



Application

04774 - 2016 Roadway Modernization

05402 - Anoka CSAH 78 Reconstruction

Regional Solicitation - Roadways Including Multimodal Elements

Status: Submitted

Submitted Date: 07/15/2016 2:25 PM

Primary Contact

Name:* Jack L Forslund
Salutation First Name Middle Name Last Name

Title: Multimodal Planning Manager

Department: Anoka County Transportation Division

Email: jack.forslund@co.anoka.mn.us

Address: 1440 Bunker Lake Boulevard NW

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

Phone:* 763-862-4230
Phone Ext.

Fax: 763-862-4201

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 78 Reconstruction from CSAH 11 to CSAH 14

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)

Reconstruction of CSAH 78 (Hanson Blvd) in Coon Rapids from a 4-lane undivided roadway to a 4-lane divided roadway with turn lanes. A multiuse trail will also be built paralleling the roadway.

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 78 Reconstruction from CSAH 11 to CSAH 14

Project Length (Miles) 0.65

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 \$2,321,700.00

Match Amount \$580,300.00

Minimum of 20% of project total

Project Total \$2,902,000.00

Match Percentage 20.0%

Minimum of 20%

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

Source of Match Funds Anoka County

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

Preferred Program Year

Select one: 2020

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.

Specific Roadway Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Mobilization (approx. 5% of total cost)	\$276,100.00
Removals (approx. 5% of total cost)	\$214,100.00
Roadway (grading, borrow, etc.)	\$239,800.00
Roadway (aggregates and paving)	\$817,800.00
Subgrade Correction (muck)	\$0.00
Storm Sewer	\$463,200.00
Ponds	\$251,700.00
Concrete Items (curb & gutter, sidewalks, median barriers)	\$234,900.00
Traffic Control	\$30,200.00
Striping	\$35,700.00
Signing	\$15,800.00
Lighting	\$0.00
Turf - Erosion & Landscaping	\$125,200.00
Bridge	\$0.00
Retaining Walls	\$22,900.00
Noise Wall (do not include in cost effectiveness measure)	\$0.00
Traffic Signals	\$106,100.00
Wetland Mitigation	\$0.00
Other Natural and Cultural Resource Protection	\$0.00
RR Crossing	\$0.00
Roadway Contingencies	\$0.00
Other Roadway Elements	\$10,200.00

Totals

\$2,843,700.00

Specific Bicycle and Pedestrian Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Path/Trail Construction	\$58,000.00
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	\$58,000.00

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	\$2,901,700.00
Construction Cost Total	\$2,901,700.00
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.

Coon Rapids 2030 Comprehensive Plan (2008)
Chapter 3, pages 3-7 to 3-9

List the applicable documents and pages:

Anoka County 2030 Transportation Plan (2009),
pages 5-8, 7-2, 7-12

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

Project Information-Roadways

County, City, or Lead Agency	Anoka County
Functional Class of Road	A Minor Expander Arterial
Road System	CSAH
<i>TH, CSAH, MSAS, CO. RD., TWP. RD., CITY STREET</i>	
Road/Route No.	78
<i>i.e., 53 for CSAH 53</i>	
Name of Road	Hanson Boulevard
<i>Example; 1st ST., MAIN AVE</i>	
Zip Code where Majority of Work is Being Performed	55448
(Approximate) Begin Construction Date	04/01/2020
(Approximate) End Construction Date	11/13/2020
TERMINI:(Termini listed must be within 0.3 miles of any work)	
From: (Intersection or Address)	CSAH 11 (Northdale Blvd)
To: (Intersection or Address)	CSAH 14 (Main Street)
<i>DO NOT INCLUDE LEGAL DESCRIPTION</i>	
Or At	
Primary Types of Work	GRADE, AGG BASE, BIT SURF, SIDEWALK, SIGNALS, BIKE PATH, PED RAMPS

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):

Expander/Augmentor/Connector/Non-Freeway Principal Arterial

Select one:	Expander
Area	2.829
Project Length	0.65
Average Distance	4.3523
Upload Map	1468248055979_CSAH_78 R A D.pdf

Reliever: Relieves a Principal Arterial that is a Freeway Facility

Facility being relieved

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

Reliever: Relieves a Principal 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:	6358
Existing Manufacturing/Distribution-Related Employment within 1 Mile:	659
Existing Students:	0
Upload Map	1468013765595_CSAH_78 R E.pdf

Measure C: Current Heavy Commercial Traffic

Location:	on CSAH 78 north of CSAH 11 (Northdale)
Current daily heavy commercial traffic volume:	1170
Date heavy commercial count taken:	May, 2016

Measure D: Freight Elements

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

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

The CSAH 78 corridor is also an important freight corridor for heavy commercial vehicles seeking direct north-south routes into Anoka County via the regional transportation network (e.g., US Hwy. 10). In some respect, CSAH 78 serves as a reliever for freight traffic avoiding congestion and delay on TH 65 (through Blaine) and TH 47 (through Anoka).

Measure A: Current Daily Person Throughput

Location	on CSAH 78, north of CSAH 11 (Northdale Blvd)
Current AADT Volume	26000
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	1468248204574_CSAH_78 T C.pdf

Response: Current Daily Person Throughput

Average Annual Daily Transit Ridership	0
Current Daily Person Throughput	33800.0

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 0

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:

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

The proposed project is bound by large areas of populations above the regional average of race or poverty. The CSAH 78 improvements will provide these populations safer access to large job concentrations to the north in the City of Andover along CSAH 116 (Bunker Lake Blvd.). This part of the Andover community has become a bustling area for new jobs and commercial/retail services.

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

More importantly, the proposed project will provide better access to the regional transportation network (e.g., US Highway 10) and transit routes along the corridor, linking populations to jobs in the Twin Cities.

Finally, the project is consistent with the goals and desired outcomes in Thrive 2040 to connect local residents in these neighborhoods (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

1468248154236_CSAH_78 S E C.pdf

Measure B: Affordable Housing

City/Township	Segment Length in Miles (Population)
Coon Rapids	0.65

Total Project Length

Total Project Length (Total Population) 0.65

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
Item Deleted	0	0.65	0	0	0
		1	0	0	0

Affordable Housing Scoring - To Be Completed By Metropolitan Council Staff

Total Project Length (Miles) 0.65

Total Housing Score 0

Measure A: Year of Roadway Construction

Year of Original Roadway Construction or Most Recent Reconstruction	Segment Length	Calculation	Calculation 2
1995	0.65	1296.75	1995.0
	1	1297	1995

Average Construction Year

Weighted Year 1995

Total Segment Length (Miles)

Total Segment Length 0.65

Measure B: Geometric, Structural, or Infrastructure Improvements

Improving a non-10-ton roadway to a 10-ton roadway: Yes

Response (Limit 700 characters; approximately 100 words)
The roadway, currently a 9-ton roadway, will be reconstructed as a 10-ton roadway.

Improved clear zones or sight lines:	Yes
Response (Limit 700 characters; approximately 100 words)	Sight lines at all intersections/access points will be improved.
Improved roadway geometrics:	Yes
Response (Limit 700 characters; approximately 100 words)	The reconstruction will entail turn lanes at all intersections and access points. Install ADA compliant ramps at pedestrian crossings where none currently exist. Refer to project layout for more information.
Access management enhancements:	Yes
Response (Limit 700 characters; approximately 100 words)	The reconstruction involves the conversion of several full-access intersections into right-in/out only. Refer to project layout for more information.
Vertical/horizontal alignments improvements:	
Response (Limit 700 characters; approximately 100 words)	
Improved stormwater mitigation:	
Response (Limit 700 characters; approximately 100 words)	
Signals/lighting upgrades:	Yes
Response (Limit 700 characters; approximately 100 words)	The project will entail improvements to traffic control and lighting.
Other Improvements	Yes
Response (Limit 700 characters; approximately 100 words)	The reconstruction will include the construction of a pedestrian/bicycle trail parallel to the roadway.

Measure A: Congestion Reduction/Air Quality

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:	EXPLANATION of methodology used to calculate railroad crossing delay, if applicable.	Synchro or HCM Reports
16.0	9.0	7.0	3144	22008.0		14682485538 62_CSAH 78 and 121st Synchro - Report.pdf

Total Delay

Total Peak Hour Delay Reduced

22008.0

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

Total (CO, NOX, and VOC) Peak Hour Emissions 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):
4.38	3.4	0.98	3144.0	3081.12
4	3		3144	3081

Total

Total Emissions Reduced:

3081.12

Upload Synchro Report

1468353679126_CSAH 78 and 121st 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)	

Transit Projects Not Requiring Construction

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

Check Here if Your Transit Project Does Not Require Construction

Measure A: Risk Assessment

1) Project Scope (5 Percent of Points)

Meetings or contacts with stakeholders have occurred

100%

Stakeholders have been identified

Yes

40%

Stakeholders have not been identified or contacted

0%

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

Layout or Preliminary Plan completed

100%

Layout or Preliminary Plan started

Yes

50%

Layout or Preliminary Plan has not been started

0%

Anticipated date or date of completion

11/01/2017

3) Environmental Documentation (5 Percent of Points)

EIS

EA

PM

Yes

Document Status:

Document approved (include copy of signed cover sheet)

100%

Document submitted to State Aid for review

75%

date submitted

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

50%

Document not started

Yes

0%

Anticipated date or date of completion/approval

12/28/2018

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

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

Yes

100%

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

80%

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

40%

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

0%

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

Project is located on an identified historic bridge

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

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

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

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

100%

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

100%

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

Yes

80%

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

50%

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

30%

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

0%

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

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

100%

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

100%

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

75%

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

50%

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

Yes

25%

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

0%

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

0%

Anticipated date or date of acquisition

10/03/2019

7)Railroad Involvement (25 Percent of Points)

No railroad involvement on project

Yes

100%

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

100%

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

60%

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

40%

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

0%

Anticipated date or date of executed Agreement

8)Interchange Approval (15 Percent of Points)*

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

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

Yes

100%

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

100%

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

0%

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

Construction plans completed/approved (include signed title sheet)

100%

Construction plans submitted to State Aid for review

75%

Construction plans in progress; at least 30% completion

50%

Construction plans have not been started

Yes

0%

Anticipated date or date of completion

02/03/2020

10) Letting

Anticipated Letting Date

04/01/2020

Measure A: Roadway Projects that do not Include Railroad Grade-Separation Elements

Crash Modification Factor Used:

41.0

CR 1 = Installation of a Median

CR 2 = Improve pavement friction

Rationale for Crash Modification Selected:

These improvements are part of the project. See the attachment for the HSIP Worksheets and additional information.

(Limit 1400 Characters; approximately 200 words)

Project Benefit (\$) from B/C Ratio

\$10,449,169.00

Worksheet Attachment

1468528420687_CSAH 78 HSIP Worksheets and Attachments.pdf

Roadway projects that include railroad grade-separation elements:

Current AADT volume:

0

Average daily trains:

0

Crash Risk Exposure eliminated:

0

Measure A: Multimodal Elements and Existing Connections

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 project 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.

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

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

The trail components associated with this project will provide residents direct access to a vast range of recreational opportunities and open space. For example, the project will connections to Bunker Hills Regional Park and seven community parks.

Measure A: Cost Effectiveness

Total Project Cost (entered in Project Cost Form):	\$2,901,700.00
Enter Amount of the Noise Walls:	\$0.00
Total Project Cost subtract the amount of the noise walls:	\$2,901,700.00
Points Awarded in Previous Criteria	
Cost Effectiveness	\$0.00

Other Attachments

File Name	Description	File Size
Anoka County Board Resolution in Support of CSAH 78 Project.pdf	Anoka County Board Resolution of Support for Project	679 KB
Coon Rapids _Resolution of Support.pdf	Coon Rapids Resolution of Support	969 KB
CSAH 78 and 121st_Synchro Summary Reports.pdf	Synchro Summary Reports	34 KB
CSAH 78 Layout.pdf	Project Layout	4.7 MB
CSAH78_ProjectArea.pdf	Project Area	3.6 MB

Roadway Area Definition

Roadway Reconstruction/Modernization Project: CSAH 78 in Coon Rapids | Map ID: 1468013478325

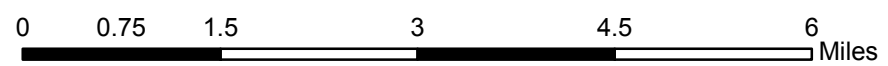
Results

Project Length: 0.857 miles

Project Area: 2.829 sq mi



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



Created: 7/8/2016
LandscapeRSA1



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



Regional Economy

Roadway Reconstruction/Modernization Project: CSAH 78 in Coon Rapids | Map ID: 1468013478325

Results

WITHIN ONE MI of project:

Totals by City:

Coon Rapids

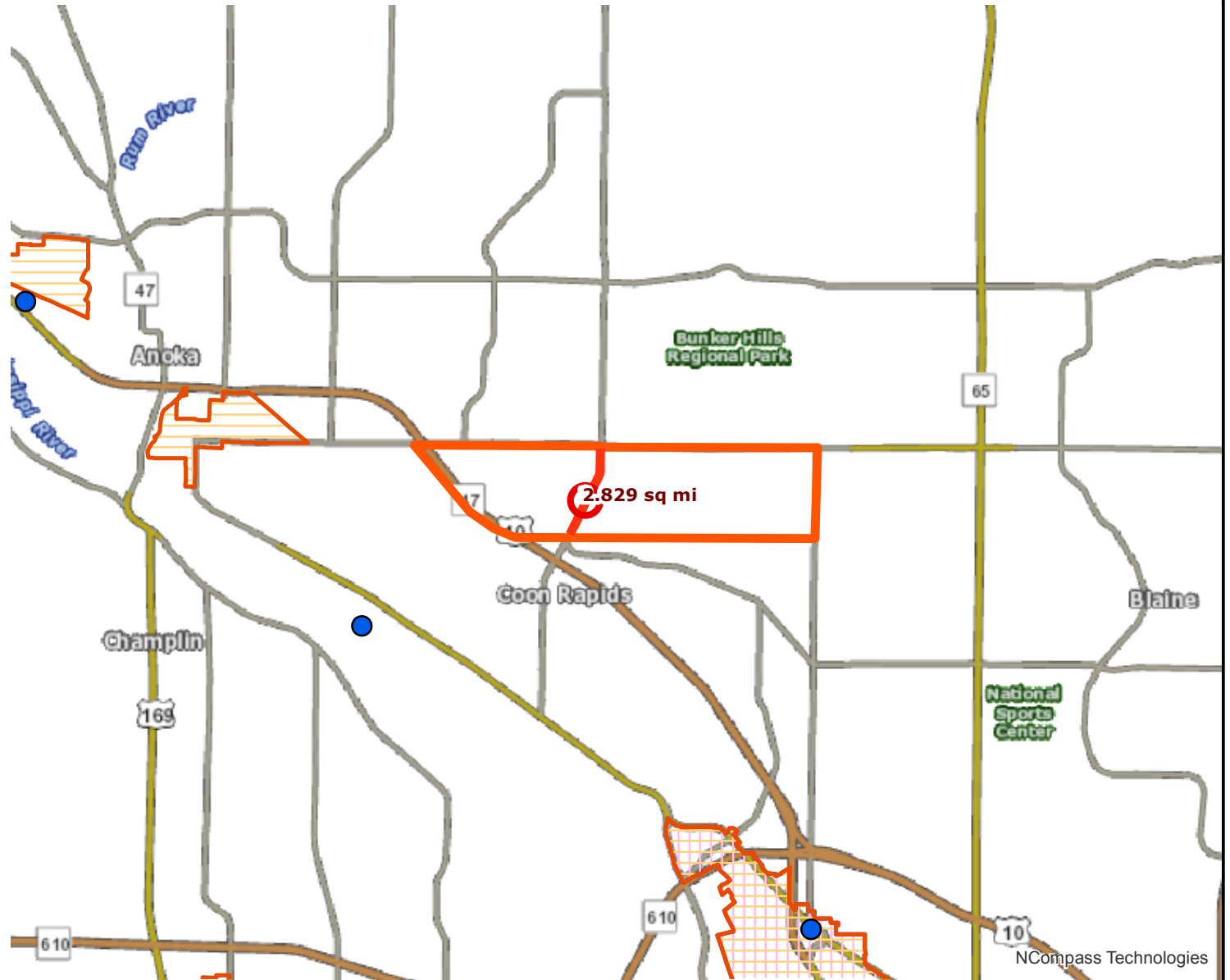
Population: 23586

Employment: 6358

Mfg and Dist Employment: 659

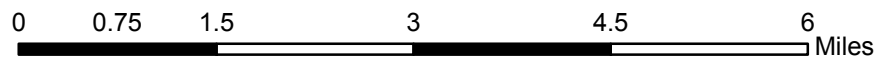
Postsecondary Students:

0



NCompass Technologies

- Project Points
- Project Area
- Manufacturing/Distribution Centers
- Project
- PostSecondary Education Centers
- Job Concentration Centers

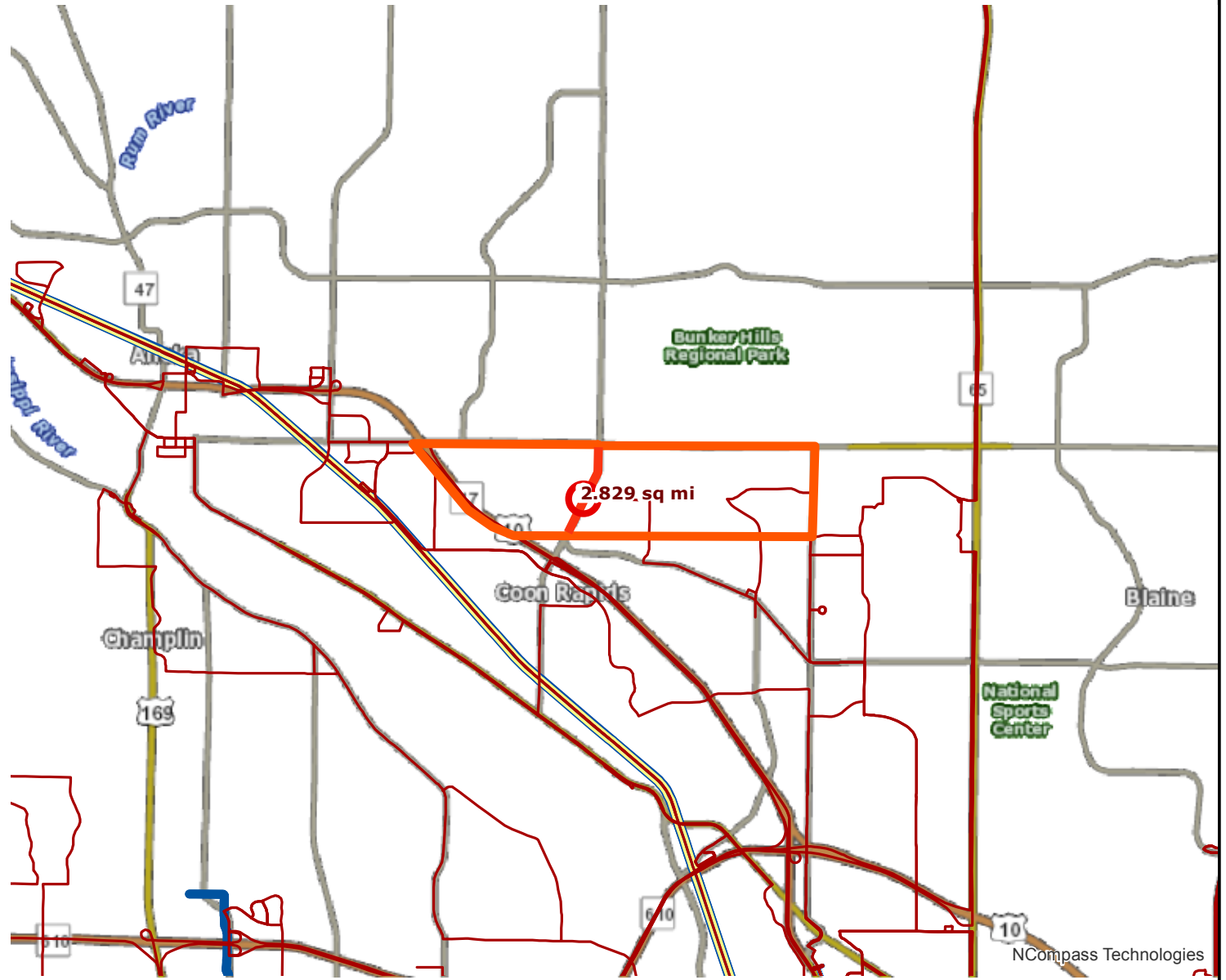


Created: 7/8/2016
LandscapeRSA5



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



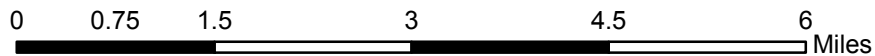


Results

Transit with a Direct Connection to project:
854

**indicates Planned Alignments*

- Project Points
- Project
- Project Area
- Transit Routes
- Light Rail, Blue Line Extension
- Northstar Line
- Arterial BRT
- **Planned Alignments**



Created: 7/8/2016
LandscapeRSA3



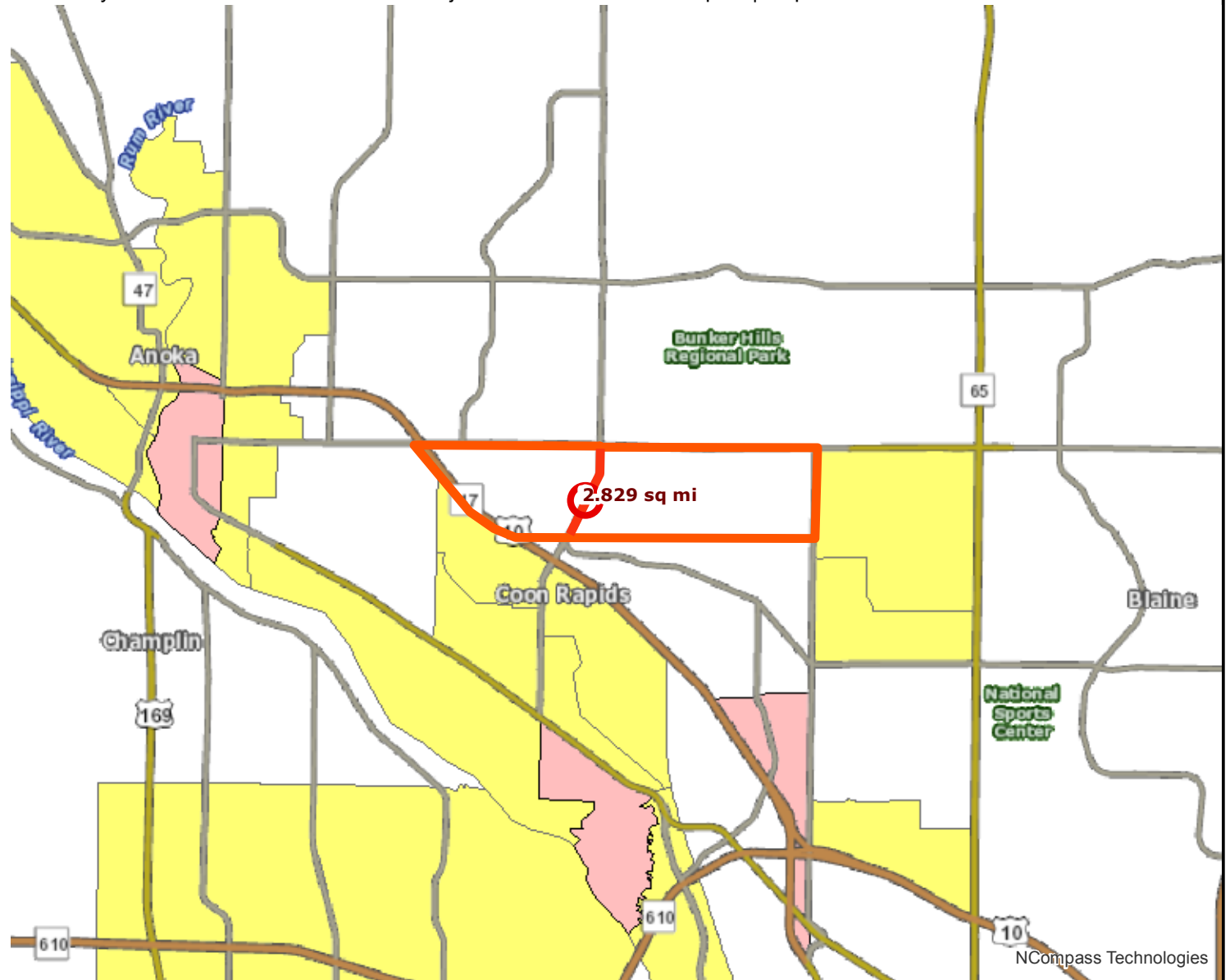
For complete disclaimer of accuracy, please visit
<http://giswebsite.metc.state.mn.us/gissitenew/notice.aspx>



NCompass Technologies

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



Created: 7/8/2016
LandscapeRSA2



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



NCompass Technologies

8: Hanson & 121st

Direction	All
Volume (vph)	3144
Total Delay / Veh (s/v)	16
CO Emissions (kg)	3.07
NOx Emissions (kg)	0.60
VOC Emissions (kg)	0.71

8: Hanson & 121st

Direction	All
Volume (vph)	3144
Total Delay / Veh (s/v)	9
CO Emissions (kg)	2.39
NOx Emissions (kg)	0.46
VOC Emissions (kg)	0.55

8: Hanson & 121st

Direction	All
Volume (vph)	3144
Total Delay / Veh (s/v)	16
CO Emissions (kg)	3.07
NOx Emissions (kg)	0.60
VOC Emissions (kg)	0.71

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Direction	All
Volume (vph)	3144
Total Delay / Veh (s/v)	9
CO Emissions (kg)	2.39
NOx Emissions (kg)	0.46
VOC Emissions (kg)	0.55

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 78	From CSAH 11 (North Junction) To 124th Ave.	001+00.665	002+00.535	Anoka Co.	01/01/2013	12/31/2015
Description of Proposed Work		Install Raised Median (39% Reduction In All Crashes). Improve Pavement Friction					

Accident Diagram Codes	1 Rear End	2 Sideswipe Same Direction	3 Left Turn Main Line	5 Right Angle	4,7 Ran off Road	8, 9 Head On/ Sideswipe - Opposite Direction	Pedestrian	Other	Total

Study Period: Number of Crashes	Fatal	F							
	Personal Injury (PI)	A							
		B						1	1
		C	7		1	2	1	1	2
	Property Damage	PD	36	6	5	7	1		2

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

*Use Desktop Reference for Crash Reduction Factors

Change in Crashes = No. of crashes X % change in crashes	Fatal	F								
	PI	A								
		B							-0.64	-0.64
		C	-5.74		-0.64	-1.28	-0.64		-0.64	-1.28
	Property Damage	PD	-29.52	-3.84	-3.20	-4.48		-0.64		-1.28

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
\$ 2,902,000	F			\$ 1,140,000	
Right of Way Costs (optional)	A			\$ 570,000	
Traffic Growth Factor	B	-0.64	-0.21	\$ 170,000	\$ 36,300
Capital Recovery	C	-10.22	-3.41	\$ 83,000	\$ 283,012
1. Discount Rate	PD	-42.96	-14.33	\$ 7,600	\$ 108,931
2. Project Service Life (n)					
Total				\$ 428,243	

B/C= 3.60

Using present worth values,
B= \$ 10,449,169
C= \$ 2,902,000

See "Calculations" sheet for amortization.

Office of Traffic, Safety and Technology
 August 2015

kl

Dual CRF for CSAH 78

Improvements include installation of a median and improving pavement friction.

CR1=Installation of a median

CR2=Improve pavement friction

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

$$\text{Rear end: } CR=1 - (1-.39)*(1-.696) = .82$$

$$\text{Sideswipe: } CR=1 - (1-.39)*(1-.411) = .64$$

$$\text{Left Turn: } CR=1 - (1-.39)*(1-.411) = .64$$

$$\text{Right Angle: } CR=1 - (1-.39)*(1-.411) = .64$$

$$\text{Ran Off Road: } CR=1 - (1-.39)*(1-.411) = .64$$

$$\text{Head-on Sideswipe Opposite Direction: } CR=1 - (1-.39)*(1-.411) = .64$$

$$\text{Other: } CR=1 - (1-.39)*(1-.411) = .64$$

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	

Countermeasure: Improve pavement friction (increase skid resistance)

CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
0.799	20.1	★★★★★	All	All	All	Lyon and Persaud, 2008	
0.667	33.3	★★★★★	All	All	All	Lyon and Persaud, 2008	
0.819	18.1	★★★★★	All	All	All	Lyon and Persaud, 2008	
0.797	20.3	★★★★★	All	All	All	Lyon and Persaud, 2008	
1.271	27.1	★★★★★	All	All	All	Lyon and Persaud, 2008	
0.426	57.4	★★★★★	Wet road	All	All	Lyon and Persaud, 2008	
0.372	62.8	★★★★★	Wet road	All	All	Lyon and Persaud,	

0.575 42.5 ★★★★★ Rear end, Wet road All Lyon and Persaud, 2008

0.59 41 ★★★★★ All All All Lyon and Persaud, 2008

0.589 41.1 ★★★★★ All All All Lyon and Persaud, 2008

0.361 63.9 ★★★★★ Wet road All All Lyon and Persaud, 2008

0.304 69.6 ★★★★★ Rear end All All Lyon and Persaud, 2008

0.943 5.7 ★★★★★ Rear end All All Lyon and Persaud, 2008

0.504 49.6 ★★★★★ Rear end All All Lyon and Persaud, 2008

BOARD OF COUNTY COMMISSIONERS

Anoka County, Minnesota

DATE: July 12, 2016

RESOLUTION #2016-101

OFFERED BY COMMISSIONER: Schulte

**RESOLUTION AUTHORIZING SUBMITTAL OF
FEDERAL FUNDING APPLICATION FOR CSAH 78**

WHEREAS, CSAH 78 (Hanson Boulevard) is an "A" minor arterial expander route that provides an important north-south transportation connection in Anoka County; and,

WHEREAS, traffic volumes on CSAH 78 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 Coon Rapids have worked together in the past to make travel capacity and safety improvements along the corridor; and,

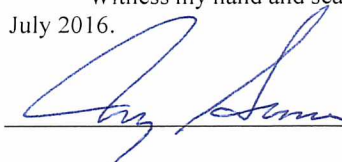
WHEREAS, the Anoka County Board of Commissioners is aware of and understands the project being submitted, and commits to operate and maintain the facility for its design life and not change the use of any right-of-way acquired without prior approval from MnDOT and the Federal Highway Administration:

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 78 between CSAH 11 (Northdale Blvd.) and CSAH 14 (Main Street) in Coon Rapids.

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	

RESOLUTION NO. 16-76

**RESOLUTION SUPPORTING ANOKA COUNTY
FEDERAL FUNDING APPLICATION FOR HANSON BOULEVARD (CSAH 78)**

WHEREAS, CSAH 78 is an "A" minor arterial route that provides an important transportation connection in Anoka County; and,

WHEREAS, traffic volumes on CSAH 78 have been increasing over the past decade and are expected to continue to increase in the future; and,

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

WHEREAS, Anoka County has identified this corridor as needing improvements to facilitate orderly travel and mobility; and,

WHEREAS, Anoka County and the City of Coon Rapids have worked together to make capacity and safety improvements to other roadways to protect safety and mobility; and,


WHEREAS, Anoka County would like to submit an application to the Transportation Advisory Board to the Metropolitan Council for 2019 - 2021 to receive federal transportation funds to improve CSAH 78 between CSAH 11 (Northdale Boulevard) and CSAH 14 (Main Street); and

WHEREAS, the City of Coon Rapids views the transportation improvements along CSAH 78 as an opportunity to further develop the trail system within this travel corridor.

NOW, THEREFORE, BE IT RESOLVED by the City Council of Coon Rapids, Minnesota that the City of Coon Rapids supports, subject to the conditions of the attached letter of support, Anoka County in preparing and submitting an application for CSAH 78 based upon preliminary layout information provided to the City for review.

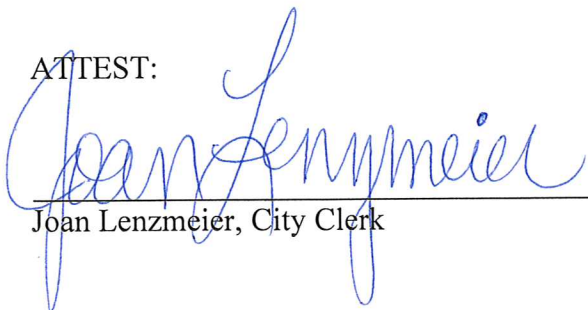
BE IT FURTHER RESOLVED that the City of Coon Rapids hereby supports Anoka County's pursuit of federal funding for the reconstruction of CSAH 78 between CSAH 11 (Northdale Boulevard) and CSAH 14 (Main Street).

Adopted this 5th day of July, 2016.



Jerry Koch, Mayor

ATTEST:



Joan Lenzmeier, City Clerk



11155 Robinson Drive
Coon Rapids MN 55433
Tel 763-755-2880
Fax 763-767-6491
www.coonrapidsmn.gov



July 11, 2016

Douglas W. Fischer, P.E.
County Engineer
Anoka County Highway Department
1440 Bunker Lake Boulevard NW
Andover, MN 55304

RE: REGIONAL FUNDING SOLICITATION – CSAH 78

Dear Mr. Fischer,

The City of Coon Rapids is writing this letter in regards to this year's federal funding solicitation. We understand that Anoka County would like to submit an application for the expansion and reconstruction of CSAH 78 (Hanson Boulevard) in our community. The City of Coon Rapids and Anoka County continue to coordinate our efforts in improving the area's transportation issues. We feel this project will help address safety and mobility issues occurring in the City and fully support Anoka County's funding application.

While we do support the funding application for this project, we have a few concerns with the proposed draft layout. Municipal consent for this project will not occur until such time that City and County staff have the ability to meet and collaborate on a mutually agreeable design that will improve safety along this corridor while preserving local access for our residents and business community. We have worked together on many similar projects in the past and believe we can cooperate once again to make this a successful project for all parties.

If you have further questions regarding the project on the City's end, please feel free to contact us. We look forward to collaborating with Anoka County on this important project.

Sincerely,

A handwritten signature in black ink that reads "Jerry Koch". The signature is written in a cursive, flowing style.

Jerry Koch, Mayor



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗	↖	↕↕	↗	↖	↕↔	
Volume (vph)	12	36	72	115	42	86	291	1468	163	65	754	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	0		200	250		275	300		0
Storage Lanes	0		1	0		1	1		1	1		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	0.95	1.00	1.00	0.95	0.95
Frt			0.850			0.850			0.850		0.998	
Flt Protected		0.988			0.965		0.950			0.950		
Satd. Flow (prot)	0	1840	1583	0	1798	1583	1770	3539	1583	1770	3532	0
Flt Permitted		0.905			0.750		0.314			0.204		
Satd. Flow (perm)	0	1686	1583	0	1397	1583	585	3539	1583	380	3532	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			69			27			179			4
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		660			776			615			530	
Travel Time (s)		12.9			15.1			9.3			8.0	
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)	13	40	79	126	46	94	319	1612	179	71	828	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	53	79	0	172	94	319	1612	179	71	839	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)		0			0			12			12	
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	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	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	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	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	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	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	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	2	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	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	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	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%	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	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	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	0.5	0.5
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.0	4.0		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	3.0	3.0
Recall Mode	None	None	None	None	None	None	Min	Min	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	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	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effect Green (s)		9.4	9.4		9.4	9.4	20.4	20.4	20.4	20.4	20.4	20.4
Actuated g/C Ratio		0.27	0.27		0.27	0.27	0.58	0.58	0.58	0.58	0.58	0.58
v/c Ratio		0.12	0.17		0.46	0.21	0.94	0.78	0.18	0.32	0.41	
Control Delay		9.2	4.3		14.1	8.0	59.0	15.7	2.1	14.1	6.9	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		9.2	4.3		14.1	8.0	59.0	15.7	2.1	14.1	6.9	
LOS		A	A		B	A	E	B	A	B	A	
Approach Delay		6.3			11.9			21.1			7.4	
Approach LOS		A			B			C			A	
90th %ile Green (s)	14.4	14.4	14.4	14.4	14.4	14.4	16.0	16.0	16.0	16.0	16.0	16.0
90th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Max	Max	Max	Max	Max	Max
70th %ile Green (s)	10.7	10.7	10.7	10.7	10.7	10.7	16.0	16.0	16.0	16.0	16.0	16.0
70th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Max	Max	Max	Max	Max	Max
50th %ile Green (s)	9.0	9.0	9.0	9.0	9.0	9.0	16.0	16.0	16.0	16.0	16.0	16.0
50th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Max	Max	Max	Hold	Hold	
30th %ile Green (s)	7.8	7.8	7.8	7.8	7.8	7.8	18.8	18.8	18.8	18.8	18.8	18.8
30th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Dwell	Dwell	Dwell	Dwell	Dwell	Dwell
10th %ile Green (s)	0.0	0.0	0.0	0.0	0.0	0.0	31.0	31.0	31.0	31.0	31.0	31.0
10th %ile Term Code	Skip	Skip	Skip	Skip	Skip	Skip	Dwell	Dwell	Dwell	Dwell	Dwell	Dwell
Stops (vph)		34	20		117	46	165	891	23	48	426	
Fuel Used(gal)		1	1		2	1	7	22	1	1	9	
CO Emissions (g/hr)		41	39		155	68	471	1519	71	70	632	
NOx Emissions (g/hr)		8	8		30	13	92	296	14	14	123	
VOC Emissions (g/hr)		9	9		36	16	109	352	16	16	146	
Dilemma Vehicles (#)		5	0		16	0	0	161	0	0	92	
Queue Length 50th (ft)		7	1		25	9	-72	119	0	7	44	
Queue Length 95th (ft)		21	17		56	28	#199	#321	22	#49	103	
Internal Link Dist (ft)		580			696			535			450	
Turn Bay Length (ft)			100			200	250		275	300		
Base Capacity (vph)		769	760		637	737	339	2056	995	221	2054	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	

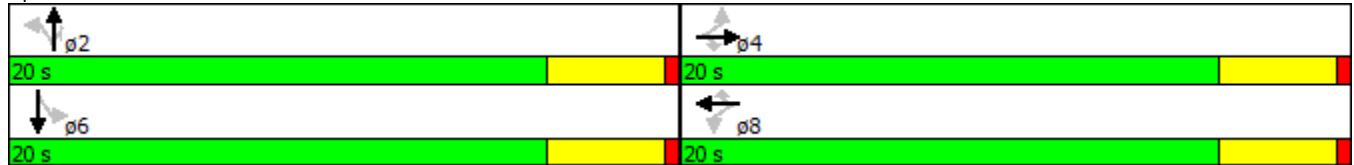


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio		0.07	0.10		0.27	0.13	0.94	0.78	0.18	0.32	0.41	

Intersection Summary

Area Type: Other
 Cycle Length: 40
 Actuated Cycle Length: 35.1
 Natural Cycle: 70
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 16.2
 Intersection LOS: B
 Intersection Capacity Utilization 70.0%
 ICU Level of Service C
 Analysis Period (min) 15
 90th %ile Actuated Cycle: 38.4
 70th %ile Actuated Cycle: 34.7
 50th %ile Actuated Cycle: 33
 30th %ile Actuated Cycle: 34.6
 10th %ile Actuated Cycle: 35
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 8: Hanson & 121st



CSAH 78 and 121st Existing_Improved_PM.syn
 Summary Report

07/13/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗	↖	↕	↗	↖	↕	↗	↖	↕	↗
Volume (vph)	12	36	72	115	42	86	291	1468	163	65	754	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		100	200		200	250		275	300		300
Storage Lanes	0		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected		0.988		0.950			0.950			0.950		
Satd. Flow (prot)	0	1840	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted		0.929		0.722			0.328			0.115		
Satd. Flow (perm)	0	1730	1583	1345	1863	1583	611	3539	1583	214	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			79			40			179			16
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		660			776			615			530	
Travel Time (s)		12.9			15.1			9.3			8.0	
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)	13	40	79	126	46	94	319	1612	179	71	828	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	53	79	126	46	94	319	1612	179	71	828	11
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			12			12	
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	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	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	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	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	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	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6

CSAH 78 and 121st Existing_Improved_PM.syn
 Summary Report

07/13/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	2	2	2	6	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	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	20.0	20.0
Total Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	50.0	50.0	50.0	50.0	50.0	50.0
Total Split (%)	28.6%	28.6%	28.6%	28.6%	28.6%	28.6%	71.4%	71.4%	71.4%	71.4%	71.4%	71.4%
Maximum Green (s)	16.0	16.0	16.0	16.0	16.0	16.0	46.0	46.0	46.0	46.0	46.0	46.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	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	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	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	3.0	3.0
Recall Mode	None	None	None	None	None	None	Min	Min	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	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	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effect Green (s)		10.8	10.8	11.0	11.0	11.0	45.4	45.4	45.4	45.4	45.4	45.4
Actuated g/C Ratio		0.18	0.18	0.18	0.18	0.18	0.75	0.75	0.75	0.75	0.75	0.75
v/c Ratio		0.17	0.23	0.51	0.14	0.29	0.70	0.61	0.15	0.44	0.31	0.01
Control Delay		23.7	8.0	32.1	23.1	17.3	19.0	6.7	1.1	17.7	4.3	1.8
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		23.7	8.0	32.1	23.1	17.3	19.0	6.7	1.1	17.7	4.3	1.8
LOS		C	A	C	C	B	B	A	A	B	A	A
Approach Delay		14.3			25.3			8.1			5.3	
Approach LOS		B			C			A			A	
90th %ile Green (s)	16.0	16.0	16.0	16.0	16.0	16.0	46.0	46.0	46.0	46.0	46.0	46.0
90th %ile Term Code	Hold	Hold	Hold	Max	Max	Max	Max	Max	Max	Max	Max	Max
70th %ile Green (s)	13.5	13.5	13.5	13.5	13.5	13.5	46.0	46.0	46.0	46.0	46.0	46.0
70th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Max	Max	Max	Max	Max	Max
50th %ile Green (s)	11.3	11.3	11.3	11.3	11.3	11.3	46.0	46.0	46.0	46.0	46.0	46.0
50th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Max	Max	Max	Hold	Hold	Hold
30th %ile Green (s)	9.3	9.3	9.3	9.3	9.3	9.3	42.6	42.6	42.6	42.6	42.6	42.6
30th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Dwell	Dwell	Dwell	Dwell	Dwell	Dwell
10th %ile Green (s)	0.0	0.0	0.0	0.0	0.0	0.0	35.8	35.8	35.8	35.8	35.8	35.8
10th %ile Term Code	Skip	Skip	Skip	Skip	Skip	Skip	Dwell	Dwell	Dwell	Dwell	Dwell	Dwell
Stops (vph)		42	17	98	35	45	169	674	10	38	241	2
Fuel Used(gal)		1	1	2	1	1	4	16	1	1	6	0
CO Emissions (g/hr)		55	42	150	49	78	308	1142	57	65	439	4
NOx Emissions (g/hr)		11	8	29	9	15	60	222	11	13	85	1
VOC Emissions (g/hr)		13	10	35	11	18	71	265	13	15	102	1
Dilemma Vehicles (#)		2	0	0	3	0	0	97	0	0	48	0
Queue Length 50th (ft)		18	0	46	16	19	62	144	0	10	52	0
Queue Length 95th (ft)		45	31	94	40	54	#253	263	17	#76	98	4
Internal Link Dist (ft)		580			696			535			450	
Turn Bay Length (ft)			100	200		200	250		275	300		300
Base Capacity (vph)		477	493	371	513	465	465	2697	1249	163	2697	1210
Starvation Cap Reductn		0	0	0	0	0	0	0	0	0	0	0

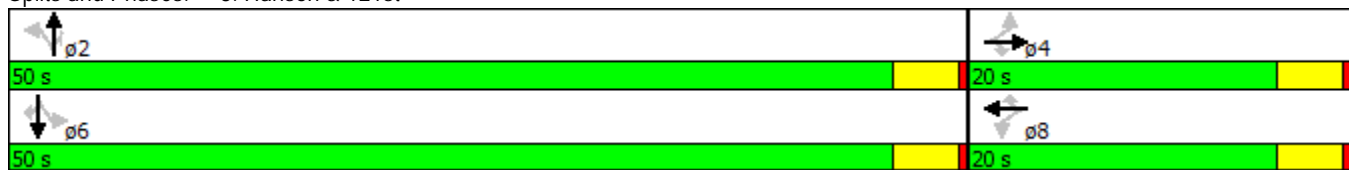


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn		0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn		0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio		0.11	0.16	0.34	0.09	0.20	0.69	0.60	0.14	0.44	0.31	0.01

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	60.5
Natural Cycle:	70
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.70
Intersection Signal Delay:	8.9
Intersection LOS:	A
Intersection Capacity Utilization:	67.7%
ICU Level of Service:	C
Analysis Period (min):	15
90th %ile Actuated Cycle:	70
70th %ile Actuated Cycle:	67.5
50th %ile Actuated Cycle:	65.3
30th %ile Actuated Cycle:	59.9
10th %ile Actuated Cycle:	39.8
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 8: Hanson & 121st



PRELIMINARY DESIGN LAYOUT

- PROPOSED ROADWAY
- PROPOSED CURB & MEDIAN
- SHOULDER PAVED
- CONCRETE SIDEWALK
- MULTI-USE BITUMINOUS TRAIL
- COUNTY R/W
- CITY R/W
- PROPOSED GEOMETRICS



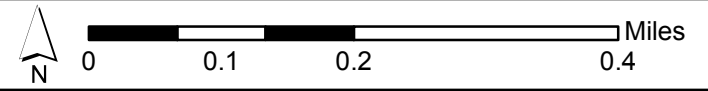
ANOKA COUNTY
SCALE IN FEET
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DRAWN BY: NJD
REVIS: 06/22/2016 7:24:36 AM





Project Area

Regional Solicitation
CSAH 78 - Roadway Expansion



Anoka County
MINNESOTA

Respectful, Innovative, Fiscally Responsible