTN) Corridors as Tier I (CSAH 31) and Tier II (CSAH 32). The project area trails connect users to recreational opportunities (Lebanon Hills Regional Park & various city parks), commercial, business and industrial areas.

Dakota County is committed to operating and maintaining this facility for its useful life of the improvement.

(Limit 2,800 characters; approximately 400 words)

TIP Description Guidance (will be used in TIP if the project is selected for funding)	CSAH 31 (Pilot Knob Rd) at CSAH 32 (Cliff Rd) Intersection Improvements in Eagan
Project Length (Miles) *to the nearest one-tenth of a mile*	0.9

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	$3,134,000.00
Match Amount *Minimum of 20% of project total*	$784,700.00
Project Total	$3,918,700.00
Match Percentage *Minimum of 20%* *Compute the match percentage by dividing the match amount by the project total*	20.02%
Source of Match Funds	Dakota County, City of Eagan

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: 2022

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

Additional Program Years: 2020

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

Project Information: Roadway Projects

County, City, or Lead Agency

Dakota County - 19

Functional Class of Road

A Minor Arterial - Expander (CSAH 31)

A Minor Arterial - Expander (CSAH 32)

Road System

County State Aid Highway (CSAH)

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

Road/Route No.

31

i.e., 53 for CSAH 53

Name of Road

CSAH 31 (Pilot Knob Road)

CSAH 32 (Cliff Road)

Example; 1st ST., MAIN AVE

Zip Code where Majority of Work is Being Performed 55122

(Approximate) Begin Construction Date 02/03/2020

(Approximate) End Construction Date 11/27/2020

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

From:
(Intersection or Address)

To:
(Intersection or Address)

DO NOT INCLUDE LEGAL DESCRIPTION

Or At CSAH 31 at CSAH 32 Intersection

Primary Types of Work

grade, agg base, bit base, bit surf, bike/ped trail, curb & gutter, storm sewer, signal, retaining wall, ped ramps, ADA elements

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.:	N/A
New Bridge/Culvert No.:	N/A
Structure is Over/Under (Bridge or culvert name):	N/A

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.

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

Goal: A. Transportation System Stewardship (p. 2.17)

Sustainable investments in the transportation system are protected by strategically preserving, maintaining, and operating system assets. Objectives: A. Efficiently preserve and maintain the regional transportation system in a state of good repair.: A1. Regional transportation partners will pace the highest priority for transportation investments on strategically preserving, maintaining, and operating the transportation system. A2. Regional transportation partners should regularly review planned preservation and maintenance projects to identify cost-effective opportunities to incorporate improvements for safety, lower-cost congestion management and mitigation, transit, bicycle, and pedestrian facilities. (p. 2.18)

Goal: B Safety and Security (p. 2.20) The regional transportation system is safe and secure for all users.

Objectives: A. Reduce crashes 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, operations. (p. 2.20) 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. (p. 2.23)

Goal: C. Access to Destinations People and businesses prosper by using a reliable, affordable, and efficient multimodal transportation system that connects them to destinations throughout the region and beyond.

Objectives: B. Increase travel time reliability and predictability for travel on highway and transit systems.

E. Improve multimodal travel options for people of all ages and abilities to connect to jobs and other opportunities, particularly for historically under-represented populations. Strategies: C2. Local units of government should provide a system of interconnected arterial roads, streets, bicycle facilities, and pedestrian facilities to meet local travel needs using Complete Streets principles. (p. 2.25)

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:

Dakota County 2030 Transportation Plan, June 2012

https://www.co.dakota.mn.us/Transportation/PlanningPrograms/Documents/2030TransportationPlan.pdf

Goal 1: Limited Resources are Directed to the Highest Priority Needs of the Transportation System. The emphasis of this goal is for the County to develop the best transportation system to provide for safe movement of people and goods within financial constraints. p. 1-4

Goal 4: Management to Increase Transportation System Efficiency, Improve Safety and Maximize Existing Highway Capacity

The strategies and policies within this goal aim to optimize the capacity and safety of the existing transportation system with recognition that fiscal, social and environmental constraints limit the ability of conduction only accelerated road construction to achieve safe travel.

CIP Investment Categories - Safety & management, Signal Projects p. 1-9

Goal 5: Replace Deficient Elements of the System

This goal provides measures, strategies and policies aimed at replacement of four important elements of the transportation system - bridges, highways, traffic signals and gravel roads.

Dakota County Highway Capacity Deficiencies 2030, Figure 5 p. 2-16 (& Figure 43 p. 9-6), in 2030 CSAH 31 (Pilot Knob Rd) will be over capacity

Intersections Approaching Capacity Figure 45 p. 9-13

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 Date process started	12/31/2019 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 MnDOTs Cost Participation for Cooperative Construction Projects and Maintenance Responsibilities manual. In the case of a federally funded trunk highway project, the policy guidelines should be read as if the funded trunk highway route is under local jurisdiction.

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

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

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

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

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

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

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

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

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

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

Requirements - Roadways Including Multimodal Elements

Specific Roadway Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Mobilization (approx. 5% of total cost)	$151,300.00
Removals (approx. 5% of total cost)	$77,300.00
Roadway (grading, borrow, etc.)	$405,400.00
Roadway (aggregates and paving)	$905,200.00
Subgrade Correction (muck)	$0.00
Storm Sewer	$541,000.00
Ponds	$0.00
Concrete Items (curb & gutter, sidewalks, median barriers)	$250,000.00
Traffic Control	$11,850.00
Striping	$50,100.00
Signing	$18,700.00
Lighting	$0.00
Turf - Erosion & Landscaping	$48,350.00
Bridge	$0.00
Retaining Walls	$804,700.00
Noise Wall (not calculated in cost effectiveness measure)	$0.00
Traffic Signals	$608,500.00
Wetland Mitigation	$0.00
Other Natural and Cultural Resource Protection	$0.00
RR Crossing	$0.00
Roadway Contingencies	$0.00
Other Roadway Elements	$0.00
Totals	**$3,872,400.00**

Specific Bicycle and Pedestrian Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Path/Trail Construction	$39,900.00
Sidewalk Construction	$0.00
On-Street Bicycle Facility Construction	$0.00
Right-of-Way	$0.00
Pedestrian Curb Ramps (ADA)	$6,400.00
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	**$46,300.00**

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	$3,918,700.00
Construction Cost Total	$3,918,700.00
Transit Operating Cost Total	$0.00

Congestion on adjacent Parallel Routes:

Adjacent Parallel Corridor	Diffley Road

Adjacent Parallel Corridor Start and End Points:

Start Point:	Diffley Road
End Point:	Pilot Knob
Free-Flow Travel Speed:	37

The Free-Flow Travel Speed is black number.

Peak Hour Travel Speed:	28

The Peak Hour Travel Speed is red number.

Percentage Decrease in Travel Speed in Peak Hour Compared to Free-Flow:	24.32%
Upload Level of Congestion Map:	1531412601656_Level of Congestion Map - Wide.pdf

Principal Arterial Intersection Conversion Study:

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

(80 Points)

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

(60 Points)

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

(50 Points)

Proposed interchange project that reduces delay at a Medium Priority Intersection:

(40 Points)

Proposed interchange project that reduces delay at a Low Priority Intersection:

(0 Points)

Not listed as a priority in the study: Yes

(0 Points)

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

Existing Employment within 1 Mile: 1187

Existing Manufacturing/Distribution-Related Employment within 1 Mile: 46

Existing Post-Secondary Students within 1 Mile: 0

Upload Map 1531153036013_Regional Economy.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: Yes

Along Tier 3:

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

None of the tiers:

Measure A: Current Daily Person Throughput

Location Pilot Knob at Cliff Road

Current AADT Volume 20500

Existing Transit Routes on the Project N/A

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

Upload Transit Connections Map 1531157915592_Transit Connections.pdf

Please upload attachment in PDF form.

Response: Current Daily Person Throughput

Average Annual Daily Transit Ridership 0

Current Daily Person Throughput 26650.0

Measure B: 2040 Forecast ADT

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

If checked, METC Staff will provide Forecast (2040) ADT volume 26700

OR

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

Forecast (2040) ADT volume

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

Select one:

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

(up to 100% of maximum score)

Project located in Area of Concentrated Poverty:

(up to 80% of maximum score)

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

(up to 60% of maximum score)

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

(up to 40% of maximum score)

1.(0 to 3 points) A successful project is one that has actively engaged low-income populations, people of color, children, persons with disabilities, and the elderly during the project's development with the intent to limit negative impacts on them and, at the same time, provide the most benefits.
Describe how the project has encouraged or will engage the full cross-section of community in decision-making. Identify the communities to be engaged and where in the project development process engagement has occurred or will occur. Elements of quality engagement include: outreach to specific communities and populations that are likely to be directly impacted by the project; techniques to reach out to populations traditionally not involved in the community engagement related to transportation projects; residents or users identifying potential positive and negative elements of the project; and surveys, study recommendations, or plans that provide feedback from populations that may be impacted by the proposed project. If relevant, describe how NEPA or Title VI regulations will guide engagement activities.

Response:

The project will involve the public engagement of multiple groups of people, including residents and businesses along the corridor, churches and other entities. Engagement methods will include open houses, social media updates, project website, newsletters, and individual meetings. In addition, a PM will be required as part of the NEPA process.

(Limit 1,400 characters; approximately 200 words)

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

Response:

The project corridor connects areas of employment, commercial, industrial, residential & natural (Lebanon Hills Regional Park, multiple city park) areas. The primary benefit to the community will be realized through increased safety and reduced delays at the intersection for motorists, pedestrian, & transit users. A shared multi-use trail on both sides of all four legs of the intersection will provide for ADA compliant safe crossings for all users. Trails along CSAH 31 (Tier I) & CSAH 32 (Tier II) are shown in the Regional Bicycle Transportation Network (RBTN) Corridor map. The project will include improvements to the multi-use trail, pedestrian ramps and traffic signals which will provide a benefit to those who rely on walking as a mode of transportation. ADA compliant pedestrian ramps will be installed to provide smooth transitions form the sidewalk to the roadway at intersections. Countdown timers will be installed at the intersection to display the time remaining in the pedestrian crossing phase to pedestrians.

Areas below the regional average (poverty/color/disability/elderly) rely heavily on transit. Minnesota Valley Transit Authority (MVTA) provides transit in the project area. At the northerly limits of the project area, the Eagan Transit Station serves bus routes #437, 445, 446, 470, 480, & 484. Routes 470 & 480 are direct routes to/from St Paul. Route 446 provides connectivity between the USPS National Distribution Center, Pro Act, Eagandale Center, Mendota Heights Business Park, Brown College, Eagan City Hall, Library, High School & Middle School. Route 484 provides connectivity between multi-housing areas (apartment), senior living, to Cedar Grove Transit Station (Cedar BRT Red Line) and access to business campus areas (Blue Cross/Blue Shield, Delta Dental). Approximately 1.4 miles to the west of the intersection is the Blackhawk Park & Ride serving MVTA routes 438,470,472, & 480. Route 470 runs

along the employment corridors of 35E, 494, I-35. Route 438 connects to the Cedar Grove Transit Station (Cedar BRT Red Line).

(Limit 2,800 characters; approximately 400 words)

3.(-3 to 0 points) Describe any negative externalities created by the project along with measures that will be taken to mitigate them. Negative externalities can result in a reduction in points, but mitigation of externalities can offset reductions.
Below is a list of negative impacts. Note that this is not an exhaustive list.
Increased difficulty in street crossing caused by increased roadway width, increased traffic speed, wider turning radii, or other elements that negatively impact pedestrian access.
Increased noise.
Decreased pedestrian access through sidewalk removal / narrowing, placement of barriers along the walking path, increase in auto-oriented curb cuts, etc.
Project elements that are detrimental to location-based air quality by increasing stop/start activity at intersections, creating vehicle idling areas, directing an increased number of vehicles to a particular point, etc.
Increased speed and/or cut-through traffic.
Removed or diminished safe bicycle access.
Inclusion of some other barrier to access to jobs and other destinations.
Displacement of residents and businesses.
Construction/implementation impacts such as dust; noise; reduced access for travelers and to businesses; disruption of utilities; and eliminated street crossings. These tend to be temporary.
Other

Response:

Increased difficulty in street crossing caused by increased roadway width. Six foot raised concrete medians will provide refuge to those who do not feel safe crossing the entire intersection during one signal cycle. Temporary construction/implementation impacts such as dust; noise; reduced access for travelers and to businesses; disruption of utilities; and eliminated street crossings.

(Limit 2,800 characters; approximately 400 words)

Upload Map

1530212163952_Socio-Economic Conditions.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
Eagan	1187.0	1.0	84.0	84.0

Total Project Length

Total Project Length (as entered in the "Project Information" form)	0.9

Affordable Housing Scoring

Total Project Length (Miles) or Population	1187.0
Total Housing Score	84.0

Affordable Housing Scoring

Measure A: Infrastructure Age

Year of Original Roadway Construction or Most Recent Reconstruction	Segment Length	Calculation	Calculation 2
1988.0	0.9	1789.2	1988.0
	1	**1789**	**1988**

Average Construction Year

Weighted Year	1988.0

Total Segment Length (Miles)

Total Segment Length	0.9

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 Per Vehicle 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

38.0	32.0	6.0	3383	20298.0	1531338329671_Cliff&Pilot Synchro.pdf

Vehicle Delay Reduced

Total Peak Hour Delay Reduced 20298.0

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):
15.39	14.52	0.87
15	**15**	**1**

Total

Total Emissions Reduced: 0.87

Upload Synchro Report 1531338221421_Cliff&Pilot Synchro.pdf

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

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

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

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: Benefit of Crash Reduction

Crash Modification Factor Used:

Double left-turn lane (172)

29 percent estimated reduction in all fatal/injury collisions

26 percent estimated reduction in all PDO collisions

29 percent estimated reduction in fatal/injury rear-end collisions

47 percent estimated reduction in fatal/injury left-turn collisions

20 percent estimated reduction in angle fatal/injury collisions

https://www.fhwa.dot.gov/publications/research/safety/04091/12.cfm#c1212

(Limit 700 Characters; approximately 100 words)

Rationale for Crash Modification Selected:

Double and triple left turn lanes are appropriate at intersections with significantly high left turn volumes that cannot be adequately served in a single lane. The design of multiple left turn lanes is similar to that of single turn lanes. A literature review shows that dual left turn lanes with protected only phasing generally operate with minimal negative safety impacts. Multiple left turn lanes can improve intersection operations by reducing the time allocated to the signal phase for the left turn movement.

(Limit 1400 Characters; approximately 200 words)

Project Benefit ($) from B/C Ratio: 3538548.0

Worksheet Attachment 1531159785857_CSAH 31 32 - B-C Worksheet.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

Bike/Pedestrian trails and crosswalks will be upgraded to current ADA standards as part of the project. The 30 year old trails & traffic signal at CSAH 31 & CSAH 32 will be replaced with new signal system/controller cabinet, accessible & audible pedestrian signal, count down timers, & ADA standards being applied to provide safe pedestrian and bicycle movements through the intersection.

Response:

The bike/pedestrian trails on both sides of CSAH 31 (Tier I) and CSAH 32 (Tier II) are included in the proposed Regional Bicycle Transportation Network (RBTN) Corridors map. Trails connect people to housing, recreation (city parks, Lebanon Hills Regional Park, Big Rivers Regional Trail) employment (commercial, office park, retail, industrial) and transit. MVTA Eagan Transit Station is located directly to the north of the project area (across I-35). This Eagan Transit Station features parking deck, with some 750 parking spaces for bus passengers and retail patrons. The Blackhawk Park & Ride Station is 1.4 miles west of the intersection project. Dakota County is developing a comprehensive transit system, bicycle and pedestrian network and other non-automobile modes for people to maximize the efficiency of the transportation system by providing safe, timely and efficient connections between communities, activity generators and employment centers.

Pedestrian and bicycle facilities in the cities of Dakota County are serving the dual role of providing recreational value as well as viable options for commuters (for work or shopping). The expansion of commuter pedestrian and bicycle use is expected into the future with the expansion of transit facilities, providing an alternative to increased costs of automobile travel. The County is

working closely with local communities to improve walkability, and develop opportunities for residents to w walk and bike for transportation and recreation.

The County completed a study in 2017 to assess the new east-west transit connections in Dakota County. The CSAH 32 (Cliff Rd) corridor was evaluated as part of this study. Results from this study showed a high demand for this corridor but earlier focus west of our project area. The demand for suburb-to-suburb routes in Dakota County has the potential to be high. According to U.S. census data from 2013 (most recent year available), nearly half of Dakota county workers also live in the county. Current transit in the metro region is "hub and spoke" to/from the core. There's more demand for services that don't follow this traditional model.

(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.	Yes
100%	
Attach Layout	1531503695625_31-79 Layout.pdf
Please upload attachment in PDF form.	
Layout completed but not approved by all jurisdictions. A PDF of the layout must be attached to receive points.	

50%

Attach Layout

Please upload attachment in PDF form.

Layout has not been started

0%

Anticipated date or date of completion

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

No known historic properties eligible for or listed in the National Register of Historic Places are located in the project area, and 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

4)Railroad Involvement (20 Percent of Points)

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

100%

Signature Page

Please upload attachment in PDF form.

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

50%

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

0%

Anticipated date or date of executed Agreement

Measure A: Cost Effectiveness

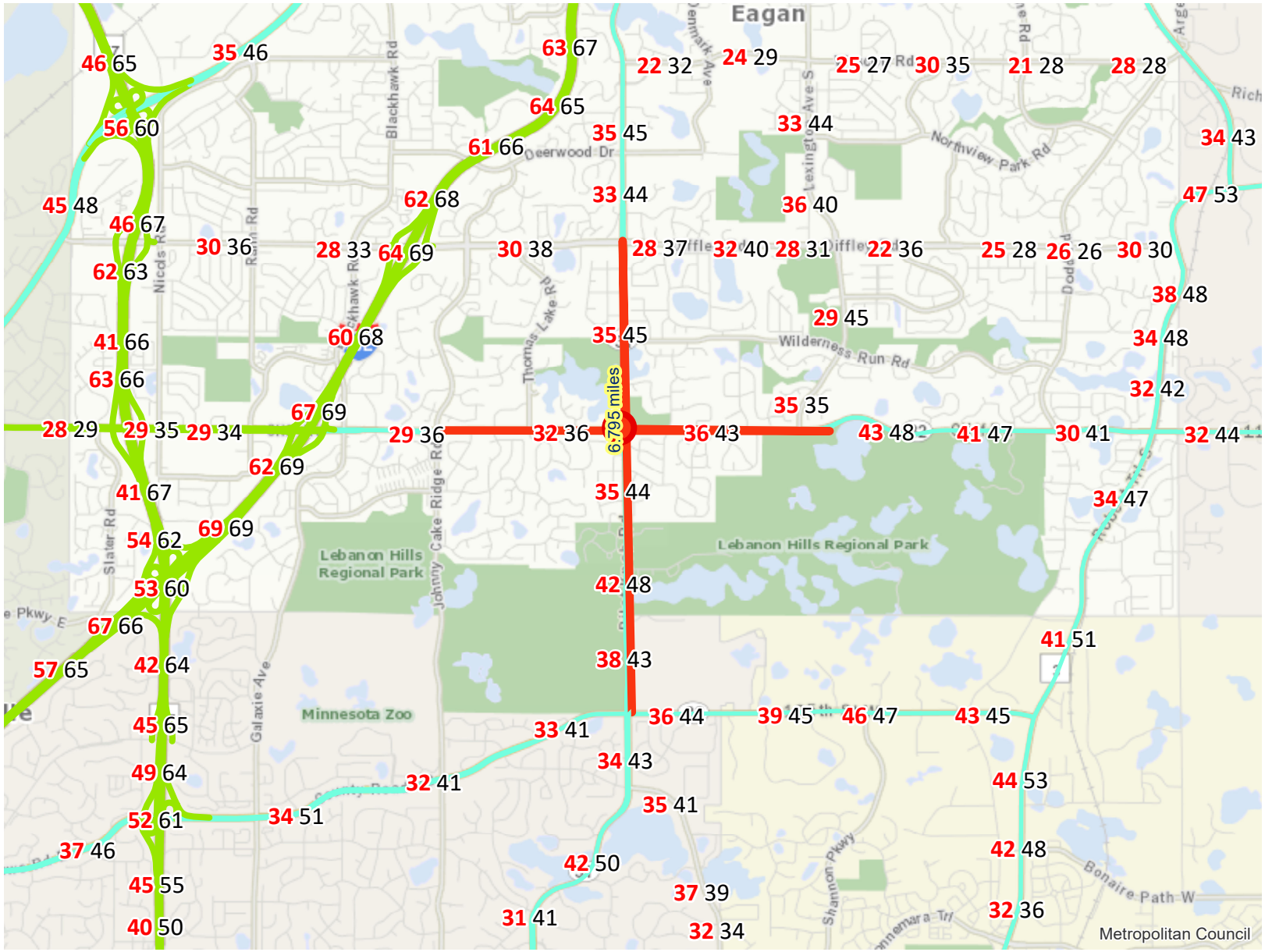
Total Project Cost (entered in Project Cost Form):	$3,918,700.00
Enter Amount of the Noise Walls:	$0.00
Total Project Cost subtract the amount of the noise walls:	$3,918,700.00
Points Awarded in Previous Criteria	
Cost Effectiveness	$0.00

Other Attachments

File Name	Description	File Size
10 Ton Highway Map.pdf	10 Ton Highways	446 KB
1988 Plan Cover Sheet.pdf	1988 Plan Cover Sheet	582 KB
2017 Dakota County CIP.pdf	Dakota County CIP	349 KB
50 Series Map - 3C.pdf	50 Series Map	673 KB
Board Resolution.pdf	Dakota County Board Resolution - Approval of Grant Application Submittals for Transportation Advisory Board 2018 Federal Funding Solicitation Process	130 KB
CSAH 31-32 - Eagan.pdf	City of Eagan - Letter of Support	889 KB
FHWA Publication - Double Lefts.pdf	FHWA Publication - Double Lefts	130 KB
Level of Congestion Map.pdf	Level of Congestion Map showing project limits	5.4 MB
MVTA Route Map.pdf	MVTA Route Map	380 KB
PAICS Map.pdf	Principal Arterial Intersection Conversion Study Map	538 KB
RBTN Map.pdf	RBTN Map	379 KB
Regional Truck Highway Corridor Map.pdf	Regional Truck Highway Corridor Map	358 KB

Level of Congestion

Roadway Expansion Project: test | Map ID: 1531155147696



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

0 0.5 1 2 3 4 Miles

Created: 7/9/2018
LandscapeRSA1

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

METROPOLITAN COUNCIL

Regional Economy

Roadway Expansion Project: CSAH 31/CSAH 32 Intersection Improvement | Map ID: 1530210847062

Results

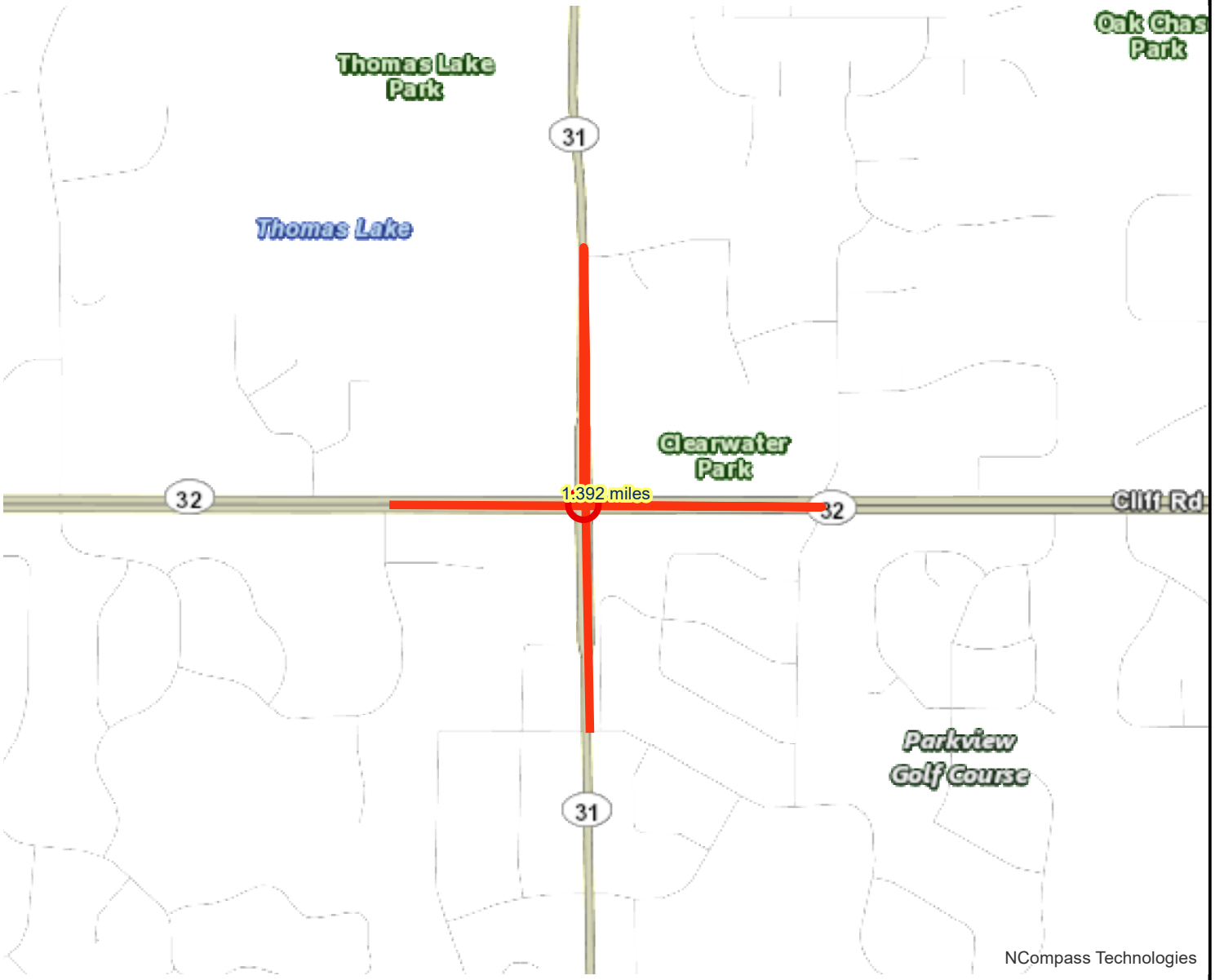
WITHIN ONE MI of project:
Postsecondary Students: 0

Totals by City:

Apple Valley
Population: 596
Employment: 102
Mfg and Dist Employment: 0

Eagan
Population: 10525
Employment: 1076
Mfg and Dist Employment: 43

Rosemount
Population: 193
Employment: 9
Mfg and Dist Employment: 3



Project Points
Project
Manfacturing/Distribution Centers
Job Concentration Centers

0 0.075 0.15 0.3 0.45 0.6 Miles

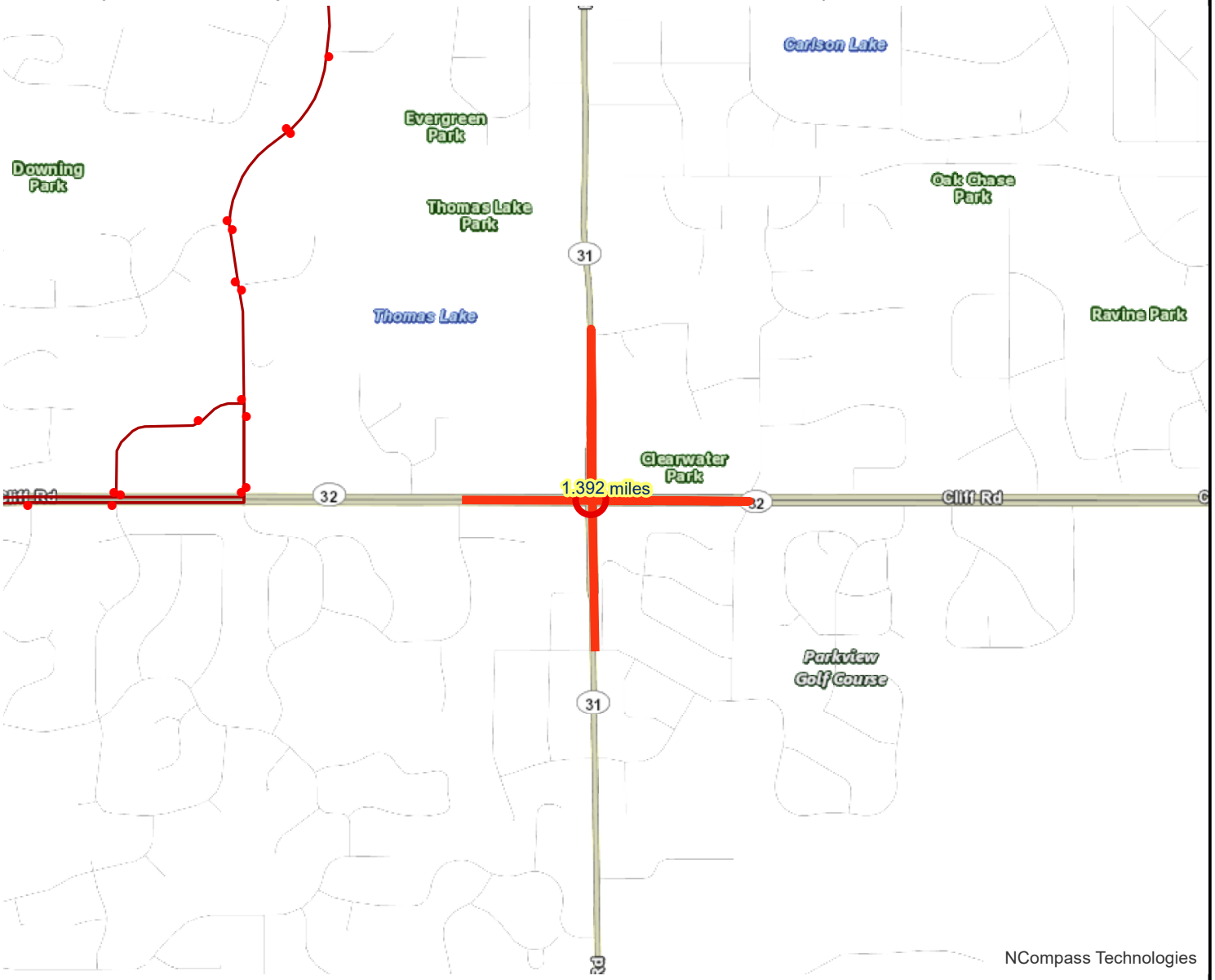
Created: 6/28/2018
LandscapeRSA5

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

METROPOLITAN COUNCIL

Transit Connections

Roadway Expansion Project: CSAH 31/CSAH 32 Intersection Improvement | Map ID: 1530210847062



Results

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

**indicates Planned Alignments*

Project Points
Active Stop
Project
Transit Routes

0 0.125 0.25 0.5 0.75 1 Miles

Created: 6/28/2018
LandscapeRSA3

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

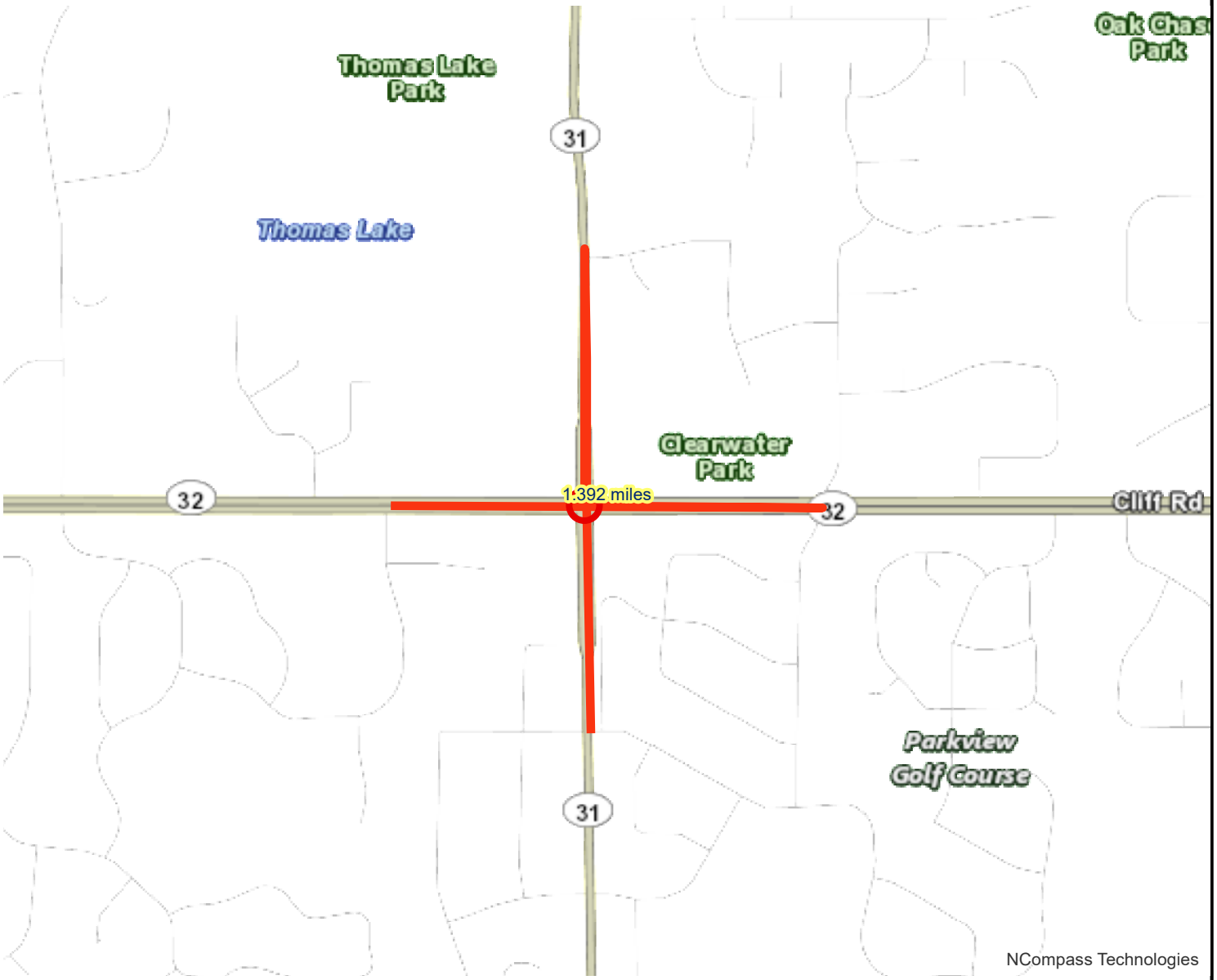
METROPOLITAN COUNCIL

Socio-Economic Conditions

Roadway Expansion Project: CSAH 31/CSAH 32 Intersection Improvement | Map ID: 1530210847062

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

0 0.075 0.15 0.3 0.45 0.6 Miles

Created: 6/28/2018
LandscapeRSA2

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

METROPOLITAN COUNCIL

1: CSAH 31 & CSAH 32

Direction	All
Future Volume (vph)	3383
Total Delay / Veh (s/v)	38
CO Emissions (kg)	10.79
NOx Emissions (kg)	2.10
VOC Emissions (kg)	2.50

1: CSAH 31 & CSAH 32

Direction	All
Future Volume (vph)	3383
Total Delay / Veh (s/v)	32
CO Emissions (kg)	10.18
NOx Emissions (kg)	1.98
VOC Emissions (kg)	2.36

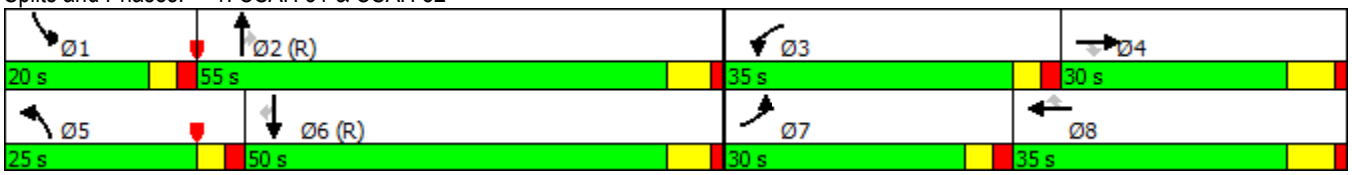
Timings
1: CSAH 31 & CSAH 32

07/10/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	506	297	185	423	52	130	347	66	46	1128	117
Future Volume (vph)	86	506	297	185	423	52	130	347	66	46	1128	117
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	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	10.0	19.0	19.0	10.0	19.0	19.0	10.0	19.0	19.0	10.0	19.0	19.0
Total Split (s)	30.0	30.0	30.0	35.0	35.0	35.0	25.0	55.0	55.0	20.0	50.0	50.0
Total Split (%)	21.4%	21.4%	21.4%	25.0%	25.0%	25.0%	17.9%	39.3%	39.3%	14.3%	35.7%	35.7%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	2.0	1.5	1.5	2.0	1.5	1.5	2.0	1.5	1.5	2.0	1.5	1.5
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)	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	11.2	32.2	32.2	19.0	40.0	40.0	14.5	60.2	60.2	8.1	51.7	51.7
Actuated g/C Ratio	0.08	0.23	0.23	0.14	0.29	0.29	0.10	0.43	0.43	0.06	0.37	0.37
v/c Ratio	0.61	0.62	0.50	0.77	0.42	0.10	0.71	0.23	0.09	0.45	0.86	0.18
Control Delay	81.1	52.8	8.1	82.2	42.2	0.4	83.4	27.4	1.4	96.5	29.2	2.1
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	81.1	52.8	8.1	82.2	42.2	0.4	83.4	27.4	1.4	96.5	29.2	2.1
LOS	F	D	A	F	D	A	F	C	A	F	C	A
Approach Delay		40.6			50.1			37.7			29.2	
Approach LOS		D			D			D			C	

Intersection Summary	
Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 40 (29%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 37.6	Intersection LOS: D
Intersection Capacity Utilization 81.4%	ICU Level of Service D
Analysis Period (min) 120	

Splits and Phases: 1: CSAH 31 & CSAH 32



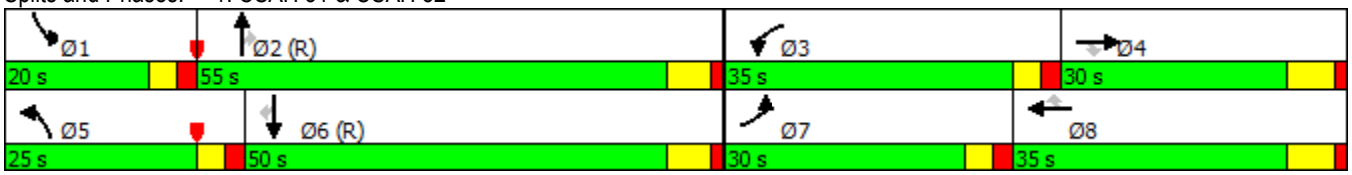
Timings
1: CSAH 31 & CSAH 32

07/10/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	506	297	185	423	52	130	347	66	46	1128	117
Future Volume (vph)	86	506	297	185	423	52	130	347	66	46	1128	117
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	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	10.0	19.0	19.0	10.0	19.0	19.0	10.0	19.0	19.0	10.0	19.0	19.0
Total Split (s)	30.0	30.0	30.0	35.0	35.0	35.0	25.0	55.0	55.0	20.0	50.0	50.0
Total Split (%)	21.4%	21.4%	21.4%	25.0%	25.0%	25.0%	17.9%	39.3%	39.3%	14.3%	35.7%	35.7%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	2.0	1.5	1.5	2.0	1.5	1.5	2.0	1.5	1.5	2.0	1.5	1.5
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)	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	7.9	35.9	35.9	11.9	39.9	39.9	9.7	65.3	65.3	6.4	60.0	60.0
Actuated g/C Ratio	0.06	0.26	0.26	0.08	0.28	0.28	0.07	0.47	0.47	0.05	0.43	0.43
v/c Ratio	0.45	0.56	0.47	0.63	0.42	0.10	0.55	0.21	0.08	0.29	0.74	0.16
Control Delay	71.0	47.7	6.9	72.0	41.8	0.4	71.7	24.1	1.3	86.5	19.4	2.0
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	71.0	47.7	6.9	72.0	41.8	0.4	71.7	24.1	1.3	86.5	19.4	2.0
LOS	E	D	A	E	D	A	E	C	A	F	B	A
Approach Delay		36.3			47.0			32.7			20.2	
Approach LOS		D			D			C			C	

Intersection Summary	
Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 40 (29%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 31.7	Intersection LOS: C
Intersection Capacity Utilization 73.4%	ICU Level of Service D
Analysis Period (min) 120	

Splits and Phases: 1: CSAH 31 & CSAH 32



1: CSAH 31 & CSAH 32

Direction	All
Future Volume (vph)	3383
Total Delay / Veh (s/v)	38
CO Emissions (kg)	10.79
NOx Emissions (kg)	2.10
VOC Emissions (kg)	2.50

1: CSAH 31 & CSAH 32

Direction	All
Future Volume (vph)	3383
Total Delay / Veh (s/v)	32
CO Emissions (kg)	10.18
NOx Emissions (kg)	1.98
VOC Emissions (kg)	2.36

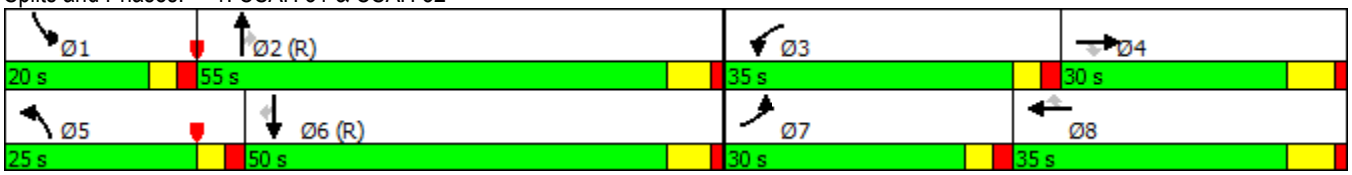
Timings
1: CSAH 31 & CSAH 32

07/10/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	506	297	185	423	52	130	347	66	46	1128	117
Future Volume (vph)	86	506	297	185	423	52	130	347	66	46	1128	117
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	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	10.0	19.0	19.0	10.0	19.0	19.0	10.0	19.0	19.0	10.0	19.0	19.0
Total Split (s)	30.0	30.0	30.0	35.0	35.0	35.0	25.0	55.0	55.0	20.0	50.0	50.0
Total Split (%)	21.4%	21.4%	21.4%	25.0%	25.0%	25.0%	17.9%	39.3%	39.3%	14.3%	35.7%	35.7%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	2.0	1.5	1.5	2.0	1.5	1.5	2.0	1.5	1.5	2.0	1.5	1.5
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)	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	11.2	32.2	32.2	19.0	40.0	40.0	14.5	60.2	60.2	8.1	51.7	51.7
Actuated g/C Ratio	0.08	0.23	0.23	0.14	0.29	0.29	0.10	0.43	0.43	0.06	0.37	0.37
v/c Ratio	0.61	0.62	0.50	0.77	0.42	0.10	0.71	0.23	0.09	0.45	0.86	0.18
Control Delay	81.1	52.8	8.1	82.2	42.2	0.4	83.4	27.4	1.4	96.5	29.2	2.1
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	81.1	52.8	8.1	82.2	42.2	0.4	83.4	27.4	1.4	96.5	29.2	2.1
LOS	F	D	A	F	D	A	F	C	A	F	C	A
Approach Delay		40.6			50.1			37.7			29.2	
Approach LOS		D			D			D			C	

Intersection Summary	
Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 40 (29%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 37.6	Intersection LOS: D
Intersection Capacity Utilization 81.4%	ICU Level of Service D
Analysis Period (min) 120	

Splits and Phases: 1: CSAH 31 & CSAH 32



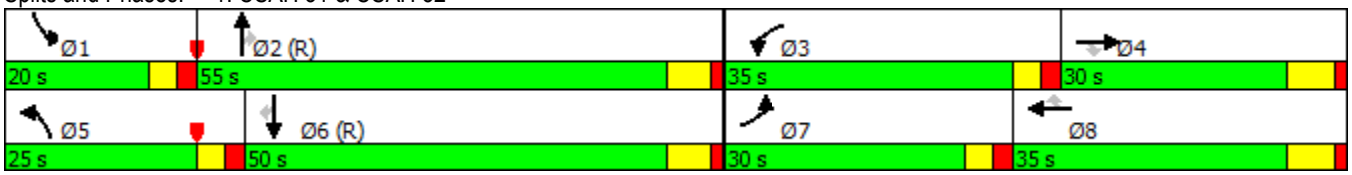
Timings
1: CSAH 31 & CSAH 32

07/10/2018

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	506	297	185	423	52	130	347	66	46	1128	117
Future Volume (vph)	86	506	297	185	423	52	130	347	66	46	1128	117
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	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	10.0	19.0	19.0	10.0	19.0	19.0	10.0	19.0	19.0	10.0	19.0	19.0
Total Split (s)	30.0	30.0	30.0	35.0	35.0	35.0	25.0	55.0	55.0	20.0	50.0	50.0
Total Split (%)	21.4%	21.4%	21.4%	25.0%	25.0%	25.0%	17.9%	39.3%	39.3%	14.3%	35.7%	35.7%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	2.0	1.5	1.5	2.0	1.5	1.5	2.0	1.5	1.5	2.0	1.5	1.5
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)	5.0	6.5	6.5	5.0	6.5	6.5	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	7.9	35.9	35.9	11.9	39.9	39.9	9.7	65.3	65.3	6.4	60.0	60.0
Actuated g/C Ratio	0.06	0.26	0.26	0.08	0.28	0.28	0.07	0.47	0.47	0.05	0.43	0.43
v/c Ratio	0.45	0.56	0.47	0.63	0.42	0.10	0.55	0.21	0.08	0.29	0.74	0.16
Control Delay	71.0	47.7	6.9	72.0	41.8	0.4	71.7	24.1	1.3	86.5	19.4	2.0
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	71.0	47.7	6.9	72.0	41.8	0.4	71.7	24.1	1.3	86.5	19.4	2.0
LOS	E	D	A	E	D	A	E	C	A	F	B	A
Approach Delay		36.3			47.0			32.7			20.2	
Approach LOS		D			D			C			C	

Intersection Summary	
Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 40 (29%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 31.7	Intersection LOS: C
Intersection Capacity Utilization 73.4%	ICU Level of Service D
Analysis Period (min) 120	

Splits and Phases: 1: CSAH 31 & CSAH 32



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 31	Intersection with CSAH 32	13+00.647	13+00.647	Eagan	1/1/2013	12/31/2015

Description of Proposed Work: Construct dual left turn lanes for all approaches

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**		1						**1**
		B	2						2	**4**
		C	3							**3**
	Property Damage	**PD**	9	3		3	1	1	6	**23**
% Change in Crashes *Use Desktop Reference for Crash Reduction Factors	Fatal	**F**								
	PI	**A**			-47%					
		B	-29%						-29%	
		C	-29%							
	Property Damage	**PD**	-26%	-26%		-20%	-26%	-26%	-26%	
Change in Crashes = No. of crashes **X** % change in crashes	Fatal	**F**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	
	PI	**A**	**0.00**	**0.00**	**-0.47**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**-0.47**
		B	**-0.58**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**-0.58**	**-1.16**
		C	**-0.87**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**-0.87**
	Property Damage	**PD**	**-2.34**	**-0.78**	**0.00**	**-0.60**	**-0.26**	**-0.26**	**0.00**	**-1.56**	**-5.80**

Year (Safety Improvement Construction): **2021**

Project Cost (exclude Right of Way)	**$ 3,918,700**
Right of Way Costs (optional)	
Traffic Growth Factor	**1.0%**
Capital Recovery	
1. Discount Rate	**2%**
2. Project Service Life (n)	**20**

Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
F			**$ 1,140,000**	
A	**-0.47**	**-0.16**	**$ 570,000**	**$ 89,382**
B	**-1.16**	**-0.39**	**$ 170,000**	**$ 65,793**
C	**-0.87**	**-0.29**	**$ 83,000**	**$ 24,092**
PD	**-5.80**	**-1.94**	**$ 7,600**	**$ 14,707**
Total				**$ 193,974**

B/C= 0.90

Using present worth values,

B= $ 3,538,548

C= $ 3,918,700

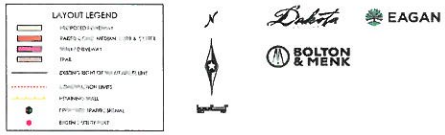
See "Calculations" sheet for amortization.

Office of Traffic, Safety and Technology
August 2015

Desc.	
CMF ID	
CRF	
Crash Type	
Severity	
Area Type	
Intersection	
AADT	

Treatment	Finding
Double left-turn lane.(163)	29 percent estimated reduction in all fatal/injury collisions.
	26 percent estimated reduction in all PDO collisions.
	29 percent estimated reduction in fatal/injury rear-end collisions.
	47 percent estimated reduction in fatal/injury left-turn collisions.
	20 percent estimated reduction in angle fatal/injury collisions.

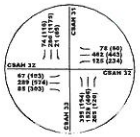
https://safety.fhwa.dot.gov/intersection/conventional/signalized/fhwasa13027/ch11.cfm#s1112

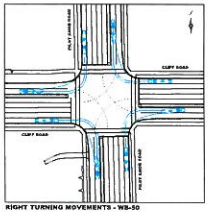


Dakota EAGAN

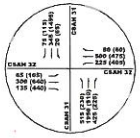
BOLTON & MENK

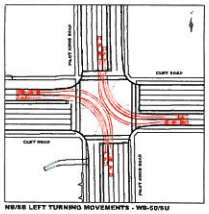
TYPICAL SECTIONS



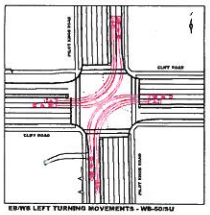


RIGHT TURNING MOVEMENTS - WB-50





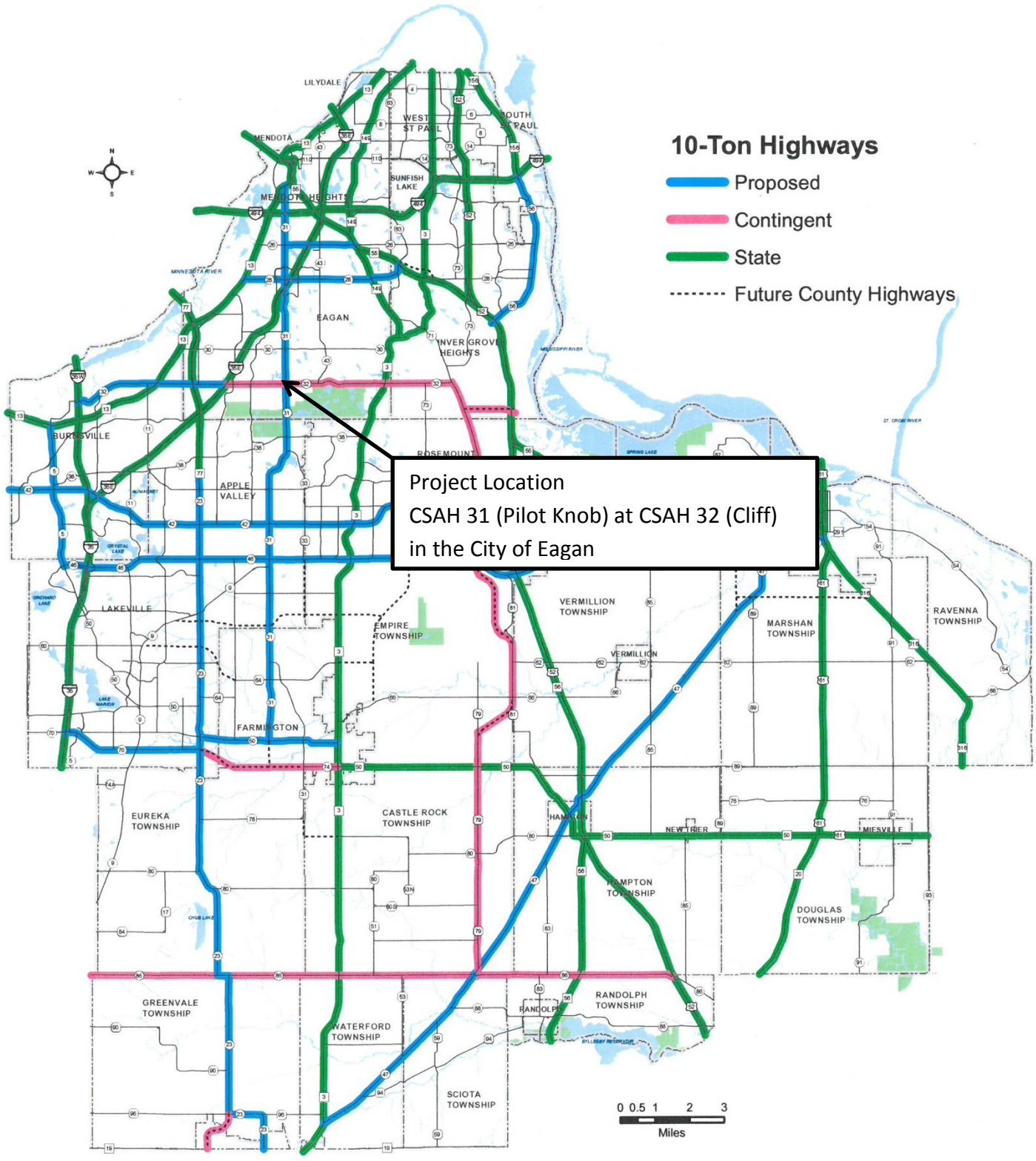
NB/SB LEFT TURNING MOVEMENTS - WB-50/SU



EB/WB LEFT TURNING MOVEMENTS - WB-50/SU

PILOT KNOB ROAD (HWY 31) & CLIFF ROAD (HWY 32) IMPROVEMENTS

10-Ton Highways



Prepared by:
Dakota County Office of GIS, 1/2012.

Dakota County 2030 Transportation Plan - Figure 21

MINNESOTA DEPARTMENT OF TRANSPORTATION

DAKOTA COUNTY

733

CONSTRUCTION PLAN FOR GRADING, R/W, BITUMINOUS SURFACING, DRAINAGE, WATERMAIN, & SIGNALS

DAKOTA COUNTY PROJECT NO. 31-21

S.A.P. 19 - 631 - 17 LOCATED ON PILOT KNOB ROAD FROM REBECCA LANE TO T.H 35E

S.A.P. 19 - 632 - 11 LOCATED ON CLIFF ROAD FROM LAKE PARK DRIVE TO CHES MAR DRIVE

S.A.P. 19 - 630 - 03 LOCATED ON DIFFLEY ROAD FROM 2,100' (APPROXIMATELY) WEST OF PILOT KNOB RD. TO 2,600' (APPROXIMATELY) EAST OF PILOT KNOB RD.

STATE AID PROJ. NO. 19-631-17 **MINN. PROJ. NO.**

GROSS LENGTH	16,100 FEET	3.049	MILES
BRIDGES-LENGTH	0.00 FEET	0.000	MILES
EXCEPTIONS-LENGTH	000 FEET	0.000	MILES
NET LENGTH	16,100 FEET	3.049	MILES
MILE POINT	TO MILE POINT		

STATE AID PROJ. NO. 19-632-11 **MINN. PROJ. NO.**

GROSS LENGTH	2,525 FEET	0.478	MILES
BRIDGES-LENGTH	0.000 FEET	0.000	MILES
EXCEPTIONS-LENGTH	0.000 FEET	0.000	MILES
NET LENGTH	2,525 FEET	0.478	MILES
MILE POINT	TO MILE POINT		

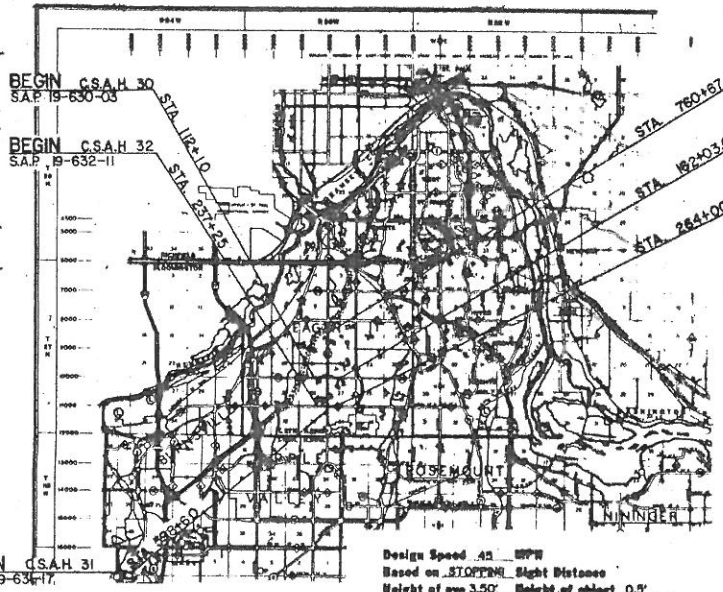
STATE AID PROJ. NO. 19-630-03 **MINN. PROJ. NO.**

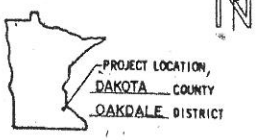
GROSS LENGTH	4,775 FEET	0.904	MILES
BRIDGES-LENGTH	0.000 FEET	0.000	MILES
EXCEPTIONS-LENGTH	0.000 FEET	0.000	MILES
NET LENGTH	4,775 FEET	0.904	MILES
MILE POINT	TO MILE POINT		

STANDARD SYMBOLS (EXCEPT SIGNAL PLAN)

	EXISTING	PROPOSED
SECTION LINE		
QUARTER LINE		
SIXTEENTH LINE		
LOT LINE		
RIGHT OF WAY		
CENTER LINE		
POINT OF INTERSECTION	△	△
POINT ON LINE	○	○
EASEMENT		
BITUMINOUS CURB		
CONCRETE CURB & GUTTER		
PRECAST CONCRETE CURB		
CONCRETE SIDEWALK		
BITUMINOUS PATHWAY		
BUILDING		
(LABELED) FENCE	-x-x-x-	
GUARDRAIL		
SIGN		
SOIL BORING		
HANDHOLE		
SIGNAL LIGHT		
CONDUIT		
MANHOLE		
CATCHBASIN		
STORM SEWER		
SANITARY SEWER		
BENCHMARK		
GATE VALVE		
FIRE HYDRANT		
CURB STOP BOX		
WATERMAIN		
GAS VALVE		
GAS LINE		
TELE OR POWER MANHOLE		
TELE OR POWER POLE		
PETROLEUM PIPELINE	OIL	
BURIED POWER CONDUIT	P	
CULVERT		
BURIED TELEPHONE CABLE	T	
BURIED TELEPHONE CONDUIT	T-BUR	
POWER LINE	OHP	
CABLE TV BOX		
MAIL BOX		
TELEPHONE PEDESTAL		

* SEE TECHNICAL MANUAL FOR PLAN SYMBOLS ON SIGNAL PLAN





SCALES

PLAN	50'
PROFILE	50'
INDEX MAP	1 MILE
GENERAL LAYOUT	N/A

DESIGN DESIGNATION S.A.P. 19-631-17

ADT (Current Year) 1986	= 10,500
ADT (Future Year) 2006	= 24,300
DHV (Design Hr. Vol.)	= 10%
D (Directional Distr.)	= 60/40 %
T (Heavy Commercial)	= 7.5 %
R - VALUE	= 30
Σ N18 (20 Years)	= 1,611,791

DESIGN DESIGNATION S.A.P. 19-632-11

ADT (Current Year) 1986	= 10,000
ADT (Future Year) 2006	= 13,200
DHV (Design Hr. Vol.)	= 10%
D (Directional Distr.)	= 60/40
T (Heavy Commercial)	= 7.5 %
R - VALUE	= 30
Σ N18 (20 Years)	= 1,147,619

DESIGN DESIGNATION S.A.P. 19-630-03

ADT (Current Year) 1986	= 6000
ADT (Future Year) 2006	= 17,400
DHV (Design Hr. Vol.)	= 10 %
D (Directional Distr.)	= 60/40
T (Heavy Commercial)	= 7.5 %
R - VALUE	= 30
Σ N18 (20 Years)	= 1,047,086

Design Speed 45 MPH
Based on STOPPING Sight Distance
Height of eye 3.50' **Height of object** 0.5'
Design Speed not achieved at: DIFFLEY ROAD (SAP 19-630-03)

STA 124+00	TO STA 132+05	MPH 40
STA 133+25	TO STA 134+17	MPH 35
STA 145+90	TO STA 153+90	MPH 35
STA 112+56	TO STA 123+56	MPH 40

DESIGN LOADING = 9 TON

GOVERNING SPECIFICATIONS

THE 1983 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION AS AMENDED BY SUPPLEMENTAL SPECIFICATION (CURRENT EDITION) SHALL GOVERN

MINN. PROJ. NO. _____

INDEX

1	TITLE SHEET
2-6	ESTIMATED QUANTITIES
7	STAGING LAYOUT GRADING AND CONSTRUCTION
8	EARTHWORK SUMMARY
9-10	PUBLIC UTILITIES TABULATIONS
11	PUBLIC UTILITIES AND STANDARD PLATES
12-24	QUANTITY TABULATIONS
25-26	EROSION CONTROL
27-30	UTILITY DETAILS
31	PAVING DETAILS
32	UNDERWATER EMBANKMENT, STONE RETAINING WALL AND MUCK EXCAVATION DETAILS
33-38	TYPICAL SECTIONS
39	MONUMENT TIES
40-65	R/W PLATS
66-84	PAVING PLANS
85-87	CROSS STREET PROFILES, CHES MAR IMPROVEMENT, WELL SITE PARK PLAN
88-106	STORM SEWER AND UTILITY PLANS
107-112	WATERMAIN PLANS
113-120A	DRAINAGE PROFILES
121-238	CROSS SECTIONS
239-247	TRAFFIC SIGNALS

NOTE:
SHEET 120A HAS BEEN ADDED
THIS PLAN CONTAINS 248 SHEETS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE 3/27/87 REG. NO. 12007 ENGR. Edward C. Walther

Approved David L. Evers 4-3 1987
DAKOTA COUNTY ENGINEER

Approved _____ 19__
CITY ENGINEER, CITY OF EAGAN

Recommended for Approval _____ 19__
DISTRICT STATE AID ENGINEER

Recommended for Approval _____ 19__
STATE AID PLANS AND SPEC'S ENGINEER

Approved _____ 19__
MN/DOT TRAFFIC ENGINEER

Approved _____ 19__
STATE AID ENGINEER

Approved as revised 8-14-87 _____
for State Aid Engineer

Right of Way Approval _____ 19__
DIRECTOR OF RIGHT OF WAY OPERATIONS

Recommended for Approval _____ 19__
HYDRAULICS ENGINEER

Recommended for Approval _____ 19__
DISTRICT ENGINEER

Recommended for Approval _____ 19__
TRANSPORTATION PLANS ENGINEER

Recommended for Approval _____ 19__
DESIGN SERVICES DIRECTOR

Approved _____ 19__
DIRECTOR, OFFICE OF ENGINEER SERVICES

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED
_____
DIVISION ADMINISTRATOR DATE

S.A.P. NO. 19 - 631 - 17 E., AI DAKOTA CO. NO. 31-21 SHEET NO. 1 OF 247 SHEETS

2017 CAPITAL BUDGET

and 2017 - 2021 TRANSPORTATION CAPITAL IMPROVEMENT PROGRAM

I. Description and Location:

RESOURCES: Design

MANAGEMENT: Safety and Management

The traffic control device (signal) at the CSAH 31 (Pilot Knob Road) and CSAH 32 (Cliff Road) intersection is approaching its useful life and needs to be replaced. The single left turn lanes will be reconstructed to double left turn lanes at this intersection.

Department:	Transportation
Project Location:	Eagan
Project Descr:	Design/ROW Acq/Construct Dbl Lt Turn Lanes
Center No:	T31079
Useful Life:	30 Years
Project Type:	Management - Safety & Management
Priority:	High

II. Purpose and Justification:

The construction will improve intersection operations, make safety improvements, and provide for the increased traffic levels.

III. Impact on Operating and Maintenance Costs:

Additional left turn maintenance.

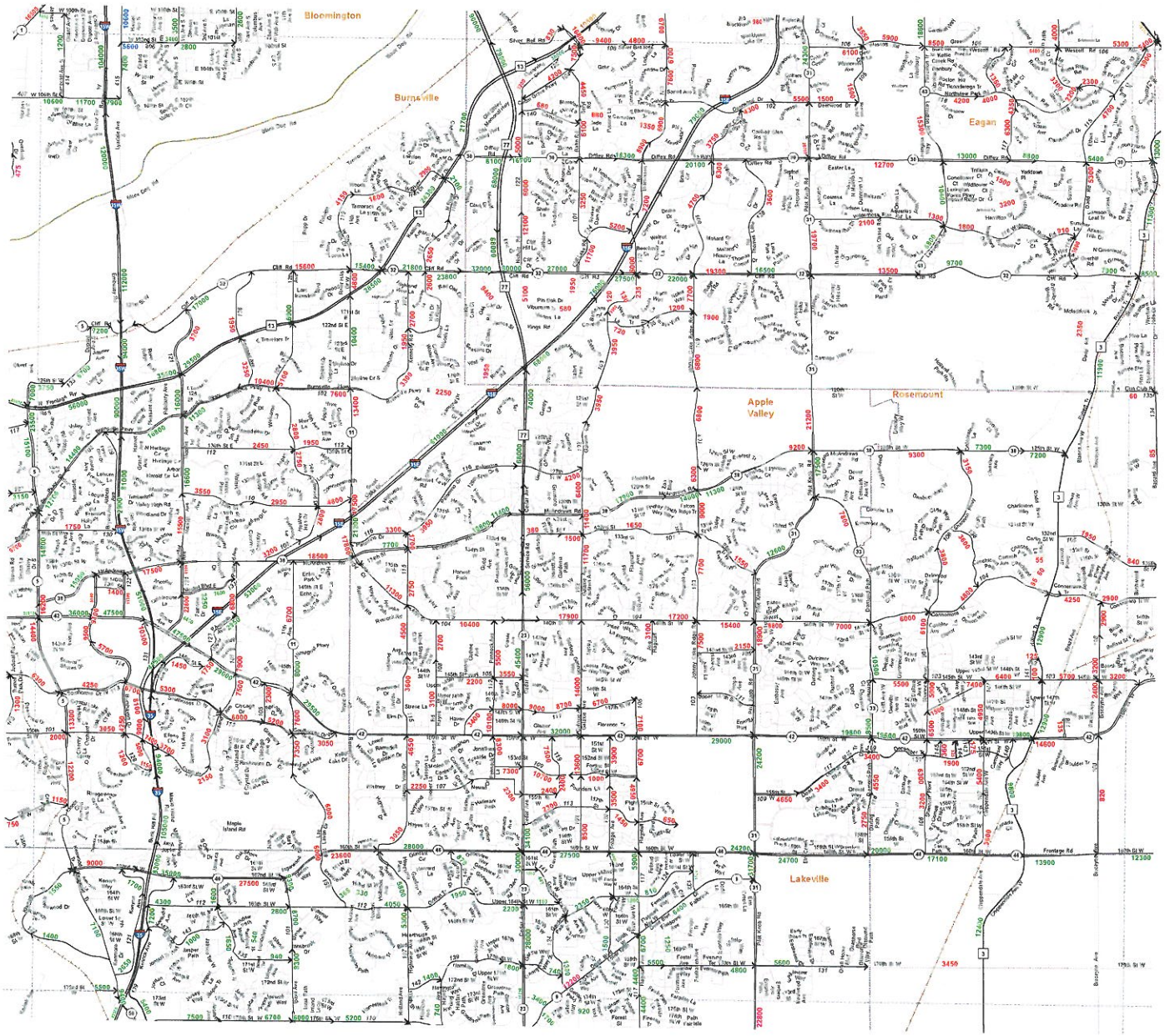
IV. Effect on County Revenues:

Increase of $3,134,000 Federal, $1,468,335 State Aid, and $1,201,365 city.

Project Revenues	Prior to 2017 Revenues	2017	2018	2019	2020	2021	Beyond 2021	Total Project
Property Tax								
Federal				$3,134,000				$3,134,000
State/Metro		$173,250	$863,500	$431,585				$1,468,335
Other		$141,750	$706,500	$353,115				$1,201,365
Total		**$315,000**	**$1,570,000**	**$3,918,700**				**$5,803,700**

Project Expenditures	Prior to 2017 Expenses	2017	2018	2019	2020	2021	Beyond 2021	Total Project
Land Acquisition			$1,570,000					$1,570,000
New Construction				$3,918,700				$3,918,700
Modifications/Repairs								
Consulting Services		$315,000						$315,000
Other								
Total		**$315,000**	**$1,570,000**	**$3,918,700**				**$5,803,700**

2015 Publication Traffic Volumes Metro Street Series - 3C



MINNESOTA DEPARTMENT OF TRANSPORTATION

0 0.25 0.5 0.75 1 Mi.

Numerals Indicate Average Annual Daily Traffic (AADT) Volumes on Designated Roads

Traffic Volumes are Subject to Variability and Construction Effects
For More Info Visit:
http://www.dot.state.mn.us/traffic/data/coll-method.html#cp

Minnesota Department of Transportation
Office of Transportation Data and Analysis
Traffic Volume Program
http://www.dot.state.mn.us/traffic/data/index.html

MAP LEGEND

AADT Year
- 2015 2014
- 2013 2012
- 2011 and older

- Interstate 94
- US Highway 169
- MN Highway 55
- CSAH 55
- MSAS 101
- County Road 55
- Other Roads
- Railroads
- Street Series Grid
- Cities
- COUNTIES
- Lakes
- Rivers
- Perennial Streams
- Ditches
- National Forests
- National Parks
- Tribal Gov'ts
- State Forests
- State Parks

Map Source:
Minnesota Department of Transportation
Office of Transportation Data and Analysis
Traffic Volume Program
2015 AADT Product
http://www.dot.state.mn.us/traffic/data/data-products.html

To view this data using an online interactive map please visit: http://www.dot.state.mn.us/traffic/data/tma.html

BOARD OF COUNTY COMMISSIONERS
DAKOTA COUNTY, MINNESOTA

June 19, 2018
Motion by Commissioner Egan

Resolution No. 18-326
Second by Commissioner Slavik

Approval Of Grant Application Submittals For Transportation Advisory Board 2018 Federal Funding Solicitation Process

WHEREAS, the Transportation Advisory Board (TAB) is requesting project submittals for federal funding under the Fixing America's Surface Transportation (FAST) Act; and

WHEREAS, these federal programs fund up to 80 percent of project construction costs; and

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

WHEREAS, non-federal funds must be at least 20 percent of the project costs; and

WHEREAS, project submittals are due on July 13, 2018; and

WHEREAS, all projects proposed are consistent with the adopted Dakota County Comprehensive Plan; and

WHEREAS, subject to federal funding award, the Dakota County Board of Commissioners would be asked to consider authorization to execute a grant agreement at a future meeting.

NOW, THEREFORE, BE IT RESOLVED, That the Dakota County Board of Commissioners hereby approves the following County led projects for submittal to the TAB for federal funding:

1. County State Aid Highway (CSAH) 26 (Lone Oak Road/70th Street) from Trunk Highway (TH) 55 to west of TH 3 (Robert Street) in Eagan and Inver Grove Heights
2. CSAH 32 (Cliff Road) at its intersection with CSAH 31 (Pilot Knob Road) in Eagan
3. CSAH 70 (215th Street) from Kensington Boulevard to CSAH 23 (Cedar Avenue) in Lakeville
4. Advanced Traffic Management System along CSAH 5 and CSAH 38 (McAndrews Road) in Burnsville and Apple Valley
5. CSAH 23 (Cedar Avenue) Grade Separated Trail north of 140th Street in Apple Valley
6. River to River Greenway – Valley Park & TH 149 Underpass in Mendota Heights
7. Minnesota River Greenway – Fort Snelling segment in Eagan
8. CSAH 42 Trail & Grade Separation between Flagstaff Avenue and CSAH 31 (Pilot Knob Road) in Apple Valley
9. North Creek Greenway – Lakeville/Farmington gaps

; and

STATE OF MINNESOTA
County of Dakota

	VOTE
Slavik	Yes
Gaylord	Yes
Egan	Yes
Atkins	Yes
Workman	Yes
Holberg	Yes
Gerlach	Yes

I, Jennifer Reynolds, Clerk to the Board of the County of Dakota, 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, Dakota County, Minnesota, at their session held on the 19th day of June, 2018, now on file in the County Administration Department, and have found the same to be a true and correct copy thereof.

Witness my hand and official seal of Dakota County this 20th day of June, 2018.

Jeni Reynolds

Clerk to the Board

BE IT FURTHER RESOLVED, That the Dakota County Board of Commissioners hereby supports the following submittals by others:

10. Cliff Road (CSAH 32) & I-35W West Ramp Intersection Improvements – Lead Agency: Burnsville
11. TH 13 Grade Separated Trail at Nicollet Avenue – Lead Agency: Burnsville
12. CSAH 38 (McAndrews Road) Trail from Gardenview Drive to Galaxie Avenue – Lead Agency: Apple Valley
13. CSAH 23 (Cedar Avenue) Pedestrian Overpass at 147th Street Station – Lead Agency: Apple Valley (support is contingent upon agreement by the City and Metro Transit in addressing operations costs)
14. CSAH 73 Trail between I-494 and 55th Street – Lead Agency: Inver Grove Heights
15. North Creek Greenway (Johnny Cake Ridge Road) – Lead Agency: Apple Valley
16. Rosemount Greenway (Downtown Rosemount to Lebanon Hills) – Lead Agency: Rosemount
17. CSAH 8 (Wentworth Avenue) Trail from Robert Street to CSAH 73 (Oakdale Avenue) – Lead Agency: West St Paul

; and

BE IT FURTHER RESOLVED, That, subject to federal funding award of the city-led projects, the Dakota County Board of Commissioners will provide the local match for regional greenway projects, and for non-greenway projects will provide Dakota County's share of the matching funds consistent with Dakota County transportation cost share policies.

STATE OF MINNESOTA
County of Dakota

	VOTE
Slavik	Yes
Gaylord	Yes
Egan	Yes
Atkins	Yes
Workman	Yes
Holberg	Yes
Gerlach	Yes

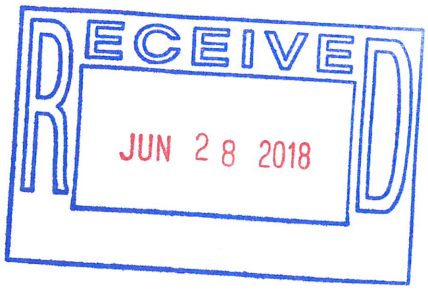
I, Jennifer Reynolds, Clerk to the Board of the County of Dakota, State of Minnesota, do hereby certify that I have compared the foregoing copy of a resolution with the original minutes of the proceedings of the Board of County Commissioners, Dakota County, Minnesota, at their session held on the 19th day of June, 2018, now on file in the County Administration Department, and have found the same to be a true and correct copy thereof.

Witness my hand and official seal of Dakota County this 20th day of June, 2018.

Jeni Reynolds

Clerk to the Board

EAGAN
ESTABLISHED 1860



June 20, 2018

Mr. Mark Krebsbach
Dakota County Transportation Director/ County Engineer
14955 Galaxie Avenue, 3rd Floor
Apple Valley, MN 55124

RE: Fixing America's Surface Transportation (Fast) Act
Letter of Support for Dakota County's CSAH 31 (Pilot Knob Road) and CSAH 32 (Cliff Road) Intersection Improvements (Roadway Reconstruction/Expansion) Project

Dear Mr. Krebsbach:

The City of Eagan is supportive of Dakota County's application for federal funding for signal reconstruction and geometric improvements to the intersection of County State Aid Highway (CSAH) 31 (Pilot Knob Road) and CSAH 32 (Cliff Road). This project would be a joint effort between the City of Eagan and Dakota County.

The City of Eagan is aware of and understands the proposed project will affect Dakota County CSAH 31 and CSAH 32. Dakota County has jurisdiction over CSAH 31 and CSAH 32 and commits to operate and maintain this roadway for its design life.

The City of Eagan supports this proposed project for federal funding and agrees to provide a financial commitment for the improvements directly related to CSAH 31 and CSAH 32, consistent with the current County cost participation policy. Thank you for making us aware of this application effort and the opportunity to provide support.

Sincerely,

John Gorder, P.E.
City Engineer

	shorter pedestrian delays due to shorter cycle length.	longer crossing time and exposure for pedestrians.
Physical	None identified.	Increased intersection size.
Socioeconomic	Travel time reduced. Vehicle emissions reduced.	Right-of-way and construction costs. Access restrictions to property.
Enforcement, Education, and maintenance	None identified.	None identified.

* Applies to situations where the left-turn lane is added by physical widening rather than restriping.

12.1.2 Multiple Left-Turn Lanes

Multiple left-turn lanes are becoming more widely used at signalized intersections where traffic volumes have increased beyond the design volume of the original single left-turn lane.

Multiple left-turn lanes can be used to address left-turn volumes that exceed or are expected to exceed a single turn lane. Multiple left-turn lanes allow for the allocation of green time to other critical movements or use of a shorter cycle length.

Applicability

Double and triple left-turn lanes are appropriate at intersections with significantly high left-turn volumes that cannot be adequately served in a single lane. As a rule of thumb, dual left-turn lanes are generally considered when left-turn volumes exceed 300 vehicles per hour (assuming moderate levels of opposing through traffic and adjacent street traffic). A left-turn demand exceeding 600 vehicles per hour indicates a triple left-turn may be appropriate.

While effective in improving intersection capacity, double or triple lefts are not appropriate where:

- A high number of vehicle-pedestrian conflicts occur.
- Left-turning vehicles are not expected to evenly distribute themselves among the lanes.
- Channelization may be obscured.
- Sufficient right-of-way is not available to provide for the design vehicle.

Design Features

The design of multiple left-turn lanes is similar to that of single turn lanes. In addition, the interaction between vehicles in adjacent lanes and also width of the receiving lanes should be considered. The following are design considerations for triple left-turn lanes provided by Ackeret.[191] These same considerations apply for double left-turn lanes:

- Widths of receiving lanes.
- Width of intersection (to accommodate three vehicles abreast).
- Clearance between opposing left-turn movements during concurrent maneuvers.
- Pavement marking visibility.
- Placement of stop bars for left-turning and through vehicles.
- Weaving movements downstream of turn.
- Potential for pedestrian conflict.

The previous section provided criteria for selecting the type of signal phasing to be used. In general, protected-only left-turn phasing is used for most double-lane and triple-lane left-turn movements, although some agencies have used protected-permissive phasing for double left turns.

Operational Features

Drivers may be confused when attempting to determine their proper turn path on an approach with multiple left-turn lanes. Providing positive guidance for the driver in the form of pavement markings can help

eliminate driver confusion and eliminate vehicle conflict by channeling vehicles in their proper turn path.

Delineation of turn paths is especially useful to drivers making simultaneous opposing left turns, as well as in some cases where drivers turn right when a clear path is not readily apparent. This strategy is also appropriate when the roadway alignment may be confusing or unexpected.

Delineation of turn paths is expected to improve intersection safety, though the effectiveness has not been well evaluated. The additional guidance in the intersection will help separate vehicles making opposing left turns, as well as vehicles turning in adjacent turn lanes.

Additional operational features of dual and triple left-turn lanes are identified below.

- Prominent and well-placed signing should be used with triple left-turn movements, especially in advance of the intersection.
- The excess green time for left-turn movements resulting from the additional lane should be allocated to other critical movements or removed from the entire cycle to reduce the cycle length.
- See tables 118 and 119 for left-turn phasing guidelines.

Safety Performance

A literature review shows that dual left-turn lanes with protected-only phasing generally operate with minimal negative safety impacts. Common crash types in multiple turn lanes are sideswipes between vehicles in the turn lanes. Turn path delineation guides drivers through their lane and can help reduce sideswipes at left-turn maneuvers.

A study of double and triple left-turn lanes in Las Vegas, NV, showed that about 8 percent of intersection-related sideswipes occur at double lefts, and 50 percent at triple lefts.(192) These sideswipes are 1.4 and 9.2 percent of all crashes at the intersections with double and triple lefts, respectively. Turn path geometry and elimination of downstream bottlenecks are important considerations for reducing sideswipes.

One study indicates that triple left-turn lanes have been shown to operate well, and drivers do not have trouble understanding the triple left turns.(193) In addition, construction of triple left-turn lanes has not resulted in unexpected or unacceptable crash experiences. Another study showed that 10 percent of the crashes at intersections with triple lefts occurred in the approach for the triple left. These are angle crashes that occur when left-turning vehicles collide with through traffic on the cross street. These crashes are attributed to short clearance intervals and limited sight distance, not operation of the triple left. Public education of the proper use of triple left turns will be necessary where these are being considered at an intersection.

Table 123 presents selected findings of the safety benefits of multiple left-turn lanes.

Table 123. Safety benefits associated with multiple left-turn lanes: Selected findings.

Treatment	Finding
Double left-turn lane(172)	29% estimated reduction in all fatal/injury collisions 26% estimated reduction in all PDO collisions 29% estimated reduction in fatal/injury rear-end collisions 47% estimated reduction in fatal/injury left-turn collisions 20% estimated reduction in angle fatal/injury collisions

Operational Performance

Multiple left-turn lanes can improve intersection operations by reducing the time allocated to the signal phase for the left-turn movement. Triple left-turn lanes have been constructed to meet the left-turn capacity demand without having to construct an interchange. This configuration can accommodate left-turn volumes of more than 600 vehicles per hour. Vehicle delays, intersection queues, and green time for the left-turn movement are all reduced, improving operation of the entire intersection.

While dual left-turn lanes are largely operated with protected-only phasing, some agencies use protected-permissive signal phasing. This signal phasing improves capacity for the left-turn movements, particularly during nonpeak times when opposing traffic volumes are lower. Many agencies have safety concerns regarding permissive left-turns in a double turn lane. In fact, many agencies only allow dual left-turn lanes to

be run as protected-only phasing. However, some agencies overcome this concern by offsetting the dual left turn lanes.

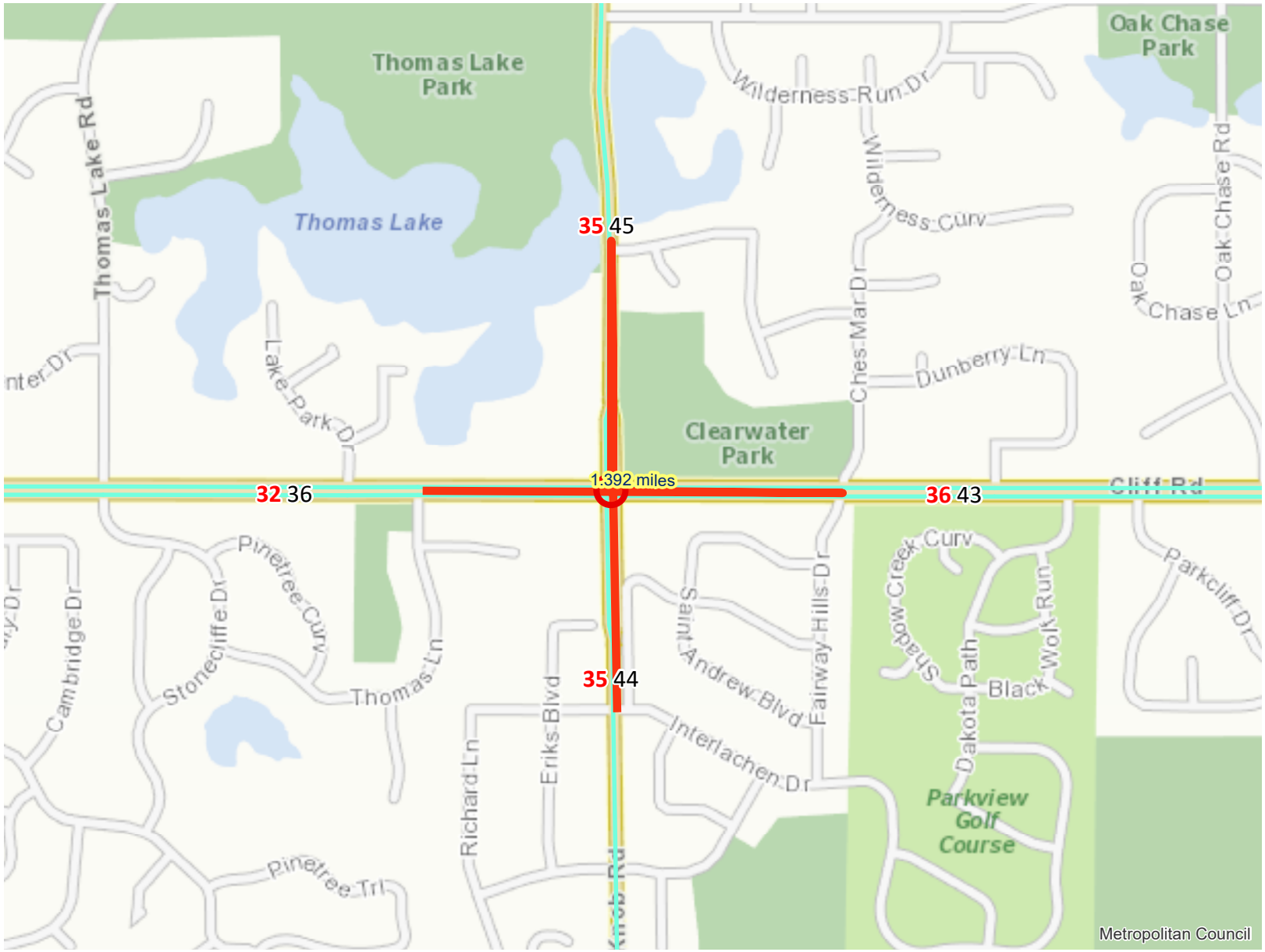
Tucson, AZ, uses protected-permissive offset dual left-turns at approximately 30 intersections. The city has been using this treatment for about 30 years with limited reported problems, and continues to install them where needed. The protected-permissive "offset" dual lefts are used on very high volume city streets (with ADTs exceeding 80,000). The capacity of the left-turn movement increases 75 to 80 percent and left-turn crashes increase only insignificantly with the protected-permissive phasing is implemented. One potential issue is sight distance for the left-turning vehicles. The City of Tucson addresses this concern by offsetting the far lane by 1.2 to 1.5 m (4 to 5 ft) so that it has the same sight distance as a single left-turn lane, enabling drivers to see beyond the opposing left-turn vehicles, as shown in figure 119.(194)

For protected-permissive dual lefts, Tucson, AZ, also uses a lagging left-turn phase operation. The Arizona Insurance information association studied this operation in 2002.(195) The study found that tucson, AZ, had lower crash rates than the leading left-turn operations in the Phoenix, AZ, area, and this benefit was attributed in part to the use of lagging left phases.

On the other hand, in a study of four non-offset intersections with dual left-turn lanes in atlanta, GA, operating with protected-permissive signal phasing, it was shown that this signal phasing needs to be carefully considered.(196) The advantage of increased capacity compared to the disadvantage of increased vehicle conflicts illustrated that this type of phasing may not be appropriate. This study was based on a limited data set, and more sites should be studied to verify these results.

Level of Congestion

Roadway Expansion Project: CSAH 31/CSAH 32 Intersection Improvement | Map ID: 1530210847062



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

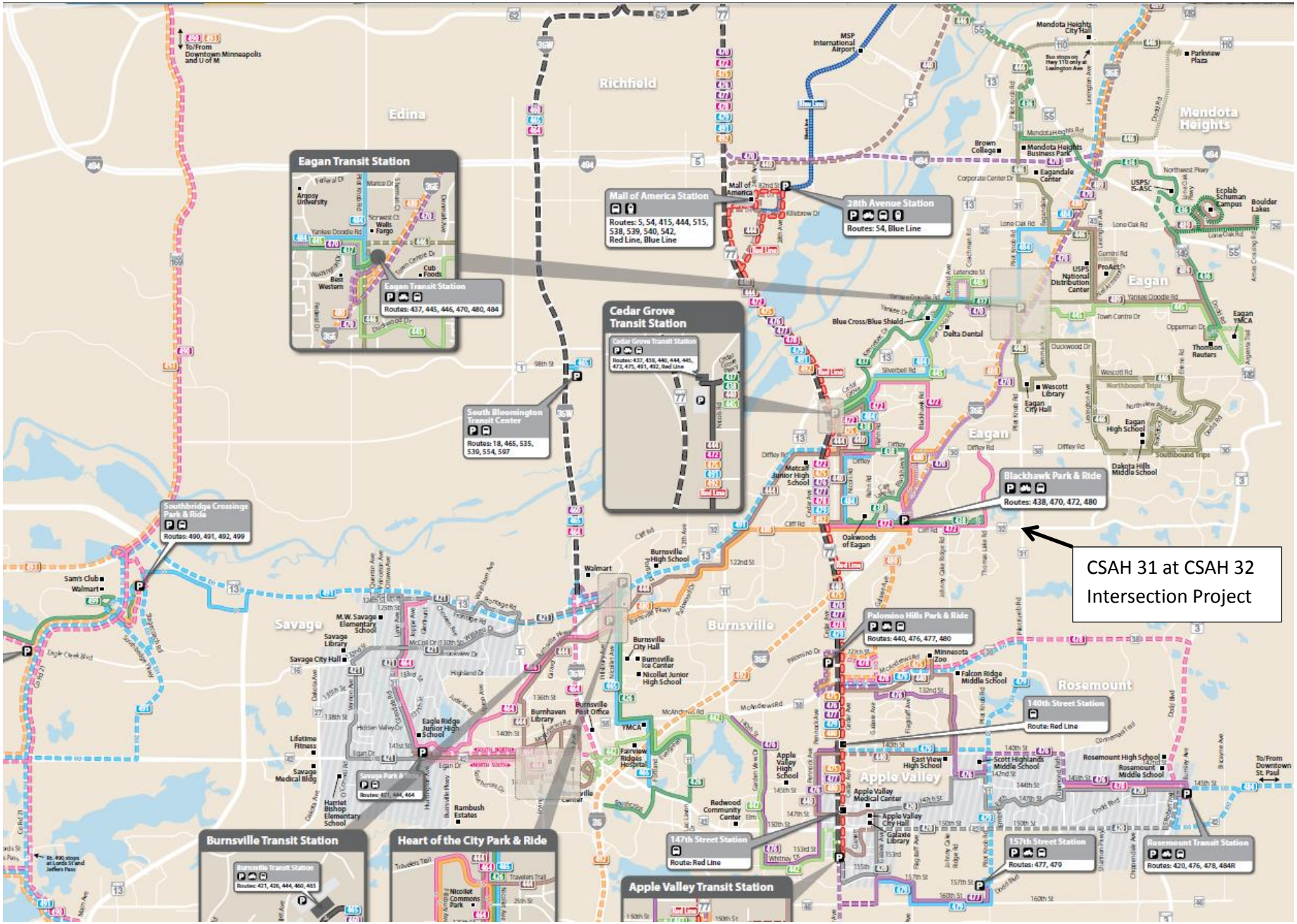
0 0.075 0.15 0.3 0.45 0.6 Miles

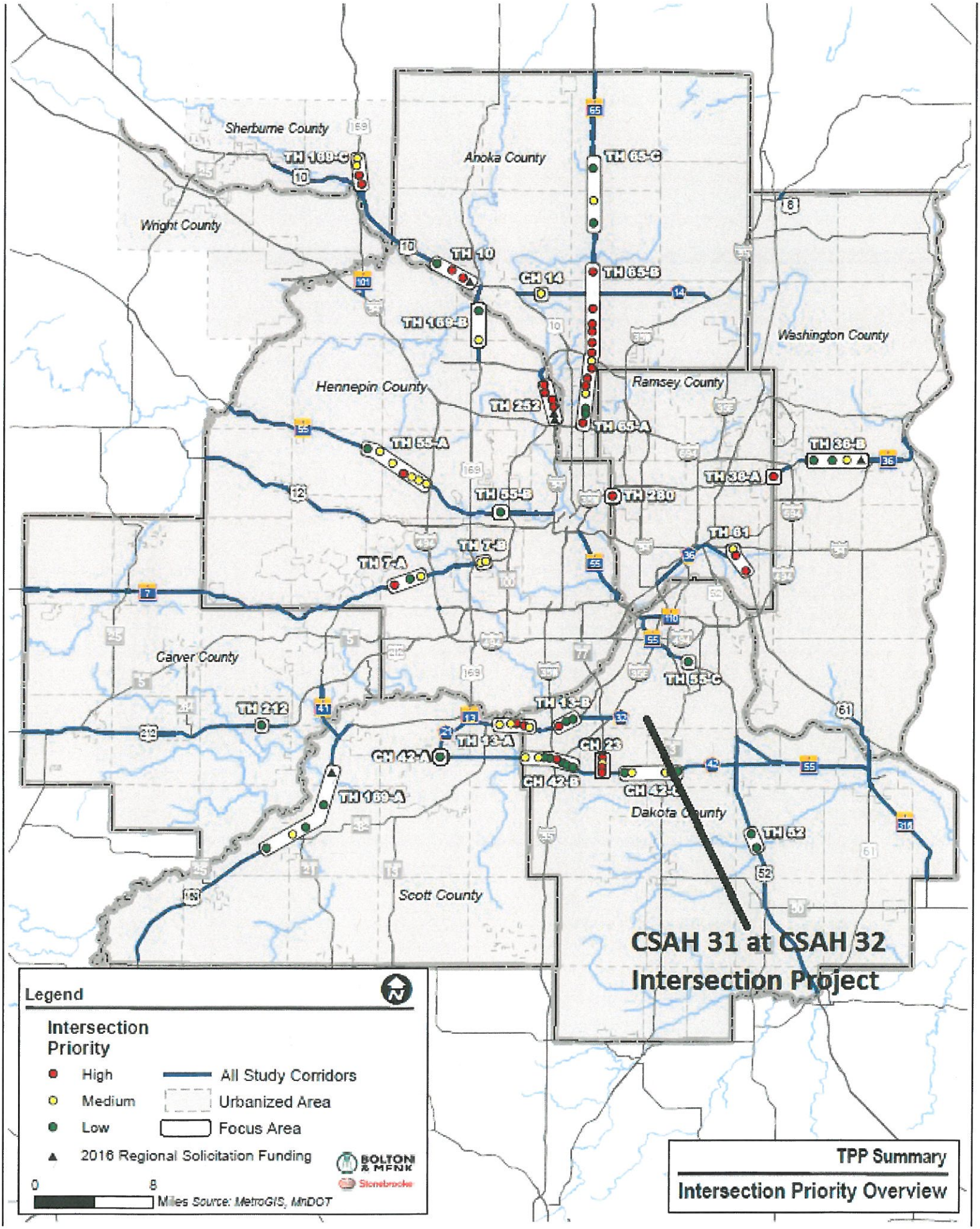
Created: 6/28/2018
LandscapeRSA1

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

METROPOLITAN COUNCIL

Portion of MVTA Route Map




Sherburne County
Wright County
Hennepin County
Anoka County
Ramsey County
Washington County
Carver County
Scott County
Dakota County
TH 169-C
TH 10
TH 169-B
CH 14
TH 65-C
TH 65-B
TH 65-A
TH 252
TH 55-A
TH 65-B
TH 280
TH 7-B
TH 7-A
TH 36-B
TH 36-A
TH 61
TH 55-C
TH 13-B
TH 13-A
CH 23
CH 42-A
CH 42-B
CH 42-C
TH 212
TH 169-A
TH 62
CSAH 31 at CSAH 32
Intersection Project
Legend
Intersection Priority
High
Medium
Low
2016 Regional Solicitation Funding
All Study Corridors
Urbanized Area
Focus Area
0
8
Miles Source: MetroGIS, MnDOT
BOLTON & MENK
Stonebrooke
TPP Summary
Intersection Priority Overview

Regional Bicycle Transportation Network (RBTN) Corridors

PROPOSED

RBTN Corridors with Alignments
- Tier 1 Aligments
- Tier 2 Alignments

RBTN Corridors (Alignments Undefined)
- Tier 1 Priority Regional Bicycle Transportation Corridor
- Tier 2 Regional Bicycle Transportation Corridors

Other Trail Systems
- Regional Trails (Regional Parks Policy Plan)
- Mississippi River Trail (US Route 45)
- State Trails (DNR)

Regional Destinations
- Metropolitan Job Centers (50,000+ jobs)
- Regional Job Centers (15,000 - 50,000 jobs)
- Subregional Job Centers (7,000 - 15,000 jobs)
- Large High Schools (2000+ Students)
- Colleges & Universities (2000+ Students)
- Major Sport & Entertainment Centers
- Highly Visited Regional Parks (400,00+ visits per year)

Reference Items
- Principal Arterial Roads
- Lakes and Rivers
- City Boundary
- County Boundary
- 2040 Municipal Urban Service Area MPO Area

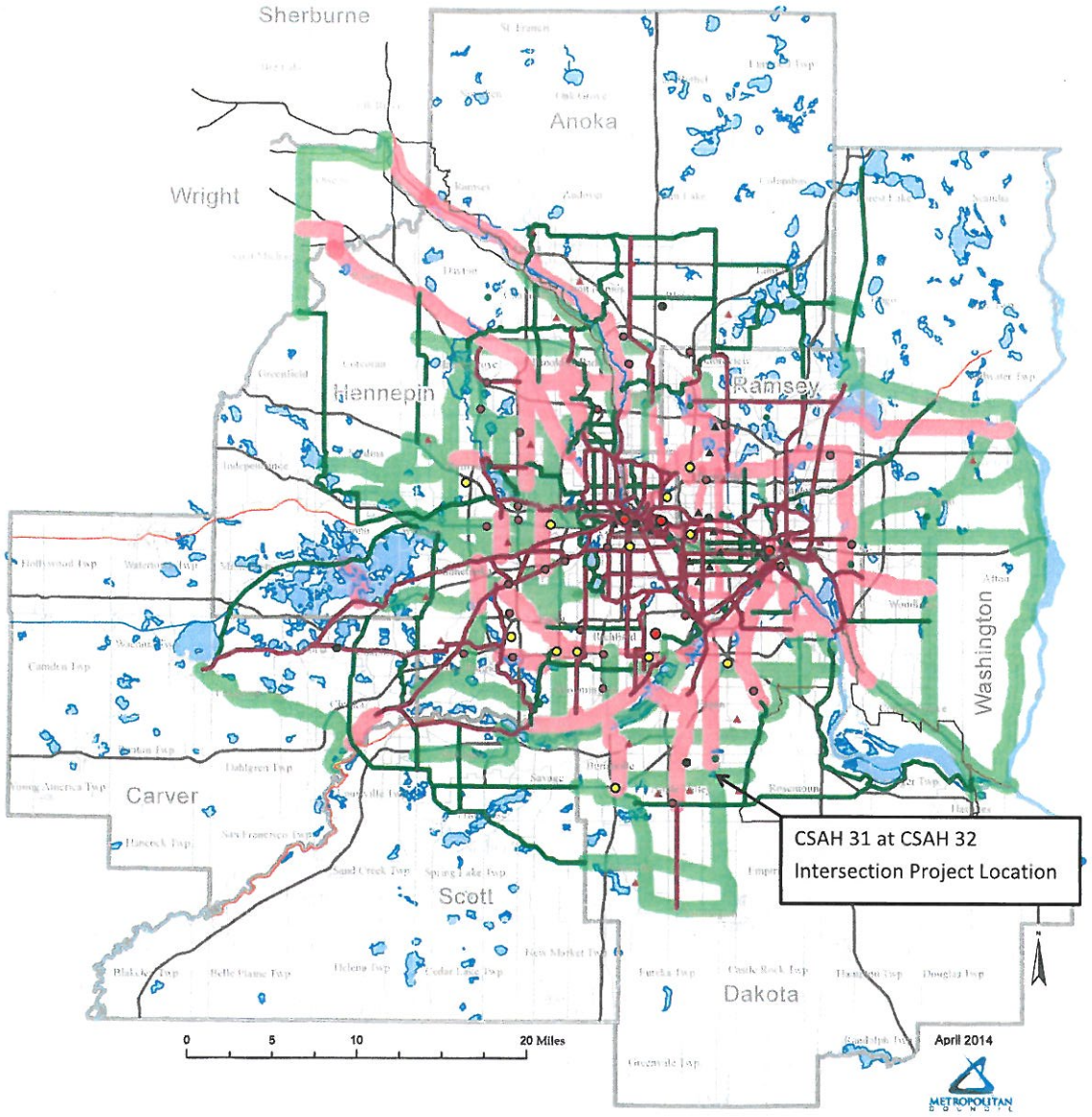


Figure E-3: Tiered Truck Corridors in Dakota County