



Application

04751 - 2016 Roadway Expansion

05253 - Anoka County CSAH 116 Expansion from CSAH 56 to CSAH 57

Regional Solicitation - Roadways Including Multimodal Elements

Status: Submitted

Submitted Date: 07/15/2016 12:58 PM

Primary Contact

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***:** Andover Minnesota 55304-4005
City State/Province Postal Code/Zip

Phone:* 763-862-4230
Phone Ext.

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

Organization Information

Name: ANOKA COUNTY

Jurisdictional Agency (if different):

Organization Type: County Government

Organization Website:

Address: 1440 BUNKER LAKE BLVD

* ANDOVER Minnesota 55304
City State/Province Postal Code/Zip

County: Anoka

Phone:* 763-862-4200 Ext.

Fax:

PeopleSoft Vendor Number 0000003633A15

Project Information

Project Name CSAH 116 Expansion from CSAH 56 to CSAH 57

Primary County where the Project is Located Anoka

Jurisdictional Agency (If Different than the Applicant):

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

This project entails the reconstruction of CSAH 116 (Bunker Lake Blvd) as a 4-lane divided roadway between CSAH 56 (Ramsey Blvd.) and CSAH 57 (Sunfish Blvd.) in the City of Ramsey.

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

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

CSAH 116 Expansion from CSAH 56 to CSAH 57

Project Length (Miles) 1.35

Project Funding

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

If yes, please identify the source(s)

Federal Amount \$3,918,160.00

Match Amount \$979,540.00

Minimum of 20% of project total

Project Total \$4,897,700.00

Match Percentage 20.0%

Minimum of 20%

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

Source of Match Funds Anoka County Highway Fund

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: 2021

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

Additional Program Years: 2019

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

Project Information: Roadway Projects

County, City, or Lead Agency Anoka County

Functional Class of Road A Minor Reliever Arterial

Road System CSAH

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

Road/Route No. 116

i.e., 53 for CSAH 53

Name of Road Bunker Lake Boulevard

Example; 1st ST., MAIN AVE

Zip Code where Majority of Work is Being Performed 55303

(Approximate) Begin Construction Date 04/01/2021

(Approximate) End Construction Date 11/05/2021

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

From:
(Intersection or Address) Intersection of CSAHs 116 and 56 (Ramsey Blvd)

To:
(Intersection or Address) Intersection of CSAHs 116 and 57 (Sunfish Lake Blvd)

DO NOT INCLUDE LEGAL DESCRIPTION

Or At

Primary Types of Work

GRADE, AGG BASE, BIT SURFACING, SIDEWALK, BIKE PATH, PED RAMPS, CURB AND GUTTER, SIGNALS, STORM SEWER

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

BRIDGE/CULVERT PROJECTS (IF APPLICABLE)

Old Bridge/Culvert No.:

New Bridge/Culvert No.:

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

Specific Roadway Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Mobilization (approx. 5% of total cost)	\$413,000.00
Removals (approx. 5% of total cost)	\$319,300.00
Roadway (grading, borrow, etc.)	\$357,500.00
Roadway (aggregates and paving)	\$1,214,000.00
Subgrade Correction (muck)	\$148,500.00
Storm Sewer	\$690,600.00
Ponds	\$375,300.00
Concrete Items (curb & gutter, sidewalks, median barriers)	\$350,100.00
Traffic Control	\$53,000.00
Striping	\$53,000.00
Signing	\$26,500.00
Lighting	\$0.00
Turf - Erosion & Landscaping	\$187,800.00
Bridge	\$0.00
Retaining Walls	\$33,900.00
Noise Wall (do not include in cost effectiveness measure)	\$318,000.00
Traffic Signals	\$265,200.00
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	\$4,805,700.00

Specific Bicycle and Pedestrian Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
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Path/Trail Construction	\$92,000.00
Sidewalk Construction	\$0.00
On-Street Bicycle Facility Construction	\$0.00
Right-of-Way	\$0.00
Pedestrian Curb Ramps (ADA)	\$0.00
Crossing Aids (e.g., Audible Pedestrian Signals, HAWK)	\$0.00
Pedestrian-scale Lighting	\$0.00
Streetscaping	\$0.00
Wayfinding	\$0.00
Bicycle and Pedestrian Contingencies	\$0.00
Other Bicycle and Pedestrian Elements	\$0.00
Totals	\$92,000.00

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	\$4,897,700.00
Construction Cost Total	\$4,897,700.00
Transit Operating Cost Total	\$0.00

Requirements - All Projects

All Projects

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

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

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

Goal B: Safety and Security. The regional transportation system is safe and secure for all users (page 60)

- Objectives: Reduce crashes and improve safety and security for all modes of passenger travel and freight transport.

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

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 (page 62).

- Objectives: Increase the availability of multimodal travel options, especially in congested highway corridors.

- Increase travel time reliability and predictability for travel on highway and transit systems.

- Ensure access to freight terminals such as river ports, airports, and intermodal rail yards.

Strategies: C7. Regional transportation partners will manage and optimize the performance of the principle arterial system as measured by person throughput.

Strategies: C8. Regional transportation partners will prioritize all regional highway capital investments based on a project's expected contributions to achieving the outcomes, goals, and objectives identified in Thrive MSP 2040 and the Transportation Policy Plan.

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

Strategies: C9. The Council will support investments in A-minor arterials that build, manage, or improve the system's ability to supplement the capacity of the principal arterial system and support access to the region's job, activity, and industrial and manufacturing concentrations.

Goal D: Competitive Economy. The regional transportation system supports the economic competitiveness, vitality, and prosperity of the region and state (page 64).

- Objectives: Support the region's economic competitiveness through the efficient movement of freight.

Goal F: Leveraging Transportation Investment to Guide Land Use. The leverages transportation investments to guide land use and development patterns that advance the regional vision of stewardship, prosperity, livability, equity, and sustainability (page 70).

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

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:

Anoka County 2030 Transportation Plan (2009).
Chapter 9 Implementation Table 9.1 Short-Term Improvements, Page 9-3.

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

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

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

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

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

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

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

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

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

Roadway System Management \$250,000 to \$7,000,000

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Roadways Including Multimodal Elements

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

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

Roadway Expansion and Reconstruction/Modernization projects only:

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

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

Bridge Rehabilitation/Replacement projects only:

3. Projects requiring a grade-separated crossing of a Principal Arterial freeway must be limited to the federal share of those project costs identified as local (non-MnDOT) cost responsibility using 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.

Requirements - Roadways Including Multimodal Elements

Expander/Augmentor/Non-Freeway Principal Arterial

Select one:	Expander
Area	13.541
Project Length	1.35
Average Distance	10.0304
Upload Map	1468341470122_Map_CSAH 116 in Ramsey Roadway Area Definition.pdf

Reliever: Relieves a Principle Arterial that is a Freeway Facility

Facility being relieved

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

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

Facility being relieved

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

Non-Freeway Facility Volume/Capacity Table

Hour	NB/EB Volume	SB/WB Volume	Capacity	Volume exceeds capacity
12:00am - 1:00am				0
1:00am - 2:00am				0

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

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

Existing Employment within 1 Mile:	7620
Existing Manufacturing/Distribution-Related Employment within 1 Mile:	3413
Existing Students:	2891
Upload Map	1468341589878_Map_CSAH 116 in Ramsey - Regional Economy.pdf

Measure C: Current Heavy Commercial Traffic

Location:	On CSAH 116 east of CSAH 56 (Ramsey Blvd.)
Current daily heavy commercial traffic volume:	290

Date heavy commercial count taken:

April 2016

Measure D: Freight Elements

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

The project has taken into consideration heavy commercial vehicles. This includes turning lanes, paved shoulders, and appropriate turning-radius at intersections to accommodate trucks.

Measure A: Current Daily Person Throughput

Location	On CSAH 116, east of CSAH 56 (Ramsey Blvd.)
Current AADT Volume	7200
Existing Transit Routes on the Project	2
<i>For New Roadways only, list transit routes that will be moved to the new roadway</i>	
Upload Transit Map	1467919622979_Map_CSAH 116 in Ramsey - Transit Connections.pdf

Response: Current Daily Person Throughput

Average Annual Daily Transit Ridership	0
Current Daily Person Throughput	9360.0

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

OR

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

Forecast (2040) ADT volume

Measure A: Project Location and Impact to Disadvantaged Populations

Select one:

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

Project located in Area of Concentrated Poverty:

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

Yes

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:

This project is located within an area that is above the regional average for population in poverty or populations of color.

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

Consistent with the goals and desired outcomes in Thrive 2040, the project will continue to connect local residents (inclusive of all races, ethnicity, incomes, and abilities) with a safe and reliable transportation system to improve their overall quality of life.

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

Upload Map

1468341695174_Map_CSAH 116 in Ramsey - SE Conditions.pdf

Measure B: Affordable Housing

City/Township	Segment Length in Miles (Population)
Ramsey	1.35
	1

Total Project Length

Total Project Length (Total Population)	1.35
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Affordable Housing Scoring - To Be Completed By Metropolitan Council Staff

City/Township	Segment Length (Miles)	Total Length (Miles)	Score	Segment Length/Total Length	Housing Score Multiplied by Segment percent
		0	0	0	0

Affordable Housing Scoring - To Be Completed By Metropolitan Council Staff

Total Project Length (Miles)	1.35
Total Housing Score	0

Measure A: Infrastructure Age

Year of Original Roadway Construction or Most Recent Reconstruction	Segment Length	Calculation	Calculation 2
2004.0	1.35	2705.4	2004.0
	1	2705	2004

Average Construction Year

Weighted Year	2004.0
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Total Segment Length (Miles)

Total Segment Length	1.35
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Measure A: Vehicle Delay Reduction

Total Peak Hour Delay Per Vehicle Without The Project	Total Peak Hour Delay Per Vehicle With The Project	Total Peak Hour Delay Per Vehicle Reduced by Project	Volume (Vehicles Per Hour)	Total Peak Hour Delay Reduced by the Project (Seconds)	EXPLANATION of methodology used to calculate railroad crossing delay, if applicable:	Synchro or HCM Reports
8.0	7.0	1.0	832.0	832.0		14684236966 10_CSAH 116 in Ramsey_Synchro Report.pdf

Total Delay

Total Peak Hour Delay Reduced	832.0
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Measure B: Roadway projects that do not include new roadway segments or railroad grade-separation elements

Total (CO, NOX, and VOC) Peak Hour Emissions Per Vehicle without the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions Per Vehicle with the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions Reduced Per Vehicle by the Project (Kilograms):	Volume (Vehicles Per Hour):	Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):
0.75	0.72	0.03	832.0	24.96
1	1		832	25

Total

Total Emissions Reduced:	24.96
Upload Synchro Report	1468423836498_CSAH 116 in Ramsey_Synchro Report.pdf

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

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

Total Parallel Roadways

Emissions Reduced on Parallel Roadways	0
Upload Synchro Report	

New Roadway Portion:

Cruise speed in miles per hour with the project:	0
Vehicle miles traveled with the project:	0
Total delay in hours with the project:	0
Total stops in vehicles per hour with the project:	0

Fuel consumption in gallons:	0
Total (CO, NOX, and VOC) Peak Hour Emissions Reduced or Produced on New Roadway (Kilograms):	0
EXPLANATION of methodology and assumptions used:(Limit 1,400 characters; approximately 200 words)	
Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):	0.0

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

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

Measure A: Benefit of Crash Reduction

	CR 1 = Installation of a median
Crash Modification Factor Used:	CR 2 = Increase number of lanes
<i>(Limit 700 Characters; approximately 100 words)</i>	
Rationale for Crash Modification Selected:	These improvements are part of the project. See the attachment for the HSIP Worksheets and additional information.
<i>(Limit 1400 Characters; approximately 200 words)</i>	
Project Benefit (\$) from B/C Ratio:	6629898.0

Roadway projects that include railroad grade-separation elements:

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

Measure A: Multimodal Elements and Existing Connections

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

The existing multiuse trail adjacent to the roadway and crosswalks throughout the corridor will be improved as part of the project to ensure that the safety, security and traveling comfort of non-motorized travelers are enhanced. All intersections will include marked ADA compliant crosswalks.

The projects shoulders will provide a level of resiliency to the non-motorized network, offering an alternate path through the corridor in the event of an incident requiring a temporary closure of the trail.

The provision of a median will provide a refuge pedestrian for crossing the roadway at marked crosswalks.

Transit Projects Not Requiring Construction

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

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

Check Here if Your Transit Project Does Not Require Construction

Measure A: Risk Assessment

1)Project Scope (5 Percent of Points)

Meetings or contacts with stakeholders have occurred Yes
100%

Stakeholders have been identified
40%

Stakeholders have not been identified or contacted
0%

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

Layout or Preliminary Plan completed Yes
100%

Layout or Preliminary Plan started
50%

Layout or Preliminary Plan has not been started
0%

Anticipated date or date of completion

3)Environmental Documentation (5 Percent of Points)

EIS

EA Yes

PM

Document Status:

Document approved (include copy of signed cover sheet) 100%

Document submitted to State Aid for review 75% date submitted

Document in progress; environmental impacts identified; review request letters sent
50%

Document not started Yes
0%

Anticipated date or date of completion/approval 02/03/2020

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

No known historic properties eligible for or listed in the National Register of Historic Places are located in the project area, and project is not located on an identified historic bridge Yes
100%

Historic/archeological review under way; determination of no historic properties affected or no adverse effect anticipated
80%

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

40%

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

0%

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

Project is located on an identified historic bridge

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

4(f) Does the project impacts any public parks, public wildlife refuges, public golf courses, wild & scenic rivers or public private historic properties?

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

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

100%

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

100%

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

80%

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

50%

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

30%

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

0%

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

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

100%

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

100%

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

75%

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

50%

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

25%

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

0%

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

0%

Anticipated date or date of acquisition

7)Railroad Involvement (25 Percent of Points)

No railroad involvement on project Yes

100%

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

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

60%

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

40%

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

0%

Anticipated date or date of executed Agreement

8)Interchange Approval (15 Percent of Points)*

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

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

100%

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

100%

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

0%

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

Construction plans completed/approved (include signed title sheet)

100%

Construction plans submitted to State Aid for review

75%

Construction plans in progress; at least 30% completion Yes

50%

Construction plans have not been started

0%

Anticipated date or date of completion 10/01/2020

10)Letting

Anticipated Letting Date 03/04/2021

Measure A: Cost Effectiveness

Total Project Cost (entered in Project Cost Form): \$4,897,700.00

Enter Amount of the Noise Walls: \$318,000.00

Total Project Cost subtract the amount of the noise walls: \$4,579,700.00

Points Awarded in Previous Criteria

Cost Effectiveness \$0.00

Other Attachments

File Name	Description	File Size
Anoka County Board Resolution in Support of CSAH 116 in Ramsey Project.pdf	Anoka County Board Resolution of Support for Project	688 KB
CSAH 116 and Sunwood_Synchro Summary Reports.pdf	Synchro Summary Reports	26 KB
CSAH 116_Ram Layout.pdf	Project Layout	4.3 MB
CSAH116_Ram_ProjectArea.pdf	Project Area	3.2 MB

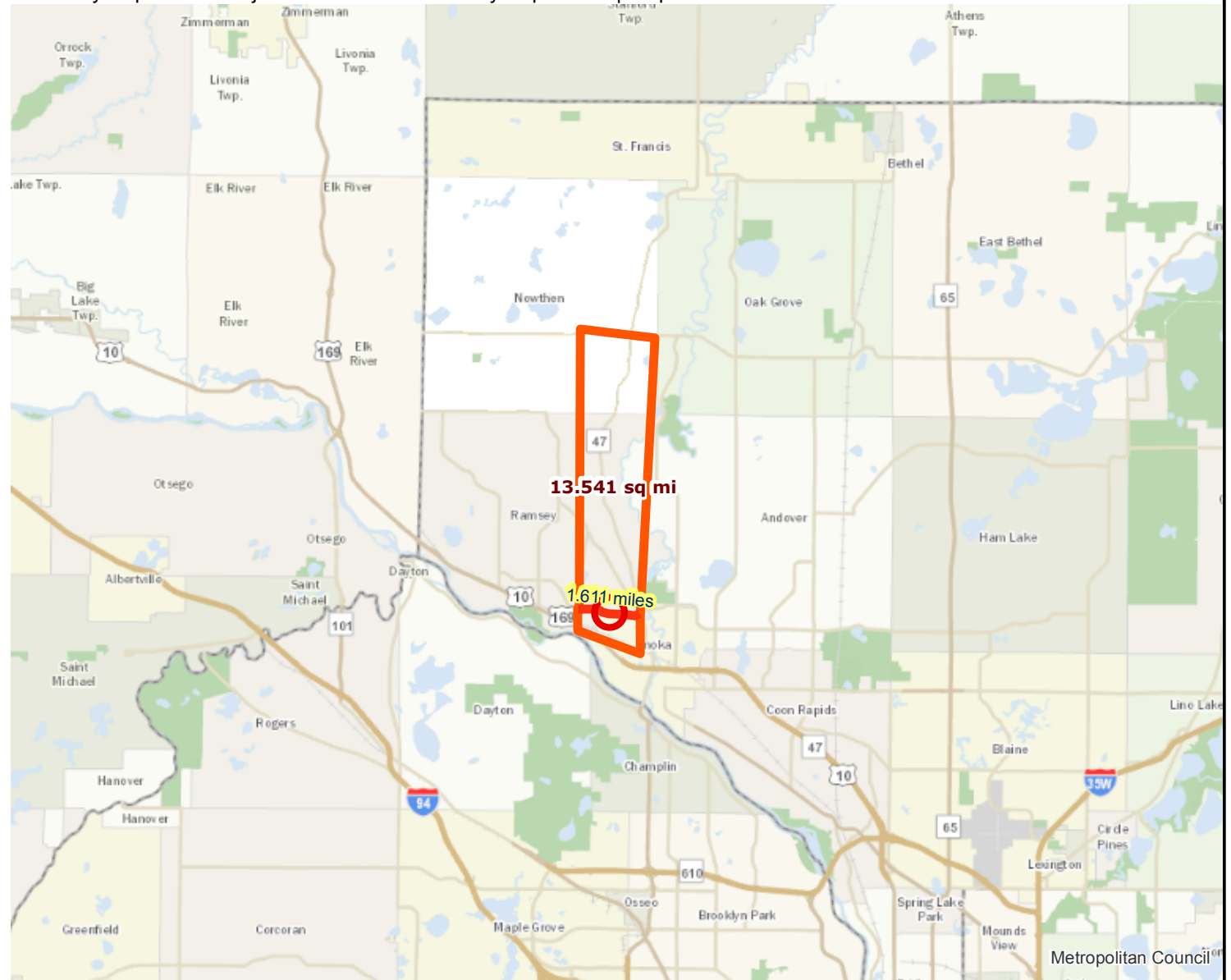
Roadway Area Definition




Roadway Expansion Project: CSAH 116 Roadway Expansion | Map ID: 1467057609077

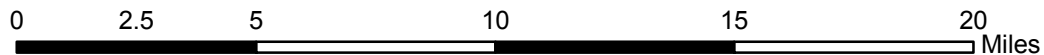
Results

Project Length: 1.611 miles

Project Area: 13.541 sq mi



-  Project Points
-  Project Area
-  Project



Created: 6/27/2016
LandscapeRSA1



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



Regional Economy

Roadway Expansion Project: CSAH 116 Roadway Expansion | Map ID: 1467057609077

Results

WITHIN ONE MI of project:

Totals by City:

Anoka
 Population: 4455
 Employment: 3685
 Mfg and Dist Employment: 1638

Dayton
 Population: 850
 Employment: 22
 Mfg and Dist Employment: 2

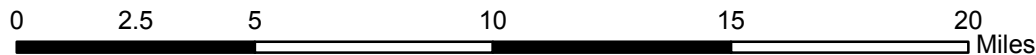
Ramsey
 Population: 9124
 Employment: 3913
 Mfg and Dist Employment: 1773

Postsecondary Students:
 2891



Project Points Project Area

Project



Created: 6/27/2016
 LandscapeRSA5



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



NCompass Technologies

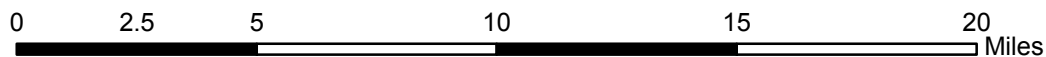


Results

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

**indicates Planned Alignments*

-  Project Points
-  Project Area
-  Project



Created: 6/27/2016
LandscapeRSA3



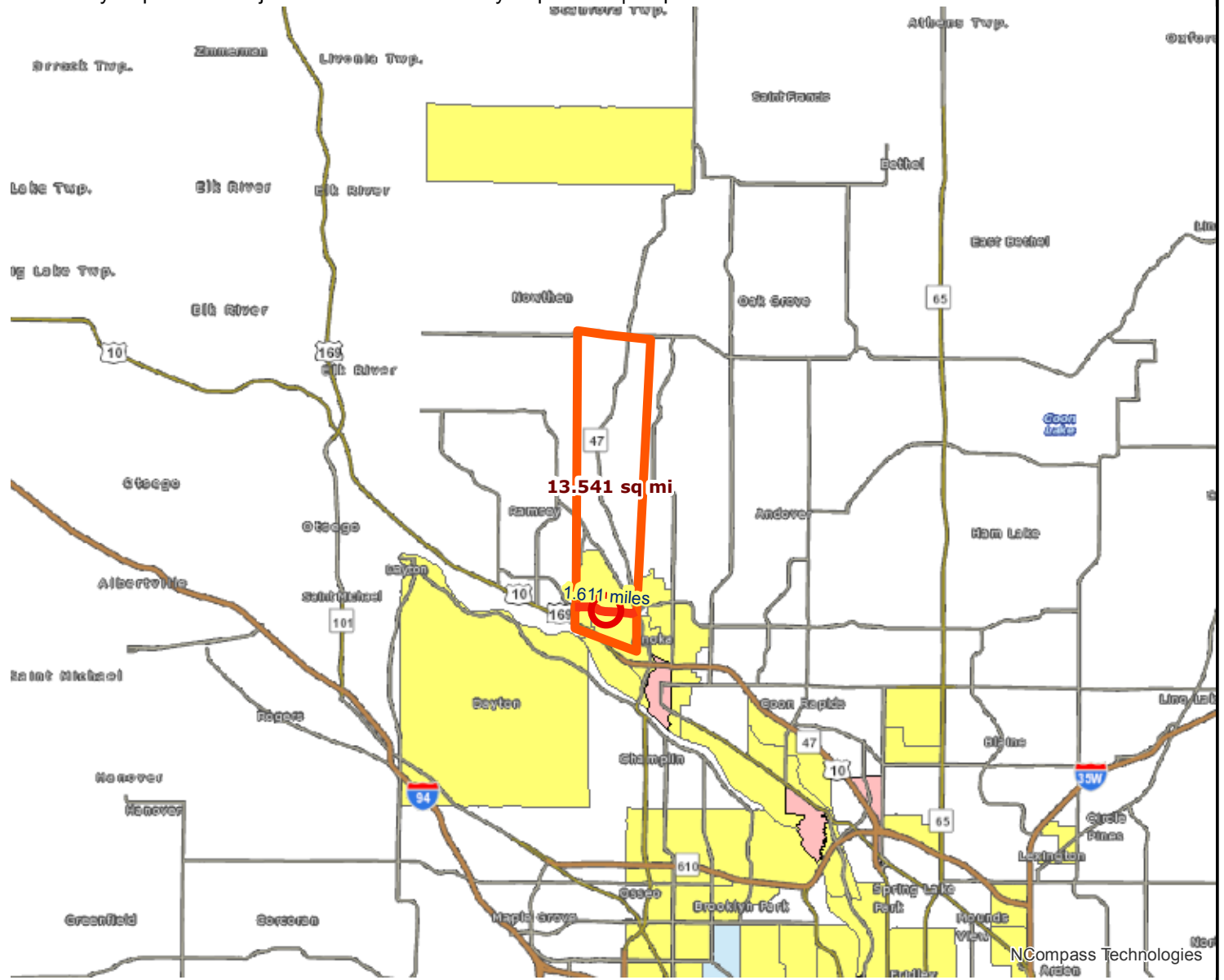
For complete disclaimer of accuracy, please visit
<http://giswebsite.metc.state.mn.us/gissitenew/notice.aspx>









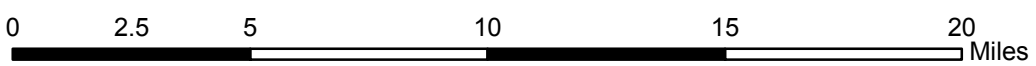
NCompass Technologies

Results

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



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



Created: 6/27/2016
LandscapeRSA2



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



NCompass Technologies

8: Sunwood & CSAH 116

Direction	All
Volume (vph)	832
Total Delay / Veh (s/v)	8
CO Emissions (kg)	0.53
NOx Emissions (kg)	0.10
VOC Emissions (kg)	0.12

8: Sunwood & CSAH 116

Direction	All
Volume (vph)	832
Total Delay / Veh (s/v)	7
CO Emissions (kg)	0.50
NOx Emissions (kg)	0.10
VOC Emissions (kg)	0.12

8: Sunwood & CSAH 116


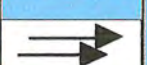

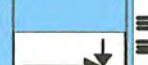

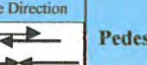
Direction	All
Volume (vph)	832
Total Delay / Veh (s/v)	8
CO Emissions (kg)	0.53
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VOC Emissions (kg)	0.12

8: Sunwood & CSAH 116

Direction	All
Volume (vph)	832
Total Delay / Veh (s/v)	7
CO Emissions (kg)	0.50
NOx Emissions (kg)	0.10
VOC Emissions (kg)	0.12

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
	CSAH116	From CSAH 56 To CSAH 57 (Sunfish Lk. Blvd.)	001+00.00.020	002+00.384	Anoka Co.	01/01/2013	12/31/2015
Description of Proposed Work		Install Raised Median (39% Reduction In All Crashes). Install A Thru Lane In Each Direction (44%-71% Reduction In Crashes)					

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	2			1			3
		C	2		2	2	1		7
	Property Damage	PD	3	1	1	3			8

% Change in Crashes	Fatal	F							
	PI	A							
		B	-71%			-66%			
		C	-71%		-82%	-66%	-66%		
	Property Damage	PD	-71%	-66%	-82%	-66%			

*Use Desktop Reference for Crash Reduction Factors

Change in Crashes <small>= No. of crashes X % change in crashes</small>	Fatal	F							
	PI	A							
		B	-1.42			-0.66			-2.08
		C	-1.42		-1.64	-1.32	-0.66		-5.04
	Property Damage	PD	-2.13	-0.66	-0.82	-1.98			-5.59

Year (Safety Improvement Construction) **2018**

Project Cost (exclude Right of Way)	Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
\$ 4,200,000	F			\$ 1,140,000	
Right of Way Costs (optional)	F			\$ 1,140,000	
Traffic Growth Factor	A			\$ 570,000	
Capital Recovery	B	-2.08	-0.69	\$ 170,000	\$ 117,974
1. Discount Rate	C	-5.04	-1.68	\$ 83,000	\$ 139,567
2. Project Service Life (n)	PD	-5.59	-1.87	\$ 7,600	\$ 14,174
Total				\$ 271,716	

B/C= 1.58

Using present worth values,
B= \$ 6,629,898
C= \$ 4,200,000

See "Calculations" sheet for amortization.

Office of Traffic, Safety and Technology
August 2015

7

Dual CRF for CSAH 116

Improvements include installation of median and addition of a through lane in each direction.

CR1=Installation of median

CR2=Increase number of lanes

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

$$\text{Rear end: } CR=1 - (1-.39)*(1-.52) = .71$$

$$\text{Sideswipe: } CR=1 - (1-.39)*(1-.44) = .66$$

$$\text{Left Turn: } CR=1 - (1-.39)*(1-.71) = .82$$

$$\text{Right Angle: } CR=1 - (1-.39)*(1-.45) = .66$$

$$\text{Ran Off Road: } CR=1 - (1-.39)*(1-.44) = .65$$

Countermeasure: Install raised median

CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
0.61	39	★★★★★	All	All		Schultz et al., 2011	
0.56	44	★★★★★	All	Fatal, Serious injury		Schultz et al., 2011	
0.29	70.77	★★★★	All	All	Urban	Schultz et al., 2008	
0.45	55.43	★★★★	Angle	All	Urban	Schultz et al., 2008	
0.86	14	★★★★	All	All	Urban	Yanmaz-Tuzel and Ozbay, 2010	

Desktop Reference for Crash Reduction Factors

Roadway Departure Crashes

Countermeasure(s)	Crash Type	Crash Severity	Area Type	Road Type	Daily Traffic Volume (veh/day)	Ref	Effectiveness			Study Type
							Crash Reduction Factor / Function	Range		
								Std Error	Low	
Increase number of lanes	All	All			<5,000/lane	15	20			
	All	All			>5,000/lane	15	31			
	All	All				15	10			
	All	All				15	20			
	All	All				15	22			
	All	All				15	25			
	All	All				15	25			
	All	All				15	25			
	All	Fatal				15	39			
	All	Injury				15	23			
	All	PDO				15	27			
	Head-on	All				<5,000/lane	15	38		
	Head-on	All				>5,000/lane	15	44		
	Head-on	All					15	53		
	Head-on	All					15	53		
	Head-on	PDO					15	50		
	Left-turn	All					15	71		
	Left-turn	PDO					15	67		
	ROR	All					15	44		
	ROR	All					15	26		
	ROR	All					15	44		
	ROR	All					15	44		
	ROR	PDO					15	50		
	Overturn	All				<5,000/lane	15	42		
	Overturn	All				>5,000/lane	15	52		
	Rear-end	All				<5,000/lane	15	42		
	Rear-end	All				>5,000/lane	15	52		
	Rear-end	All					15	32		
Rear-end	All					15	32			
Rear-end	All					15	40			
Rear-end	All					15	53			
Rear-end	PDO					15	53			

Desktop Reference for Crash Reduction Factors

Roadway Departure Crashes

Countermeasure(s)	Crash Type	Crash Severity	Area Type	Road Type	Daily Traffic Volume (veh/day)	Ref	Effectiveness			Study Type	
							Crash Reduction Factor / Function	Std Error	Range		
									Low		High
Increase number of lanes (cont'd)	Right-angle	All			<5,000/lane	15	35				
	Right-angle	All			>5,000/lane	15	45				
	Right-angle	All				15	15				
	Right-angle	PDO				15	46				
	Sideswipe	All			<5,000/lane	15	38				
	Sideswipe	All			>5,000/lane	15	44				
	Sideswipe	All				15	30				
	Sideswipe	All				15	30				
	Sideswipe	All				15	35				
Sideswipe	PDO				15	64					
Increase vertical grade by 1%	All	All	Rural	2-lane		23	-1.6P; P=percent grade (absolute value)				
	All	All				15	26				
Install acceleration/ deceleration lanes	All	All	All	All		1	10				
	All	All				15	10				
	All	All				15	10				
	All	All				15	10				
	All	All				15	10				
	All	All				15	25				
	All	All				15	75				
	Rear-end	All				15	75				
	Sideswipe	All				15	75				
	All	All				15	67				
Install channelized lane	All	PDO				15	62				
	Rear-end	All				15	93				
Install climbing lane (where large difference between car and truck speed)	All	Fatal/ Injury	Rural	2-lane		38	33				



BOARD OF COUNTY COMMISSIONERS

Anoka County, Minnesota

DATE: July 12, 2016

RESOLUTION #2016-97

OFFERED BY COMMISSIONER: Schulte

**RESOLUTION AUTHORIZING SUBMITTAL OF
FEDERAL FUNDING APPLICATION FOR CSAH 116**

WHEREAS, CSAH 116 (Bunker Lake Boulevard) is an "A" minor arterial reliever route that provides an important transportation connection in Anoka County; and,

WHEREAS, traffic volumes on CSAH 116 have been increasing over the past decade and are expected to continue to increase in the future as the area continues to grow; and,

WHEREAS, existing and future traffic volumes are such that congestion is and will continue to negatively impact the ability of the corridor to move traffic; and,

WHEREAS, existing and future traffic volumes are such that safety is a concern at intersections and along some segments of the corridor; and,

WHEREAS, Anoka County and the City of Ramsey have worked together in the past to make capacity and safety improvements to other segments of CSAH 116 to serve long-term growth and development along the corridor; and,

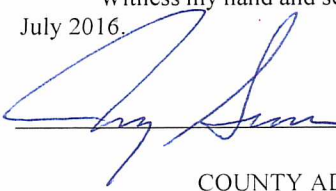
WHEREAS, the Anoka County Board of Commissioners is aware of and understands the project being submitted, and commits to operate and maintain the facility for its design life and not change the use of any right-of-way acquired without prior approval from MnDOT and the Federal Highway Administration;

NOW, THEREFORE, BE IT RESOLVED that the Anoka County Highway Department is hereby authorized to submit an application to the Transportation Advisory Board of the Metropolitan Council for 2019-2021 to receive federal transportation funds to make capacity and safety improvements on CSAH 116 between CSAH 56 (Ramsey Blvd.) and CSAH 57 (Sunfish Blvd.) in Ramsey.

STATE OF MINNESOTA)
COUNTY OF ANOKA) ss

I, Jerry Soma, County Administrator, Anoka County, Minnesota, hereby certify that I have compared the foregoing copy of the resolution of the county board of said county with the original record thereof on file in the Administration Office, Anoka County, Minnesota, as stated in the minutes of the proceedings of said board at a meeting duly held on July 12, 2016, and that the same is a true and correct copy of said original record and of the whole thereof, and that said resolution was duly passed by said board at said meeting.

Witness my hand and seal this 12th day of July 2016.


JERRY SOMA
COUNTY ADMINISTRATOR

	<u>YES</u>	<u>NO</u>
DISTRICT #1 – LOOK	X	
DISTRICT #2 – BRAASTAD	X	
DISTRICT #3 – WEST	X	
DISTRICT #4 – KORDIAK	X	
DISTRICT #5 – GAMACHE	X	
DISTRICT #6 – SIVARAJAH	X	
DISTRICT #7 – SCHULTE	X	

Summary Report



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	17	127	0	74	292	4	8	100	127	14	37	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		300	300		300	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850		0.927				0.956
Flt Protected	0.950			0.950				0.998				0.991
Satd. Flow (prot)	1770	1863	1863	1770	1863	1583	0	1723	0	0	1765	0
Flt Permitted	0.950			0.950				0.998				0.991
Satd. Flow (perm)	1770	1863	1863	1770	1863	1583	0	1723	0	0	1765	0
Link Speed (mph)		30			30			30				30
Link Distance (ft)		594			612			518				455
Travel Time (s)		13.5			13.9			11.8				10.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	101%	101%	101%	101%	101%	101%	101%	101%	101%	101%	101%	101%
Adj. Flow (vph)	19	139	0	81	321	4	9	110	139	15	41	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	139	0	81	321	4	0	258	0	0	83	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop				Stop

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	43.1%
ICU Level of Service	A
Analysis Period (min)	15

Summary Report



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	17	127	0	74	292	4	8	100	127	14	37	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		300	300		300	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t						0.850		0.927				0.956
Fl _t Protected	0.950			0.950				0.998				0.991
Satd. Flow (prot)	1770	1863	1863	1770	1863	1583	0	1723	0	0	1765	0
Fl _t Permitted	0.566			0.668				0.991				0.925
Satd. Flow (perm)	1054	1863	1863	1244	1863	1583	0	1711	0	0	1647	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						27		139				27
Link Speed (mph)		30			30			30				30
Link Distance (ft)		594			612			518				455
Travel Time (s)		13.5			13.9			11.8				10.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	101%	101%	101%	101%	101%	101%	101%	101%	101%	101%	101%	101%
Adj. Flow (vph)	19	139	0	81	321	4	9	110	139	15	41	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	139	0	81	321	4	0	258	0	0	83	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2				6
Permitted Phases	4		4	8		8	2			6		

Summary Report



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0		20.0	20.0	
Total Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0		20.0	20.0	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0		16.0	16.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Min	Min		Min	Min	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effect Green (s)	10.5	10.5		10.5	10.5	10.5		10.3			10.3	
Actuated g/C Ratio	0.36	0.36		0.36	0.36	0.36		0.35			0.35	
v/c Ratio	0.05	0.21		0.18	0.48	0.01		0.37			0.14	
Control Delay	5.8	6.5		6.7	9.3	0.2		5.9			6.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay	5.8	6.5		6.7	9.3	0.2		5.9			6.4	
LOS	A	A		A	A	A		A			A	
Approach Delay		6.4			8.7			5.9			6.4	
Approach LOS		A			A			A			A	
90th %ile Green (s)	16.0	16.0	16.0	16.0	16.0	16.0	12.0	12.0		12.0	12.0	
90th %ile Term Code	Hold	Hold	Hold	Max	Max	Max	Gap	Gap		Hold	Hold	
70th %ile Green (s)	12.0	12.0	12.0	12.0	12.0	12.0	9.0	9.0		9.0	9.0	
70th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Gap	Gap		Hold	Hold	
50th %ile Green (s)	9.2	9.2	9.2	9.2	9.2	9.2	7.2	7.2		7.2	7.2	
50th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Gap	Gap		Hold	Hold	
30th %ile Green (s)	7.8	7.8	7.8	7.8	7.8	7.8	5.9	5.9		5.9	5.9	
30th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Gap	Gap		Hold	Hold	
10th %ile Green (s)	7.2	7.2	7.2	7.2	7.2	7.2	19.3	19.3		19.3	19.3	
10th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Dwell	Dwell		Dwell	Dwell	
Stops (vph)	12	65		41	173	0		82			38	
Fuel Used(gal)	0	1		1	3	0		2			1	
CO Emissions (g/hr)	12	78		48	204	1		119			40	
NOx Emissions (g/hr)	2	15		9	40	0		23			8	
VOC Emissions (g/hr)	3	18		11	47	0		27			9	
Dilemma Vehicles (#)	0	0		0	0	0		0			0	
Queue Length 50th (ft)	1	10		6	25	0		10			5	
Queue Length 95th (ft)	8	34		23	74	1		49			25	
Internal Link Dist (ft)		514			532			438			375	
Turn Bay Length (ft)	300			300		300						
Base Capacity (vph)	601	1063		709	1063	914		1066			982	
Starvation Cap Reductn	0	0		0	0	0		0			0	

Summary Report

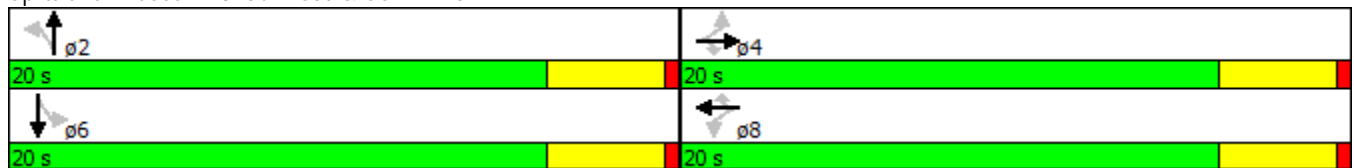


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn	0	0		0	0	0		0			0	
Storage Cap Reductn	0	0		0	0	0		0			0	
Reduced v/c Ratio	0.03	0.13		0.11	0.30	0.00		0.24			0.08	





Intersection Summary




Area Type:	Other
Cycle Length:	40
Actuated Cycle Length:	29.1
Natural Cycle:	40
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.48
Intersection Signal Delay:	7.3
Intersection LOS:	A
Intersection Capacity Utilization:	43.1%
ICU Level of Service:	A
Analysis Period (min):	15
90th %ile Actuated Cycle:	36
70th %ile Actuated Cycle:	29
50th %ile Actuated Cycle:	24.4
30th %ile Actuated Cycle:	21.7
10th %ile Actuated Cycle:	34.5

Splits and Phases: 8: Sunwood & CSAH 116



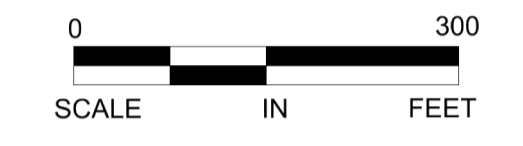
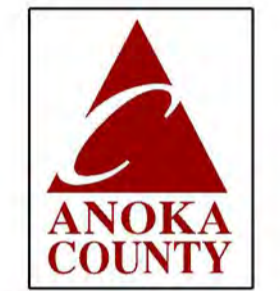
PRELIMINARY DESIGN LAYOUT

-  PROPOSED ROADWAY
-  PROPOSED CURB & MEDIAN
-  8' SHOULDER PAVED
-  8' TRAIL (10' IN TURN LANES)

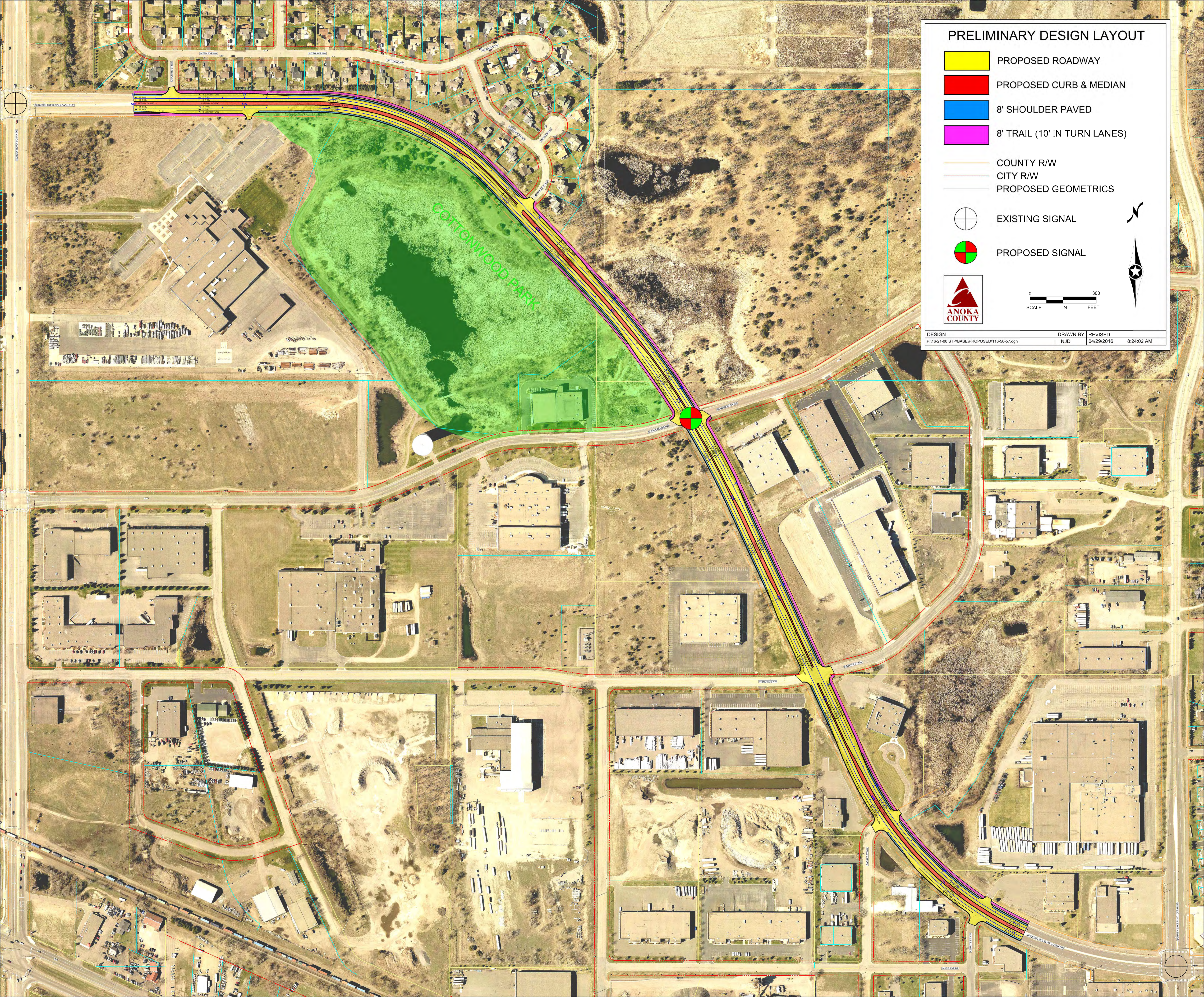
-  COUNTY R/W
-  CITY R/W
-  PROPOSED GEOMETRICS

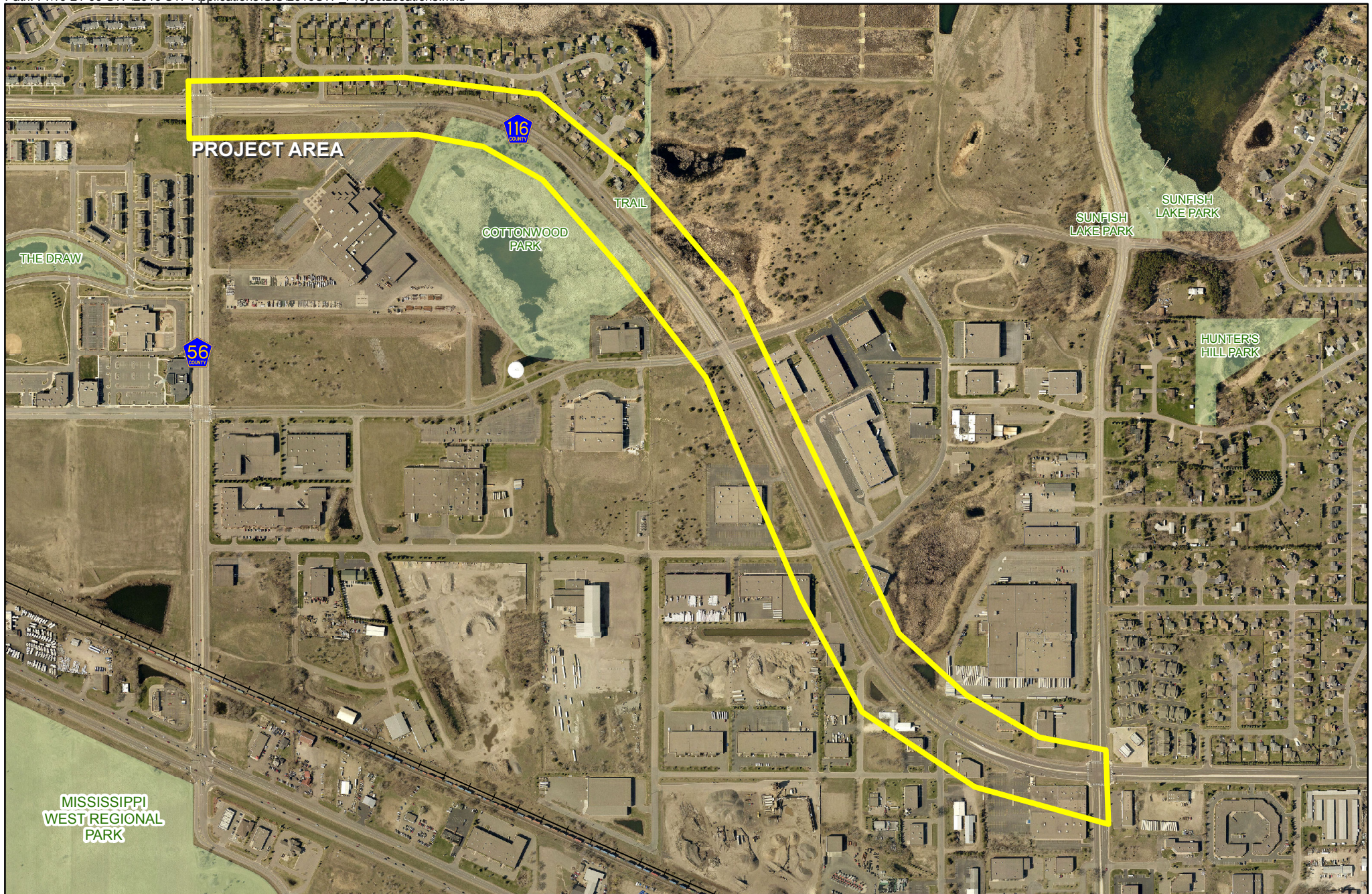
 EXISTING SIGNAL

 PROPOSED SIGNAL



DESIGN	DRAWN BY	REVISED	
P:116-21-00 STP(BASE)PROPOSED116-96-57.dgn	NJD	04/29/2016	8:24:02 AM





PROJECT AREA

116
COUNTY

56
COUNTY

THE DRAW

COTTONWOOD
PARK

TRAIL

SUNFISH
LAKE PARK

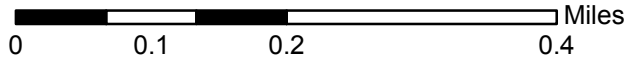
SUNFISH
LAKE PARK

HUNTER'S
HILL PARK

MISSISSIPPI
WEST REGIONAL
PARK

Project Area

Regional Solicitation
CSAH 116 - Roadway Reconstruction



Anoka County
MINNESOTA

Respectful, Innovative, Fiscally Responsible