



Application

01969 - 2014 Roadway System Management

02111 - TH 61 CMAQ

Regional Solicitation - Roadways Including Multimodal Elements

Status: Submitted

Submitted Date: 11/26/2014 11:29 AM

Primary Contact

Name:* Michael Joseph Fairbanks
Salutation First Name Middle Name Last Name

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***** Roseville Minnesota 55113
City State/Province Postal Code/Zip

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Phone Ext.

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

Organization Information

Name: STATE OF MN

Jurisdictional Agency (if different):

Organization Type:

State Government

Organization Website:

Address:

MN DOT

MS725

1500 W COUNTY RD B2 #250

*

ROSEVILLE

Minnesota

55113

City

State/Province

Postal Code/Zip

County:

Ramsey

Phone:*

651-366-3452

Ext.

Fax:

PeopleSoft Vendor Number

0000024577A36

Project Information

Project Name

TH 61 CMAQ

Primary County where the Project is Located

Dakota

Jurisdictional Agency (If Different than the Applicant):

The Signal Re-timing and Coordination Project will execute a very timely signal coordination project for TH 61 in the city of Hastings. The proposed scope of this project is as follows:

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

Advanced signal coordination and re-timing of 5 signal as well as cabinet upgrades; and deployment of 5 Closed Circuit Television (CCTV) cameras to support real-time signal timing plan changes to be executed by the Minnesota Department of Transportation (MnDOT) Arterial Signals Group.

TH 61 is a Non-Freeway Principal Arterial.

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

Project Length (Miles)

1.2

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.

2030 Transportation Policy Plan (amended 2013)

Connection to Local Planning

Statewide Multimodal Transportation Plan

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 \$204,000.00

Match Amount \$51,000.00

Minimum of 20% of project total

Project Total \$255,000.00

Match Percentage 20.0%

Minimum of 20%

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

Source of Match Funds Safety Capacity (State Funds)

Preferred Program Year

Select one: 2019

MnDOT State Aid Project Information: Roadway Projects

County, City, or Lead Agency MnDOT

Functional Class of Road Non-Freeway Principal Arterial

Road System Trunk Highway

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

Name of Road TH 61

Example; 1st ST., MAIN AVE

Zip Code where Majority of Work is Being Performed 55033

(Approximate) Begin Construction Date 07/02/2018

(Approximate) End Construction Date 06/28/2019

LOCATION

From: (Intersection or Address) CSAH 47

Do not include legal description;
 Include name of roadway if majority of facility
 runs adjacent to a single corridor.

To: 4th Street
(Intersection or Address)

Type of Work Signal

*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)	\$12,750.00
Removals (approx. 5% of total cost)	\$0.00
Roadway (grading, borrow, etc.)	\$0.00
Roadway (aggregates and paving)	\$0.00
Subgrade Correction (muck)	\$0.00
Storm Sewer	\$0.00
Ponds	\$0.00
Concrete Items (curb & gutter, sidewalks, median barriers)	\$0.00
Traffic Control	\$12,750.00
Striping	\$0.00
Signing	\$0.00
Lighting	\$0.00
Turf - Erosion & Landscaping	\$0.00
Bridge	\$0.00
Retaining Walls	\$0.00
Noise Wall	\$0.00
Traffic Signals	\$229,500.00
Wetland Mitigation	\$0.00
Other Natural and Cultural Resource Protection	\$0.00
RR Crossing	\$0.00
Roadway Contingencies	\$0.00

Other Roadway Elements	\$0.00
Totals	\$255,000.00

Specific Bicycle and Pedestrian Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Path/Trail Construction	\$0.00
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	\$0.00

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	\$255,000.00
Construction Cost Total	\$255,000.00
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 project 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.

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.

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 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.

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 sufficiency 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 Rehabilitation Projects Only

11. The bridge must have a sufficiency 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
2111 State of Mn HSIP.pdf	Crash B/C	31 KB
RdwayAreaDef.pdf	Roadway Area Definition	1.8 MB
RegionalEcon.pdf	Regional Economy	687 KB
SocioEcon.pdf	Socio Economic	705 KB
TransitCon.pdf	Transit Connections	714 KB

Measure A: Functional Classification

Address how the project fulfills its role in the regional economy as identified by its current functional classification. If the project serves a system of routes, respond using the route with the highest functional classification. This system must include a Non-Freeway Principal Arterial or an "A" Minor Arterial.

Reference the Roadway Area Definition map generated at the beginning of the application process. Report the total area and project length, as depicted on the Roadway Project Summary map, to calculate the average distance between the project route (highest functional classification) and the closest parallel A Minor Arterials or Principal Arterials on both sides of the project.

Upload the "Roadway Area Definition" map used for this measure.

Area	16.288
Project Length	1.264
Average Distance	12.8861
Upload Map	TH 61 CMAQ Roadway Area.pdf

Measure B: Current Heavy Commercial Traffic

Location	TH 61 @ TH 55/Wallgreens Entrance
Current daily heavy commercial traffic volume	1450.0

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 Yes

Project provides a direct connection to or within a mile of an existing local activity center identified in an adopted county or city plan

County or City Plan Reference

Response (Limit 700 characters; approximately 100 words)

Upload Map

TH 61 CMAQ Regional Economy.pdf

Measure A: Current Daily Person Throughput

Location	TH 61 @ TH 55/Wallgreens Entrance
Current AADT Volume	29000.0
Existing Transit Routes on the Project	N/A

Response - Daily Person Throughput

Average Annual Daily Transit Ridership	0
Current Daily Person Throughput	37700.0

Measure B: 2030 Forecast ADT

Use Metropolitan Council model to determine forecast (2030) ADT volume	Yes
METC Staff - Forecast (2030) ADT volume	38000.0
OR	
Approved county or city travel demand model to determine forecast (2030) ADT volume	
Forecast (2030) ADT volume	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.

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

Upload Map

TH 61 CMAQ Socio-Economic.pdf

Measure B: Affordable Housing

City/Township	Segment Length (Miles)
Hastings	1.2
	1

Total Project Length

Total Project Length	1.2
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Affordable Housing Scoring - To Be Completed By Metropolitan Council Staff

City/Township	Segment Length (Miles)	Total Length (Miles)	Score	Segment Length/Total Length	Housing Score Multiplied by Segment percent
Hastings	1.2	1.2	70.0	1.0	70.0
		1	70	1	70

Affordable Housing Scoring - To Be Completed By Metropolitan Council Staff

Total Project Length (Miles)	1.2
Total Housing Score	70.0

Measure A: Equipment Improvements and Installation Year

Equipment to be Improved	Signal Cabinets, Comm Equipment, and Controllers
Date of Equipment Installation	04/15/2005

Measure A: Cost Effectiveness of Vehicle Delay Reduction

Total Project Cost from Cost Sheet	\$255,000.00
Total Peak Hour Vehicle Delay Without The Project	210.0
Total Peak Hour Vehicle Delay With The Project	170.0
Total Peak Hour Vehicle Delay Reduced by Project	40.0
Cost Effectiveness	\$6,375.00
Synchro or HCM Reports	TH 61.pdf

Measure B: Cost Effectiveness of Emissions Reduction

Total Project Cost from Cost Sheet	\$255,000.00
Total Peak Hour Kilograms Reduced by Project	0.5
Cost Effectiveness	\$510,000.00
Synchro or HCM Reports	TH 61 - Before.syn

Measure A: Benefit/Cost of Crash Reduction

Project Benefit/Cost Ratio	3.81
Worksheet Attachment	TH61, CSAH 47 to 4th St.xls

Measure A: Transit Connections

Existing Routes Directly Connected to the Project	N/A
Planned Transitways directly connected to the project (alignment and mode determined and identified in the 2030 TPP)	N/A
Upload Map	TH 61 CMAQ Transit Connections.pdf

Response

Met Council Staff Data Entry Only

Route Ridership	0
Transitway Ridership	0

Measure B: Bicycle and Pedestrian Connections

Response (Limit 1,400 characters; approximately 200 words)	<p>The Mississippi Regional Trail has access to the TH 61 corridor near 4th Street. The Vermillion River Trail has access to the TH 61 corridor near CSAH 47. Pedestrian accommodations are provided at the following intersections (most of which are ADA compliant): 4th, 10th, TH 55, 15th, and CSAH 47 with TH 61. Throughout the corridor there are numerous commercial and mixed use attractions including Historic Downtown Hastings.</p>
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Measure C: Multimodal Facilities

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

There are no bicycle, pedestrian, or transit elements included as part of this project. The Mississippi Regional Trail has access to the TH 61 corridor near 4th Street. The Vermillion River Trail has access to the TH 61 corridor near CSAH 47. Pedestrian accommodations are provided at the following intersections (most of which are ADA compliant): 4th, 10th, TH 55, 15th, and CSAH 47 with TH 61. There are no Park and Ride or transit facilities on this corridor.

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 Yes

100%

Layout or Preliminary Plan started

50%

Layout or Preliminary Plan has not been started

0%

Anticipated date or date of completion

3)Environmental Documentation (10 Percent of Points)

EIS

EA

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
50%

Document not started Yes
0%

Anticipated date or date of completion/approval

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:

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 Yes
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

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

Yes

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

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

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

9)Letting

Anticipated Letting Date

B/C worksheet		Control Section	T.H. / Roadway	Location			Beginning Ref. Pt.	Ending Ref. Pt.	State, County, City or Township	Study Period Begins	Study Period Ends
		1913	61	from CSAH 47 to 4th St in Hastings			116+00.128	117+00.337	Hastings	1/1/2011	12/31/2013
		Description of Proposed Work			ATMS - 6 signals upgraded, 7 signals interconnected & cameras						
Accident Diagram Codes		1		3	5	4, 7	8, 9		6, 90, 98, 99		
Study Period: Number of Crashes	Fatal	F									
	Personal Injury (PI)	A					1			1	
		B	2			1		1			
		C	10			12					
Property Damage	PD	58	16	5	21	4	1		18	123	
% Change in Crashes *Use FHWA cmfclearingho use for Crash Reduction Factors	Fatal	F									
	PI	A					-8%				
		B	-8%			-8%		-8%			
		C	-8%			-8%					
Property Damage	PD	-8%	-8%	-8%	-8%	-8%	-8%		-8%		
Change in Crashes = No. of crashes X % change in crashes	Fatal	F									
	PI	A					-0.08			-0.08	
		B	-0.16			-0.08		-0.08		-0.32	
		C	-0.80			-0.96				-1.76	
Property Damage	PD	-4.64	-1.28	-0.40	-1.68	-0.32	-0.08		-1.44	-9.84	
Year (Safety Improvement Construction)		2019									
Project Cost (exclude Right of Way)		\$ 255,000		Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> B/C= 3.81 </div> <p>Using present worth values, B= \$ 970,879 C= \$ 255,000</p> <p>See "Calculations" sheet for amortization.</p>		
Right of Way Costs (optional)				F			\$ 1,100,000				
Traffic Growth Factor		3%		A	-0.08	-0.03	\$ 550,000	\$ 14,667			
Capital Recovery				B	-0.32	-0.11	\$ 160,000	\$ 17,067			
1. Discount Rate		4.5%		C	-1.76	-0.59	\$ 81,000	\$ 47,520			
2. Project Service Life (n)		10		PD	-9.84	-3.28	\$ 7,400	\$ 24,272			
				Total				\$ 103,525			

Updated 9-5-2014

Roadway Area Definition

Roadway System Management Project: TH 61 CMAQ | Map ID: 1419960872892

Results

Project Length: 1.264 miles

Project Area: 16.288 sq mi



Metropolitan Council

— Project

□ Project Area



Created: 12/30/2014
LandscapeRSA1

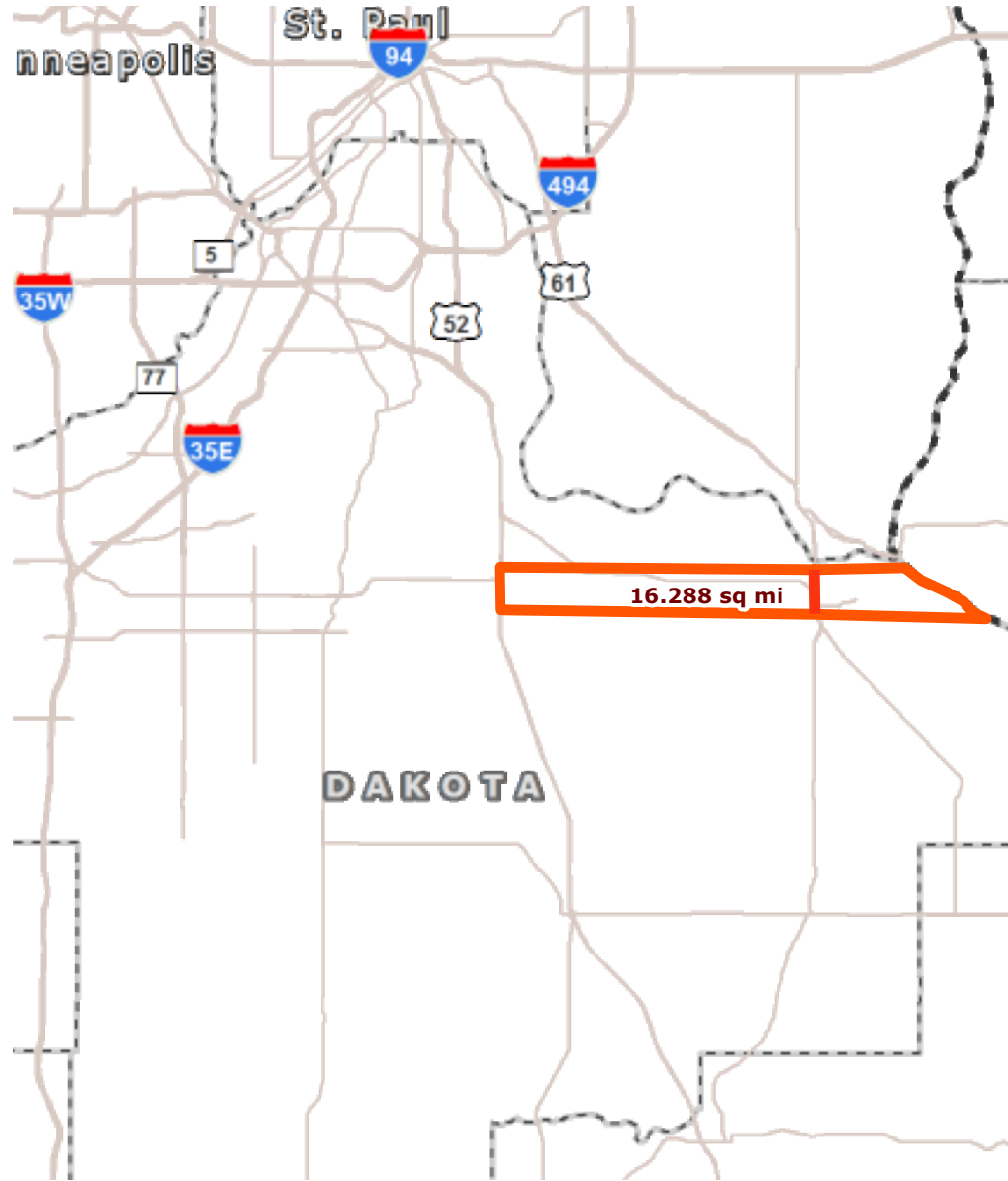


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<http://giswebsite.metc.state.mn.us/gissitenew/notice.aspx>



Regional Economy

Roadway System Management Project: TH 61 CMAQ | Map ID: 1419960872892



Results

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

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

Project **CONNECTED** to area of Education Institutions.

-  Project
-  Project Area



Created: 12/30/2014
LandscapeRSA5

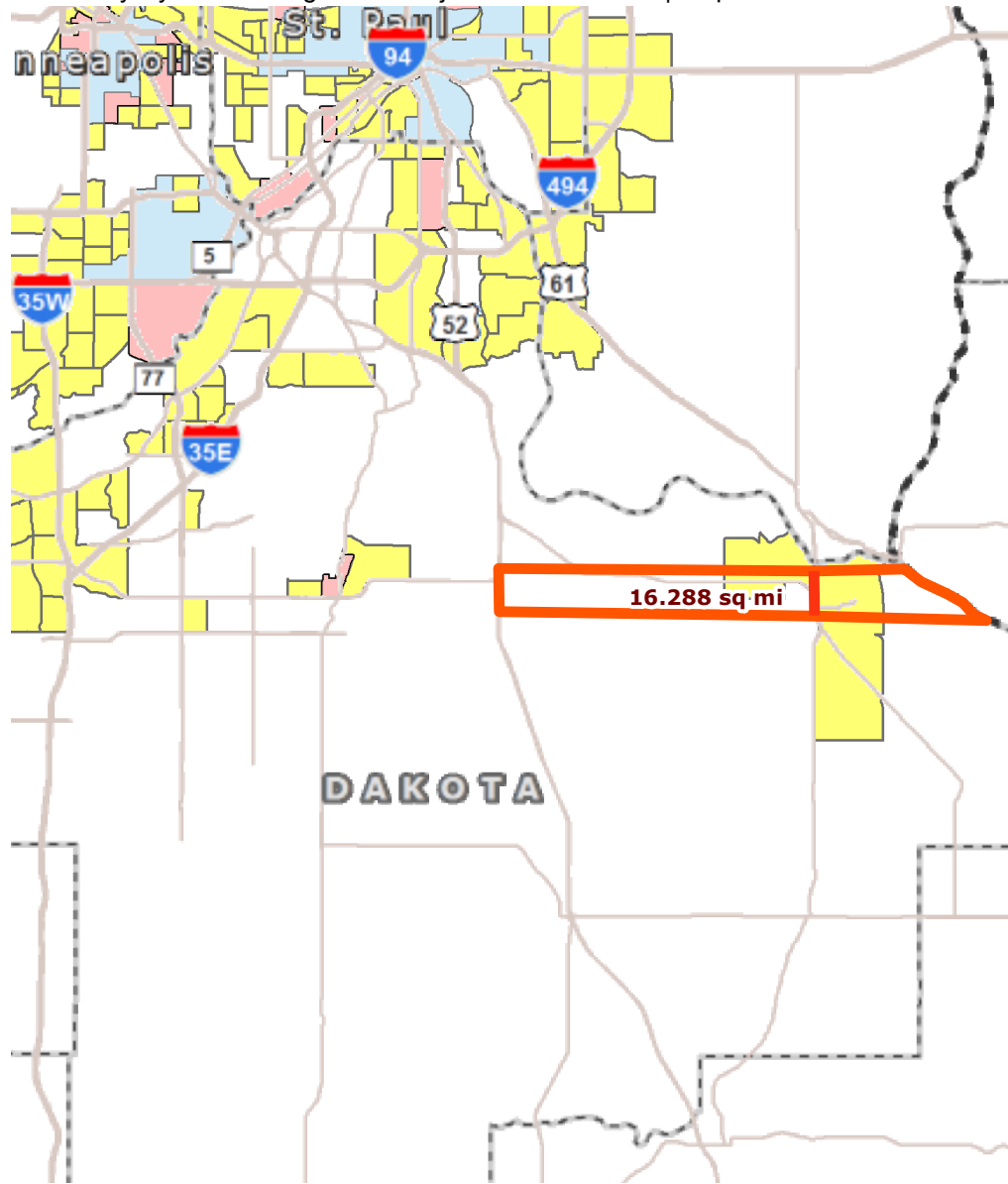


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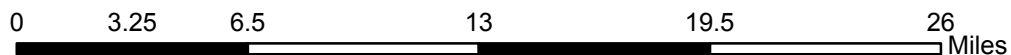


Results

Project IN area of above average concentration of race or poverty.



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

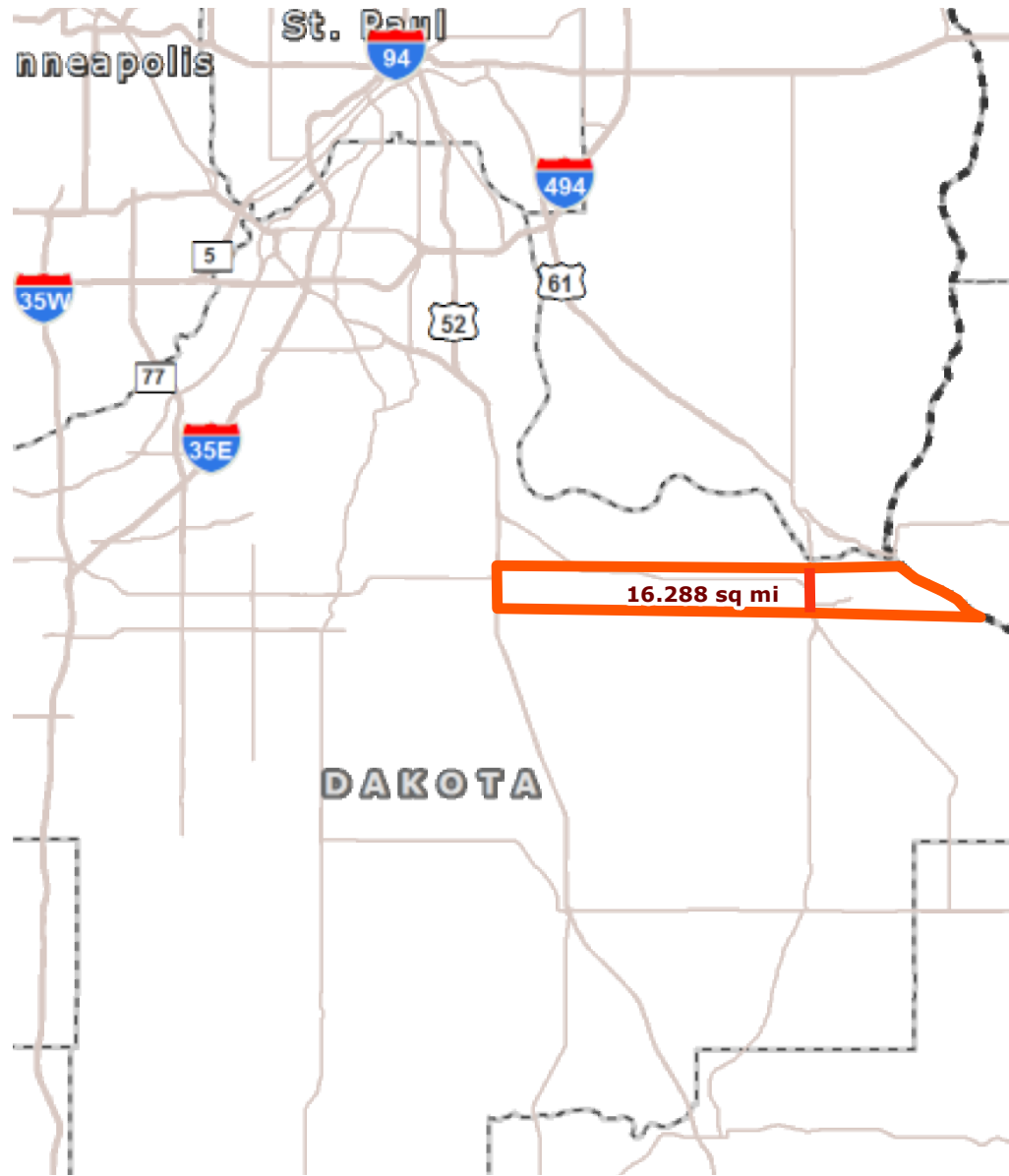


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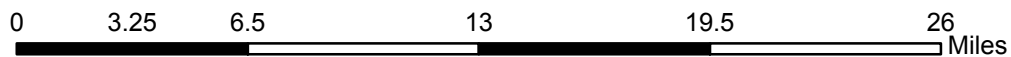


Results

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

**indicates Planned Alignments*

- Project
- Project Area



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LandscapeRSA3



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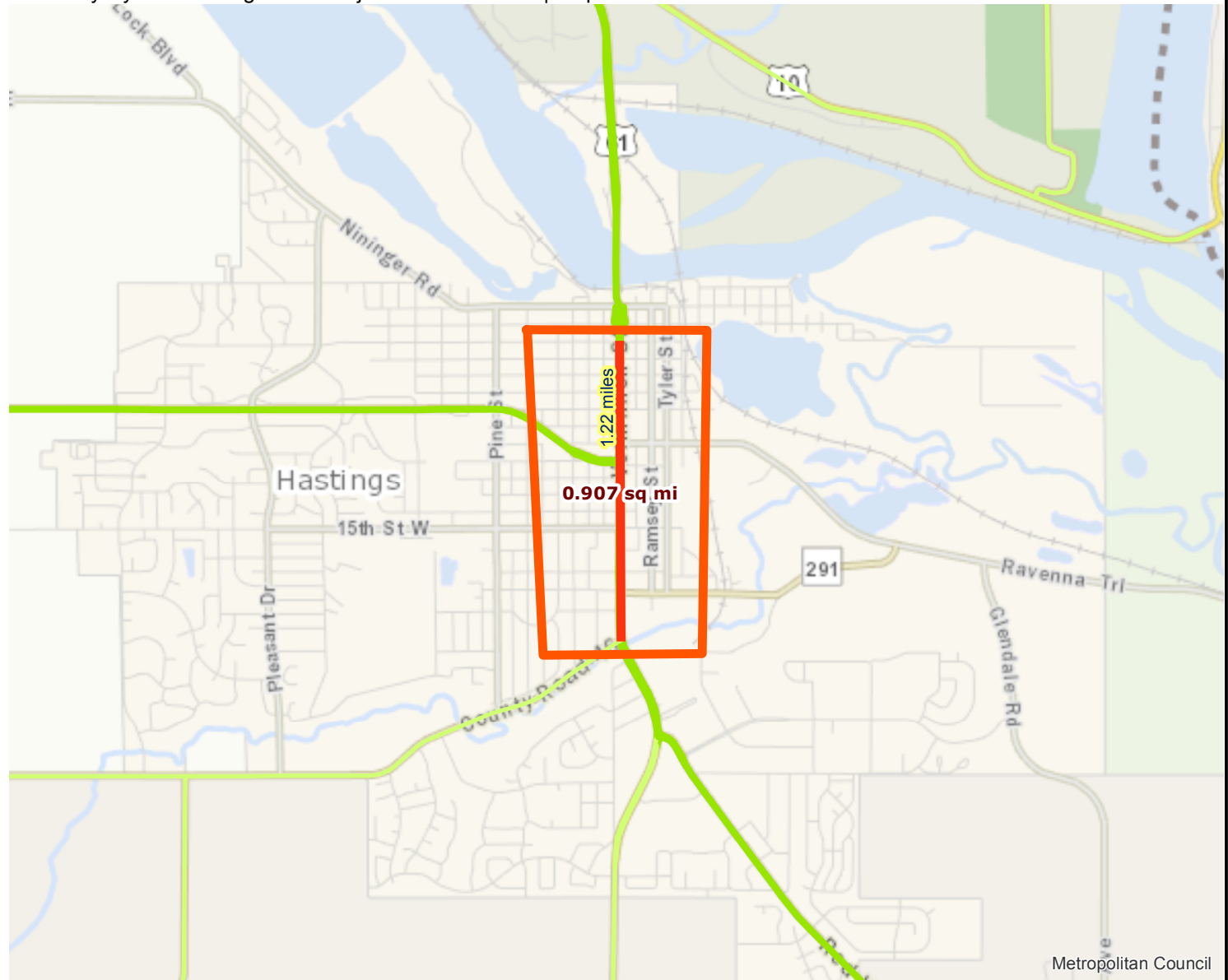
Roadway Area Definition

Roadway System Management Project: TH 61 CMAQ | Map ID: 1414613382962

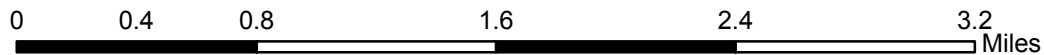
Results

Project Length: 1.22 miles

Project Area: 0.907 sq mi



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



Created: 10/29/2014
LandscapeRSA1



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



Regional Economy

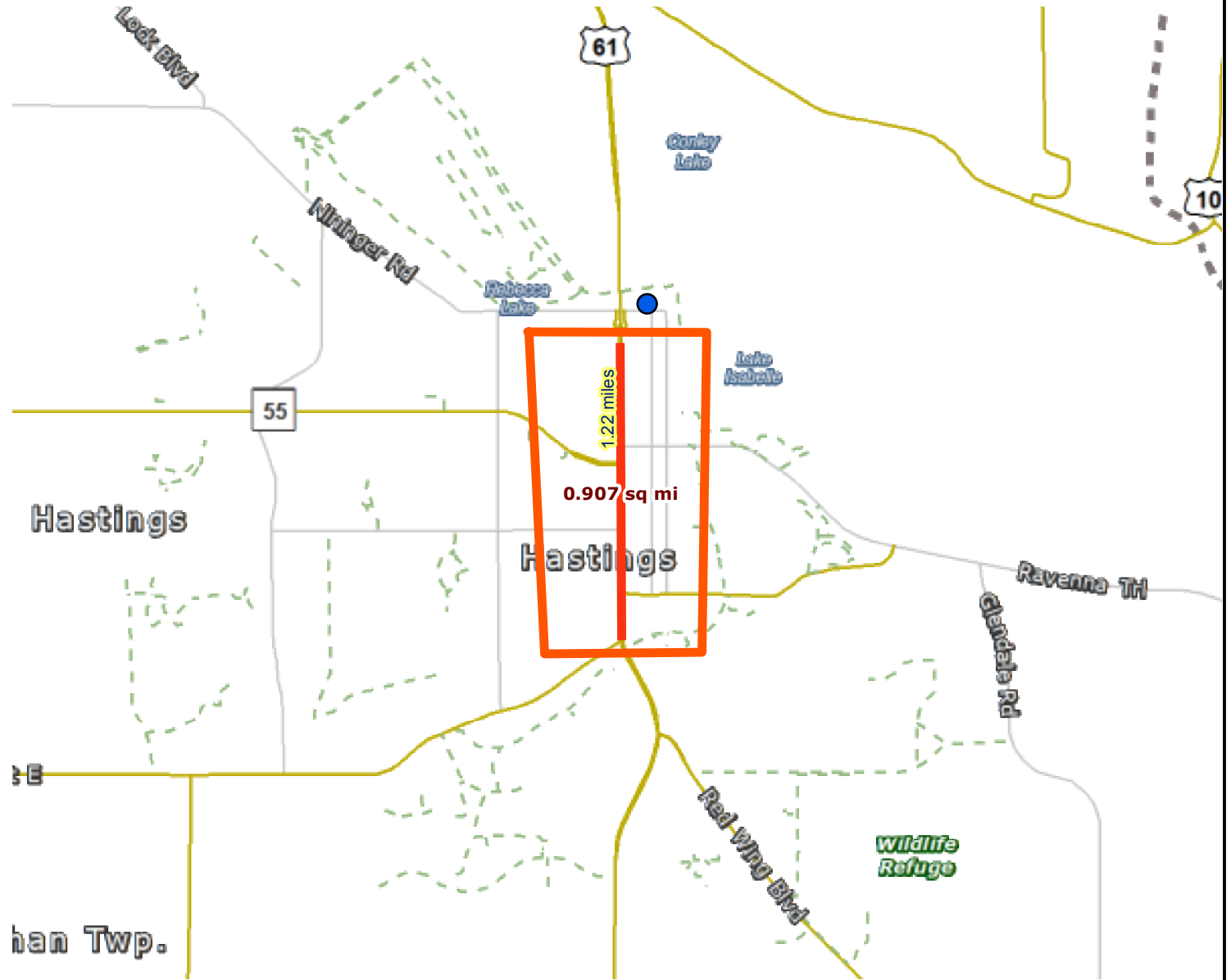
Roadway System Management Project: TH 61 CMAQ | Map ID: 1414613382962

Results

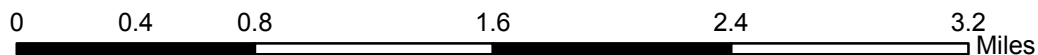
Project **NOT IN** area of Job Concentration.

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

Project **CONNECTED** to area of Education Institutions.



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



Created: 10/29/2014
LandscapeRSA5

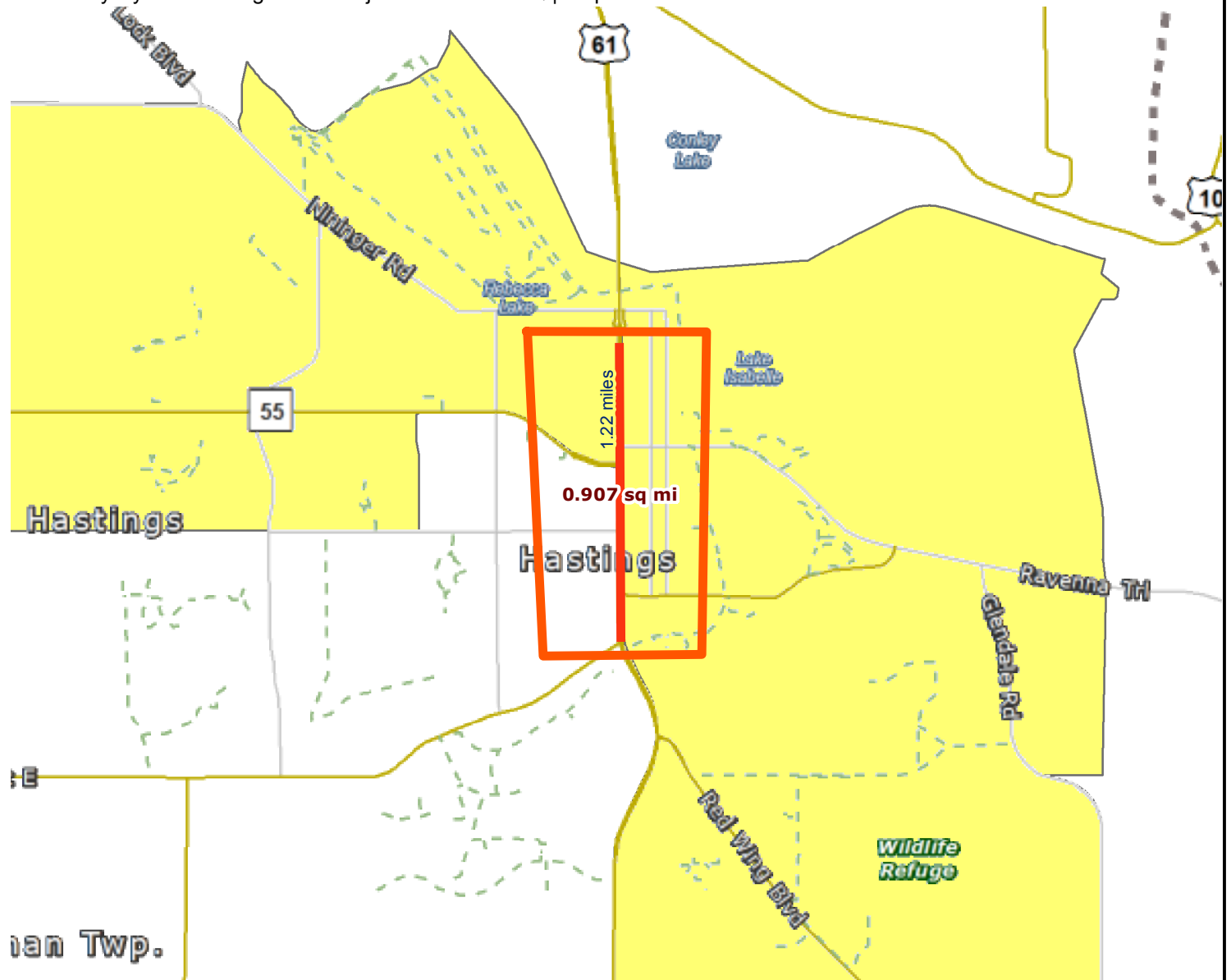


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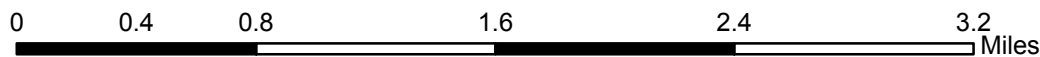


Results

Project IN area of above average concentration of race or poverty.



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



Created: 10/29/2014
LandscapeRSA2



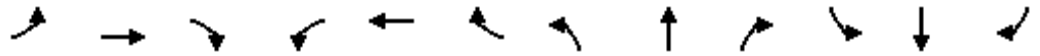
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Volume

108: TH 55(195) & TH 61(214_216)

1/5/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	300	96	398	32	88	28	328	720	36	16	858	289
Satd. Flow (prot)	1681	1724	1583	1770	1796	0	1770	3514	0	1770	3539	1583
Flt Permitted	0.950	0.974		0.950			0.152			0.158		
Satd. Flow (perm)	1681	1724	1583	1770	1796	0	283	3514	0	294	3539	1583
Satd. Flow (RTOR)			462		14			6				72
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour 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
Growth Factor	116%	116%	116%	116%	116%	116%	116%	116%	116%	116%	116%	116%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Shared Lane Traffic (%)	35%											
Lane Group Flow (vph)	226	233	462	37	134	0	380	877	0	19	995	335
Turn Type	Split		NA	Split			pm+pt			pm+pt		Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases							2			6		6
Total Split (s)	27.0	27.0	0.0	13.0	13.0	0.0	18.0	40.0	0.0	10.0	32.0	32.0
Total Lost Time (s)	5.5	5.5	4.0	5.5	5.5	4.0	5.0	6.0	4.0	5.0	6.0	6.0
Act Effect Green (s)	17.0	17.0	0.0	7.5	7.5		45.3	44.3		31.5	30.5	30.5
Actuated g/C Ratio	0.19	0.19	0.00	0.08	0.08		0.50	0.49		0.35	0.34	0.34
v/c Ratio	0.71	0.71	1.00	0.25	0.82		1.06	0.51		0.10	0.83	0.57
Control Delay	46.2	46.1	48.2	43.2	74.0		99.1	18.5		22.7	36.2	24.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	46.2	46.1	48.2	43.2	74.0		99.1	18.5		22.7	36.2	24.7
LOS	D	D	D	D	E		F	B		C	D	C
Approach Delay		47.2			67.3			42.9			33.2	
Approach LOS		D			E			D			C	
Queue Length 50th (ft)	127	131	0	20	68		~162	151		7	272	121
Queue Length 95th (ft)	197	203	#185	50	#170		#396	278		24	#427	226
Internal Link Dist (ft)		5750			766			2611			2039	
Turn Bay Length (ft)			150				150			100		25
Base Capacity (vph)	402	412	462	148	163		357	1733		191	1198	584
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
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	0.56	0.57	1.00	0.25	0.82		1.06	0.51		0.10	0.83	0.57

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.06	
Intersection Signal Delay: 41.5	Intersection LOS: D
Intersection Capacity Utilization 86.8%	ICU Level of Service E
Analysis Period (min) 15	

Volume

108: TH 55(195) & TH 61(214_216)

1/5/2015

~ 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: 108: TH 55(195) & TH 61(214_216)



Volume

108: TH 55(195) & TH 61(214_216)

1/5/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	300	96	398	32	88	28	328	720	36	16	858	289
Satd. Flow (prot)	1681	1724	1583	1770	1796	0	1770	3514	0	1770	3539	1583
Flt Permitted	0.950	0.974		0.950			0.189			0.198		
Satd. Flow (perm)	1681	1724	1583	1770	1796	0	352	3514	0	369	3539	1583
Satd. Flow (RTOR)			462		16			8				84
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour 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
Growth Factor	116%	116%	116%	116%	116%	116%	116%	116%	116%	116%	116%	116%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	348	111	462	37	102	32	380	835	42	19	995	335
Shared Lane Traffic (%)	35%											
Lane Group Flow (vph)	226	233	462	37	134	0	380	877	0	19	995	335
Turn Type	Split		Perm	Split			pm+pt			pm+pt		Perm
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4				2			6		6
Total Split (s)	18.0	18.0	18.0	13.0	13.0	0.0	18.0	39.0	0.0	10.0	31.0	31.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	4.0	5.0	6.0	4.0	5.0	6.0	6.0
Act Effct Green (s)	12.4	12.4	12.4	7.4	7.4		40.2	39.2		26.2	25.2	25.2
Actuated g/C Ratio	0.16	0.16	0.16	0.09	0.09		0.50	0.49		0.33	0.32	0.32
v/c Ratio	0.87	0.88	0.73	0.23	0.74		0.93	0.51		0.09	0.89	0.60
Control Delay	65.9	66.3	11.0	37.3	56.9		60.4	16.0		19.5	38.0	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	65.9	66.3	11.0	37.3	56.9		60.4	16.0		19.5	38.0	22.5
LOS	E	E	B	D	E		E	B		B	D	C
Approach Delay		38.5			52.6			29.4			33.9	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	117	121	0	17	58		109	131		6	248	104
Queue Length 95th (ft)	#246	#251	87	46	#146		#318	233		21	#364	191
Internal Link Dist (ft)		5750			766			2611			2039	
Turn Bay Length (ft)			150				150			100		25
Base Capacity (vph)	263	269	637	166	183		407	1727		209	1117	557
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
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	0.86	0.87	0.73	0.22	0.73		0.93	0.51		0.09	0.89	0.60

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 34.4

Intersection LOS: C

Intersection Capacity Utilization 86.8%

ICU Level of Service E

Volume

108: TH 55(195) & TH 61(214_216)

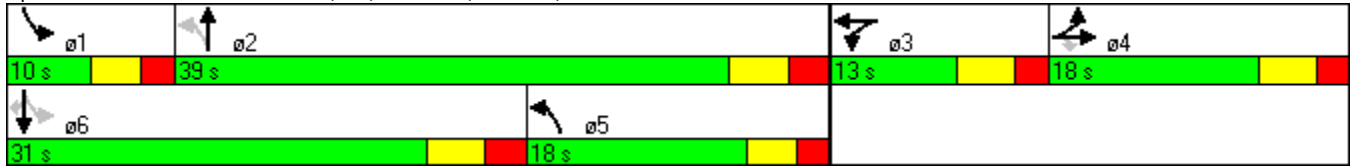
1/5/2015

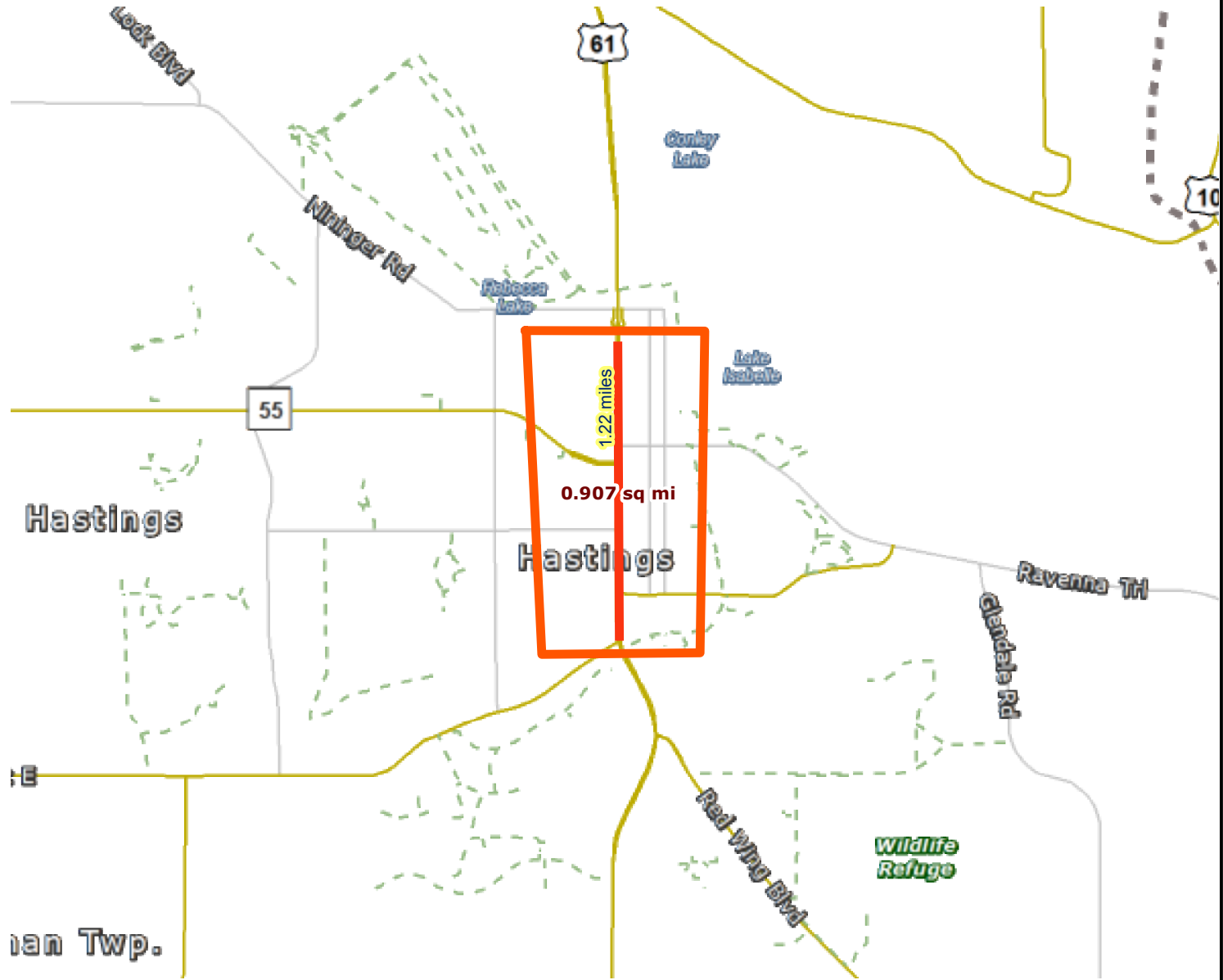
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 108: TH 55(195) & TH 61(214_216)




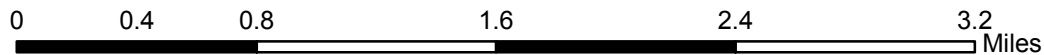


Results

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

**indicates Planned Alignments*

-  Project
-  Project Area



Created: 10/29/2014
LandscapeRSA3



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