Application

01967 - 2014 Roadway Expansion

02297 - CSAH 116 (Bunker Lake Boulevard) between Jefferson Street and Highway 65 in the City of Ham Lake

Regional Solicitation - Roadways Including Multimodal Elements

Status:	Submitted
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Primary Contact

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	City	State/Province	Postal Code/Zip	
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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 (Bunker Lake Boulevard) between Jefferson Street and Highway 65 in the City of Ham Lake
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)

The proposed project expands County State Aid Highway (CSAH 116), also known as Bunker Lake Boulevard, to four lanes between Jefferson Street and Highway 65 in the City of Ham Lake (see Figure 1). This expansion will complete the final missing section of four-lane roadway on CSAH 116 in this area, including its connection to a principal arterial, Highway 65. More specifically, this 1.0-mile section of roadway is the last segment of two-lane, undivided, rural roadway in the 11.1 miles from CR 57 (Sunfish Lake Blvd) to CR 52 (Radisson Rd) that has not already been constructed or scheduled for construction to a four-lane roadway.

The current roadway is primarily a two-lane, undivided, rural roadway (see Figure 3). The rural design, curves, and lack of channelization has resulted in a number of angle and run-off the road crashes.

The proposed project expands the roadway from an undivided rural two-lane section to a four-lane divided urban facility with turn lanes, raised medians, and paved shoulders. A separated pedestrian/bicycle path, which is an extension of the Central Anoka County Regional Trail (see Figures 2 and 4), will be added on the north side of CSAH 116. Access management, including restricting turning movements at multiple intersections, will also be implemented along the corridor.

The purpose of the proposed project is to address safety, mobility, traffic operations, and multimodal transportation service on this important east-west A Minor Arterial Reliever roadway. CSAH 116 is one of the few continuous east-west routes in Anoka County. It originates in the City of Ramsey at CSAH 83 (Armstrong Blvd) and continues eastward for

16.1 miles CSAH 17 (Lexington Avenue) in the City of Ham Lake. CSAH 116 acts as a reliever for US 10, wherein the project will improve the efficiency of CSAH 116 as a regional route in relief of US 10. It also provides one of the few Rum River bridge crossings in the area. Given the enormously high cost of expanding US 10, particularly in Ramsey and Anoka, investment in this reliever route is a cost-effective investment to ease congestion.

The project beneficiaries will include local and regional residents, businesses, pedestrians, and bicyclists that use the roadway corridor. It will also provides a four-lane connection between Highway 65 and Bunker Hills Regional Park (617,000 visitors in 2012) and a regional big-box shopping area in Andover called Andover Station.

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

Project Length (Miles) 1.0

Connection to Local Planning:
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 MnDOT 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.

Connection to Local Planning

2008 City of Ham Lake Comprehensive Plan (pages 6-19, 6-21, 8-3 discuss improvements to CSAH 116 and the Central Anoka County Regional Trail).

2030 Anoka County Transportation Plan (pages 3-23, 7-15 discuss expansion of the Central Anoka County Regional Trail).

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 $6,000,000.00

Match Amount	$1,500,000.00
Minimum of 20% of project total	
Project Total	$7,500,000.00
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 Hwy Fund

Preferred Program Year

Select one:	2018

MnDOT State Aid 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	
Name of Road	CSAH 116 (Bunker Lake Blvd)
Example; 1st ST., MAIN AVE	
Zip Code where Majority of Work is Being Performed	55304
(Approximate) Begin Construction Date	03/01/2018
(Approximate) End Construction Date	11/30/2018

LOCATION

From: **(Intersection or Address)**	CSAH 116 and Jefferson St.
Do not include legal description; *Include name of roadway if majority of facility runs adjacent to a single corridor.*	
To: **(Intersection or Address)**	CSAH 116 and TH 65
Type of Work	Grade, Paved Surface, Multiuse Trails, Storm Sewer, Traffic Signal, ADA Ramps, Sidewalk, Curb and Gutter, Raised Median, Landscaping
Examples: grading, aggregate base, bituminous base, bituminous surface, sidewalk, signals, lighting, guardrail, bicycle path, ped ramps, bridge, Park & Ride, etc.)	
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)	$350,000.00
Removals (approx. 5% of total cost)	$350,000.00
Roadway (grading, borrow, etc.)	$1,400,000.00
Roadway (aggregates and paving)	$2,130,000.00
Subgrade Correction (muck)	$50,000.00
Storm Sewer	$1,750,000.00
Ponds	$50,000.00
Concrete Items (curb & gutter, sidewalks, median barriers)	$580,000.00
Traffic Control	$100,000.00
Striping	$70,000.00
Signing	$70,000.00
Lighting	$0.00
Turf - Erosion & Landscaping	$100,000.00
Bridge	$0.00
Retaining Walls	$0.00
Noise Wall	$0.00
Traffic Signals	$300,000.00
Wetland Mitigation	$0.00
Other Natural and Cultural Resource Protection	$0.00
RR Crossing	$0.00
Roadway Contingencies	$100,000.00
Other Roadway Elements	$0.00
Totals	**$7,400,000.00**

Specific Bicycle and Pedestrian Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Path/Trail Construction	$60,000.00
Sidewalk Construction	$0.00
On-Street Bicycle Facility Construction	$0.00
Right-of-Way	$0.00
Pedestrian Curb Ramps (ADA)	$40,000.00

Crossing Aids (e.g., Audible Pedestrian Signals, HAWK)	$0.00
Pedestrian-scale Lighting	$0.00
Streetscaping	$0.00
Wayfinding	$0.00
Bicycle and Pedestrian Contingencies	$0.00
Other Bicycle and Pedestrian Elements	$0.00
Totals	**$100,000.00**

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
Transit and TDM Contingencies	$0.00
Other Transit and TDM Elements	$0.00
Totals	**$0.00**

Transit Operating Costs

OPERATING COSTS	Cost
Transit Operating Costs	$0.00
Totals	**$0.00**

Totals

Total Cost	$7,500,000.00
Construction Cost Total	$7,500,000.00
Transit Operating Cost Total	$0.00

Requirements - All Projects

All Projects

1.The project must be consistent with the goals and policies in these adopted regional plans: Thrive MSP 2040 (2014), the 2030 Transportation Policy Plan (amended 2013), the 2030 Regional Parks Policy Plan (amended 2013), and the 2030 Water Resources Management Policy Plan (2005).

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

2.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

3.Applicants must not submit an application for the same project in more than one funding sub-category.

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

4.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. Expansion, reconstruction/modernization, and bridges must be between $1,000,000 and $7,000,000. Roadway system management must be between $250,000 and $7,000,000.

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

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

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

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

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

7.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

8.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

9.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

10.The project applicant must send written notification regarding the proposed projected to all affected communities and other levels and units of government prior to submitting the application.

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

Requirements - Roadways Including Multimodal Elements

Expansion and Reconstruction/Modernization Projects Only

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

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

2.Federal funds are available for roadway construction and reconstruction on new alignments or within existing right-of-way, including associated construction and excavation, bridges, or installation of traffic signals, signs, utilities, bikeway or walkway components and transit components.
The project must exclude costs for right-of-way, studies, preliminary engineering, design, or construction engineering. Noise barriers, drainage projects, fences, landscaping, etc., are not eligible for funding unless included as part of a larger project, which is otherwise eligible.

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

Bridge Projects Only

3.The bridge project 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.

4.Bridges selected in previous Bridge Improvement and Replacement solicitations (1994 2011) are not eligible. A previously selected project is not eligible unless it has been withdrawn or sunset prior to the deadline for proposals in this solicitation.

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

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

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

6.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 sub-categories. Rail-only bridges are ineligible for funding.

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

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

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

8.Project limits for bridge projects are limited from abutment to abutment.

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

9.The project must exclude costs for studies, preliminary engineering, design, construction engineering, and right-of-way.

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

Bridge Replacement Projects Only

10.The bridge must have a sufficienty rating less than 50. Additionally, it must also be classified as structurally deficient or functionally obsolete.

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

Bridge Rehabilitiation Projects Only

11.The bridge must have a sufficienty rating less than 80. Additionally, it must also be classified as structurally deficient or functionally obsolete.

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

Other Attachments

File Name	Description	File Size
City of Ham Lake Resolution of Support.pdf	City of Ham Lake Resolution of Support	160 KB
CSAH 116 Layout for Reg Sol AnCOsm.pdf	Map of Proposed Improvements/Project Layout	2.5 MB
Figures.pdf	Figures showing the following: - Figure 1: Project extent and context - Figure 2: Project extent and context with trail system - Figure 3: Existing rural section within project segment - Figure 4: Existing trail east of project limits	5.4 MB

Reliever: Freeway Facility or

Facility being relieved	US 10
Number of hours per day volume exceeds capacity (based on the Congestion Report)	2.0

Reliever: Non-Freeway Facility or

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

Expander/Augmentor/Non-Freeway Principal Arterial

Select one:

Area	6.333
Project Length	1.0
Average Distance	6.333
Upload Map	Roadway Area Definition.pdf

Measure B: Current Heavy Commercial Traffic

Location	CSAH 116 (Bunker Lake Blvd.), east of Pierce St.
Current daily heavy commercial traffic volume	3000.0

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

Select all that apply

Direct connection to or within a mile of a Job Concentration	
Direct connection to or within a mile of a Manufacturing/Distribution Location	
Direct connection to or within a mile of an Educational Institution	
Project provides a direct connection to or within a mile of an existing local activity center identified in an adopted county or city plan	Yes

County or City Plan Reference (Limit 700 characters; approximately 100 words)	The area around the intersection of CSAH 116 and Highway 65 is cited as an important local activity area in the 2008 Ham Lake Comprehensive Plan (page 5-6) and is directly connected to the east end of the project.
Upload Map	economy.pdf

Measure A: Current Daily Person Throughput

Location	CSAH 116 between Jefferson St. and Highway 65.
Current AADT Volume	11369.0
Existing Transit Routes on the Project	865

Response: Current Daily Person Throughput

Average Annual Daily Transit Ridership	0
Current Daily Person Throughput	14780.0

Measure B: 2030 Forecast ADT

Use Metropolitan Council model to determine forecast (2030) ADT volume	No
METC Staff - Forecast (2030) ADT volume	0
OR	
Approved county or city travel demand model to determine forecast (2030) ADT volume	Yes
Forecast (2030) ADT volume	13100.0

Measure A: Project Location and Impact to Disadvantaged Populations

Select one:

Project located in Racially Concentrated Area of Poverty	
Project located in Concentrated Area of Poverty	
Projects census tracts are above the regional average for population in poverty or population of color	
Project located in a census tract that is below the regional average for population in poverty or populations of color or includes children, people with disabilities, or the elderly.	Yes

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

The project is located in Census Tract 502.15, with 14.5 percent of the population elderly (over the age of 65) as recorded by the 2012 Census. The census tract greatly exceeds the Anoka County average of 9.88 percent and the seven County metro average of 10.85 percent.

There is currently no trail or sidewalk in the project area. The extension of the Central Anoka County Regional Trail will benefit the elderly by increasing walking and bicycling opportunities and will provide a connection to Bunker Hills Regional Park, which includes several recreational opportunities.

The addition of through lanes, turn lanes, and a center median will benefit the elderly through improved mobility to the Fairview Clinic and Blaine Medical Center, and allowing for safer vehicular turning movements along CSAH 116 in the project area.

Low-income populations without a vehicle will benefit from a regional connection to expanding job opportunities via the extension of the existing trail system. One of these businesses, DSTI (recognized by Inc. Magazine as one of the fastest growing manufacturing businesses in 2010), is a located just west of the project area. Children in the area will have non-motorized access to Bunker Hills Regional Park (617,000 visitors in 2012).

Upload Map

Poverty.pdf

Measure B: Affordable Housing

City/Township	Segment Length (Miles)
City of Ham Lake	1.0

Total Project Length

Total Project Length	1.0

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)	1.0
Total Housing Score	0

Measure A: Year of Roadway Construction

Year of Original Roadway Construction or Most Recent Reconstruction	Roadway Segment Length (Miles)	Calculation	Calculation 2
1999.0	1.0	1999.0	1999.0
	1	**1999**	**1999**

Average Construction Year

Weighted Year	1999.0

Total Segment Length (Miles)

Total Segment Length	1.0

Measure A: Cost Effectiveness of Vehicle Delay Reduction

Total Project Cost from Cost Sheet	$7,500,000.00
Total Peak Hour Vehicle Delay Without The Project	227800.0
Total Peak Hour Vehicle Delay With The Project	104788.0
Total Peak Hour Vehicle Delay Reduced by Project	123012.0

Cost Effectiveness	$60.97
Synchro or HCM Reports	CSAH 116 and TH 65 PM HCM.pdf

Measure B: Cost Effectiveness of Emissions Reduction

Total Project Cost from Cost Sheet	$7,500,000.00
Total Peak Hour Kilograms Reduced by Project	2.72
Cost Effectiveness	$2,757,352.94
Synchro or HCM Reports	CSAH 116 and TH 65 PM HCM.pdf

Measure A: Benefit/Cost of Crash Reduction

Project Benefit/Cost Ratio	0.11
Worksheet Attachment	CSAH 116 Completed Analysis.pdf

Measure A: Transit Connections

Existing Routes Directly Connected to the Project	865
Planned Transitways directly connected to the project (alignment and mode determined and identified in the 2030 TPP)	N/A
Upload Map	transit.pdf

Response

Met Council Staff Data Entry Only

Route Ridership	114000.0
Transitway Ridership	0

Measure B: Bicycle and Pedestrian Connections

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

The Central Anoka County Regional Trail, an existing 10-foot wide pedestrian/bike trail, is located along CSAH 116 east of Highway 65 (see Figure 2). West of the project limits the trail will be extended to Jefferson St. as part of a current project to be completed in 2016. The trail is identified in the 2030 Anoka County Transportation Plan and in the 2008 City of Ham Lake Comprehensive Plan to continue through the project area, connecting the existing east and west trail segments.

One of the policies under Goal 5 of the 2008 City of Andover Comprehensive Plan identifies CSAH 116 between Hanson Blvd and Crosstown Blvd as an important regional commercial area called Andover Stationthis area will have direct access from the project limits via an existing trail along CSAH 116 (see Figure 2). This pedestrian-friendly area has a mix of land uses including commercial, residential, recreational, and industrial (DSTI, recognized by Inc. Magazine as one of the fastest growing manufacturers in the country). The project will extend trail connections to Bunker Hills Regional Park (see Figure 2), including seven miles of trails, a major water park, and other recreational opportunities involving high levels of pedestrian traffic.

Measure C: Multimodal Facilities

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

There are currently no accommodations for modes other than vehicles. The project will greatly improve the mobility and safety of all modes.

The project will continue the planned extension of the Central Anoka County Regional Trail, a ten-foot wide trail along CSAH 116, from Jefferson St. to Highway 65 to accommodate bicyclists and pedestrians. Trail safety will be addressed by the following:

Separation of the trail from CSAH 116 by a landscaped area.
Improvement of crossings at the Highway 65 intersection to connect to the existing trail east of Highway 65 (a four-lane, 60 mph roadway with 41,000 AADT in 2012).

The 865 Express Bus Route follows Highway 65 at the east end of the project. Transit is not a part of the projectthere are no existing or planned stops that provide simple connections (the nearest stop, a park and ride, is located two miles south). However, the expansion of the roadway will reduce congestion and increase mobility to the park and ride.

The lack of transit service along CSAH 116 is consistent with the project areas designation as Transit Market Area IV by the Metropolitan Council (i.e. an area that only supports dial-a-ride and peak period express/commuter service).

Transit Projects Not Requiring Construction

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

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

100%

Layout or Preliminary Plan started Yes

50%

Layout or Preliminary Plan has not been started

0%

Anticipated date or date of completion 01/01/2016

3)Environmental Documentation (10 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%

Document in progress; environmental impacts identified Yes

50%

Document not started

0%

Anticipated date or date of completion/approval 06/01/2015

4)Review of Section 106 Historic Resources (15 Percent of Points)

No known potential for archaeological resources, no historic resources known to be eligible for/listed on the National Register of Historic Places 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%

Unknown impacts to historic/archaeological resources

0%

Anticipated date or date of completion of historic/archeological review: 06/01/2015

Project is located on an identified historic bridge

5)Review of Section 4f/6f Resources (15 Percent of Points)

(4f is publicly owned parks, recreation areas, historic sites, wildlife or waterfowl refuges; 6f is outdoor recreation lands where Land and Water Conservation Funds were used for planning, acquisition, or development of the property)

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

100%

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%

Adverse effects (land conversion) to Section 4f/6f resources likely Yes

30%

Unknown impacts to Section 4f/6f resources in the project area

0%

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

Right-of-way or easements not required

100%

Right-of-way or easements has/have been acquired

100%

Right-of-way or easements required, offers made

75%

Right-of-way or easements required, appraisals made Yes

50%

Right-of-way or easements required, parcels identified

25%

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

0%

Right-of-way or easements identification has not been completed

0%

Anticipated date or date of acquisition 01/01/2016

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)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 05/02/2017

9)Letting

Anticipated Letting Date 12/01/2017

CITY OF HAM LAKE

15544 Central Avenue NE
Ham Lake, Minnesota 55304
(763) 434-9555
Fax: (763) 434-9599

November 17, 2014

Douglas W. Fischer, P.E.
County Engineer
Anoka County Highway Department
1440 Bunker lake Blvd NW
Andover, MN 5304

RE: REGIONAL FUNDING SOLICITATION – CSAH 116

Dear Doug,

The City of Ham Lake 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 116 in our community.

This letter is in support of the project and for Anoka County to pursue federal funding. The City of Ham Lake and Anoka County continue to coordinate their efforts in improving the area's transportation issues. We feel this project will help address safety and mobility issues occurring in the area.

If you have any further questions in regard to the project on the city's end, please feel free to contact us.

Sincerely,

City of Ham Lake
Mayor

RESOLUTION NO. 14-52
CITY OF HAM LAKE MINNESOTA
SUPPORTING ANOKA COUNTY FEDERAL FUNDING APPLICATION FOR CSAH 116

WHEREAS, CSAH 116 is an "A" minor arterial reliever route that provides an important east-west 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 cities in and around the roadway continue to grow, 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, 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, Anoka County has identified this corridor as needing safety and capacity improvements, and,

WHEREAS, Anoka County and the City of Ham Lake 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, Anoka County would like to submit an application to the Transportation Advisory Board to the Metropolitan Council for 2017 - 2019 to receive federal transportation funds to make capacity and safety improvements on CSAH 116.

NOW THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF HAM LAKE, MINNESOTA:

That the City of Ham Lake supports Anoka County in preparing and submitting an application for CSAH 116 in the Roadway Expansion category.

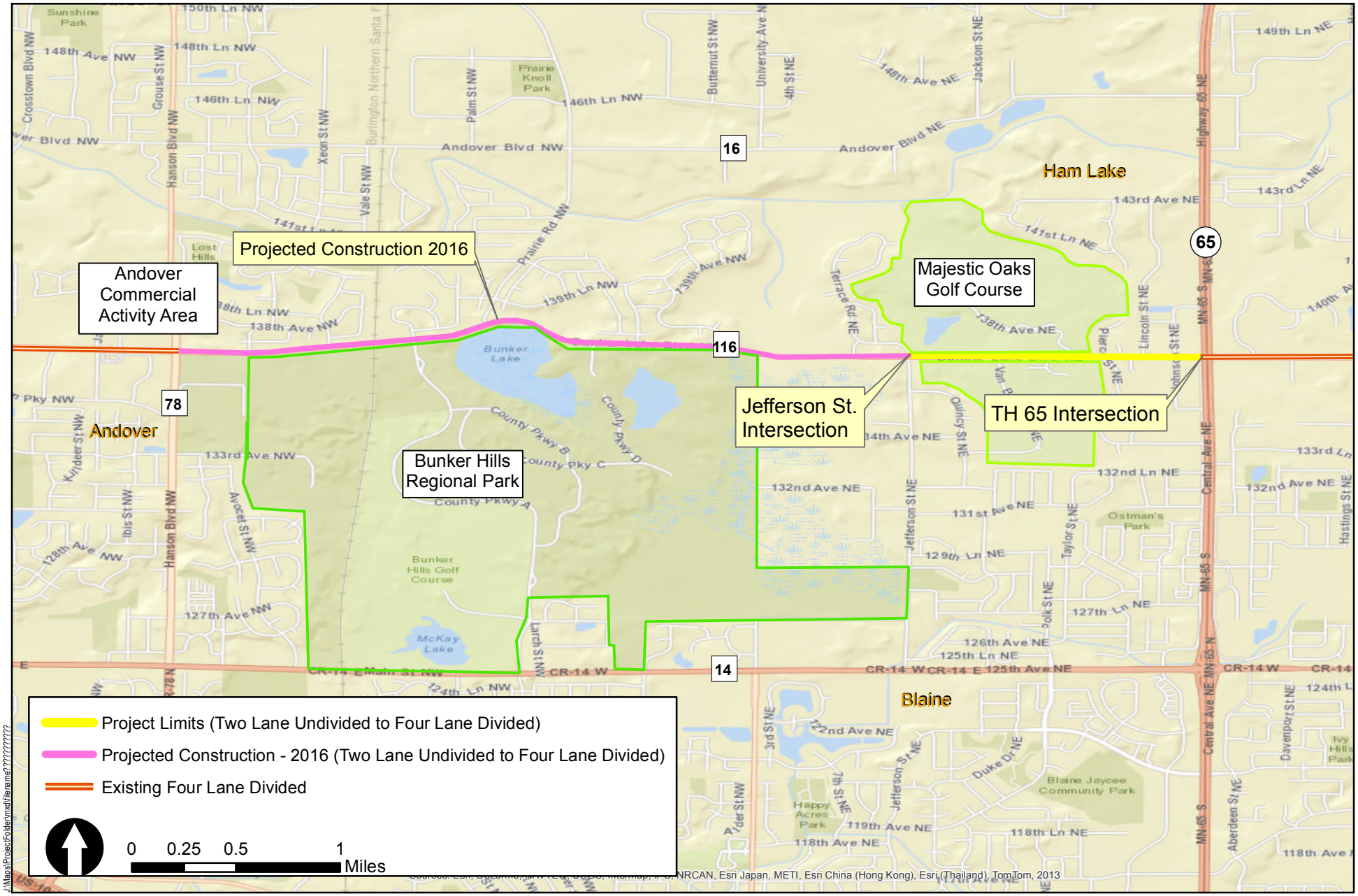
Adopted by the City Council of the City of Ham Lake this 17th day of November, 2014.

Michael G. Van Kirk, Mayor

Denise Webster, City Clerk


PRELIMINARY DESIGN LAYOUT
(CSAH 116)
PROPOSED ROADWAY
PROPOSED CURB & MEDIAN
PROPOSED SHOULDER
PROPOSED BITUMINOUS TRAIL
RETAINING WALL
CITY LIMITS
EXISTING RIGHT OF WAY
PROPOSED RIGHT OF WAY
PROPERTY LINES
UNION COUNTY
SCALE
IN
FEET
PROJECT START
PROJECT END
END FUTURE CONSTRUCTION & EA
PRELIMINARY DESIGN LAYOUT
OJ 002-716-015 (CSAH 116) 06-03-2013 MN


CL_EXIST PROF
LWB EXIST. PROF
LEB EXIST. PROF

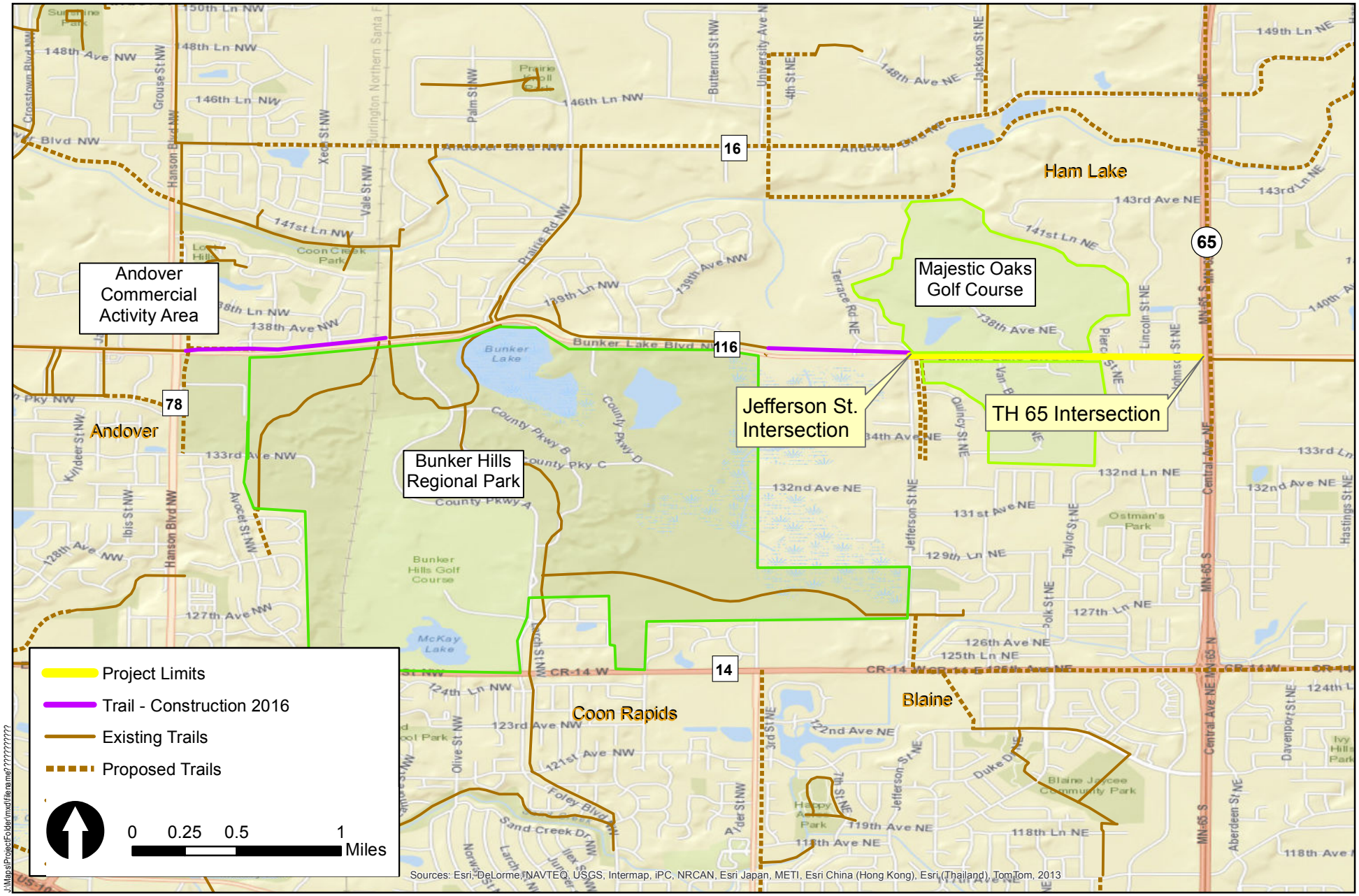


Project Location

CSAH 116/Bunker Lake Blvd. from Jefferson St. to Highway 65

Anoka County

Figure 1



Project Location

CSAH 116/Bunker Lake Blvd. from Jefferson St. to Highway 65

Anoka County

Figure 2

Source: Google Earth, 2011 Image

Existing Rural Section within Project Segment

Figure 3

CSAH 116/Bunker Lake Blvd. from Jefferson St. to Highway 65

Anoka County

Source: Google Earth, 2011 Image

Existing Trail East of Project Limits

Figure 4

CSAH 116/Bunker Lake Blvd. from Jefferson St. to Highway 65

Anoka County

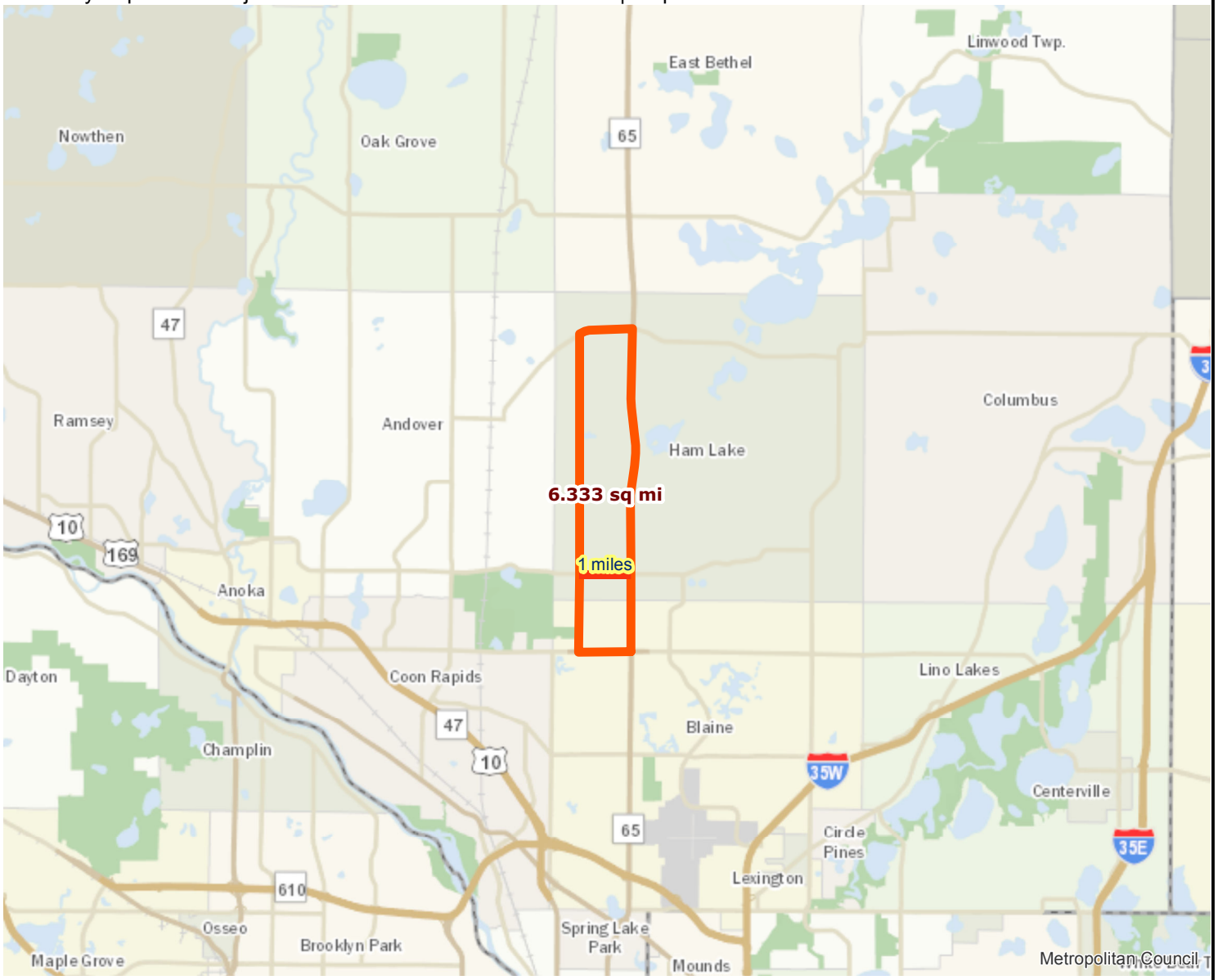
Roadway Area Definition

Roadway Expansion Project: CSAH 116 Jefferson St. to TH 65 | Map ID: 1414612907519

Results

Project Length: 1 miles

Project Area: 6.333 sq mi



Project

Project Area

0 1.75 3.5 7 10.5 14 Miles

Created: 10/29/2014
LandscapeRSA1

METROPOLITAN COUNCIL

Regional Economy

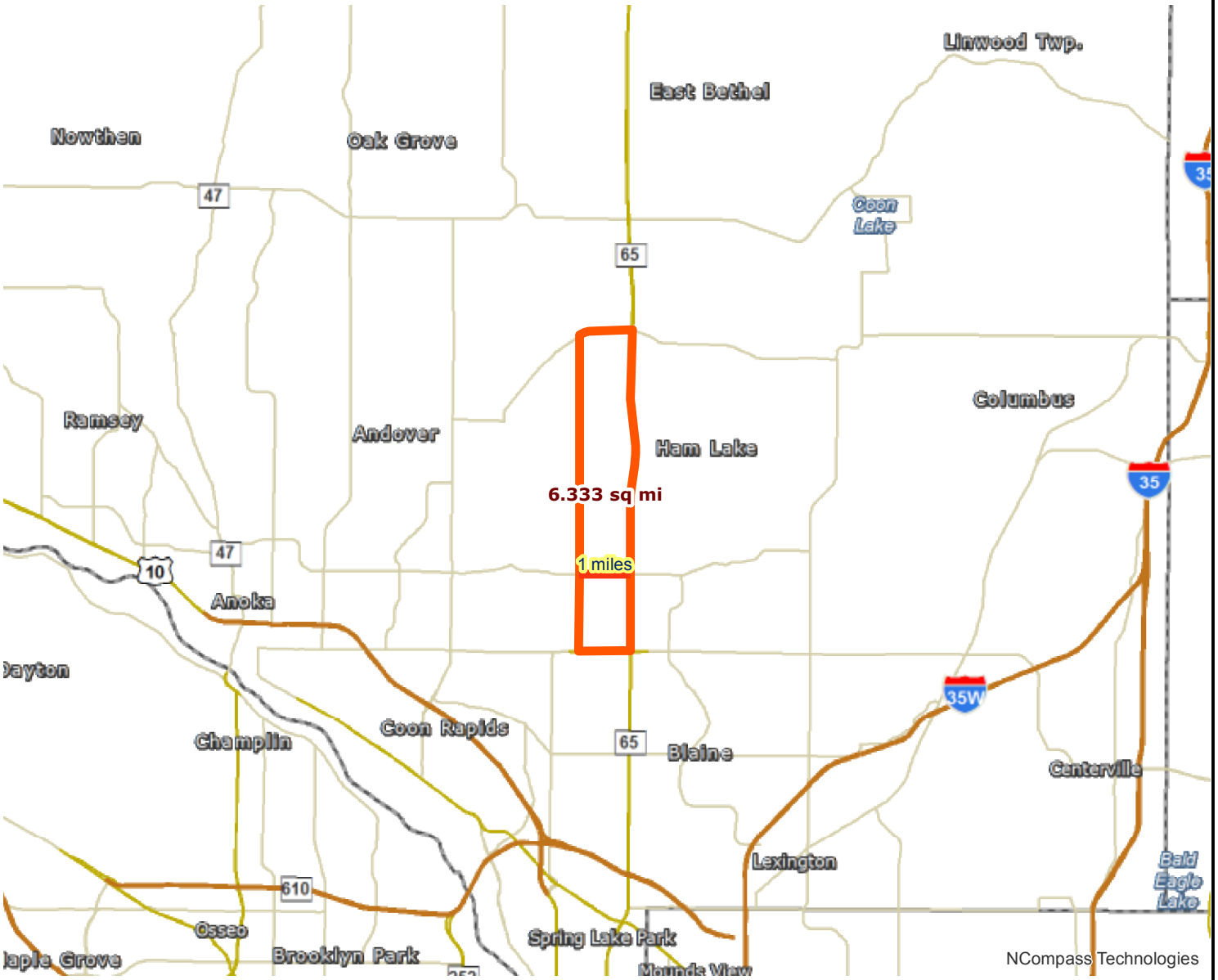
Roadway Expansion Project: CSAH 116 Jefferson St. to TH 65 | Map ID: 1414612907519

Results

Project **NOT IN** area of Job Concentration.

Project **NOT IN** to area of Manufacturing and Distribution.

Project **NOT CONNECTED** to area of Education Institutions.



Project

Project Area

0 1.75 3.5 7 10.5 14 Miles

Created: 10/29/2014

LandscapeRSA5

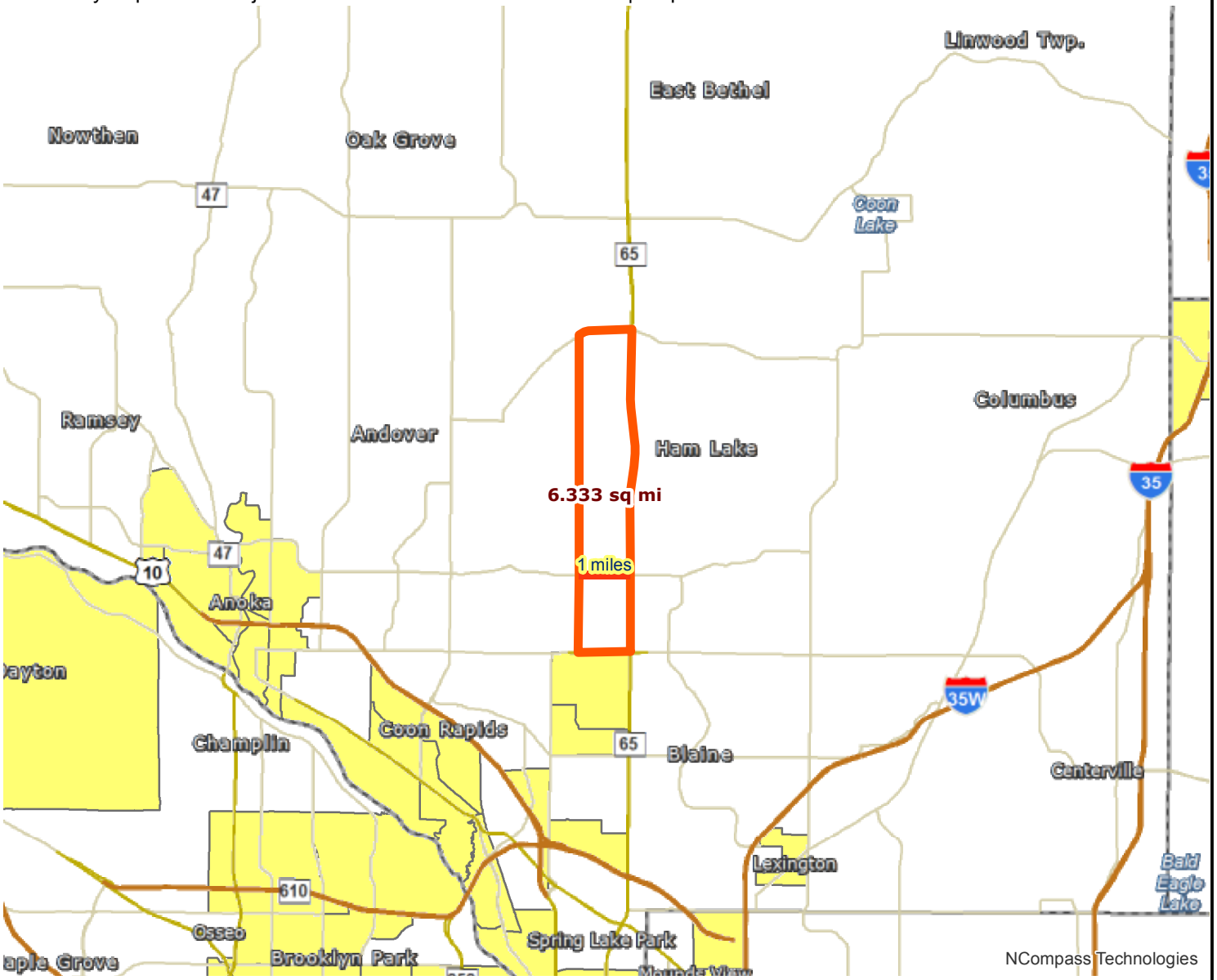
METROPOLITAN COUNCIL

Socio-Economic Conditions

Roadway Expansion Project: CSAH 116 Jefferson St. to TH 65 | Map ID: 1414612907519

Results

Project **NOT IN** any area of concentrated poverty.



Project
Project Area
Racially concentrated area of poverty
Concentrated area of poverty
Above reg'l avg conc of race/poverty

0 1.75 3.5 7 10.5 14 Miles

Created: 10/29/2014
LandscapeRSA2

METROPOLITAN COUNCIL

3: TH 65 & CSAH 116

Direction	All
Volume (vph)	4556
Total Delay / Veh (s/v)	50
CO Emissions (kg)	6.68
NOx Emissions (kg)	1.30
VOC Emissions (kg)	1.55

3: TH 65 & CSAH 116

Direction	All
Volume (vph)	4556
Total Delay / Veh (s/v)	23
CO Emissions (kg)	4.77
NOx Emissions (kg)	0.93
VOC Emissions (kg)	1.11

3: TH 65 & CSAH 116

Direction	All
Volume (vph)	4556
Total Delay / Veh (s/v)	50
CO Emissions (kg)	6.68
NOx Emissions (kg)	1.30
VOC Emissions (kg)	1.55

3: TH 65 & CSAH 116

Direction	All
Volume (vph)	4556
Total Delay / Veh (s/v)	23
CO Emissions (kg)	4.77
NOx Emissions (kg)	0.93
VOC Emissions (kg)	1.11

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 116	At Jefferson Street and TH 65			Ham Lake	1/1/2011	12/31/2013

Description of Proposed Work: Install a through lane in each direction

Accident Diagram Codes			1 Rear End	2 Sideswipe Same Direction	3 Left Turn Main Line	5 Right Angle	4,7 Ran off Road	8, 9 Head On/ Sideswipe - Opposite Direction	Pedestrian	6, 90, 99 Other	Total
Study Period: Number of Crashes	Fatal	F									
	Personal Injury (PI)	A									
		B									
		C	3								3
	Property Damage	PD	1				1	1			3
% Change in Crashes *Use Crash Modification Factors Clearinghouse	Fatal	F									
	PI	A									
		B									
		C	-52%								
	Property Damage	PD	-52%				-44%	-44%			
Change in Crashes = No. of crashes **x** % change in crashes	Fatal	F									
	PI	A									
		B									
		C	**-1.56**								**-1.56**
	Property Damage	PD	**-0.52**				**-0.44**	**-0.44**			**-1.40**

Year (Safety Improvement Construction): **2017**

Project Cost (exclude Right of Way): **$ 7,500,000**

Right of Way Costs (optional)

Traffic Growth Factor: **3%**

Capital Recovery

1. **Discount Rate**: **4.5%**
2. **Project Service Life (n)**: **20**

Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
F			$ 1,100,000	
A			$ 550,000	
B			$ 160,000	
C	-1.56	-0.52	$ 81,000	$ 42,120
PD	-1.40	-0.47	$ 7,400	$ 3,453
Total				$ 45,573

B/C= 0.11

Using present worth values,

B= $ 797,256

C= $ 7,500,000

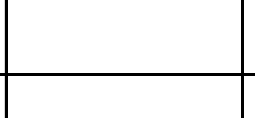
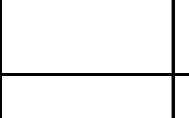
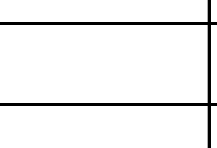
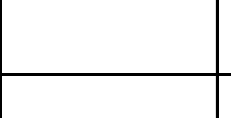
See "Calculations" sheet for amortization.

Office of Traffic, Safety and Technology **September 2014**

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 116	At Lincoln Street			Ham Lake	1/1/2011	12/31/2013

Description of Proposed Work: Install a through lane and left-turn lane in each direction.

Accident Diagram Codes			1 Rear End	2 Sideswipe Same Direction 	3 Left Turn Main Line	5 Right Angle 	4,7 Ran off Road 	8, 9 Head On/ Sideswipe - Opposite Direction 	Pedestrian	6, 90, 99 Other	Total
Study Period: Number of Crashes	Fatal	F									
	Personal Injury (PI)	A									
		B									
		C			1						1
	Property Damage	PD									
% Change in Crashes *Use Crash Modification Factors Clearinghouse	Fatal	F									
	PI	A									
		B									
		C			-85%						
	Property Damage	PD									
Change in Crashes = No. of crashes **x** % change in crashes	Fatal	F									
	PI	A									
		B									
		C			**-0.85**						**-0.85**
	Property Damage	PD									

Year (Safety Improvement Construction): **2017**

Project Cost (exclude Right of Way): **$ 7,500,000**

Right of Way Costs (optional)

Traffic Growth Factor: **3%**

Capital Recovery

1. **Discount Rate**: **4.5%**
2. **Project Service Life (n)**: **20**

Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
F			$ 1,100,000	
A			$ 550,000	
B			$ 160,000	
C	-0.85	-0.28	$ 81,000	$ 22,950
PD			$ 7,400	
Total				$ 22,950

B/C= 0.05

Using present worth values,

B= $ 401,485

C= $ 7,500,000

See "Calculations" sheet for amortization.

Office of Traffic, Safety and Technology **September 2014**

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 116	At Johnson Street			Ham Lake	1/1/2011	12/31/2013

Description of Proposed Work: Install median and modify to right-in/right-out intersection

Accident Diagram Codes			1 Rear End	2 Sideswipe Same Direction	3 Left Turn Main Line	5 Right Angle	4,7 Ran off Road	8, 9 Head On/ Sideswipe - Opposite Direction	Pedestrian	6, 90, 99 Other	Total
Study Period: Number of Crashes	Fatal	**F**									
	Personal Injury (PI)	**A**									
		B									
		C				1					**1**
	Property Damage	**PD**									
% Change in Crashes *Use Crash Modification Factors Clearinghouse	Fatal	**F**									
	PI	**A**									
		B									
		C				-100%					
	Property Damage	**PD**									
Change in Crashes = No. of crashes **x** % change in crashes	Fatal	**F**									
	PI	**A**									
		B									
		C				**-1.00**					**-1.00**
	Property Damage	**PD**									

Year (Safety Improvement Construction): **2017**

		Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
Project Cost (exclude Right of Way)	**$ 7,500,000**					
Right of Way Costs (optional)		**F**			**$ 1,100,000**	
Traffic Growth Factor	**3%**	**A**			**$ 550,000**	
Capital Recovery		**B**			**$ 160,000**	
1. Discount Rate	**4.5%**	**C**	**-1.00**	**-0.33**	**$ 81,000**	**$ 27,000**
2. Project Service Life (n)	**20**	**PD**			**$ 7,400**	
		Total				**$ 27,000**

B/C= 0.06

Using present worth values,

B= $ 472,336

C= $ 7,500,000

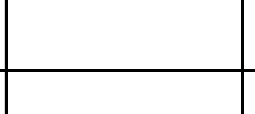
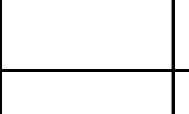
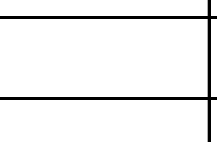
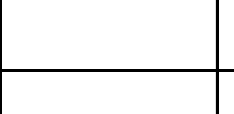
See "Calculations" sheet for amortization.

Office of Traffic, Safety and Technology **September 2014**

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 116	Between Jefferson Street and Lincoln Street			Ham Lake	1/1/2011	12/31/2013

Description of Proposed Work: Install a through lane in each direction. Install a median.

Accident Diagram Codes			1 Rear End	2 Sideswipe Same Direction 	3 Left Turn Main Line	5 Right Angle 	4,7 Ran off Road 	8, 9 Head On/ Sideswipe - Opposite Direction 	Pedestrian	6, 90, 99 Other	Total
Study Period: Number of Crashes	Fatal	F									
	Personal Injury (PI)	A									
		B									
		C									
	Property Damage	PD	2								2
% Change in Crashes *Use Crash Modification Factors Clearinghouse	Fatal	F									
	PI	A									
		B									
		C									
	Property Damage	PD	-71%								
Change in Crashes = No. of crashes **x** % change in crashes	Fatal	F									
	PI	A									
		B									
		C									
	Property Damage	PD	**-1.42**								**-1.42**

Year (Safety Improvement Construction)	**2017**
Project Cost (exclude Right of Way)	**$ 7,500,000**
Right of Way Costs (optional)	
Traffic Growth Factor	**3%**
Capital Recovery	
1. Discount Rate	**4.5%**
2. Project Service Life (n)	**20**

Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
F			$ 1,100,000	
A			$ 550,000	
B			$ 160,000	
C			$ 81,000	
PD	-1.42	-0.47	$ 7,400	$ 3,503
Total				$ 3,503

B/C= 0.01

Using present worth values,

B= $ 61,275

C= $ 7,500,000

See "Calculations" sheet for amortization.

Office of Traffic, Safety and Technology **September 2014**

CSAH 116 - created on 11-03-2014 by imsd1jac

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

SYS	NUM	REF_POINT	GIS_ROUTE	GIS_TM	RD_DIR	ELEM	RELY	INV	R_U
04	02000116	011+00.337	0402000116	11.337	E		1	2	U
04	02000116	011+00.337	0402000116	11.337	Z		1	2	U
04	02000116	011+00.337	0402000116	11.337	Z		1	2	U
04	02000116	011+00.649	0402000116	11.649	W		3	1	U
04	02000116	011+00.841	0402000116	11.841	W		1	2	U
04	02000116	012+00.130	0402000116	12.130	Z		1	2	U
04	02000116	012+00.237	0402000116	12.237	W		1	2	U
04	02000116	012+00.342	0402000116	12.342	E		1	2	U
04	02000116	012+00.352	0402000116	12.352	E		A	2	U
04	02000116	012+00.361	0402000116	12.361	Z		1	2	U

ATP	CO
#1 EAST BOUND BUNKER LAKE BLVD NE./JEFFERSON ST NE. STOPPED AT THE STOP LIGHT HIT FROM BEHIND BY #2	2
	2
VEHICLE 1 WAS WB BUNKER LAKE BLVD. DR. OF VEH 1 SAID SHE MISJUDGED HER TURN INTO MYGESTIC OAKS. SH	2
V1 SLOWED IN TRAFFIC, V2 HIT V1 IN THE REAR. TRAFFIC SLOWED TO A STOP FOR UNKNOWN REASON. NOT TO SC	2
DRIVER OF #1 STATED A CAR IN FRONT OF HIM STOPPED QUICK TO TURN LEFT ON ABLE ST., HE STOPPED AND WA	2
UNIT 1 WAS TRAVELING WEST ON BUNKER LAKE BLVD NE BEHIND A LARGE WHITE TRUCK WHICH TURNED RIGHT. UNI	2
VEHICLE 2 ILLEGALLY USING THE RIGHT TURN LANE TO PASS ON THE SHOULDER TO GET TO THE RIGHT TURN LANE	2
UNIT 2 WAS MAKING A WIDE RIGHT TURN. UNIT 1 WAS BEHIND UNIT 2 AND TRIED TO MAKE A RIGHT HAND TURN A	2
# 1 TRAVELING EAST ON BLB/HWY 65 RIGHT TURN LANE.	2
DISPATCHED TO PI ACCIDENT AT BUNKER LAKE BLVD AND HWY 65. UPON ARRIVAL DEPUTIES LOCATED THE VEHICL	2

CITY	DOW	MONTH	DAY	YEAR	TIME	SEV	NUM_KILLED	NUM_VEH	JUNC	SL
1633	6-Fri	1	27	2012	0932	C	0	2	4	55
1633	2-Mon	3	19	2012	1735	N	0	3	7	55
1633	5-Thu	5	9	2013	0935	N	0	2	2	50
1633	3-Tue	10	9	2012	0730	N	0	2	1	50
1633	5-Thu	9	8	2011	0728	N	0	2	1	50
0095	5-Thu	3	7	2013	1540	C	0	2	2	55
0095	5-Thu	7	19	2012	1728	C	0	2	4	55
1633	7-Sat	12	21	2013	1557	N	0	2	4	50
1633	6-Fri	6	29	2012	1028	C	0	2	4	55
1633	2-Mon	7	1	2013	1225	C	0	2	4	55

TYPE	DIAG	LOC1	TCD	LIT	WTHR1	WTHR2	SURF	CHAR	DESGN	ACC_NUM
1	1	1	1	1	1	1	1	1	8	120280037
1	1	1	1	1	1	0	1	1	3	121070093
24	7	4	98	1	2	2	1	1	8	131290056
1	1	1	98	2	3	0	2	1	1	122830313
1	1	1	98	1	1	0	1	1	8	112510063
1	3	1	4	1	1	1	1	1	8	130660167
1	5	1	98	1	1	1	1	1	3	122010266
1	2	2	98	1	2	2	3	1	8	133550127
1	1	1	1	1	1	1	1	1	5	121860034
1	1	1	1	1	1	1	1	1	8	131820112

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	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				

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)				
Install acceleration/ deceleration lanes	All	All				15	26				
	All	All	All	All		1	10				
	All	All				15	10				
	All	All				15	10				
	All	All				15	10				
	All	All				15	25				
	All	All				15	75				
	Rear-end	All				15	75				
	Sideswipe	All				15	75				
Install channelized lane	All	All				15	67				
	All	PDO				15	62				
	Rear-end	All				15	93				
Install climbing lane (where large difference between car and truck speed)	All	Fatal/ Injury	Rural	2-lane		38	33				

- Countermeasure: Provide a left-turn lane on both major-road approaches

CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
0.52 [B]	48	★★★★★	All	All	Rural	Harwood et al., 2002	Countermeasure name changed to match … [*read more*]

-

CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
0.53 [B]	47	★★★★★	All	All	Urban	Harwood et al., 2002	Countermeasure name changed to match … [*read more*]

-

CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
0.58 [B]	42	★★★★★	All	All	Urban	Harwood et al., 2002	Countermeasure name changed to match … [*read more*]

-

CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
0.42 [B]	58	★★★★★	All	Fatal,Serious Injury,Minor Injury	Rural	Harwood et al., 2002	Countermeasure name changed to match … [*read more*]

-

CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
0.83 [B]	17	★★★★★	All	Fatal,Serious Injury,Minor Injury	Urban	Harwood et al., 2002	Countermeasure name changed to match … [*read more*]

-

CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
0.5 [B]	50	★★★★☆	All	Fatal,Serious Injury,Minor Injury	Urban	Harwood et al., 2002	Countermeasure name changed to match … [*read more*]

-

CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
0.52 [B]	48	★★★★☆	All	Fatal,Serious Injury,Minor Injury	Urban	Harwood et al., 2002	Countermeasure name changed to match … [*read*]

- 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	

Dual CRF for CSAH 116 at Lincoln Street

Improvements include the expansion from a 2 to 4 lane facility and installation of left-turn lanes in each direction.

CR1=Increase number of lanes
CR2=Install left-turn lanes

CR=1 – (1-CR1)*(1-CR2)

Left-Turn Crash: CR=1 – (1-.71)*(1-.48) = .85

CRF for CSAH 116 at Johnson Street

The project is closing the median at the intersection. Therefore all cross-street right-angle crashes would be eliminated (100%)

Dual CRF for CSAH 116 between Jefferson Street and Lincoln Street

Improvements include the expansion from a 2 to 4 lane facility and installation of a median. Other intersection improvements are included along the corridor.

CR1=Increase number of lanes
CR2=Install a raised median

CR=1 – (1-CR1)*(1-CR2)

Rear End Crash: CR=1 – (1-.52)*(1-.39) = .71

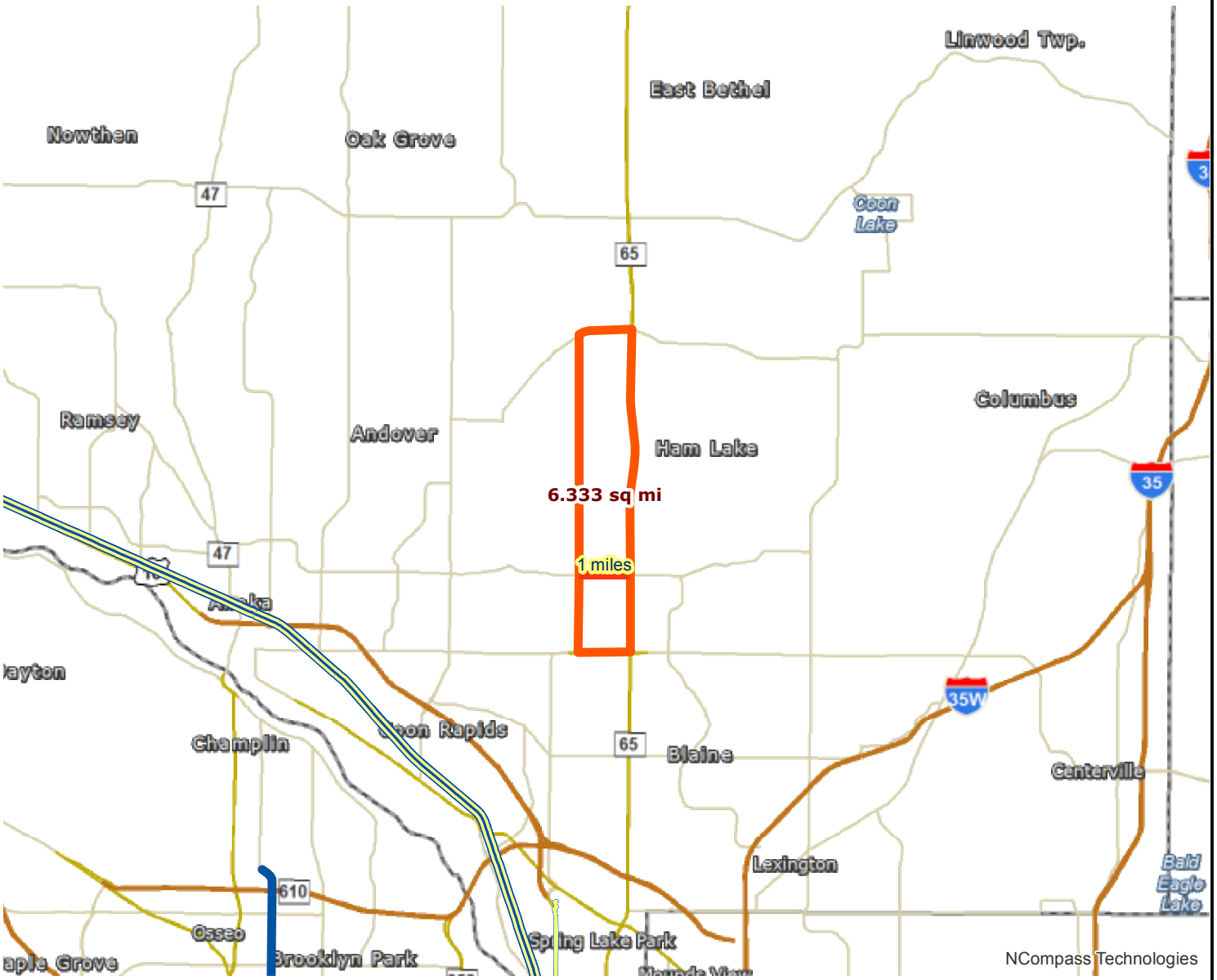
Transit Connections

Roadway Expansion Project: CSAH 116 Jefferson St. to TH 65 | Map ID: 1414612907519

Results

Transit with a Direct Connection to project: 865

**indicates Planned Alignments*



Project
Project Area

Transitway

Northstar Line
Arterial BRT

Planned Alignments

Light Rail, Blue Line Extension

0 1.75 3.5 7 10.5 14 Miles

Created: 10/29/2014
LandscapeRSA3

METROPOLITAN COUNCIL