



Application

04774 - 2016 Roadway Modernization

05264 - I-694/Rice Street (CSAH 49) Interchange Reconstruction

Regional Solicitation - Roadways Including Multimodal Elements

Status: Submitted  
Submitted Date: 07/15/2016 11:29 AM

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## Primary Contact

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Salutation First Name Middle Name Last Name

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**\*** Arden Hills Minnesota 55112  
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

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## Organization Information

**Name:** RAMSEY COUNTY

Jurisdictional Agency (if different):

Organization Type: County Government

Organization Website:

Address: DEPT OF PUBLIC WORKS  
1425 PAUL KIRKWOOD DR

\* ARDEN HILLS Minnesota 55112  
City State/Province Postal Code/Zip

County: Ramsey

Phone:\* 651-266-7100 Ext.

Fax:

PeopleSoft Vendor Number 0000023983A30

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## Project Information

Project Name I-694/Rice Street (CSAH 49) Interchange Reconstruction

Primary County where the Project is Located Ramsey

Jurisdictional Agency (If Different than the Applicant): Same

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

This project involves the reconstruction of the I-694/Rice Street interchange and the adjacent intersections at Owasso Boulevard/Country Drive and County Road E/Vadnais Boulevard. This project will remove a bottleneck on the Class A Minor Arterial system that results in severe peak-hour backups on Rice Street, a Reliever route for I-35E south of I-694 and an Expander route north of it. The project will remove geometric deficiencies inherent in the skewed design of the interchange and also improve clear zones on I-694.

*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) Interchange Reconstruction

Project Length (Miles) 0.42

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## Project Funding

**Are you applying for funds from another source(s) to implement this project?** Yes

**If yes, please identify the source(s)** Minnesota Legislature

**Federal Amount** \$7,000,000.00

**Match Amount** \$4,659,311.00

*Minimum of 20% of project total*

**Project Total** \$11,659,311.00

**Match Percentage** 39.96%

*Minimum of 20%*

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

**Source of Match Funds** CSAH, CTB, Local, Bond

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

**Preferred Program Year**

**Select one:** 2020

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

**Additional Program Years:**

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

**Specific Roadway Elements**

| <b>CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES</b>        | <b>Cost</b>    |
|--|----------------|
| Mobilization (approx. 5% of total cost)                    | \$450,000.00   |
| Removals (approx. 5% of total cost)                        | \$477,675.00   |
| Roadway (grading, borrow, etc.)                            | \$657,232.00   |
| Roadway (aggregates and paving)                            | \$1,359,169.00 |
| Subgrade Correction (muck)                                 | \$151,029.00   |
| Storm Sewer  | \$650,000.00   |
| Ponds  | \$0.00         |
| Concrete Items (curb & gutter, sidewalks, median barriers) | \$672,860.00   |
| Traffic Control  | \$550,000.00   |
| Striping   | \$175,000.00   |
| Signing  | \$175,000.00   |
| Lighting   | \$816,000.00   |
| Turf - Erosion & Landscaping                               | \$350,000.00   |
| Bridge   | \$2,565,000.00 |
| Retaining Walls  | \$480,000.00   |

|   |                        |
|---|------------------------|
| Noise Wall (do not include in cost effectiveness measure) | \$0.00                 |
| Traffic Signals   | \$0.00                 |
| Wetland Mitigation  | \$0.00                 |
| Other Natural and Cultural Resource Protection            | \$0.00                 |
| RR Crossing   | \$0.00                 |
| Roadway Contingencies                                     | \$1,800,346.00         |
| Other Roadway Elements                                    | \$0.00                 |
| <b>Totals</b>   | <b>\$11,329,311.00</b> |

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## Specific Bicycle and Pedestrian Elements

| <b>CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES</b>    | <b>Cost</b>         |
|--|---------------------|
| 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                              | \$330,000.00        |
| Streetscaping  | \$0.00              |
| Wayfinding   | \$0.00              |
| Bicycle and Pedestrian Contingencies                   | \$0.00              |
| Other Bicycle and Pedestrian Elements                  | \$0.00              |
| <b>Totals</b>  | <b>\$330,000.00</b> |

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## Specific Transit and TDM Elements

| <b>CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES</b>                             | <b>Cost</b> |
|---|-------------|
| Fixed Guideway Elements   | \$0.00      |
| Stations, Stops, and Terminals  | \$0.00      |
| Support Facilities  | \$0.00      |
| Transit Systems (e.g. communications, signals, controls, fare collection, etc.) | \$0.00      |
| Vehicles  | \$0.00      |
| Contingencies   | \$0.00      |

|                                |               |
|--------------------------------|---------------|
| Right-of-Way                   | \$0.00        |
| Other Transit and TDM Elements | \$0.00        |
| <b>Totals</b>                  | <b>\$0.00</b> |

## Transit Operating Costs

|   |        |
|---|--------|
| Number of Platform hours                    | 0      |
| Cost Per Platform hour (full loaded Cost)   | \$0.00 |
| Subtotal                                    | \$0.00 |
| Other Costs - Administration, Overhead,etc. | \$0.00 |

## Totals

|                              |                 |
|------------------------------|-----------------|
| Total Cost                   | \$11,659,311.00 |
| Construction Cost Total      | \$11,659,311.00 |
| Transit Operating Cost Total | \$0.00          |

## Requirements - All Projects

### All Projects

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

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

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

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

The current expansion project on I-694 is identified in the TPP as a "strategic capacity enhancement" and the interchange project proposed here is identified in Figure 5-7 on Page 5.28 as a 2019-2029 project. Thrive 2040 goals are: Transportation System Stewardship- Objective A- effectively preserve and maintain the regional transportation system in a state of good repair. Objective B- reduce the transportation system's vulnerability to natural and man-made threats

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.

TPP- Pages 58 and 161 Figure 5-3, Page 5.27

Shoreview Comprehensive Plan- P- 5-18, 5-29-31.

List the applicable documents and pages:

Vadnais Heights Comp Plan- P- T-10.

Little Canada Comp Plan- P- 53.

Ramsey County Comp Plan- P- B-8

*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

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## Roadways Including Multimodal Elements

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

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

### Roadway Expansion and Reconstruction/Modernization projects only:

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

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

### Bridge Rehabilitation/Replacement projects only:

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

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

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. Yes

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

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

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. Yes

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## Requirements - Roadways Including Multimodal Elements

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### Project Information-Roadways

|                              |   |
|------------------------------|---|
|                              | Ramsey Count Public Works   |
| County, City, or Lead Agency | 1425 Paul Kirkwold Dr.<br><br>Arden Hills, MN 55112                           |
| Functional Class of Road     | Class A Minor Arterial- South of I-694- Reliever;<br>North of I-694- Expander |

|   |   |
|---|---|
| <b>Road System</b>  | CSAH  |
| <i>TH, CSAH, MSAS, CO. RD., TWP. RD., CITY STREET</i>   |   |
| <b>Road/Route No.</b>   | 49  |
| <i>i.e., 53 for CSAH 53</i>   |   |
| <b>Name of Road</b>   | Rice Street   |
| <i>Example: 1st ST., MAIN AVE</i>   |   |
| <b>Zip Code where Majority of Work is Being Performed</b>   | 55126   |
| <b>(Approximate) Begin Construction Date</b>  | 04/20/2020  |
| <b>(Approximate) End Construction Date</b>  | 10/30/2020  |
| <b>TERMINI:(Termini listed must be within 0.3 miles of any work)</b>  |   |
| <b>From:</b><br><b>(Intersection or Address)</b>  | 600' south of Owasso Boulevard/Country Drive  |
| <b>To:</b><br><b>(Intersection or Address)</b>  | 600' north of County Road E/Vadnais Boulevard   |
| <i>DO NOT INCLUDE LEGAL DESCRIPTION</i>   |   |
| <b>Or At</b>  |   |
| <b>Primary Types of Work</b>  | bridge construction, grading, aggregate base, concrete surfacing, sidewalks lighting, guardrail, pedestrian ramps |
| <i>Examples: GRADE, AGG BASE, BIT BASE, BIT SURF, SIDEWALK, CURB AND GUTTER, STORM SEWER, SIGNALS, LIGHTING, GUARDRAIL, BIKE PATH, PED RAMPS, BRIDGE, PARK AND RIDE, ETC.</i> |   |
| <b>BRIDGE/CULVERT PROJECTS (IF APPLICABLE)</b>  |   |
| <b>Old Bridge/Culvert No.:</b>  | 62623   |
| <b>New Bridge/Culvert No.:</b>  | TBD   |
| <b>Structure is Over/Under</b><br><b>(Bridge or culvert name):</b>  | I-694   |

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## Expander/Augmentor/Connector/Non-Freeway Principal Arterial

|                         |                                 |
|-------------------------|---------------------------------|
| <b>Select one:</b>      | Expander                        |
| <b>Area</b>             | 0.945                           |
| <b>Project Length</b>   | 0.441                           |
| <b>Average Distance</b> | 2.1429                          |
| <b>Upload Map</b>       | 1474383948187_RADRiceRamsRM.pdf |

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## Reliever: Relieves a Principal Arterial that is a Freeway Facility

|                                |       |
|--------------------------------|-------|
| <b>Facility being relieved</b> | I-35E |
|--------------------------------|-------|



Number of hours per day volume exceeds capacity (based on the Congestion Report) 5.0

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## Reliever: Relieves a Principal Arterial that is a Non-Freeway Facility

Facility being relieved

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

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### 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        |                         |

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

|   |  |
|---|--|
| Existing Employment within 1 Mile:                                    | 7289                                   |
| Existing Manufacturing/Distribution-Related Employment within 1 Mile: | 2929                                   |
| Existing Students:  | 0                                      |
| Upload Map  | 1467909522739_Regional Economy Map.pdf |

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## Measure C: Current Heavy Commercial Traffic

|  |                           |
|--|---------------------------|
| Location:                                      | south of I-694 North Ramp |
| Current daily heavy commercial traffic volume: | 2128                      |
| Date heavy commercial count taken:             | June 6, 2016              |

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## Measure D: Freight Elements

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

The project will bring Rice Street to 10-ton standards. This interchange serves as the primary access to the Interstate Highway system for adjacent manufacturing employing 2,929 people. In addition to manufacturing adjacent to the interchange, there are heavy construction companies in the Little Canada industrial park in the southeast quadrant of the interchange that rely on it to transport construction materials.

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## Measure A: Current Daily Person Throughput

|   |  |
|---|--|
| Location  | Between Owasso Blvd./Country Dr. and I-694 |
| Current AADT Volume   | 18100                                      |
| Existing Transit Routes on the Project  | 62, 262, 860                               |
| <i>For New Roadways only, list transit routes that will be moved to the new roadway</i> |  |
| Upload Transit Map  | 1467985232845_Transit Connections Map.pdf  |

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## Response: Current Daily Person Throughput

|  |         |
|--|---------|
| Average Annual Daily Transit Ridership | 0       |
| Current Daily Person Throughput        | 23530.0 |

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## Measure B: 2040 Forecast ADT

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

If checked, METC Staff will provide Forecast (2040) ADT volume

OR

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

Forecast (2040) ADT volume

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## 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 serves areas of affordable housing in Vadnais Heights, Little Canada, and Shoreview. In addition, there are projects underway that are building senior housing and affordable housing immediately adjacent to the project. A significant component of the project is that it will allow redevelopment of a 13-acre site in the southwest quadrant of the interchange to be redeveloped. A market study done for the project shows that the most feasible use of this property is a mixture of housing and office. This property is the former Ramsey County Public Works site, which was purchased with RALF funds.

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

Upload Map

1468328635619\_Socio Economic Map.pdf

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## Measure B: Affordable Housing

City/Township

Segment Length in Miles (Population)

|                 |       |
|-----------------|-------|
| Shoreview       | 0.424 |
| Vadnais Heights | 0.32  |
| Little Canada   | 0.1   |
|                 | 1     |

### Total Project Length

Total Project Length (Total Population) 0.42

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

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

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

Total Project Length (Miles) 0.844

Total Housing Score 0

### Measure A: Year of Roadway Construction

| Year of Original Roadway Construction or Most Recent Reconstruction | Segment Length | Calculation | Calculation 2 |
|---|----------------|-------------|---------------|
| 1958  | 0.424          | 830.192     | 1958.0        |
|   | 0              | 830         | 1958          |

### Average Construction Year

Weighted Year 1958

### Total Segment Length (Miles)

Total Segment Length 0.424

## Measure B: Geometric, Structural, or Infrastructure Improvements

|  |   |
|--|---|
| Improving a non-10-ton roadway to a 10-ton roadway:      | Yes   |
| Response (Limit 700 characters; approximately 100 words) | The roadway is currently a 9-ton facility and will be upgraded to 10-ton standards.   |
| Improved clear zones or sight lines:                     | Yes   |
| Response (Limit 700 characters; approximately 100 words) | Because of the skew of Rice Street relative to I-694, turning vehicles, especially trucks, encroach on opposing lanes when accessing Rice Street from I-694 and sight distance is impaired. This will be remedied by the construction of roundabout intersections. Shoulder construction will add a buffer between pedestrian facilities and through lanes.   |
| Improved roadway geometrics:                             | Yes   |
| Response (Limit 700 characters; approximately 100 words) | The construction of roundabout intersections will eliminate the issue of turning vehicles encroaching into opposing lanes. As well, conflicts at intersections will be reduced while throughput capacity will be increased. Currently sidewalks that are only about four feet wide are provided only on the bridge. Sidewalks meeting all applicable ADA standards will be provided through the project area. |
| Access management enhancements:                          | Yes   |
| Response (Limit 700 characters; approximately 100 words) | This project will close or consolidate 13 accesses, resulting in a net reduction of 9 accesses which will be moved to more functional locations, with two being full-movement accesses and two being right-in/right-out operation.  |
| Vertical/horizontal alignments improvements:             | Yes   |
| Response (Limit 700 characters; approximately 100 words) | The proposed design will reduce the angle at which Rice Street crosses I-694 by utilizing straight segments between the roundabout intersections. Clear zones under the I-694 bridge will be brought into conformance with current standards, both horizontally and vertically.   |
| Improved stormwater mitigation:                          | Yes   |

|   |  |
|---|--|
| <b>Response (Limit 700 characters; approximately 100 words)</b> | The design will comply with current State standards, as well as those of the Ramsey Washington Metro Watershed District.   |
| <b>Signals/lighting upgrades:</b>                               | Yes<br><br>Traffic signals will be replaced by roundabouts for increased throughput and reduced conflicts.   |
| <b>Response (Limit 700 characters; approximately 100 words)</b> | Lighting will be improved, with pedestrian-scale lighting provided and intersection lighting designed to optimize visibility at the roundabouts.   |
| <b>Other Improvements</b>                                       | Yes<br><br>The present interchange area does not provide accommodations for bikes or pedestrians. These will be included in the design. One of the goals of the project is to accommodate redevelopment in the area. Currently there is a large-scale senior housing complex being built in the southeast quadrant of the interchange area, as well as a large apartment complex in the northwest. In the southwest quadrant, the 13-acre former Ramsey County Public Works site will be made available for redevelopment after completion of the project. |
| <b>Response (Limit 700 characters; approximately 100 words)</b> |  |

## Measure A: Congestion Reduction/Air Quality

| Total Peak<br>Hour Delay<br>Per Vehicle<br>Without The<br>Project | Total Peak<br>Hour Delay<br>Per Vehicle<br>With The<br>Project | Total Peak<br>Hour Delay<br>Per Vehicle<br>Reduced by<br>Project | Volume<br>(Vehicles per<br>hour) | Total Peak<br>Hour Delay<br>Reduced by<br>the Project: | EXPLANATIO<br>N of<br>methodology<br>used to<br>calculate<br>railroad<br>crossing<br>delay, if<br>applicable. | Synchro or<br>HCM Reports   |
|---|--|--|----------------------------------|--|---|---|
| 41.0  | 0  | 41.0   | 1689                             | 69249.0  |   | 14679931898<br>73_Synchro-<br>Rice-l694<br>Roundabouts<br>0700-<br>0800.pdf |

41.0                    0                    41.0                    1689                    69249.0

**Total Delay**

Total Peak Hour Delay Reduced 138498.0

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

| Total (CO, NOX,<br>and VOC) Peak<br>Hour Emissions<br>Per Vehicle<br>without the Project<br>(Kilograms): | Total (CO, NOX,<br>and VOC) Peak<br>Hour Emissions<br>Per Vehicle with<br>the Project<br>(Kilograms): | Total (CO, NOX,<br>and VOC) Peak<br>Hour Emissions<br>Reduced Per<br>Vehicle by the<br>Project<br>(Kilograms): | Volume (Vehicles<br>Per Hour): | Total (CO, NOX,<br>and VOC) Peak<br>Hour Emissions<br>Reduced by the<br>Project<br>(Kilograms): |
|--|---|--|--------------------------------|---|
| 3.07   | 2.79  | 0.28   | 1836.0                         | 514.08  |
| <b>3</b>   | <b>3</b>  |  | <b>1836</b>                    | <b>514</b>  |

**Total**

Total Emissions Reduced: 514.08

Upload Synchro Report 1468328833782\_Synchro-Rice-I694 Roundabouts 0700-0800.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,<br>and VOC) Peak<br>Hour Emissions<br>Per Vehicle<br>without the Project<br>(Kilograms): | Total (CO, NOX,<br>and VOC) Peak<br>Hour Emissions<br>Per Vehicle with<br>the Project<br>(Kilograms): | Total (CO, NOX,<br>and VOC) Peak<br>Hour Emissions<br>Reduced Per<br>Vehicle by the<br>Project<br>(Kilograms): | Volume (Vehicles<br>Per Hour): | Total (CO, NOX,<br>and VOC) Peak<br>Hour Emissions<br>Reduced by the<br>Project<br>(Kilograms): |
|--|---|--|--------------------------------|---|
| 0  | 0   |  | 0                              | 0   |

## Total Parallel Roadways

Emissions Reduced on Parallel Roadways 0

Upload Synchro Report

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### New Roadway Portion:

Cruise speed in miles per hour with the project: 0

Vehicle miles traveled with the project: 0

Total delay in hours with the project: 0

Total stops in vehicles per hour with the project: 0

Fuel consumption in gallons: 0

Total (CO, NOX, and VOC) Peak Hour Emissions Reduced or Produced on New Roadway (Kilograms): 0

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

Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms): 0.0

---

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

Cruise speed in miles per hour without the project: 0

Vehicle miles traveled without the project: 0

Total delay in hours without the project: 0

Total stops in vehicles per hour without the project: 0

Cruise speed in miles per hour with the project: 0

Vehicle miles traveled with the project: 0

Total delay in hours with the project: 0

Total stops in vehicles per hour with the project: 0

Fuel consumption in gallons (F1) 0

Fuel consumption in gallons (F2) 0

Fuel consumption in gallons (F3) 0

Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms): 0

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

---

### Transit Projects Not Requiring Construction



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

**Check Here if Your Transit Project Does Not Require Construction**

---

**Measure A: Risk Assessment**

**1) Project Scope (5 Percent of Points)**

Meetings or contacts with stakeholders have occurred Yes  
 100%

Stakeholders have been identified  
 40%

Stakeholders have not been identified or contacted  
 0%

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

Layout or Preliminary Plan completed  
 100%

Layout or Preliminary Plan started Yes  
 50%

Layout or Preliminary Plan has not been started  
 0%

Anticipated date or date of completion 10/27/2017

**3) Environmental Documentation (5 Percent of Points)**

EIS

EA

PM Yes

**Document Status:**

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

Document submitted to State Aid for review 75% date submitted

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

Document not started  
 0%

Anticipated date or date of completion/approval 11/11/2016

**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**

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:** 09/30/2016

**Project is located on an identified historic bridge** Yes

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

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

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

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

100%

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

100%

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

80%

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

50%

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

30%

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

0%

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

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

100%

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

100%

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

75%

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

50%

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

Yes

25%

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

0%

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

0%

**Anticipated date or date of acquisition**

03/29/2019

#### **7)Railroad Involvement (25 Percent of Points)**

**No railroad involvement on project**

Yes

100%

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

100%

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

60%

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

40%

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

0%

**Anticipated date or date of executed Agreement**

#### **8)Interchange Approval (15 Percent of Points)\***

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

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

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

Yes

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

11/10/2017

### 10)Letting

Anticipated Letting Date

11/01/2019

---

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

Crash Modification Factor Used:

65.0

Rationale for Crash Modification Selected:

The crash reduction was calculated based on reconstructing the four signalized intersections within the project limits, including the two I-694 ramp terminals, with roundabout intersections.

*(Limit 1400 Characters; approximately 200 words)*

Project Benefit (\$) from B/C Ratio

\$6,170,305.00

Worksheet Attachment

1467994624741\_CSAH 49 Crash Analysis Worksheet est cost 11\_8M.pdf

---

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

Current AADT volume:

0

Average daily trains:

0

Crash Risk Exposure eliminated:

0

---

## Measure A: Multimodal Elements and Existing Connections

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

This segment of Rice Street does not accommodate bikes or pedestrians. The only sidewalks present are on the bridge and are only approximately four feet wide. A sidewalk and a trail will be built as part of this project to connect with existing and planned trails to the north, northeast, southeast, and southwest. Shoulders will be provided for on-road bikers.

---

## Measure A: Cost Effectiveness

|  |                 |
|--|-----------------|
| Total Project Cost (entered in Project Cost Form):         | \$11,659,311.00 |
| Enter Amount of the Noise Walls:                           | \$0.00          |
| Total Project Cost subtract the amount of the noise walls: | \$11,659,311.00 |
| Points Awarded in Previous Criteria                        |                 |
| Cost Effectiveness   | \$0.00          |

---

## Other Attachments

| File Name                                     | Description  | File Size |
|---|--|-----------|
| Alt 1B 7-11-16.pdf                            | Current Preferred Alternative Layout                     | 681 KB    |
| County Maintenance Letter rice 694.pdf        | Ramsey County Intent to Maintain Letter                  | 56 KB     |
| I-694_Rice St Alt 1B cost estimate 7-6-16.pdf | Alternate 1B Estimate (includes municipal utility items) | 24 KB     |
| RiceStI694Interchange Location Map.pdf        | Location Map   | 799 KB    |
| SB CSAH 49 AT 694 NO RAMP COUNT.pdf           | Vehicle Classification Count                             | 20 KB     |
| Shoreview Support Letter0001.pdf              | City of Shoreview Letter of Support                      | 42 KB     |
| VH Letter of Support.pdf                      | City of Vadnais Heights Letter of Support                | 42 KB     |

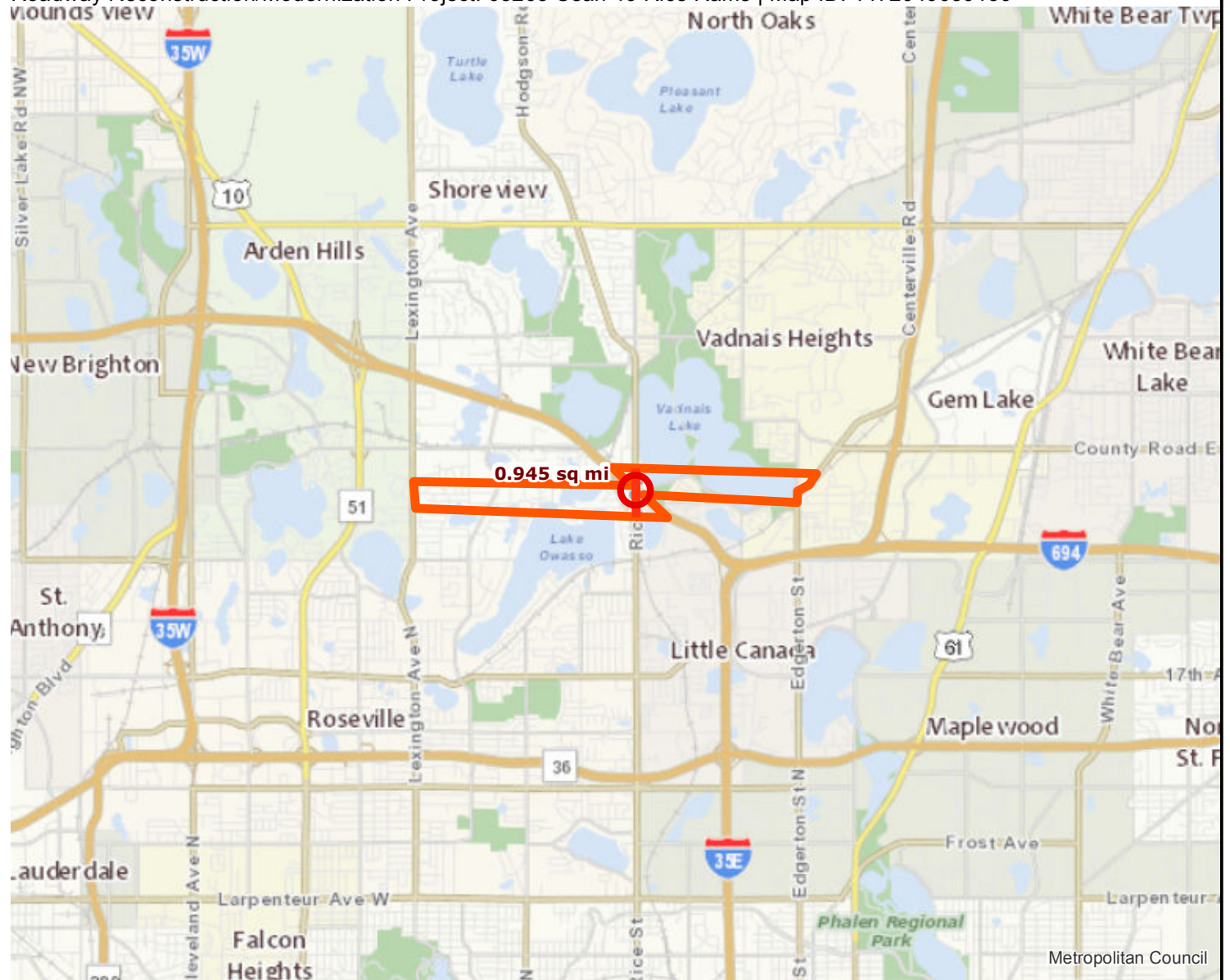
# Roadway Area Definition








Roadway Reconstruction/Modernization Project: 05263 CsaH 49 Rice Rams | Map ID: 1472049039139

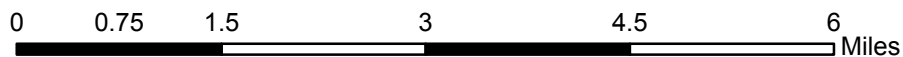
## Results

Project Length: 0.441 miles

Project Area: 0.945 sq mi



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



Created: 8/24/2016  
LandscapeRSA1



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



# Regional Economy

Roadway Reconstruction/Modernization Project: Rice Street / I-694 Interchange | Map ID: 1466792337257

## Results

**WITHIN ONE MI** of project:

Totals by City:

**Little Canada**

Population: 2579

Employment: 3526

Mfg and Dist Employment: 1123

**Roseville**

Population: 4450

Employment: 201

Mfg and Dist Employment: 3

**Shoreview**

Population: 4796

Employment: 3461

Mfg and Dist Employment: 1803

**Vadnais Heights**

Population: 2029

Employment: 101

Mfg and Dist Employment: 0

Postsecondary Students:

0



○ Project Points    □ Project Area

— Project



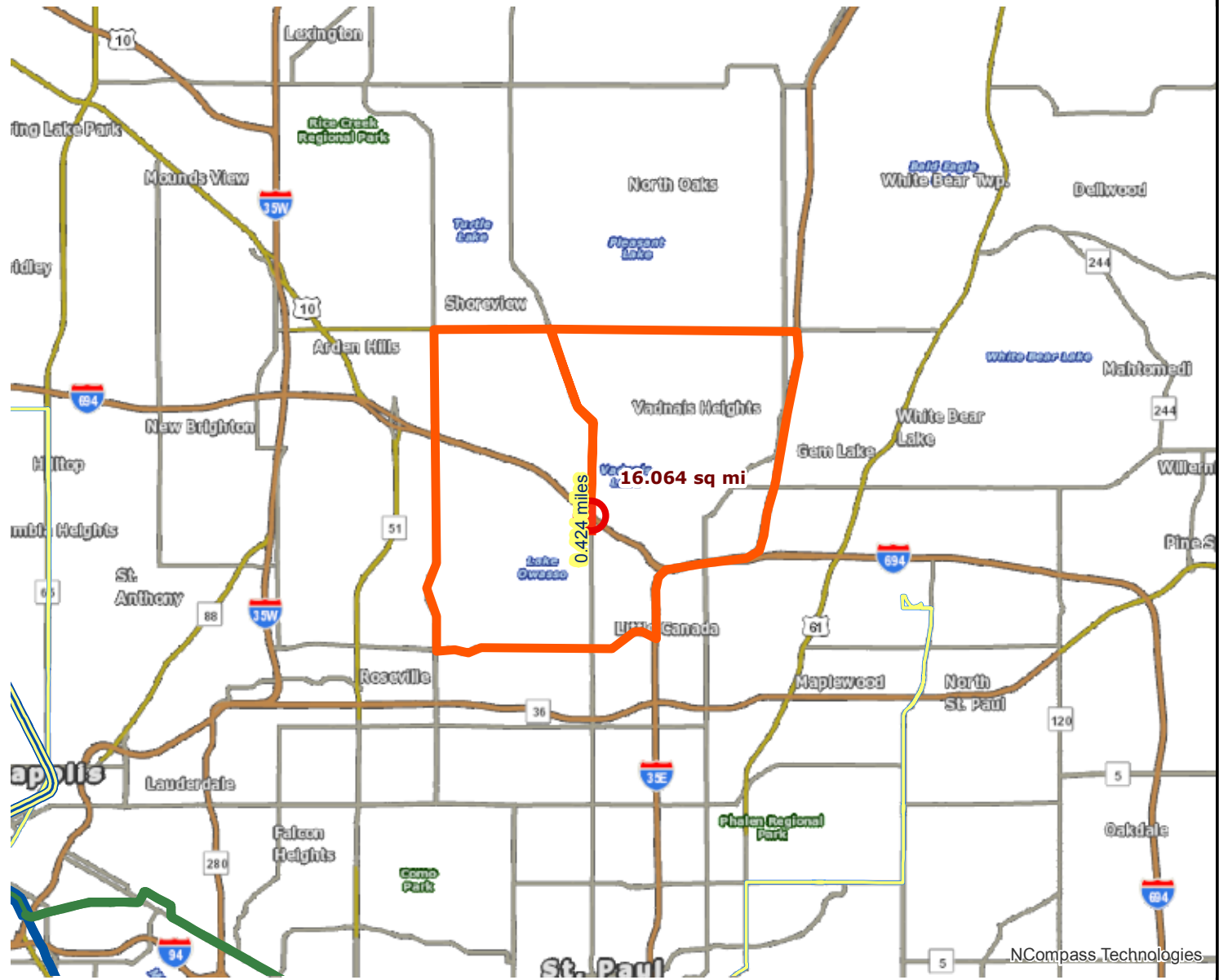
Created: 6/24/2016  
LandscapeRSA5



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







Results

Transit with a Direct Connection to project:  
62 262 860

\*indicates Planned Alignments

- Project Points
- Project Area
- Transitway
  - Blue Line
  - Green Line
- Planned Alignments
  - Blue Line
  - Green Line
- Northstar Line
- Arterial BRT



Created: 6/24/2016  
LandscapeRSA3



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

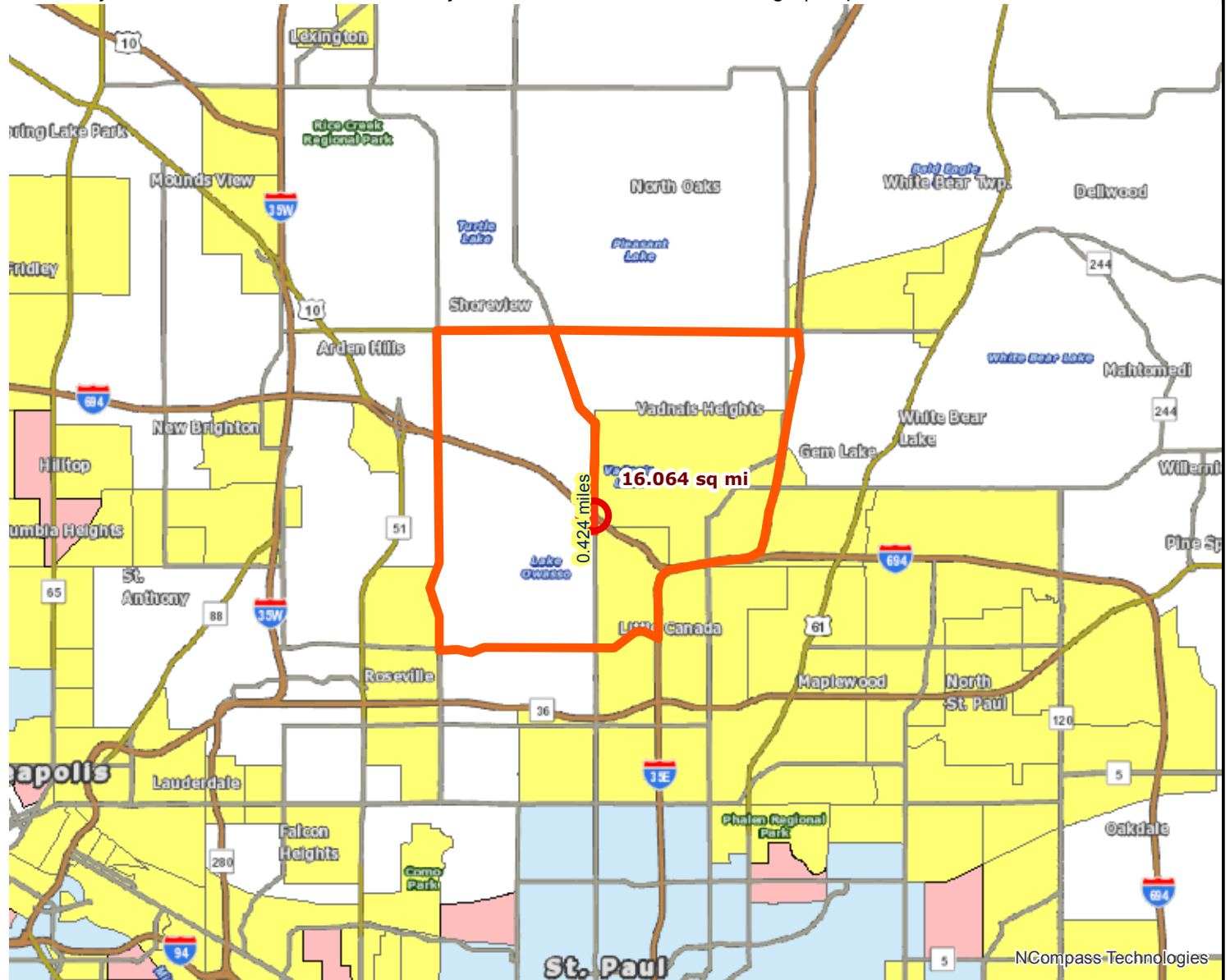
NCompass Technologies





Results

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



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



Created: 6/24/2016  
LandscapeRSA2



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



NCompass Technologies

---

1: Rice St & Owasso Blvd N/Country Dr

---

| Direction               | All  |
|-------------------------|------|
| Future Volume (vph)     | 1836 |
| Total Delay / Veh (s/v) | 0    |
| CO Emissions (kg)       | 1.96 |
| NOx Emissions (kg)      | 0.38 |
| VOC Emissions (kg)      | 0.45 |

---

2: Rice St & I-694 S Ramp

---

| Direction               | All  |
|-------------------------|------|
| Future Volume (vph)     | 2053 |
| Total Delay / Veh (s/v) | 0    |
| CO Emissions (kg)       | 2.11 |
| NOx Emissions (kg)      | 0.41 |
| VOC Emissions (kg)      | 0.49 |

---

3: Rice St & I-694 N Ramp

---

| Direction               | All  |
|-------------------------|------|
| Future Volume (vph)     | 2059 |
| Total Delay / Veh (s/v) | 0    |
| CO Emissions (kg)       | 2.04 |
| NOx Emissions (kg)      | 0.40 |
| VOC Emissions (kg)      | 0.47 |

---

4: Rice St & Co Rd E/Vadnais Blvd

---

| Direction               | All  |
|-------------------------|------|
| Future Volume (vph)     | 1689 |
| Total Delay / Veh (s/v) | 0    |
| CO Emissions (kg)       | 1.75 |
| NOx Emissions (kg)      | 0.34 |
| VOC Emissions (kg)      | 0.40 |

---

**1: Rice St & Owasso Blvd N/Country Dr**

---

| Direction               | All  |
|-------------------------|------|
| Future Volume (vph)     | 1836 |
| Total Delay / Veh (s/v) | 32   |
| CO Emissions (kg)       | 2.15 |
| NOx Emissions (kg)      | 0.42 |
| VOC Emissions (kg)      | 0.50 |

---

**2: Rice St & I-694 S Ramp**

---

| Direction               | All  |
|-------------------------|------|
| Future Volume (vph)     | 2053 |
| Total Delay / Veh (s/v) | 36   |
| CO Emissions (kg)       | 2.32 |
| NOx Emissions (kg)      | 0.45 |
| VOC Emissions (kg)      | 0.54 |

---

**3: Rice St & I-694 N Ramp**

---

| Direction               | All  |
|-------------------------|------|
| Future Volume (vph)     | 2059 |
| Total Delay / Veh (s/v) | 55   |
| CO Emissions (kg)       | 3.19 |
| NOx Emissions (kg)      | 0.62 |
| VOC Emissions (kg)      | 0.74 |

---

**4: Rice St & Co Rd E/Vadnais Blvd**

---

| Direction               | All  |
|-------------------------|------|
| Future Volume (vph)     | 1688 |
| Total Delay / Veh (s/v) | 41   |
| CO Emissions (kg)       | 2.27 |
| NOx Emissions (kg)      | 0.44 |
| VOC Emissions (kg)      | 0.53 |

---

1: Rice St & Owasso Blvd N/Country Dr

---

| Direction               | All  |
|-------------------------|------|
| Future Volume (vph)     | 1836 |
| Total Delay / Veh (s/v) | 0    |
| CO Emissions (kg)       | 1.96 |
| NOx Emissions (kg)      | 0.38 |
| VOC Emissions (kg)      | 0.45 |

---

2: Rice St & I-694 S Ramp

---

| Direction               | All  |
|-------------------------|------|
| Future Volume (vph)     | 2053 |
| Total Delay / Veh (s/v) | 0    |
| CO Emissions (kg)       | 2.11 |
| NOx Emissions (kg)      | 0.41 |
| VOC Emissions (kg)      | 0.49 |

---

3: Rice St & I-694 N Ramp

---

| Direction               | All  |
|-------------------------|------|
| Future Volume (vph)     | 2059 |
| Total Delay / Veh (s/v) | 0    |
| CO Emissions (kg)       | 2.04 |
| NOx Emissions (kg)      | 0.40 |
| VOC Emissions (kg)      | 0.47 |

---

4: Rice St & Co Rd E/Vadnais Blvd

---

| Direction               | All  |
|-------------------------|------|
| Future Volume (vph)     | 1689 |
| Total Delay / Veh (s/v) | 0    |
| CO Emissions (kg)       | 1.75 |
| NOx Emissions (kg)      | 0.34 |
| VOC Emissions (kg)      | 0.40 |

# HSIP worksheet

| Control Section                     | T.H. / Roadway | Location  | Beginning Ref. Pt. | Ending Ref. Pt. | State, County, City or Township | Study Period Begins | Study Period Ends |
|-------------------------------------|----------------|---|--------------------|-----------------|---------------------------------|---------------------|-------------------|
|                                     | CSAH 49        | CSAH 49 (Rice Street) from Owasso Blvd N to County Road E/Vadnais Blvd in Shoreview, MN   | 005+00.964         | 006+00.283      | Ramsey Co.                      | 1/1/2013            | 12/31/2015        |
| <b>Description of Proposed Work</b> |                | Convert the four (4) current signalized intersections on CSAH 49 (Rice Street) from Owasso Blvd to County Road E/Vadnais Blvd into roundabout controlled intersections. |                    |                 |                                 |                     |                   |

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

| Study Period: Number of Crashes | Fatal                | F  |  |    |   |   |   |   |   |   |    |
|---------------------------------|----------------------|----|--|----|---|---|---|---|---|---|----|
|                                 | Personal Injury (PI) | A  |  |    |   |   | 1 |   |   |   | 1  |
|                                 |                      | B  |  |    | 2 |   | 1 |   |   |   | 3  |
|                                 |                      | C  |  | 4  |   | 3 | 5 | 1 | 3 |   | 16 |
|                                 | Property Damage      | PD |  | 23 | 5 | 7 | 9 | 6 |   | 4 | 54 |

| % Change in Crashes | Fatal           | F  | -35% | -35% | -35% | -35% | -35% | -35% | -35% | -35% |      |
|---------------------|-----------------|----|------|------|------|------|------|------|------|------|------|
|                     | PI              | A  | -35% | -35% | -35% | -35% | -35% | -35% | -35% | -35% | -35% |
|                     |                 | B  | -35% | -35% | -35% | -35% | -35% | -35% | -35% | -35% | -35% |
|                     |                 | C  | -35% | -35% | -35% | -35% | -35% | -35% | -35% | -35% | -35% |
|                     | Property Damage | PD | -35% | -35% | -35% | -35% | -35% | -35% | -35% | -35% | -35% |

*\*Use Desktop Reference for Crash Reduction Factors*

| Change in Crashes<br><small>= No. of crashes X % change in crashes</small> | Fatal           | F  |  |       |       |       |       |       |       |       |        |
|--|-----------------|----|--|-------|-------|-------|-------|-------|-------|-------|--------|
|  | PI              | A  |  |       |       |       | -0.35 |       |       |       | -0.35  |
|  |                 | B  |  |       | -0.70 |       | -0.35 |       |       |       | -1.05  |
|  |                 | C  |  | -1.40 |       | -1.05 | -1.75 | -0.35 | -1.05 |       | -5.60  |
|  | Property Damage | PD |  | -8.05 | -1.75 | -2.45 | -3.15 | -2.10 |       | -1.40 | -18.90 |

Year (Safety Improvement Construction) **2019**

| Project Cost (exclude Right of Way) | \$ 11,800,000 | Type of Crash | Study Period: Change in Crashes | Annual Change in Crashes | Cost per Crash | Annual Benefit |
|-------------------------------------|---------------|---------------|---------------------------------|--------------------------|----------------|----------------|
| Right of Way Costs (optional)       |               | F             |                                 |                          | \$ 1,140,000   |                |
| Traffic Growth Factor               | 1.3%          | A             | -0.35                           | -0.12                    | \$ 570,000     | \$ 66,561      |
| Capital Recovery                    |               | B             | -1.05                           | -0.35                    | \$ 170,000     | \$ 59,554      |
| 1. Discount Rate                    | 2%            | C             | -5.60                           | -1.87                    | \$ 83,000      | \$ 155,075     |
| 2. Project Service Life (n)         | 20            | PD            | -18.90                          | -6.31                    | \$ 7,600       | \$ 47,924      |
|                                     |               | <b>Total</b>  |                                 |                          |                | \$ 329,114     |

**B/C= 0.52**

*Using present worth values,*  
**B= \$ 6,170,305**  
**C= \$ 11,800,000**  
*See "Calculations" sheet for amortization.*  
**Office of Traffic, Safety and Technology**  
**August 2015**

### Amortizing...

| Year | Crash Benefits | Present Worth Benefits | Present Worth Costs |
|------|----------------|------------------------|---------------------|
| 2019 | \$ 329,114     | \$ 329,114             | \$ 11,800,000       |
| 2020 | \$ 333,392     | \$ 326,855             |                     |
| 2021 | \$ 337,726     | \$ 324,612             |                     |
| 2022 | \$ 342,117     | \$ 322,384             |                     |
| 2023 | \$ 346,564     | \$ 320,172             |                     |
| 2024 | \$ 351,070     | \$ 317,975             |                     |
| 2025 | \$ 355,634     | \$ 315,793             |                     |
| 2026 | \$ 360,257     | \$ 313,625             |                     |
| 2027 | \$ 364,940     | \$ 311,473             |                     |
| 2028 | \$ 369,684     | \$ 309,335             |                     |
| 2029 | \$ 374,490     | \$ 307,213             |                     |
| 2030 | \$ 379,359     | \$ 305,104             |                     |
| 2031 | \$ 384,290     | \$ 303,010             |                     |
| 2032 | \$ 389,286     | \$ 300,931             |                     |
| 2033 | \$ 394,347     | \$ 298,866             |                     |
| 2034 | \$ 399,473     | \$ 296,815             |                     |
| 2035 | \$ 404,667     | \$ 294,778             |                     |
| 2036 | \$ 409,927     | \$ 292,755             |                     |
| 2037 | \$ 415,256     | \$ 290,746             |                     |
| 2038 | \$ 420,655     | \$ 288,750             |                     |
| 0    | \$ -           | \$ -                   |                     |
| 0    | \$ -           | \$ -                   |                     |
| 0    | \$ -           | \$ -                   |                     |
| 0    | \$ -           | \$ -                   |                     |
| 0    | \$ -           | \$ -                   |                     |
| 0    | \$ -           | \$ -                   |                     |
| 0    | \$ -           | \$ -                   |                     |
| 0    | \$ -           | \$ -                   |                     |
| 0    | \$ -           | \$ -                   |                     |
| 0    | \$ -           | \$ -                   |                     |
| 0    | \$ -           | \$ -                   |                     |
| 0    | \$ -           | \$ -                   |                     |

**Totals =                    \$ 6,170,305    \$ 11,800,000**  
**(B)**                    **(C)**

year (n)= 1, 2, 3,....  
discount rate (i) = 7%

$$\text{Crash Benefits (@ year n)} = (\text{Crash Benefits})_{n-1} \times (1 + \text{Traffic Growth Factor})$$

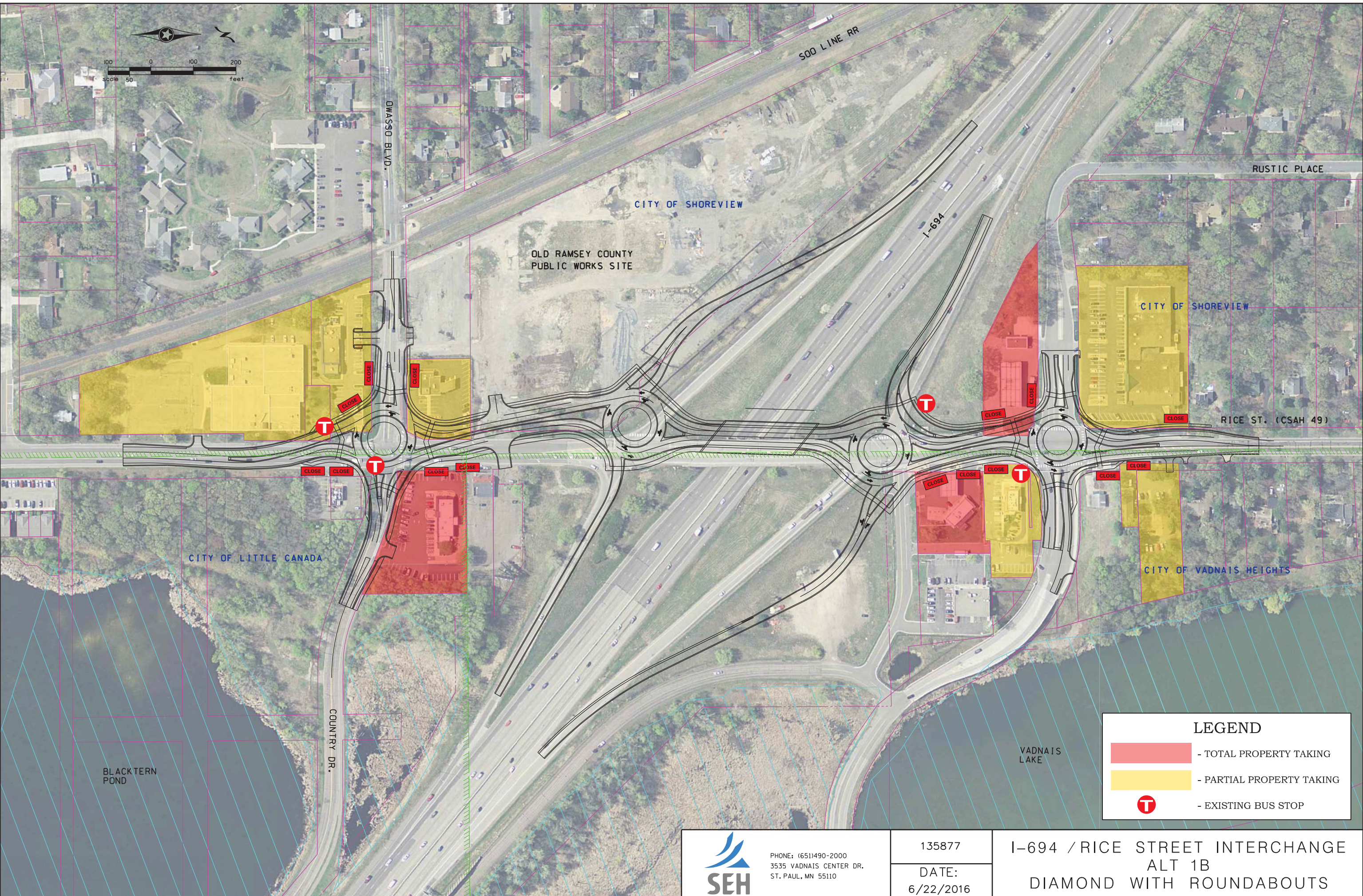
$$\text{Present Worth Benefits (@ year n)} = (\text{Crash Benefits})_n \times 1/(1 + \text{Discount Rate})^n$$

| <b>Type of Crash</b> | <b>Crash Severity</b> | <b>Cost per Crash</b> |
|----------------------|-----------------------|-----------------------|
| Fatal                | K                     | \$ 1,140,000          |
| Personal Injury      | A Incapacitating      | \$ 570,000            |
|                      | B Non-Incapacitating  | \$ 170,000            |
|                      | C Possible            | \$ 83,000             |
| Property Damage      | PDO or N              | \$ 7,600              |

Source: MnDOT Office of Transportation System Management  
(July 2015)




S:\PT\Ramse\135877\4-prelim-dsgn-rpts\cadd\figures\135877\_row\_cadd\Background with Roundabouts.cfor 7/11/2016 3:09:30 PM



**LEGEND**

- TOTAL PROPERTY TAKING
- PARTIAL PROPERTY TAKING
- T - EXISTING BUS STOP



PHONE: (651)490-2000  
3535 VADNAIS CENTER DR.  
ST. PAUL, MN 55110

135877  
DATE:  
6/22/2016

I-694 / RICE STREET INTERCHANGE  
ALT 1B  
DIAMOND WITH ROUNDABOUTS



July 11, 2016

Elaine Koutsoukos, TAB Coordinator  
Metropolitan Council  
390 Robert St. N.  
Saint Paul, MN 55101


**SURFACE TRANSPORTATION PROGRAM FUNDING APPLICATION FOR  
RECONSTRUCTION/MODERNIZATION OF RICE STREET, RAMSEY COUNTY STATE AID HIGHWAY  
(CSAH 49), BETWEEN 600 FEET SOUTH OF NRTH OWASSO BOULEVARD/COUNTYR DRIVE AND 600  
FEET NORTH OF COUNTY ROAD E/VADNAIS BOULEVARD- INTENT TO MAINTAIN**

Dear Ms. Koutsoukos:

Ramsey County, as the political subdivision with jurisdiction over Rice Street (CSAH 49) hereby states its intention to operate and maintain the facility, including any improvements funded through the Surface Transportation Program, for the full design life of the facility and planned improvements.

The application for Surface Transportation Program funds that we have submitted would not replace any regionally-funded improvements that were opened to traffic within the last five years.

Sincerely,



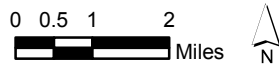
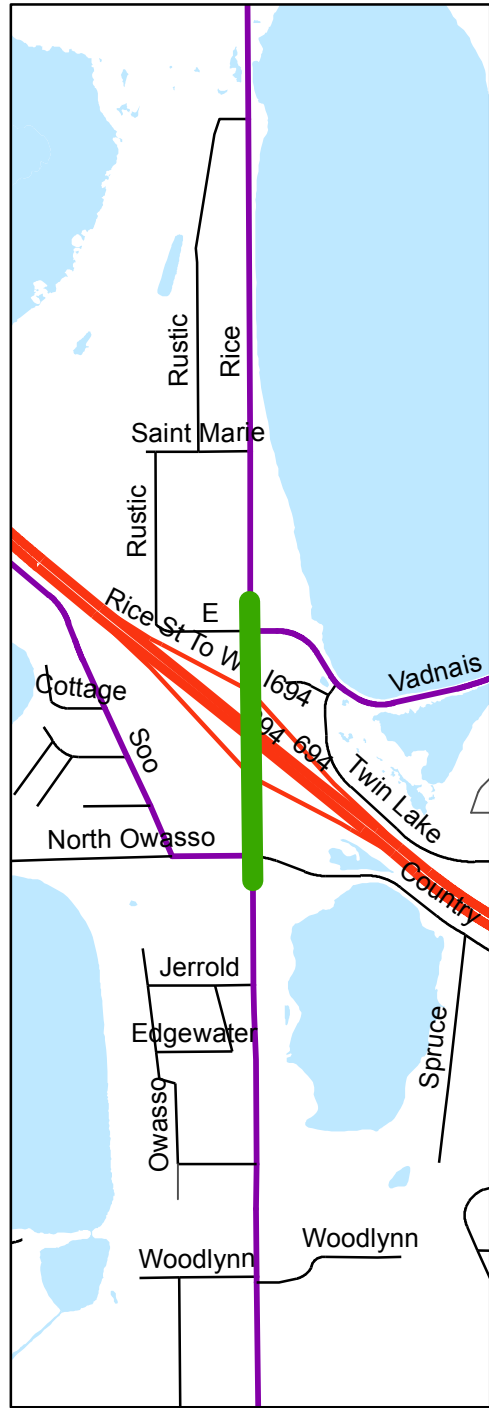
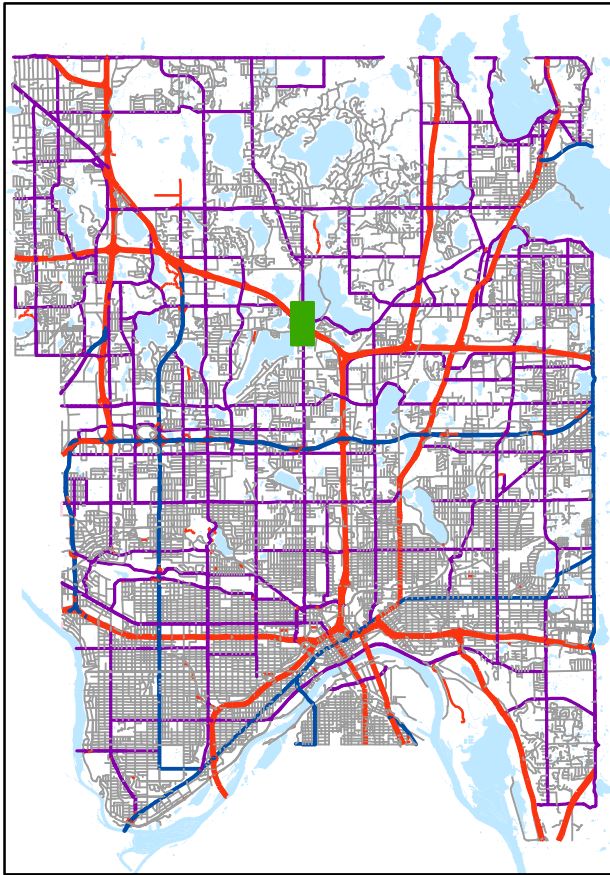
James E. Tolaas, P.E.  
Director of Public Works/County Engineer

Enclosure

Construction Cost Estimate

| I-694/Rice St. - Alt 1B                                 |          |               |          |                      |
|---|----------|---------------|----------|----------------------|
| Item Description  | Units    | Unit Cost     | Quantity | Total                |
| <b>PAVING AND GRADING (P &amp; G) COSTS</b>             |          |               |          |                      |
| Bituminous Pavement (1)                                 | ton      | \$75.00       | 11,799   | \$ 884,937           |
| 4" Concrete Walk  | sq ft    | \$7.00        | 47,750   | \$ 334,250           |
| 8" Concrete pavement                                    | sq yd    | \$80.00       | 1,750    | \$ 139,982           |
| Concrete pavement                                       | sq yd    | \$70.00       | 0        | \$ -                 |
| Class 2 Aggregate Shoulder (1)                          | cu yd    | \$45.00       | 0        | \$ -                 |
| Class 5 Aggregate Base (1)                              | cu yd    | \$25.00       | 6,680    | \$ 167,009           |
| Subgrade Excavation (1)                                 | cu yd    | \$10.00       | 15,103   | \$ 151,029           |
| Common Excavation                                       | cu yd    | \$10.00       | 16,144   | \$ 161,442           |
| Common Borrow   | cu yd    | \$8.00        | 24,216   | \$ 193,731           |
| Select Granular Borrow                                  | cu yd    | \$20.00       | 15,103   | \$ 302,059           |
| Mill Pavement   | sq yd    |               | 0        | \$ -                 |
| Curb and Gutter Design B624                             | lin ft   | \$18.00       | 18,812   | \$ 338,616           |
| <b>(a) Subtotal Paving and Grading</b>                  |          |               |          | <b>\$ 2,673,056</b>  |
| <b>UTILITIES, REMOVALS, DRAINAGE, ETC.</b>              |          |               |          |                      |
| Removals/Clear and Grub                                 |          | 10.0%         |          | \$ 250,000           |
| Minor City Utilities                                    |          | 5.0%          |          | \$ 150,000           |
| Signing, Striping, Traffic Control                      |          | 15.0%         |          | \$ 350,000           |
| Erosion Control and Turf Establishment                  |          | 15.0%         |          | \$ 350,000           |
| <b>(b) Subtotal Utilities, Removals, Drainage, Etc.</b> |          |               |          | <b>\$ 1,100,000</b>  |
| <b>DRAINAGE</b>   |          |               |          |                      |
| Storm Sewer   |          | 25.0%         |          | \$ 650,000           |
| <b>(c) Subtotal Drainage</b>                            |          |               |          | <b>\$ 650,000</b>    |
| <b>STRUCTURES/SIGNALS/MISC. COST</b>                    |          |               |          |                      |
| Bridge removal  | sqft     | \$15          | 15,178   | \$ 227,675           |
| Bridge rehab  | lump sum | \$1,100,000   | 0        | \$ -                 |
| Rice St. Bridge   | sqft     | \$150         | 17,100   | \$ 2,565,000         |
| Bridge  | sqft     | \$220         | 0        | \$ -                 |
| Retaining Wall  | sqft     | \$100         | 4,800    | \$ 480,000           |
| Retaining Wall  | sqft     | \$100         | 0        | \$ -                 |
| Roundabout Lighting                                     |          | \$7,000       | 48       | \$ 336,000           |
| Interchange Lighting                                    |          | \$480,000     | 1.0      | \$ 480,000           |
| Roundabout Landscaping                                  |          | \$40,000      | 4        | \$ 160,000           |
| Intersection ADA  | each     | \$ 6,000.00   | 55       | \$ 330,000           |
| Signal System   | each     | \$ 250,000.00 | 0        | \$ -                 |
| <b>(d) Subtotal Structural</b>                          |          |               |          | <b>\$ 4,578,675</b>  |
| <b>(a+b+c+d) Subtotal Construction</b>                  |          |               |          | <b>\$ 9,001,730</b>  |
| Risk & Contingency                                      |          | 20.0%         |          | \$ 1,800,346         |
| TMP   |          | 5.0%          |          | \$ 550,000           |
| Mobilization  |          | 4.0%          |          | \$ 450,000           |
| <b>(e) Subtotal Miscellaneous</b>                       |          |               |          | <b>\$ 2,800,346</b>  |
| <b>(a+b+c+d+e) Total Construction</b>                   |          |               |          | <b>\$ 11,802,076</b> |
| <b>Administrative &amp; Engineering</b>                 |          |               |          |                      |
| <b>RW Cost</b>  |          |               |          |                      |
| Taco Johns  |          | \$2,000,000   | 0%       | \$ -                 |
| Caribou   |          | \$3,000,000   | 50%      | \$ 1,500,000         |
| Vadnais Inn   |          | \$750,000     | 0%       | \$ -                 |
| Mobil Food Mart   |          | \$2,500,000   | 100%     | \$ 2,500,000         |
| Taco Bell   |          | \$3,000,000   | 50%      | \$ 1,500,000         |
| Garden Center   |          | \$350,000     | 0%       | \$ -                 |
| Kurkowski Dental Office                                 |          | \$400,000     | 0%       | \$ -                 |
| Jackson Chiropractic Office                             |          | \$70,000      | 0%       | \$ -                 |
| Elevage Site  |          | \$0           | 0%       | \$ -                 |
| Kath Gas Station  |          | \$2,500,000   | 100%     | \$ 2,500,000         |
| Old Public Works  |          | \$0           | 0%       | \$ -                 |
| Credit Union  |          | \$2,500,000   | 50%      | \$ 1,250,000         |
| Burger King   |          | \$2,000,000   | 50%      | \$ 1,000,000         |
| Centurylink   |          | \$0           | 0%       | \$ -                 |
| <b>Total RW</b>   |          |               |          | <b>\$ 10,250,000</b> |
| <b>Total Estimated Cost</b>                             |          |               |          | <b>\$ 22,052,076</b> |

# Rice Street (49) - I-694 Interchange



Map Produced 7/12/2016 by Ramsey County Public Works



The information on this map is a compilation of Ramsey County Records. THE COUNTY DOES NOT WARRANT OR GUARANTEE THE ACCURACY OF THIS DATA. The county disclaims any liability for any injuries, time delays, or expenses you may suffer if you rely in any manner on the accuracy of this data.

# Ramsey County Public Works

1425 Paul Kirkwold Drive  
Arden Hills, MN 55112

Date Start: 06-Jun-16  
Site Code: 133  
Station ID:  
SB CSAH 49  
694 NORTH RAMP

**SOUTHBOUND**

| Start Time   | Bikes | Cars & Trailer | 2 Axle Long | Buses | 2 Axle 6 Tire | 3 Axle Single | 4 Axle Single | <5 Axl Double | 5 Axle Double | >6 Axl Double | <6 Axl Multi | 6 Axle Multi | >6 Axl Multi | Not Classe | Total |
|--------------|-------|----------------|-------------|-------|---------------|---------------|---------------|---------------|---------------|---------------|--------------|--------------|--------------|------------|-------|
| 06/06/16     | *     | *              | *           | *     | *             | *             | *             | *             | *             | *             | *            | *            | *            | *          | *     |
| 01:00        | *     | *              | *           | *     | *             | *             | *             | *             | *             | *             | *            | *            | *            | *          | *     |
| 02:00        | *     | *              | *           | *     | *             | *             | *             | *             | *             | *             | *            | *            | *            | *          | *     |
| 03:00        | *     | *              | *           | *     | *             | *             | *             | *             | *             | *             | *            | *            | *            | *          | *     |
| 04:00        | *     | *              | *           | *     | *             | *             | *             | *             | *             | *             | *            | *            | *            | *          | *     |
| 05:00        | *     | *              | *           | *     | *             | *             | *             | *             | *             | *             | *            | *            | *            | *          | *     |
| 06:00        | *     | *              | *           | *     | *             | *             | *             | *             | *             | *             | *            | *            | *            | *          | *     |
| 07:00        | *     | *              | *           | *     | *             | *             | *             | *             | *             | *             | *            | *            | *            | *          | *     |
| 08:00        | *     | *              | *           | *     | *             | *             | *             | *             | *             | *             | *            | *            | *            | *          | *     |
| 09:00        | *     | *              | *           | *     | *             | *             | *             | *             | *             | *             | *            | *            | *            | *          | *     |
| 10:00        | *     | *              | *           | *     | *             | *             | *             | *             | *             | *             | *            | *            | *            | *          | *     |
| 11:00        | 9     | 457            | 123         | 6     | 42            | 12            | 2             | 8             | 5             | 0             | 0            | 0            | 0            | 31         | 695   |
| 12 PM        | 11    | 459            | 154         | 9     | 53            | 5             | 1             | 12            | 1             | 1             | 0            | 0            | 0            | 42         | 748   |
| 13:00        | 4     | 422            | 135         | 10    | 50            | 15            | 2             | 15            | 1             | 0             | 0            | 0            | 0            | 11         | 665   |
| 14:00        | 4     | 454            | 166         | 7     | 55            | 6             | 1             | 10            | 2             | 0             | 0            | 0            | 0            | 12         | 717   |
| 15:00        | 7     | 500            | 129         | 11    | 40            | 7             | 3             | 14            | 4             | 1             | 2            | 0            | 1            | 15         | 734   |
| 16:00        | 11    | 484            | 115         | 3     | 36            | 11            | 2             | 9             | 2             | 2             | 1            | 0            | 3            | 65         | 744   |
| 17:00        | 8     | 451            | 116         | 2     | 29            | 6             | 1             | 9             | 1             | 1             | 1            | 0            | 3            | 91         | 719   |
| 18:00        | 6     | 465            | 137         | 2     | 23            | 7             | 2             | 8             | 3             | 0             | 1            | 0            | 0            | 35         | 689   |
| 19:00        | 1     | 279            | 67          | 1     | 15            | 5             | 0             | 2             | 0             | 0             | 0            | 0            | 0            | 1          | 371   |
| 20:00        | 3     | 264            | 58          | 2     | 8             | 0             | 0             | 4             | 1             | 0             | 0            | 0            | 0            | 2          | 342   |
| 21:00        | 2     | 208            | 61          | 0     | 5             | 0             | 0             | 1             | 0             | 0             | 0            | 0            | 0            | 4          | 281   |
| 22:00        | 0     | 115            | 31          | 0     | 7             | 0             | 0             | 0             | 1             | 0             | 0            | 0            | 0            | 3          | 157   |
| 23:00        | 1     | 61             | 20          | 0     | 5             | 1             | 0             | 0             | 1             | 0             | 0            | 0            | 0            | 3          | 92    |
| Total        | 67    | 4619           | 1312        | 53    | 368           | 75            | 14            | 92            | 22            | 5             | 5            | 0            | 7            | 315        | 6954  |
| Percent      | 1.0%  | 66.4%          | 18.9%       | 0.8%  | 5.3%          | 1.1%          | 0.2%          | 1.3%          | 0.3%          | 0.1%          | 0.1%         | 0.0%         | 0.1%         | 4.5%       |       |
| AM Peak Vol. | 11:00 | 11:00          | 11:00       | 11:00 | 11:00         | 11:00         | 11:00         | 11:00         | 11:00         |               |              |              |              | 11:00      | 11:00 |
| PM Peak Vol. | 12:00 | 15:00          | 14:00       | 15:00 | 14:00         | 13:00         | 15:00         | 13:00         | 15:00         | 16:00         | 15:00        |              | 16:00        | 17:00      | 12:00 |

# Ramsey County Public Works

1425 Paul Kirkwold Drive  
Arden Hills, MN 55112

Date Start: 06-Jun-16  
Site Code: 133  
Station ID:  
SB CSAH 49  
694 NORTH RAMP

**SOUTHBOUND**

| Start Time   | Bikes | Cars & Trailer | 2 Axle Long | Buses | 2 Axle 6 Tire | 3 Axle Single | 4 Axle Single | <5 Axl Double | 5 Axle Double | >6 Axl Double | <6 Axl Multi | 6 Axle Multi | >6 Axl Multi | Not Classe | Total |
|--------------|-------|----------------|-------------|-------|---------------|---------------|---------------|---------------|---------------|---------------|--------------|--------------|--------------|------------|-------|
| 06/07/16     | 0     | 26             | 6           | 0     | 1             | 0             | 0             | 0             | 0             | 0             | 0            | 0            | 0            | 3          | 36    |
| 01:00        | 0     | 10             | 4           | 0     | 1             | 0             | 0             | 0             | 0             | 0             | 0            | 0            | 0            | 0          | 15    |
| 02:00        | 0     | 13             | 3           | 0     | 1             | 0             | 0             | 0             | 0             | 0             | 0            | 0            | 0            | 0          | 17    |
| 03:00        | 1     | 18             | 5           | 0     | 0             | 0             | 0             | 0             | 0             | 0             | 0            | 0            | 0            | 0          | 24    |
| 04:00        | 1     | 47             | 19          | 0     | 3             | 1             | 1             | 0             | 0             | 0             | 0            | 0            | 0            | 0          | 72    |
| 05:00        | 4     | 236            | 70          | 1     | 44            | 0             | 0             | 3             | 0             | 0             | 0            | 0            | 0            | 3          | 361   |
| 06:00        | 6     | 625            | 141         | 4     | 48            | 6             | 0             | 14            | 2             | 0             | 0            | 0            | 0            | 21         | 867   |
| 07:00        | 9     | 670            | 159         | 12    | 51            | 7             | 1             | 19            | 0             | 5             | 0            | 1            | 0            | 51         | 985   |
| 08:00        | 10    | 594            | 144         | 10    | 45            | 5             | 0             | 18            | 2             | 1             | 1            | 0            | 0            | 60         | 890   |
| 09:00        | 6     | 479            | 146         | 8     | 41            | 15            | 1             | 8             | 2             | 1             | 0            | 0            | 0            | 10         | 717   |
| 10:00        | 2     | 431            | 129         | 13    | 43            | 14            | 0             | 8             | 3             | 1             | 0            | 0            | 1            | 16         | 661   |
| 11:00        | 6     | 427            | 147         | 6     | 38            | 10            | 0             | 7             | 2             | 1             | 0            | 0            | 0            | 27         | 671   |
| 12 PM        | 6     | 481            | 146         | 8     | 48            | 5             | 0             | 15            | 4             | 0             | 1            | 0            | 0            | 13         | 727   |
| 13:00        | 4     | 415            | 150         | 5     | 58            | 3             | 1             | 18            | 0             | 0             | 0            | 0            | 0            | 9          | 663   |
| 14:00        | 9     | 444            | 149         | 12    | 62            | 1             | 0             | 9             | 3             | 0             | 0            | 0            | 0            | 8          | 697   |
| 15:00        | 12    | 478            | 168         | 11    | 33            | 5             | 1             | 13            | 2             | 1             | 1            | 0            | 1            | 23         | 749   |
| 16:00        | 9     | 544            | 119         | 2     | 34            | 4             | 0             | 11            | 0             | 3             | 0            | 0            | 0            | 32         | 758   |
| 17:00        | 12    | 520            | 139         | 5     | 29            | 4             | 1             | 7             | 0             | 1             | 2            | 0            | 0            | 35         | 755   |
| 18:00        | 4     | 485            | 126         | 1     | 19            | 6             | 0             | 6             | 1             | 1             | 1            | 0            | 1            | 17         | 668   |
| 19:00        | 16    | 311            | 81          | 2     | 21            | 8             | 0             | 4             | 1             | 0             | 0            | 0            | 0            | 7          | 451   |
| 20:00        | 9     | 309            | 75          | 1     | 8             | 2             | 0             | 2             | 0             | 1             | 0            | 0            | 0            | 4          | 411   |
| 21:00        | 7     | 207            | 40          | 2     | 10            | 1             | 0             | 3             | 0             | 0             | 0            | 0            | 0            | 4          | 274   |
| 22:00        | 0     | 160            | 25          | 0     | 4             | 2             | 0             | 1             | 1             | 0             | 0            | 0            | 0            | 4          | 197   |
| 23:00        | 0     | 91             | 14          | 0     | 5             | 0             | 0             | 0             | 0             | 0             | 0            | 0            | 0            | 3          | 113   |
| Total        | 133   | 8021           | 2205        | 103   | 647           | 99            | 6             | 166           | 23            | 16            | 6            | 1            | 3            | 350        | 11779 |
| Percent      | 1.1%  | 68.1%          | 18.7%       | 0.9%  | 5.5%          | 0.8%          | 0.1%          | 1.4%          | 0.2%          | 0.1%          | 0.1%         | 0.0%         | 0.0%         | 3.0%       |       |
| AM Peak Vol. | 08:00 | 07:00          | 07:00       | 10:00 | 07:00         | 09:00         | 04:00         | 07:00         | 10:00         | 07:00         | 08:00        | 07:00        | 10:00        | 08:00      | 07:00 |
| PM Peak Vol. | 19:00 | 16:00          | 15:00       | 14:00 | 14:00         | 19:00         | 13:00         | 13:00         | 12:00         | 16:00         | 17:00        |              | 15:00        | 17:00      | 16:00 |

# Ramsey County Public Works

1425 Paul Kirkwold Drive  
Arden Hills, MN 55112

Date Start: 06-Jun-16  
Site Code: 133  
Station ID:  
SB CSAH 49  
694 NORTH RAMP

**SOUTHBOUND**

| Start Time  | Bikes | Cars & Trailer | 2 Axle Long | Buses | 2 Axle 6 Tire | 3 Axle Single | 4 Axle Single | <5 Axl Double | 5 Axle Double | >6 Axl Double | <6 Axl Multi | 6 Axle Multi | >6 Axl Multi | Not Classe | Total |
|-------------|-------|----------------|-------------|-------|---------------|---------------|---------------|---------------|---------------|---------------|--------------|--------------|--------------|------------|-------|
| 06/08/16    | 2     | 31             | 8           | 0     | 2             | 1             | 0             | 0             | 0             | 0             | 0            | 0            | 0            | 2          | 46    |
| 01:00       | 0     | 19             | 5           | 0     | 1             | 0             | 0             | 0             | 0             | 0             | 0            | 0            | 0            | 0          | 25    |
| 02:00       | 0     | 14             | 1           | 0     | 2             | 0             | 0             | 0             | 0             | 0             | 0            | 0            | 0            | 0          | 17    |
| 03:00       | 0     | 17             | 5           | 0     | 1             | 0             | 0             | 0             | 0             | 0             | 0            | 0            | 0            | 1          | 24    |
| 04:00       | 1     | 37             | 15          | 1     | 4             | 1             | 0             | 0             | 1             | 0             | 0            | 0            | 0            | 0          | 60    |
| 05:00       | 4     | 236            | 85          | 2     | 26            | 3             | 0             | 1             | 1             | 0             | 0            | 0            | 0            | 4          | 362   |
| 06:00       | 9     | 567            | 124         | 4     | 50            | 8             | 0             | 12            | 1             | 1             | 0            | 0            | 0            | 39         | 815   |
| 07:00       | 6     | 753            | 178         | 6     | 43            | 13            | 0             | 22            | 3             | 3             | 1            | 0            | 0            | 40         | 1068  |
| 08:00       | 6     | 656            | 193         | 8     | 44            | 9             | 1             | 8             | 0             | 1             | 1            | 1            | 0            | 18         | 946   |
| 09:00       | 3     | 489            | 153         | 7     | 43            | 16            | 0             | 18            | 1             | 1             | 0            | 0            | 0            | 3          | 734   |
| 10:00       | 6     | 429            | 122         | 7     | 36            | 14            | 1             | 5             | 5             | 2             | 0            | 0            | 0            | 8          | 635   |
| 11:00       | 3     | 458            | 130         | 7     | 41            | 13            | 0             | 6             | 4             | 1             | 0            | 0            | 1            | 16         | 680   |
| 12 PM       | 3     | 544            | 149         | 8     | 41            | 5             | 1             | 13            | 2             | 3             | 1            | 0            | 1            | 8          | 779   |
| 13:00       | 5     | 467            | 148         | 5     | 42            | 4             | 1             | 13            | 1             | 1             | 1            | 0            | 0            | 6          | 694   |
| 14:00       | 4     | 455            | 158         | 8     | 41            | 4             | 1             | 11            | 3             | 0             | 0            | 0            | 0            | 9          | 694   |
| 15:00       | *     | *              | *           | *     | *             | *             | *             | *             | *             | *             | *            | *            | *            | *          | *     |
| 16:00       | *     | *              | *           | *     | *             | *             | *             | *             | *             | *             | *            | *            | *            | *          | *     |
| 17:00       | *     | *              | *           | *     | *             | *             | *             | *             | *             | *             | *            | *            | *            | *          | *     |
| 18:00       | *     | *              | *           | *     | *             | *             | *             | *             | *             | *             | *            | *            | *            | *          | *     |
| 19:00       | *     | *              | *           | *     | *             | *             | *             | *             | *             | *             | *            | *            | *            | *          | *     |
| 20:00       | *     | *              | *           | *     | *             | *             | *             | *             | *             | *             | *            | *            | *            | *          | *     |
| 21:00       | *     | *              | *           | *     | *             | *             | *             | *             | *             | *             | *            | *            | *            | *          | *     |
| 22:00       | *     | *              | *           | *     | *             | *             | *             | *             | *             | *             | *            | *            | *            | *          | *     |
| 23:00       | *     | *              | *           | *     | *             | *             | *             | *             | *             | *             | *            | *            | *            | *          | *     |
| Total       | 52    | 5172           | 1474        | 63    | 417           | 91            | 5             | 109           | 22            | 13            | 4            | 1            | 2            | 154        | 7579  |
| Percent     | 0.7%  | 68.2%          | 19.4%       | 0.8%  | 5.5%          | 1.2%          | 0.1%          | 1.4%          | 0.3%          | 0.2%          | 0.1%         | 0.0%         | 0.0%         | 2.0%       |       |
| AM Peak     | 06:00 | 07:00          | 08:00       | 08:00 | 06:00         | 09:00         | 08:00         | 07:00         | 10:00         | 07:00         | 07:00        | 08:00        | 11:00        | 07:00      | 07:00 |
| Vol.        | 9     | 753            | 193         | 8     | 50            | 16            | 1             | 22            | 5             | 3             | 1            | 1            | 1            | 40         | 1068  |
| PM Peak     | 13:00 | 12:00          | 14:00       | 12:00 | 13:00         | 12:00         | 12:00         | 12:00         | 14:00         | 12:00         | 12:00        |              | 12:00        | 14:00      | 12:00 |
| Vol.        | 5     | 544            | 158         | 8     | 42            | 5             | 1             | 13            | 3             | 3             | 1            |              | 1            | 9          | 779   |
| Grand Total | 252   | 17812          | 4991        | 219   | 1432          | 265           | 25            | 367           | 67            | 34            | 15           | 2            | 12           | 819        | 26312 |
| Percent     | 1.0%  | 67.7%          | 19.0%       | 0.8%  | 5.4%          | 1.0%          | 0.1%          | 1.4%          | 0.3%          | 0.1%          | 0.1%         | 0.0%         | 0.0%         | 3.1%       |       |

City Council:  
Sandy Martin, Mayor  
Emy Johnson  
Terry Qulgley  
Cory Springhorn  
Ady Wickstrom



City of Shoreview  
4600 Victoria Street North  
Shoreview MN 55126  
651-490-4600 phone  
651-490-4699 fax  
www.shoreviewmn.gov

July 13, 2016

Mr. Joseph Lux, Senior Planner  
Ramsey County Public Works  
1425 Paul Kirkwold Drive  
Arden Hills, MN 55112-3933

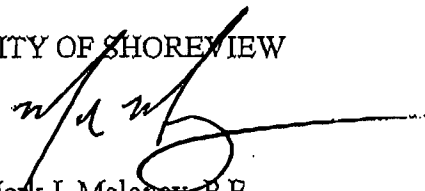
RE: I-694/Rice Street Interchange Improvements

Dear Mr. Lux:

The City of Shoreview supports Ramsey County's funding request for the improvement of the I-694/Rice Street Interchange. The City has previously committed to this effort by acquiring the former Ramsey County Public Works site on behalf of MnDOT for future interchange improvements. The City also continues to participate in a multi-jurisdictional effort to identify design challenges and land use opportunities in the Rice Street corridor, both north and south of the bridge over I-694. Shoreview's Capital Improvement Program anticipates some level of city participation in these future improvements. While a number of details remain as far as interchange design and potential construction phasing, the City of Shoreview recognizes that, especially since the completion of the Unweave The Weave project and the imminent addition of a 3<sup>rd</sup> general purpose lane through the community, improvements are long overdue.

Sincerely,

CITY OF SHOREVIEW



Mark J. Maloney, P.E.  
Public Works Director

**Kevin P. Watson**  
City Administrator

651.204.6010 Phone  
651.204.6110 Fax  
kevin.watson@cityvadnaisheights.com



**The City of Vadnais Heights**  
800 East County Road E  
Vadnais Heights, MN 55127

July 14, 2016

Mr. Joseph Lux, Senior Planner  
Ramsey County Public Works  
1425 Paul Kirkwold Drive  
Arden Hills, MN 55112-3933

RE: Federal STP Application – Rice Street/I-694 Interchange

Dear Mr. Lux:

The City of Vadnais Heights supports Ramsey County's application for the FAST Act Surface Transportation Program for the improvement of the improvement of the I-694/Rice Street Interchange. The project in on the City's westernmost edge and provides a vital connection to the residents and business owners within the community. With the Corridors of Commerce project commencing, the need to improve this intersection becomes that much more vital. Many design details need to be vetted, but the City recognizes the importance of the intersection's upgrade and is ready to participate as needed throughout the process.

Sincerely,

The City of Vadnais Heights

A handwritten signature in black ink, appearing to read "KW".

Kevin P. Watson  
City Administrator



# HSIP worksheet

| Control Section                     | T.H. / Roadway | Location  | Beginning Ref. Pt. | Ending Ref. Pt. | State, County, City or Township | Study Period Begins | Study Period Ends |
|-------------------------------------|----------------|---|--------------------|-----------------|---------------------------------|---------------------|-------------------|
|                                     | CSAH 49        | CSAH 49 (Rice Street) from Owasso Blvd N to County Road E/Vadnais Blvd in Shoreview, MN   | 005+00.964         | 006+00.283      | Ramsey Co.                      | 1/1/2013            | 12/31/2015        |
| <b>Description of Proposed Work</b> |                | Convert the four (4) current signalized intersections on CSAH 49 (Rice Street) from Owasso Blvd to County Road E/Vadnais Blvd into roundabout controlled intersections. |                    |                 |                                 |                     |                   |

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

| Study Period: Number of Crashes | Fatal                | F |    |   |   |   |   |   |   |    |    |
|---------------------------------|----------------------|---|----|---|---|---|---|---|---|----|----|
|                                 | Personal Injury (PI) | A |    |   |   |   | 1 |   |   |    | 1  |
|                                 |                      | B |    |   | 2 |   | 1 |   |   |    | 3  |
|                                 |                      | C |    | 4 |   | 3 | 5 | 1 | 3 |    | 16 |
| Property Damage                 | PD                   |   | 23 | 5 | 7 | 9 | 6 |   | 4 | 54 |    |

| % Change in Crashes | Fatal           | F  | -35% | -35% | -35% | -35% | -35% | -35% | -35% | -35% |
|---------------------|-----------------|----|------|------|------|------|------|------|------|------|
|                     | PI              | A  | -35% | -35% | -35% | -35% | -35% | -35% | -35% | -35% |
|                     |                 | B  | -35% | -35% | -35% | -35% | -35% | -35% | -35% | -35% |
|                     |                 | C  | -35% | -35% | -35% | -35% | -35% | -35% | -35% | -35% |
|                     | Property Damage | PD | -35% | -35% | -35% | -35% | -35% | -35% | -35% | -35% |

*\*Use Desktop Reference for Crash Reduction Factors*

| Change in Crashes<br><br>= No. of crashes X % change in crashes | Fatal           | F  |  |       |       |       |       |       |       |       |        |
|---|-----------------|----|--|-------|-------|-------|-------|-------|-------|-------|--------|
|   | PI              | A  |  |       |       |       | -0.35 |       |       |       | -0.35  |
|   |                 | B  |  |       | -0.70 |       | -0.35 |       |       |       | -1.05  |
|   |                 | C  |  | -1.40 |       | -1.05 | -1.75 | -0.35 | -1.05 |       | -5.60  |
|   | Property Damage | PD |  | -8.05 | -1.75 | -2.45 | -3.15 | -2.10 |       | -1.40 | -18.90 |

Year (Safety Improvement Construction) **2019**

| Project Cost (exclude Right of Way) | \$ 11,800,000 | Type of Crash | Study Period: Change in Crashes | Annual Change in Crashes | Cost per Crash | Annual Benefit |
|-------------------------------------|---------------|---------------|---------------------------------|--------------------------|----------------|----------------|
| Right of Way Costs (optional)       |               | F             |                                 |                          | \$ 1,140,000   |                |
| Traffic Growth Factor               | 1.3%          | A             | -0.35                           | -0.12                    | \$ 570,000     | \$ 66,561      |
| Capital Recovery                    |               | B             | -1.05                           | -0.35                    | \$ 170,000     | \$ 59,554      |
| 1. Discount Rate                    | 2%            | C             | -5.60                           | -1.87                    | \$ 83,000      | \$ 155,075     |
| 2. Project Service Life (n)         | 20            | PD            | -18.90                          | -6.31                    | \$ 7,600       | \$ 47,924      |
| <b>Total</b>                        |               |               |                                 |                          | \$ 329,114     |                |

**B/C= 0.52**

*Using present worth values,*  
**B= \$ 6,170,305**  
**C= \$ 11,800,000**  
*See "Calculations" sheet for amortization.*  
**Office of Traffic, Safety and Technology**  
**August 2015**

### Amortizing...

| Year | Crash Benefits | Present Worth Benefits | Present Worth Costs |
|------|----------------|------------------------|---------------------|
| 2019 | \$ 329,114     | \$ 329,114             | \$ 11,800,000       |
| 2020 | \$ 333,392     | \$ 326,855             |                     |
| 2021 | \$ 337,726     | \$ 324,612             |                     |
| 2022 | \$ 342,117     | \$ 322,384             |                     |
| 2023 | \$ 346,564     | \$ 320,172             |                     |
| 2024 | \$ 351,070     | \$ 317,975             |                     |
| 2025 | \$ 355,634     | \$ 315,793             |                     |
| 2026 | \$ 360,257     | \$ 313,625             |                     |
| 2027 | \$ 364,940     | \$ 311,473             |                     |
| 2028 | \$ 369,684     | \$ 309,335             |                     |
| 2029 | \$ 374,490     | \$ 307,213             |                     |
| 2030 | \$ 379,359     | \$ 305,104             |                     |
| 2031 | \$ 384,290     | \$ 303,010             |                     |
| 2032 | \$ 389,286     | \$ 300,931             |                     |
| 2033 | \$ 394,347     | \$ 298,866             |                     |
| 2034 | \$ 399,473     | \$ 296,815             |                     |
| 2035 | \$ 404,667     | \$ 294,778             |                     |
| 2036 | \$ 409,927     | \$ 292,755             |                     |
| 2037 | \$ 415,256     | \$ 290,746             |                     |
| 2038 | \$ 420,655     | \$ 288,750             |                     |
| 0    | \$ -           | \$ -                   |                     |
| 0    | \$ -           | \$ -                   |                     |
| 0    | \$ -           | \$ -                   |                     |
| 0    | \$ -           | \$ -                   |                     |
| 0    | \$ -           | \$ -                   |                     |
| 0    | \$ -           | \$ -                   |                     |
| 0    | \$ -           | \$ -                   |                     |
| 0    | \$ -           | \$ -                   |                     |
| 0    | \$ -           | \$ -                   |                     |
| 0    | \$ -           | \$ -                   |                     |
| 0    | \$ -           | \$ -                   |                     |
| 0    | \$ -           | \$ -                   |                     |

**Totals =                    \$ 6,170,305    \$ 11,800,000**  
(B)                    (C)

year (n)= 1, 2, 3,....  
discount rate (i) = 7%

$$\text{Crash Benefits (@ year n)} = (\text{Crash Benefits})_{n-1} \times (1 + \text{Traffic Growth Factor})$$

$$\text{Present Worth Benefits (@ year n)} = (\text{Crash Benefits})_n \times 1/(1 + \text{Discount Rate})^n$$

| <b>Type of Crash</b> | <b>Crash Severity</b> | <b>Cost per Crash</b> |
|----------------------|-----------------------|-----------------------|
| Fatal                | K                     | \$ 1,140,000          |
| Personal Injury      | A Incapacitating      | \$ 570,000            |
|                      | B Non-Incapacitating  | \$ 170,000            |
|                      | C Possible            | \$ 83,000             |
| Property Damage      | PDO or N              | \$ 7,600              |

Source: MnDOT Office of Transportation System Management  
(July 2015)