Application

04751-2016 Roadway Expansion
05191 - Snelling Ave Third Lane - County Rd B2 to Lydia Ave
Regional Solicitation - Roadways Including Multimodal Elements

Status:
Submitted Date:

Submitted
07/15/2016 12:46 PM

## Primary Contact

| Name:* | Mr. | Marcus |  |
| :---: | :---: | :---: | :---: |
|  | Salutation | First Name M | Last Name |
| Title: | City Engineer |  |  |
| Department: |  |  |  |
| Email: | Marc.Culver@cityofroseville.com |  |  |
| Address: | 2660 Civic Center Drive |  |  |
|  | Roseville | Minnesota | 55113 |
|  | City | State/Province | Postal Code/Zip |
| Phone:* | 651-792-7 |  |  |
|  | Phone | Ext. |  |
| Fax: |  |  |  |
| What Grant Programs are you most interested in? | Regional Solicitation - Roadways Including Multimodal Elements |  |  |

## Organization Information

## Name:

Jurisdictional Agency (if different):
Organization Type: City
Organization Website:
Address: 2660 CIVIC CTR DR

| * | ROSEVILLE | Minnesota | 55113 |
| :---: | :---: | :---: | :---: |
|  | City | State/Province | Postal Code/Zip |
| County: | Ramsey |  |  |
| Phone** | 651-490-2200 |  |  |
|  |  | Ext. |  |
| Fax: |  |  |  |
| PeopleSoft Vendor Number | 0000020989A1 |  |  |

## Project Information

| Project Name | Snelling Avenue Improvements near County Road C |
| :--- | :--- |
| Primary County where the Project is Located | Ramsey |
| Jurisdictional Agency (If Different than the Applicant): | MnDOT |

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

The project will expand Snelling Avenue (TH 51), an A-Minor Arterial Augmentor, from County Road B2 to north of Lydia Avenue in Roseville. The project will add one 12-foot wide through lane in the northbound direction that ties in to the off-ramp from County Road B2 on the south end of the project area and ends about 1,180 feet north of Lydia Avenue on the north end. The existing right and left turn lanes at intersections will remain.

This project will add capacity to and improve safety on the A-Minor arterial system, support and invest in a developed community, and improve mobility and accessibility to regional manufacturing/distribution and job concentration centers.

Please note that this project will achieve a peak hour emissions reduction of 0.93 kg . This reduction is not reflected in Measure 5B of the application due to the need to round the per vehicle reduction to three decimal places. The reduction calculation is shown in the Synchro Reports with Emissions Summary attachment.

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)
Project Length (Miles)

TH 51 (Snelling Avenue) from County Road B2 to north of Lydia Avenue, add one northbound through lane
1.3

## Project Funding

| Are you applying for funds from another source(s) to implement <br> this project? | No |
| :--- | :--- |
| If yes, please identify the source(s) |  |
| Federal Amount | $\$ 2,718,292.00$ |
| Match Amount | $\$ 679,573.00$ |
| Minimum of $20 \%$ of project total | $\$ 3,397,865.00$ |

Minimum of 20\%
Compute the match percentage by dividing the match amount by the project total
Source of Match Funds City of Roseville
A minimum of $20 \%$ of the total project cost must come from non-federal sources; additional match funds over the $20 \%$ minimum can come from other federal sources

Preferred Program Year
Select one:
2021
For TDM projects, select 2018 or 2019. For Roadway, Transit, or Trail/Pedestrian projects, select 2020 or 2021.
Additional Program Years:
Select all years that are feasible if funding in an earlier year becomes available.

## Project Information: Roadway Projects

| County, City, or Lead Agency | City of Roseville |
| :--- | :--- |
| Functional Class of Road | A-Minor Arterial Augmentor |
| Road System | TH |
| TH, CSAH, MSAS, CO. RD., TWP. RD., CITY STREET |  |
| Road/Route No. | 51 |
| i.e., 53 for CSAH 53 | Snelling Ave |
| Name of Road |  |
| Example; 1st ST., MAIN AVE | 55113 |
| Zip Code where Majority of Work is Being Performed | $03 / 01 / 2021$ |
| (Approximate) Begin Construction Date | $10 / 31 / 2021$ |
| (Approximate) End Construction Date | County Road B2 |
| TERMINI:(Termini listed must be within 0.3 miles of any work) |  |
| From: |  |
| (Intersection or Address) | 1,180 feet north of Lydia Avenue |
| To: |  |
| (Intersection or Address) |  |
| DO NOT INCLUDE LEGAL DESCRIPTION |  |
| Or At | Grade, agg base, bif surf, signals |
| Primary Types of Work |  |
| Examples: GRADE, AGG BASE, BIT BASE, BIT SURF, |  |
| SIDEWALK, CURB AND GUTTER,STORM SEWER, |  |
| SIGNALS, LIGHTNG, GUARDRALL, BIKE PATH, PED RAMPS, |  |
| BRIDGE, PARK AND RIDE, ETC. |  |
| BRIDGE/CULVERT PROJECTS (IF APPLICABLE) |  |
| OId Bridge/Culvert No.: |  |

New Bridge/Culvert No.:
Structure is Over/Under
(Bridge or culvert name):
Specific Roadway Elements
CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES

Cost
$\begin{array}{ll}\text { Mobilization (approx. } 5 \% \text { of total cost) } & \$ 150,000.00\end{array}$
Removals (approx. 5\% of total cost) \$0.00
Roadway (grading, borrow, etc.)
$\begin{array}{ll}\text { Roadway (aggregates and paving) } & \$ 807,500.00\end{array}$
Subgrade Correction (muck) \$0.00
Storm Sewer \$0.00
Ponds \$0.00
$\begin{array}{ll}\text { Concrete Items (curb \& gutter, sidewalks, median barriers) } & \$ 72,540.00\end{array}$
Traffic Control \$0.00
Striping \$13,000.00
Signing \$6,300.00
Lighting \$0.00
$\begin{array}{ll}\text { Turf - Erosion \& Landscaping }\end{array} \quad \$ 216,800.00$
Bridge \$0.00
Retaining Walls \$0.00
Noise Wall (do not include in cost effectiveness measure) $\quad \$ 1,360,000.00$
$\begin{array}{lr}\text { Traffic Signals } & \$ 150,000.00\end{array}$
Wetland Mitigation \$0.00
Other Natural and Cultural Resource Protection \$0.00
$\begin{array}{ll}\text { RR Crossing } & \$ 250,000.00\end{array}$
Roadway Contingencies \$0.00
Other Roadway Elements \$0.00
Totals $\$ 3,397,865.00$

Specific Bicycle and Pedestrian Elements
CONSTRUCTION PROJECT ELEMENTS/COST
ESTIMATES
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, ..... $\$ 0.00$
fare collection, etc.)
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) ..... $\$ 0.00$
Substotal ..... $\$ 0.00$
Other Costs - Administration, Overhead,etc. ..... $\$ 0.00$

## Totals

## 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.


#### Abstract

- Goal: Safety and Security; Objective A. Reduce crashes and improve safety and security for all modes...; Strategy B1...incorporate safety and security...throughout processes; page 2.7


- Goal: Access to Destinations; Objectives B. Increase travel time reliability and predictability...; Strategies C2...provide a system of interconnected arterial roads, streets, bicycle facilities, and pedestrian facilities..., C9....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; page 2-8, 2-9
- Goal: Competitive Economy; Objectives A. Improve multimodal access to regional job List the goals, objectives, strategies, and associated pages: concentrations..., C. Support the region's economic competitiveness through the efficient movement of freight; Strategies D5...identify the impacts of highway congestion on freight and identify costeffective mitigation; page 2.11
- Goal: Healthy Environment; Objective A. Reduce transportation-related air emissions; Strategies E4...protect, enhance, and mitigate impacts on natural resources...including air and water quality, E5...protect, enhance and mitigate impacts on the cultural and built environments; page 2.13
- Goal: Leveraging Transportation Investments to Guide Land Use; Objectives A. Focus regional growth in areas that support the full range of multimodal travel, B. Maintain adequate highway...accessible land to meet existing and future demand for freight movement; Strategy


## F3...operate, maintain, and rebuild an adequate system of interconnected highways and local roads; page 2.14

3. The project or the transportation problem/need that the project addresses must be in a local planning or programming document. Reference the name of the appropriate comprehensive plan, regional/statewide plan, capital improvement program, corridor study document [studies on trunk highway must be approved by the Minnesota Department of Transportation and the Metropolitan Council], or other official plan or program of the applicant agency [includes Safe Routes to School Plans] that the project is included in and/or a transportation problem/need that the project addresses.

List the applicable documents and pages:

## City of Roseville 2030 Comprehensive Plan, pages 5-33 and 5-41

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

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

Check the box to indicate that the project meets this requirement.
5.The length of the bridge must equal or exceed 20 feet.

Check the box to indicate that the project meets this requirement.
6. The bridge must have a sufficiency rating less than 80 for rehabilitation projects and less than 50 for replacement projects. Additionally, the bridge must also be classified as structurally deficient or functionally obsolete.

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

## Requirements - Roadways Including Multimodal Elements

## Expander/Augmentor/Non-Freeway Principal Arterial

| Select one: | Augmentor |
| :--- | :--- |
| Area | 2.499 |
| Project Length | 1.296 |
| Average Distance | 1.9282 |
| Upload Map | 1468435170548 _Roadway Area Definition Map.pdf |

Reliever: Relieves a Principle Arterial that is a Freeway Facility
Facility being relieved
Number of hours per day volume exceeds capacity (based on the
Congestion Report)

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

Facility being relieved
Number of hours per day volume exceeds capacity (based on the table below)

## 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: | 21139 |
| Existing Manufacturing/Distribution-Related Employment within 1 | 2305 |
| Mile: | 4920 |
| Existing Students: | 1468435237802 _Regional Economy Map.pdf |
| Upload Map |  |

## Measure C: Current Heavy Commercial Traffic

| Location: | Snelling Avenue \& County Road C |
| :--- | :--- |
| Current daily heavy commercial traffic volume: | 1766 |
| Date heavy commercial count taken: | $6 / 7 / 16$ |

## Measure D: Freight Elements

Response (Limit 1,400 characters; approximately 200 words)
The project will increase the capacity of Snelling Avenue, reducing delay at intersections and improving access to industrial and commercial land uses.

## Measure A: Current Daily Person Throughput

| Location | Between County Road B2 and County Road C |
| :--- | :--- |
| Current AADT Volume | 36000 |
| Existing Transit Routes on the Project | $65,84,225,264$ |
| For New Roadways only, list transit routes that will be moved to the new roadway |  |
| Upload Transit Map | 1468435457979_Transit Connections Map.pdf |

## Response: Current Daily Person Throughput

Average Annual Daily Transit Ridership 0
Current Daily Person Throughput
46800.0

Measure B: 2040 Forecast ADT

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

If checked, METC Staff will provide Forecast (2040) ADT volume
OR
Identify the approved county or city travel demand model to determine forecast (2040) ADT volume

Forecast (2040) ADT volume

## Measure A: Project Location and Impact to Disadvantaged Populations

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

Project located in Area of Concentrated Poverty:
Projects census tracts are above the regional average for population in poverty or population of color:

Yes

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

Response (Limit 2,800 characters; approximately 400 words)
The project will provide an investment and transportation benefit in a community that is above the regional average for population in poverty or population of color. The project will add capacity to TH 51/Snelling Avenue, improving mobility and accessibility for all travelers, including riders on bus Route 225. There are existing pedestrian crossings at County Road C, County Road C2, and Lydia Avenue. These crossings will be upgraded to current ADA standards, benefitting people with disabilities and young children in strollers.

Negative impacts will be limited to construction of the proposed project, which will be temporarily disruptive to the surrounding commuter and travelers in the corridor. Construction-phase impacts can be mitigation through staging and implementing best management practices.

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

## Measure B: Affordable Housing



## Affordable Housing Scoring - To Be Completed By Metropolitan Council Staff

Total Project Length (Miles)
Total Housing Score
1.296

0

## Measure A: Infrastructure Age

Year of Original
Roadway Construction or Most Recent
Reconstruction

Segment Length
Calculation
2.75

3
5418

$$
5417.5
$$

## Average Construction Year

Weighted Year
1970.0

Total Segment Length (Miles)
Total Segment Length
2.75

## Measure A: Vehicle Delay Reduction

|  |  |  |  |  | EXPLANATIO |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | N of |  |
| Total Peak | Total Peak | Total Peak |  | Total Peak | methodology |  |
| Hour Delay | Hour Delay | Hour Delay | Volume | Hour Delay | used to |  |
| Per Vehicle | Per Vehicle | Per Vehicle | (Vehicles Per | Reduced by | calculate | HCM Reports |
| Without The | With The | Reduced by | Hour) | the Project | railroad |  |
| Project | Project | Project |  | (Seconds) | crossing |  |
|  |  |  |  |  | delay, if |  |
|  |  |  |  |  | applicable: |  |
|  |  |  |  |  |  | 14684380151 |
| 63.6 | 55.4 | 8.2 | 5742.0 | 47084.4 |  | 45_Synchro |
|  |  |  |  |  |  | Reports.pdf |

## Total Delay

Total Peak Hour Delay Reduced
47084.4

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

| Total (CO, NOX, and VOC) Peak | Total (CO, NOX, and VOC) Peak | Total (CO, NOX, and VOC) Peak |  | Total (CO, NOX, and VOC) Peak |
| :---: | :---: | :---: | :---: | :---: |
| Hour Emissions Per Vehicle without the Project (Kilograms): | Hour Emissions Per Vehicle with the Project (Kilograms): | Hour Emissions <br> Reduced Per <br> Vehicle by the Project (Kilograms): | Volume (Vehicles Per Hour): | Hour Emissions Reduced by the Project <br> (Kilograms): |
| 0.005 | 0.005 | 0 | 5742.0 | 0 |
| 0 | 0 |  | 5742 | 0 |

## Total

Total Emissions Reduced:

Upload Synchro Report

0
1468513730828_Synchro Reports with Emissions Summary.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, | Total (CO, NOX, |
| :---: | :---: |
| and VOC) Peak | and VOC) Peak |
| Hour Emissions | Hour Emissions |
| Per Vehicle | Per Vehicle with |
| without the Project | the Project |
| (Kilograms): | (Kilograms): |

0

| Total (CO, NOX, |  | Total (CO, NOX, |
| :---: | :---: | :---: |
| and VOC) Peak |  | and VOC) Peak |
| Hour Emissions | Volume (Vehicles | Hour Emissions |
| Reduced Per | Per Hour): | Reduced by the |
| Vehicle by the |  | Project |
| Project |  | (Kilograms): |
| (Kilograms): |  |  |

0

## Total Parallel Roadways

Emissions Reduced on Parallel Roadways
Upload Synchro Report

0

## 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):
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):

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

Cruise speed in miles per hour without the project:
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):

EXPLANATION of methodology and assumptions used:(Limit 1,400 characters; approximately 200 words)

## Measure A: Benefit of Crash Reduction

Crash Modification Factor Used:
(Limit 700 Characters; approximately 100 words)

Rationale for Crash Modification Selected:
(Limit 1400 Characters; approximately 200 words)
Project Benefit (\$) from B/C Ratio:
Worksheet Attachment
0.15

Since the bulk of the improvements along the Snelling Avenue corridor is widening from four lanes to five lanes, a CMF was applied consistent with the study authored by Park et al (March 2015). In this study, the impacts to the amount of crashes after the study roadway widened from four to six lanes was reviewed over time. The results indicated that the conversion of a four-lane road to a six-lane road resulted in a crash reduction of 15 percent for total crashes. Therefore, a CMF of 0.15 was applied to all crashes along TH 51. Since this corridor will only be widened in one direction, the benefit was reduced by 50 percent.
245139.0

1468447125034_Benefit Sheet and CMF.pdf

## Roadway projects that include railroad grade-separation elements:

Current AADT volume:

Average daily trains:

Crash Risk Exposure eliminated:

0
0
0

Measure A: Multimodal Elements and Existing Connections

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

There are no sidewalks or trails along Snelling Avenue in the project area, but there are three trail crossings in the project area: at Country Road C, County Road C2, and Lydia Avenue. These crossings will be upgraded to ADA-compliant crossings, making them safer for bicyclists and pedestrians.

There are five transit routes with a direct connection to the project area (Routes 65, 84, 225, 264, and 921). The Increased Revenue Scenario for Transitways in the 2040 Transportation Policy Plan also shows Snelling Avenue as the alignment for Accelerated Arterial BRT investments up to the former Twin Cities Army Ammunition Plant (TCAAP) site, which is being redeveloped as a mixed-use development now known as Rice Creek Commons. Increasing the capacity of Snelling Avenue will decrease congestion, benefitting customers on existing and future transit routes.

## Transit Projects Not Requiring Construction

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

## Measure A: Risk Assessment

1)Project Scope (5 Percent of Points)
Meetings or contacts with stakeholders have occurred Yes
$100 \%$

Stakeholders have been identified
40\%
Stakeholders have not been identified or contacted
0\%
2)Layout or Preliminary Plan (5 Percent of Points)

Layout or Preliminary Plan completed
Yes

Layout or Preliminary Plan started

```
50%
```

Layout or Preliminary Plan has not been started
0\%
Anticipated date or date of completion 06/28/2016
3)Environmental Documentation (5 Percent of Points)

EIS
EA Yes
PM
Document Status:

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

Document submitted to State Aid for review

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

50\%
Document not started
Yes
0\%

Anticipated date or date of completion/approval
03/01/2020
4)Review of Section 106 Historic Resources (10 Percent of Points)

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

100\%

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

Yes

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:

03/01/2020

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 $4 f$ property. The project is an independent bikeway/walkway project covered by the bikeway/walkway Negative Declaration statement; letter of support received 100\%

Section 4 f 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 $4 \mathrm{f} / 6 \mathrm{f}$ 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

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
01/31/2021
7)Railroad Involvement (25 Percent of Points)

No railroad involvement on project
100\%
Railroad Right-of-Way Agreement is executed (include signature page)

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

Yes

01/31/2021
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
01/31/2021
10)Letting

## Measure A: Cost Effectiveness

| Total Project Cost (entered in Project Cost Form): | $\$ 3,397,865.00$ |
| :--- | :--- |
| Enter Amount of the Noise Walls: | $\$ 1,360,000.00$ |
| Total Project Cost subtract the amount of the noise walls: | $\$ 2,037,865.00$ |
| Points Awarded in Previous Criteria |  |
| Cost Effectiveness | $\$ 0.00$ |

## Other Attachments

| File Name | Description | File Size |
| :--- | :--- | :---: |
| 2016-0628_Snelling Avenue Widening <br> Layout1.pdf | Project Layout | 4.7 MB |
| Existing Conditions Photos.pdf | Existing Conditions Photos |  |
| Pages from Chapter-6-Transit- <br> Investment-Direction-and-Plan.pdf | Map of Increased Revenue Scenario | 3.9 MB |
| Transitways from 2040 TPP <br> Roseville Parks and Trails Map.pdf | Roseville Parks and Trails Map | 1.7 MB |
| Snelling Avenue_TH 51 MnDOT letter of <br> support.pdf | MnDOT Letter of Support | 106 KB |





Socio-Economic Conditions Roadway Expansion Project: Snelling Avenue Improvements | Map ID: 1467240723049

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


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | \% | ¢ $\uparrow$ | 7 | 7 | 个t |  | ${ }^{\text {FT}}$ | $\uparrow \uparrow$ | F | \% | $\uparrow \uparrow$ | F |
| Traffic Volume (vph) | 236 | 625 | 416 | 199 | 368 | 110 | 319 | 1684 | 133 | 133 | 1408 | 111 |
| Future Volume (vph) | 236 | 625 | 416 | 199 | 368 | 110 | 319 | 1684 | 133 | 133 | 1408 | 111 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.0 | 6.5 | 6.5 | 5.0 | 6.5 |  | 5.0 | 7.0 | 7.0 | 5.0 | 7.0 | 7.0 |
| Lane Utill. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 |  | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 |  | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |  | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1752 | 3505 | 1568 | 1752 | 3384 |  | 3400 | 3505 | 1568 | 1752 | 3505 | 1568 |
| FIt Permitted | 0.15 | 1.00 | 1.00 | 0.14 | 1.00 |  | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 271 | 3505 | 1568 | 257 | 3384 |  | 3400 | 3505 | 1568 | 1752 | 3505 | 1568 |
| Peak-hour factor, PHF | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 |
| Adj. Flow (vph) | 238 | 631 | 420 | 201 | 372 | 111 | 322 | 1701 | 134 | 134 | 1422 | 112 |
| RTOR Reduction (vph) | 0 | 0 | 176 | 0 | 15 | 0 | 0 | 0 | 51 | 0 | 0 | 42 |
| Lane Group Flow (vph) | 238 | 631 | 244 | 201 | 468 | 0 | 322 | 1701 | 83 | 134 | 1422 | 70 |
| Heavy Vehicles (\%) | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA |  | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 |  | 3 | 8 |  | 5 | 2 |  | 1 | 6 |  |
| Permitted Phases | 4 |  | 4 | 8 |  |  |  |  | 2 |  |  | 6 |
| Actuated Green, G (s) | 54.3 | 33.5 | 33.5 | 44.7 | 28.7 |  | 19.5 | 93.0 | 93.0 | 14.0 | 87.5 | 87.5 |
| Effective Green, g (s) | 54.3 | 33.5 | 33.5 | 44.7 | 28.7 |  | 19.5 | 93.0 | 93.0 | 14.0 | 87.5 | 87.5 |
| Actuated g/C Ratio | 0.30 | 0.19 | 0.19 | 0.25 | 0.16 |  | 0.11 | 0.52 | 0.52 | 0.08 | 0.49 | 0.49 |
| Clearance Time (s) | 5.0 | 6.5 | 6.5 | 5.0 | 6.5 |  | 5.0 | 7.0 | 7.0 | 5.0 | 7.0 | 7.0 |
| Vehicle Extension (s) | 2.0 | 4.5 | 4.5 | 2.0 | 4.5 |  | 3.0 | 7.0 | 7.0 | 2.0 | 7.0 | 7.0 |
| Lane Grp Cap (vph) | 252 | 652 | 291 | 196 | 539 |  | 368 | 1810 | 810 | 136 | 1703 | 762 |
| v/s Ratio Prot | c0.11 | c0.18 |  | 0.09 | 0.14 |  | 0.09 | c0.49 |  | c0.08 | 0.41 |  |
| v/s Ratio Perm | 0.18 |  | 0.16 | 0.16 |  |  |  |  | 0.05 |  |  | 0.04 |
| v/c Ratio | 0.94 | 0.97 | 0.84 | 1.03 | 0.87 |  | 0.88 | 0.94 | 0.10 | 0.99 | 0.83 | 0.09 |
| Uniform Delay, d1 | 52.8 | 72.7 | 70.7 | 60.1 | 73.8 |  | 79.0 | 40.9 | 22.2 | 82.9 | 40.0 | 24.9 |
| Progression Factor | 1.10 | 0.90 | 0.79 | 1.21 | 0.97 |  | 1.00 | 1.00 | 1.00 | 0.84 | 0.67 | 0.30 |
| Incremental Delay, d2 | 37.4 | 25.0 | 17.8 | 69.5 | 14.1 |  | 20.0 | 11.0 | 0.3 | 70.0 | 4.8 | 0.2 |
| Delay (s) | 95.6 | 90.4 | 73.4 | 142.3 | 85.9 |  | 99.1 | 51.9 | 22.5 | 139.9 | 31.7 | 7.6 |
| Level of Service | F | F | E | F | F |  | F | D | C | F | C | A |
| Approach Delay (s) |  | 85.8 |  |  | 102.5 |  |  | 57.1 |  |  | 38.8 |  |
| Approach LOS |  | F |  |  | F |  |  | E |  |  | D |  |


| Intersection Summary |  |  |  |
| :--- | ---: | :--- | ---: |
| HCM 2000 Control Delay | 63.6 | HCM 2000 Level of Service | E |
| HCM 2000 Volume to Capacity ratio | 0.97 |  | 23.5 |
| Actuated Cycle Length (s) | 180.0 | Sum of lost time (s) | G |
| Intersection Capacity Utilization | $101.8 \%$ | ICU Level of Service |  |
| Analysis Period (min) | 15 |  |  |
| C Critical Lane Group |  |  |  |


|  | $\checkmark$ |  | $\checkmark$ | $\rightarrow$ | 4 | $\pm$ | 4 | $\checkmark$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Phase Number | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Movement | SBL | NBT | WBL | EBTL | NBL | SBT | EBL | WBTL |
| Lead/Lag | Lag | Lead | Lead | Lag | Lead | Lag | Lead | Lag |
| Lead-Lag Optimize |  |  |  |  |  |  |  |  |
| Recall Mode | None | C-Max | None | None | None | C-Max | None | None |
| Maximum Split (s) | 19 | 100 | 21 | 40 | 25 | 94 | 26 | 35 |
| Maximum Split (\%) | 10.6\% | 55.6\% | 11.7\% | 22.2\% | 13.9\% | 52.2\% | 14.4\% | 19.4\% |
| Minimum Split (s) | 15 | 28 | 13 | 18 | 15 | 28 | 13 | 18 |
| Yellow Time (s) | 3 | 5 | 3 | 4.5 | 3 | 5 | 3 | 4 |
| All-Red Time (s) | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2.5 |
| Minimum Initial (s) | 7 | 20 | 5 | 10 | 7 | 20 | 5 | 10 |
| Vehicle Extension (s) | 2 | 7 | 2 | 4.5 | 3 | 7 | 2 | 4.5 |
| Minimum Gap (s) | 0.2 | 5 | 0.2 | 0.2 | 0.2 | 5 | 0.2 | 0.2 |
| Time Before Reduce (s) | 0 | 25 | 0 | 0 | 0 | 25 | 0 | 0 |
| Time To Reduce (s) | 0 | 25 | 0 | 0 | 0 | 25 | 0 | 0 |
| Walk Time (s) |  | 7 |  | 7 |  | 7 |  | 7 |
| Flash Dont Walk (s) |  | 22 |  | 29 |  | 22 |  | 26 |
| Dual Entry | No | No | No | No | No | No | No | No |
| Inhibit Max | No | No | No | No | No | No | No | No |
| Start Time (s) | 101 | 1 | 120 | 141 | 1 | 26 | 120 | 146 |
| End Time (s) | 120 | 101 | 141 | 1 | 26 | 120 | 146 | 1 |
| Yield/Force Off (s) | 115 | 94 | 136 | 174.5 | 21 | 113 | 141 | 174.5 |
| Yield/Force Off 170(s) | 115 | 72 | 136 | 145.5 | 21 | 91 | 141 | 148.5 |
| Local Start Time (s) | 100 | 0 | 119 | 140 | 0 | 25 | 119 | 145 |
| Local Yield (s) | 114 | 93 | 135 | 173.5 | 20 | 112 | 140 | 173.5 |
| Local Yield 170(s) | 114 | 71 | 135 | 144.5 | 20 | 90 | 140 | 147.5 |

## Intersection Summary

Cycle Length
Control Type Actuated-Coordinated
Natural Cycle
120
Offset: 1 (1\%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green
Splits and Phases: 20: Snelling Ave \& Co Rd C


## 20: Snelling Ave \& Co Rd C

| Direction | EB | WB | NB | SB |
| :--- | ---: | ---: | ---: | ---: |
| Future Volume (vph) | 1277 | 677 | 2136 | 1652 |
| Fuel Consumed (gal) | 37 | 23 | 151 | 61 |
| Fuel Economy (mpg) | 3.2 | 5.3 | 19.4 | 13.4 |
| CO Emissions $(\mathrm{kg})$ | 2.59 | 1.64 | 10.54 | 4.27 |
| NOx Emissions $(\mathrm{kg})$ | 0.50 | 0.32 | 2.05 | 0.83 |
| VOC Emissions $(\mathrm{kg})$ | 0.60 | 0.38 | 2.44 | 0.99 |


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | \% | ¢ $\uparrow$ | 7 | 7 | 个t |  | \% ${ }^{1}$ | ¢ $\uparrow \uparrow$ | \% | 7 | $\uparrow \uparrow$ | \% |
| Traffic Volume (vph) | 236 | 625 | 416 | 199 | 368 | 110 | 319 | 1684 | 133 | 133 | 1408 | 111 |
| Future Volume (vph) | 236 | 625 | 416 | 199 | 368 | 110 | 319 | 1684 | 133 | 133 | 1408 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.0 | 6.5 | 6.5 | 5.0 | 6.5 |  | 5.0 | 7.0 | 7.0 | 5.0 | 7.0 | 7.0 |
| Lane Utill. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 |  | 0.97 | 0.91 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 |  | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |  | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1752 | 3505 | 1568 | 1752 | 3384 |  | 3400 | 5036 | 1568 | 1752 | 3505 | 1568 |
| FIt Permitted | 0.22 | 1.00 | 1.00 | 0.13 | 1.00 |  | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 411 | 3505 | 1568 | 232 | 3384 |  | 3400 | 5036 | 1568 | 1752 | 3505 | 1568 |
| Peak-hour factor, PHF | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 |
| Adj. Flow (vph) | 238 | 631 | 420 | 201 | 372 | 111 | 322 | 1701 | 134 | 134 | 1422 | 112 |
| RTOR Reduction (vph) | 0 | 0 | 183 | 0 | 15 | 0 | 0 | 0 | 72 | 0 | 0 | 45 |
| Lane Group Flow (vph) | 238 | 631 | 237 | 201 | 468 | 0 | 322 | 1701 | 62 | 134 | 1422 | 67 |
| Heavy Vehicles (\%) | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA |  | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 |  | 3 | 8 |  | 5 | 2 |  | 1 | 6 |  |
| Permitted Phases | 4 |  | 4 | 8 |  |  |  |  | 2 |  |  | 6 |
| Actuated Green, G (s) | 57.1 | 36.5 | 36.5 | 53.1 | 34.5 |  | 19.5 | 78.4 | 78.4 | 23.0 | 81.9 | 81.9 |
| Effective Green, g (s) | 57.1 | 36.5 | 36.5 | 53.1 | 34.5 |  | 19.5 | 78.4 | 78.4 | 23.0 | 81.9 | 81.9 |
| Actuated g/C Ratio | 0.32 | 0.20 | 0.20 | 0.30 | 0.19 |  | 0.11 | 0.44 | 0.44 | 0.13 | 0.46 | 0.46 |
| Clearance Time (s) | 5.0 | 6.5 | 6.5 | 5.0 | 6.5 |  | 5.0 | 7.0 | 7.0 | 5.0 | 7.0 | 7.0 |
| Vehicle Extension (s) | 2.0 | 4.5 | 4.5 | 2.0 | 4.5 |  | 3.0 | 7.0 | 7.0 | 2.0 | 7.0 | 7.0 |
| Lane Grp Cap (vph) | 283 | 710 | 317 | 225 | 648 |  | 368 | 2193 | 682 | 223 | 1594 | 713 |
| v/s Ratio Prot | c0.10 | c0.18 |  | 0.09 | 0.14 |  | 0.09 | c0.34 |  | 0.08 | c0.41 |  |
| v/s Ratio Perm | 0.17 |  | 0.15 | 0.17 |  |  |  |  | 0.04 |  |  | 0.04 |
| v/c Ratio | 0.84 | 0.89 | 0.75 | 0.89 | 0.72 |  | 0.88 | 0.78 | 0.09 | 0.60 | 0.89 | 0.09 |
| Uniform Delay, d1 | 50.0 | 69.8 | 67.4 | 52.7 | 68.2 |  | 79.0 | 43.3 | 29.9 | 74.2 | 45.0 | 27.9 |
| Progression Factor | 0.97 | 0.89 | 0.77 | 1.20 | 0.98 |  | 1.00 | 1.00 | 1.00 | 0.82 | 0.70 | 0.36 |
| Incremental Delay, d2 | 16.7 | 12.0 | 9.0 | 31.1 | 4.3 |  | 20.0 | 2.8 | 0.3 | 2.9 | 7.6 | 0.2 |
| Delay (s) | 65.3 | 74.4 | 61.1 | 94.1 | 71.3 |  | 99.1 | 46.1 | 30.1 | 63.7 | 39.1 | 10.2 |
| Level of Service | E | E | E | F | E |  | F | D | C | E | D | B |
| Approach Delay (s) |  | 68.4 |  |  | 78.0 |  |  | 53.0 |  |  | 39.2 |  |
| Approach LOS |  | E |  |  | E |  |  | D |  |  | D |  |


| Intersection Summary |  |  |  |
| :--- | ---: | :--- | ---: |
| HCM 2000 Control Delay | 55.4 | HCM 2000 Level of Service | E |
| HCM 2000 Volume to Capacity ratio | 0.89 |  | 23.5 |
| Actuated Cycle Length (s) | 180.0 | Sum of lost time (s) | F |
| Intersection Capacity Utilization | $95.9 \%$ | ICU Level of Service |  |
| Analysis Period (min) | 15 |  |  |
| c Critical Lane Group |  |  |  |



Intersection Summary
Cycle Length
Control Type
Actuated-Coordinated
Natural Cycle 90

Offset: 1 (1\%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green
Splits and Phases: 20: Snelling Ave \& Co Rd C


## 20: Snelling Ave \& Co Rd C

| Direction | EB | WB | NB | SB |
| :--- | ---: | ---: | ---: | ---: |
| Future Volume (vph) | 1277 | 677 | 2136 | 1652 |
| Fuel Consumed (gal) | 33 | 21 | 147 | 62 |
| Fuel Economy (mpg) | 3.6 | 6.0 | 19.9 | 13.2 |
| CO Emissions $(\mathrm{kg})$ | 2.31 | 1.44 | 10.30 | 4.34 |
| NOx Emissions $(\mathrm{kg})$ | 0.45 | 0.28 | 2.00 | 0.84 |
| VOC Emissions $(\mathrm{kg})$ | 0.53 | 0.33 | 2.39 | 1.01 |


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | \% | ¢ $\uparrow$ | 7 | 7 | 个t |  | ${ }^{\text {FT}}$ | $\uparrow \uparrow$ | F | \% | $\uparrow \uparrow$ | F |
| Traffic Volume (vph) | 236 | 625 | 416 | 199 | 368 | 110 | 319 | 1684 | 133 | 133 | 1408 | 111 |
| Future Volume (vph) | 236 | 625 | 416 | 199 | 368 | 110 | 319 | 1684 | 133 | 133 | 1408 | 111 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.0 | 6.5 | 6.5 | 5.0 | 6.5 |  | 5.0 | 7.0 | 7.0 | 5.0 | 7.0 | 7.0 |
| Lane Utill. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 |  | 0.97 | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 |  | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |  | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1752 | 3505 | 1568 | 1752 | 3384 |  | 3400 | 3505 | 1568 | 1752 | 3505 | 1568 |
| FIt Permitted | 0.15 | 1.00 | 1.00 | 0.14 | 1.00 |  | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 271 | 3505 | 1568 | 257 | 3384 |  | 3400 | 3505 | 1568 | 1752 | 3505 | 1568 |
| Peak-hour factor, PHF | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 |
| Adj. Flow (vph) | 238 | 631 | 420 | 201 | 372 | 111 | 322 | 1701 | 134 | 134 | 1422 | 112 |
| RTOR Reduction (vph) | 0 | 0 | 176 | 0 | 15 | 0 | 0 | 0 | 51 | 0 | 0 | 42 |
| Lane Group Flow (vph) | 238 | 631 | 244 | 201 | 468 | 0 | 322 | 1701 | 83 | 134 | 1422 | 70 |
| Heavy Vehicles (\%) | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA |  | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 |  | 3 | 8 |  | 5 | 2 |  | 1 | 6 |  |
| Permitted Phases | 4 |  | 4 | 8 |  |  |  |  | 2 |  |  | 6 |
| Actuated Green, G (s) | 54.3 | 33.5 | 33.5 | 44.7 | 28.7 |  | 19.5 | 93.0 | 93.0 | 14.0 | 87.5 | 87.5 |
| Effective Green, g (s) | 54.3 | 33.5 | 33.5 | 44.7 | 28.7 |  | 19.5 | 93.0 | 93.0 | 14.0 | 87.5 | 87.5 |
| Actuated g/C Ratio | 0.30 | 0.19 | 0.19 | 0.25 | 0.16 |  | 0.11 | 0.52 | 0.52 | 0.08 | 0.49 | 0.49 |
| Clearance Time (s) | 5.0 | 6.5 | 6.5 | 5.0 | 6.5 |  | 5.0 | 7.0 | 7.0 | 5.0 | 7.0 | 7.0 |
| Vehicle Extension (s) | 2.0 | 4.5 | 4.5 | 2.0 | 4.5 |  | 3.0 | 7.0 | 7.0 | 2.0 | 7.0 | 7.0 |
| Lane Grp Cap (vph) | 252 | 652 | 291 | 196 | 539 |  | 368 | 1810 | 810 | 136 | 1703 | 762 |
| v/s Ratio Prot | c0.11 | c0.18 |  | 0.09 | 0.14 |  | 0.09 | c0.49 |  | c0.08 | 0.41 |  |
| v/s Ratio Perm | 0.18 |  | 0.16 | 0.16 |  |  |  |  | 0.05 |  |  | 0.04 |
| v/c Ratio | 0.94 | 0.97 | 0.84 | 1.03 | 0.87 |  | 0.88 | 0.94 | 0.10 | 0.99 | 0.83 | 0.09 |
| Uniform Delay, d1 | 52.8 | 72.7 | 70.7 | 60.1 | 73.8 |  | 79.0 | 40.9 | 22.2 | 82.9 | 40.0 | 24.9 |
| Progression Factor | 1.10 | 0.90 | 0.79 | 1.21 | 0.97 |  | 1.00 | 1.00 | 1.00 | 0.84 | 0.67 | 0.30 |
| Incremental Delay, d2 | 37.4 | 25.0 | 17.8 | 69.5 | 14.1 |  | 20.0 | 11.0 | 0.3 | 70.0 | 4.8 | 0.2 |
| Delay (s) | 95.6 | 90.4 | 73.4 | 142.3 | 85.9 |  | 99.1 | 51.9 | 22.5 | 139.9 | 31.7 | 7.6 |
| Level of Service | F | F | E | F | F |  | F | D | C | F | C | A |
| Approach Delay (s) |  | 85.8 |  |  | 102.5 |  |  | 57.1 |  |  | 38.8 |  |
| Approach LOS |  | F |  |  | F |  |  | E |  |  | D |  |


| Intersection Summary |  |  |  |
| :--- | ---: | :--- | ---: |
| HCM 2000 Control Delay | 63.6 | HCM 2000 Level of Service | E |
| HCM 2000 Volume to Capacity ratio | 0.97 |  | 23.5 |
| Actuated Cycle Length (s) | 180.0 | Sum of lost time (s) | G |
| Intersection Capacity Utilization | $101.8 \%$ | ICU Level of Service |  |
| Analysis Period (min) | 15 |  |  |
| C Critical Lane Group |  |  |  |


|  | $\checkmark$ |  | $\checkmark$ | $\rightarrow$ | 4 | $\pm$ | 4 | $\checkmark$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Phase Number | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Movement | SBL | NBT | WBL | EBTL | NBL | SBT | EBL | WBTL |
| Lead/Lag | Lag | Lead | Lead | Lag | Lead | Lag | Lead | Lag |
| Lead-Lag Optimize |  |  |  |  |  |  |  |  |
| Recall Mode | None | C-Max | None | None | None | C-Max | None | None |
| Maximum Split (s) | 19 | 100 | 21 | 40 | 25 | 94 | 26 | 35 |
| Maximum Split (\%) | 10.6\% | 55.6\% | 11.7\% | 22.2\% | 13.9\% | 52.2\% | 14.4\% | 19.4\% |
| Minimum Split (s) | 15 | 28 | 13 | 18 | 15 | 28 | 13 | 18 |
| Yellow Time (s) | 3 | 5 | 3 | 4.5 | 3 | 5 | 3 | 4 |
| All-Red Time (s) | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2.5 |
| Minimum Initial (s) | 7 | 20 | 5 | 10 | 7 | 20 | 5 | 10 |
| Vehicle Extension (s) | 2 | 7 | 2 | 4.5 | 3 | 7 | 2 | 4.5 |
| Minimum Gap (s) | 0.2 | 5 | 0.2 | 0.2 | 0.2 | 5 | 0.2 | 0.2 |
| Time Before Reduce (s) | 0 | 25 | 0 | 0 | 0 | 25 | 0 | 0 |
| Time To Reduce (s) | 0 | 25 | 0 | 0 | 0 | 25 | 0 | 0 |
| Walk Time (s) |  | 7 |  | 7 |  | 7 |  | 7 |
| Flash Dont Walk (s) |  | 22 |  | 29 |  | 22 |  | 26 |
| Dual Entry | No | No | No | No | No | No | No | No |
| Inhibit Max | No | No | No | No | No | No | No | No |
| Start Time (s) | 101 | 1 | 120 | 141 | 1 | 26 | 120 | 146 |
| End Time (s) | 120 | 101 | 141 | 1 | 26 | 120 | 146 | 1 |
| Yield/Force Off (s) | 115 | 94 | 136 | 174.5 | 21 | 113 | 141 | 174.5 |
| Yield/Force Off 170(s) | 115 | 72 | 136 | 145.5 | 21 | 91 | 141 | 148.5 |
| Local Start Time (s) | 100 | 0 | 119 | 140 | 0 | 25 | 119 | 145 |
| Local Yield (s) | 114 | 93 | 135 | 173.5 | 20 | 112 | 140 | 173.5 |
| Local Yield 170(s) | 114 | 71 | 135 | 144.5 | 20 | 90 | 140 | 147.5 |

## Intersection Summary

Cycle Length
Control Type Actuated-Coordinated
Natural Cycle
120
Offset: 1 (1\%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green
Splits and Phases: 20: Snelling Ave \& Co Rd C


## 20: Snelling Ave \& Co Rd C

| Direction | EB | WB | NB | SB |
| :--- | ---: | ---: | ---: | ---: |
| Future Volume (vph) | 1277 | 677 | 2136 | 1652 |
| Fuel Consumed (gal) | 37 | 23 | 151 | 61 |
| Fuel Economy (mpg) | 3.2 | 5.3 | 19.4 | 13.4 |
| CO Emissions $(\mathrm{kg})$ | 2.59 | 1.64 | 10.54 | 4.27 |
| NOx Emissions $(\mathrm{kg})$ | 0.50 | 0.32 | 2.05 | 0.83 |
| VOC Emissions $(\mathrm{kg})$ | 0.60 | 0.38 | 2.44 | 0.99 |


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | \% | ¢ $\uparrow$ | 7 | 7 | 个t |  | \% ${ }^{1}$ | ¢ $\uparrow \uparrow$ | \% | 7 | $\uparrow \uparrow$ | \% |
| Traffic Volume (vph) | 236 | 625 | 416 | 199 | 368 | 110 | 319 | 1684 | 133 | 133 | 1408 | 111 |
| Future Volume (vph) | 236 | 625 | 416 | 199 | 368 | 110 | 319 | 1684 | 133 | 133 | 1408 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.0 | 6.5 | 6.5 | 5.0 | 6.5 |  | 5.0 | 7.0 | 7.0 | 5.0 | 7.0 | 7.0 |
| Lane Utill. Factor | 1.00 | 0.95 | 1.00 | 1.00 | 0.95 |  | 0.97 | 0.91 | 1.00 | 1.00 | 0.95 | 1.00 |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.97 |  | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 |  | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (prot) | 1752 | 3505 | 1568 | 1752 | 3384 |  | 3400 | 5036 | 1568 | 1752 | 3505 | 1568 |
| FIt Permitted | 0.22 | 1.00 | 1.00 | 0.13 | 1.00 |  | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | 1.00 |
| Satd. Flow (perm) | 411 | 3505 | 1568 | 232 | 3384 |  | 3400 | 5036 | 1568 | 1752 | 3505 | 1568 |
| Peak-hour factor, PHF | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 |
| Adj. Flow (vph) | 238 | 631 | 420 | 201 | 372 | 111 | 322 | 1701 | 134 | 134 | 1422 | 112 |
| RTOR Reduction (vph) | 0 | 0 | 183 | 0 | 15 | 0 | 0 | 0 | 72 | 0 | 0 | 45 |
| Lane Group Flow (vph) | 238 | 631 | 237 | 201 | 468 | 0 | 322 | 1701 | 62 | 134 | 1422 | 67 |
| Heavy Vehicles (\%) | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% | 3\% |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA |  | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 |  | 3 | 8 |  | 5 | 2 |  | 1 | 6 |  |
| Permitted Phases | 4 |  | 4 | 8 |  |  |  |  | 2 |  |  | 6 |
| Actuated Green, G (s) | 57.1 | 36.5 | 36.5 | 53.1 | 34.5 |  | 19.5 | 78.4 | 78.4 | 23.0 | 81.9 | 81.9 |
| Effective Green, g (s) | 57.1 | 36.5 | 36.5 | 53.1 | 34.5 |  | 19.5 | 78.4 | 78.4 | 23.0 | 81.9 | 81.9 |
| Actuated g/C Ratio | 0.32 | 0.20 | 0.20 | 0.30 | 0.19 |  | 0.11 | 0.44 | 0.44 | 0.13 | 0.46 | 0.46 |
| Clearance Time (s) | 5.0 | 6.5 | 6.5 | 5.0 | 6.5 |  | 5.0 | 7.0 | 7.0 | 5.0 | 7.0 | 7.0 |
| Vehicle Extension (s) | 2.0 | 4.5 | 4.5 | 2.0 | 4.5 |  | 3.0 | 7.0 | 7.0 | 2.0 | 7.0 | 7.0 |
| Lane Grp Cap (vph) | 283 | 710 | 317 | 225 | 648 |  | 368 | 2193 | 682 | 223 | 1594 | 713 |
| v/s Ratio Prot | c0.10 | c0.18 |  | 0.09 | 0.14 |  | 0.09 | c0.34 |  | 0.08 | c0.41 |  |
| v/s Ratio Perm | 0.17 |  | 0.15 | 0.17 |  |  |  |  | 0.04 |  |  | 0.04 |
| v/c Ratio | 0.84 | 0.89 | 0.75 | 0.89 | 0.72 |  | 0.88 | 0.78 | 0.09 | 0.60 | 0.89 | 0.09 |
| Uniform Delay, d1 | 50.0 | 69.8 | 67.4 | 52.7 | 68.2 |  | 79.0 | 43.3 | 29.9 | 74.2 | 45.0 | 27.9 |
| Progression Factor | 0.97 | 0.89 | 0.77 | 1.20 | 0.98 |  | 1.00 | 1.00 | 1.00 | 0.82 | 0.70 | 0.36 |
| Incremental Delay, d2 | 16.7 | 12.0 | 9.0 | 31.1 | 4.3 |  | 20.0 | 2.8 | 0.3 | 2.9 | 7.6 | 0.2 |
| Delay (s) | 65.3 | 74.4 | 61.1 | 94.1 | 71.3 |  | 99.1 | 46.1 | 30.1 | 63.7 | 39.1 | 10.2 |
| Level of Service | E | E | E | F | E |  | F | D | C | E | D | B |
| Approach Delay (s) |  | 68.4 |  |  | 78.0 |  |  | 53.0 |  |  | 39.2 |  |
| Approach LOS |  | E |  |  | E |  |  | D |  |  | D |  |


| Intersection Summary |  |  |  |
| :--- | ---: | :--- | ---: |
| HCM 2000 Control Delay | 55.4 | HCM 2000 Level of Service | E |
| HCM 2000 Volume to Capacity ratio | 0.89 |  | 23.5 |
| Actuated Cycle Length (s) | 180.0 | Sum of lost time (s) | F |
| Intersection Capacity Utilization | $95.9 \%$ | ICU Level of Service |  |
| Analysis Period (min) | 15 |  |  |
| c Critical Lane Group |  |  |  |



Intersection Summary
Cycle Length
Control Type
Actuated-Coordinated
Natural Cycle 90

Offset: 1 (1\%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green
Splits and Phases: 20: Snelling Ave \& Co Rd C


## 20: Snelling Ave \& Co Rd C

| Direction | EB | WB | NB | SB |
| :--- | ---: | ---: | ---: | ---: |
| Future Volume (vph) | 1277 | 677 | 2136 | 1652 |
| Fuel Consumed (gal) | 33 | 21 | 147 | 62 |
| Fuel Economy (mpg) | 3.6 | 6.0 | 19.9 | 13.2 |
| CO Emissions $(\mathrm{kg})$ | 2.31 | 1.44 | 10.30 | 4.34 |
| NOx Emissions $(\mathrm{kg})$ | 0.45 | 0.28 | 2.00 | 0.84 |
| VOC Emissions $(\mathrm{kg})$ | 0.53 | 0.33 | 2.39 | 1.01 |


| CALOULATIONOFEMISSIONREDUCTION |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Existing Conditions |  | Build Conditions |  | Total Reduction |  |
|  | Total (kg) | Per Vehicle <br> $(\mathrm{kg})$ | Total (kg) | Per Vehicle <br> (kg) | Total (kg) | Per Vehicle <br> (kg) |
| CO | 19.04 | 0.003316 | 18.39 | 0.003203 | -0.65 | -0.000113 |
| $\mathrm{NO}_{\mathrm{x}}$ | 3.7 | 0.000644 | 3.57 | 0.000622 | -0.13 | -0.000022 |
| VOC | 4.41 | 0.000768 | 4.26 | 0.000742 | -0.15 | -0.000026 |
| Total | 27.15 | 0.004728 | 26.22 | 0.004567 | -0.93 | -0.000161 |




## Study Details

Study Title: Assessment of safety effects for widening urban roadways in developing crash modification functions using nonlinearizing link functions

Authors: Park et al.
Publication Date: MAR, 2015
Abstract: Since a crash modification factor (CMF) represents the overall safety performance of specific treatments in a single fixed value, there is a need to explore the variation of CMFs with different roadway characteristics among treated sites over time. Therefore, in this study, we (1) evaluate the safety performance of a sample of urban four-lane roadway segments that have been widened with one through lane in each direction and (2) determine the relationship between the safety effects and different roadway characteristics over time. Observational before-after analysis with the empirical Bayes (EB) method was assessed in this study to evaluate the safety effects of widening urban four-lane roadways to six-lanes. Moreover, the nonlinearizing link functions were utilized to achieve better performance of crash modification functions (CMFunctions). The CMFunctions were developed using a Bayesian regression method including the estimated nonlinearizing link function to incorporate the changes in safety effects of the treatment over time. Data was collected for urban arterials in Florida, and the Florida-specific full SPFs were developed and used for EB estimation. The results indicated that the conversion of four-lane roadways to six-lane roadways resulted in a crash reduction of 15 percent for total crashes, and 24 percent for injury crashes on urban roadways. The results show that the safety effects vary across the sites with different roadway characteristics. In particular, LOS changes, time changes, and shoulder widths are significant parameters that affect the variation of CMFs. Moreover, it was found that narrowing shoulder and median widths to make space for an extra through lane shows a negative safety impact. It was also found that including the nonlinearizing link functions in developing CMFunctions shows more reliable estimates, if the variation of CMFs with specific parameters has a nonlinear relationship. The findings provide insights into the selection of roadway sites for adding through lanes.

Study Citation: Park, J., M. Abdel-Aty, J. Wang, and C. Lee. "Assessment of safety effects for widening urban roadways in developing crash modification functions using nonlinearizing link functions". Accident Analysis and Prevention, Vol. 79, (2015) pp. 80-87.

## CMFs Associated With This Study

## Category: Roadway

Countermeasure: Increase from 4 lanes to 6 lanes

| CMF | CRF(\%) | Quality | Crash Type | Crash Severity | Roadway Type | Area Type |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.85 | 15 |  | All | All | Not specified | Urban |
| 0.901 | 9.9 |  | All | All | Not specified | Urban |
| $\underline{0.847}$ | 15.3 |  | All | All | Not specified | Urban |
| 0.798 | $\underline{20.2}$ | Sithentictic | All | All | Not specified | Urban |
| 0.802 | 19.8 |  | All | All | Not specified | Urban |
| 0.761 | $\underline{23.9}$ |  | All | Fatal,Serious injury,Minor injury | Not specified | Urban |
| 0.841 | 15.9 |  | All | Fatal,Serious injury,Minor injury | Not specified | Urban |
| 0.755 | $\underline{24.5}$ |  | All | Fatal,Serious injury,Minor injury | Not specified | Urban |
| $\underline{0.696}$ | 30.4 | 4, | All |  | Not specified | Urban |


|  |  |  |  | Fatal,Serious injury, Minor injury |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.702 | $\underline{29.8}$ |  | All | Fatal,Serious injury,Minor injury | Not specified | Urban |
| $\underline{0.809}$ | 19.1 |  | All | All | Not specified | Urban |
| $\underline{0.853}$ | 14.7 |  | All | All | Not specified | Urban |
| 0.918 | 8.2 |  | All | All | Not specified | Urban |
| 0.657 | 34.3 |  | All | Fatal,Serious injury,Minor injury | Not specified | Urban |
| 0.742 | $\underline{25.8}$ | 5rationer | All | Fatal,Serious injury,Minor injury | Not specified | Urban |
| 0.868 | 13.2 |  | All | Fatal, Serious injury,Minor injury | Not specified | Urban |
| $\underline{0.916}$ | 8.4 |  | All | All | Not specified | Urban |
| $\underline{0.807}$ | 19.3 |  | All | Fatal, Serious injury,Minor injury | Not specified | Urban |
| $\underline{0.737}$ | $\underline{26.3}$ |  | All | All | Not specified | Urban |
| 0.702 | $\underline{29.8}$ |  | All | Fatal,Serious injury,Minor injury | Not specified | Urban |

This site is funded by the U.S. Department of Transportation Federal Highway Administration and maintained by the University of North Carolina Highway Safety Research Center

For more information, contact Karen Scurry, FHWA Office of Safety Programs 609-637-4207

The information contained in the Crash Modification Factors (CMF) Clearinghouse is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The U.S. Government assumes no liability for the use of the information contained in the CMF Clearinghouse. The information contained in the CMF Clearinghouse does not constitute a standard, specification, or regulation, nor is it a substitute for sound engineering judgment.


## Existing Conditions Photos

Google Earth Plan View Photos (from north to south)















## Increased Revenue Scenario Transitways <br> Building an Accelerated Transitway Vision





Minnesota Department of Transportation
Metro District
1500 West County Road B-2
Roseville, MN 5511

July 15, 2016
Marc Culver
Public Works Director
City of Roseville
2660 Civic Center Drive
Roseville, Minnesota 55113
RE: Regional Solicitation Application for the Shelling Avenue (TH 51) project
Dear Mr. Culver:

Thank you for requesting a letter of support from MnDOT for the Metropolitan Council/Transportation Advisory Board (TAB) 2016 Regional Solicitation. Your application for the Snelling Avenue/TH 51 (County Road B2 to approximately 1,000 feet north of Lydia Avenue, in the northbound direction only) project impacts MnDOT right of way on trunk highway (TH) 51.

MnDOT, as the agency with jurisdiction over TH 51, would allow the improvements included in the application for the interchange project. Details of a future maintenance agreement with the City would be determined during project development to define how the improvements will be maintained for the project's useful life.

This project currently has no funding from MnDOT. The Metro District currently has no discretionary funding in year 2020 of the State Transportation Improvement Program (STIP) or year 2021 of the Capital Highway Investment Plan (CHIP) to assist with construction or assist with MnDOT services such as the design or construction engineering of the project. Please continue to work with MnDOT Area staff to assist in identifying additional project funding if needed.

Sincerely,


Scott McBride, P.E.
Metro District Engineer

Cc: Elaine Koustsoukos, Metropolitan Council<br>Sheila Kauppi, MnDOT Metro District - North Area Manager

