Application

10355 - 2018 Roadway System Management

10587 - West Side Signalized Intersection Control Enhancements

Regional Solicitation - Roadways Including Multimodal Elements

Status:	Submitted
Submitted Date:	07/12/2018 2:42 PM

Primary Contact

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

Organization Information

Name:	ST PAUL, CITY OF

Jurisdictional Agency (if different):	
Organization Type:	City
Organization Website:	
Address:	DEPT OF PUBLIC WORKS-CITY HALL ANNEX 25 W 4TH ST #1500
*	ST PAUL (City) / Minnesota (State/Province) / 55101 (Postal Code/Zip)
County:	Ramsey
Phone:*	651-266-9700 Ext.
Fax:	
PeopleSoft Vendor Number	0000003222A22

Project Information

Project Name	West Side Signalized Intersection Control Enhancements
Primary County where the Project is Located	Ramsey
Cities or Townships where the Project is Located:	Saint Paul
Jurisdictional Agency (If Different than the Applicant):	City of Saint Paul, Ramsey County, MnDOT

Brief Project Description (Include location, road name/functional class, type of improvement, etc.)

The West Side Traffic Signal Control Enhancements Project would reconstruct and modify traffic signals, install fiber-optic interconnect, and install traffic cameras in the City of Saint Paul's West Side.

The proposed elements of the project include:

- Reconstruction of the two traffic signals on Concord St. (TH 156) at the junction with US 52.

- Installation of fiber-optic interconnect to multiple signals along Robert St. (TH 952 A), Smith Ave. (TH 149), Plato Blvd. (CSAH 40), Cesar Chavez St. (MSAS 235) and Concord St, and upgrade of traffic signal controllers where needed. A portion of the fiber-optic interconnect be routed along Wabasha St. (MSAS 235).

- Retrofitting flashing yellow arrows in place of existing protected/permissive signals at the intersections on Cesar Chavez St. at Robert St. and State St. (MSAS 201)/George St. (MSAS 139).

- Installing audible pedestrian push buttons at the intersection of Cesar Chavez St., State St./George St.

- Installation of traffic cameras at multiple locations in the area.

Smith Ave., Cesar Chavez St., Concord St and Robert St. are A-Minor Arterials in the project area. Plato Blvd. and Wabasha St. are B-Minor Arterials in the project area.

(Limit 2,800 characters; approximately 400 words)

TIP Description Guidance (will be used in TIP if the project is selected for funding)

Upgrade to modern traffic signal controllers, install fiber optic interconnect, install video cameras, reconstruct and modify traffic signals

Project Length (Miles)

to the nearest one-tenth of a mile

2.71

Project Funding

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

Yes

If yes, please identify the source(s)

MnDOT Cooperative Agreement Program

Federal Amount

$1,465,600.00

Match Amount

Minimum of 20% of project total

$366,400.00

Project Total

$1,832,000.00

Match Percentage

Minimum of 20%
Compute the match percentage by dividing the match amount by the project total

20.0%

Source of Match Funds

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

MSA, local funds, MnDOT Cooperative Agreement Program

Preferred Program Year

Select one:

Select 2020 or 2021 for TDM projects only. For all other applications, select 2022 or 2023.

2023

Additional Program Years:

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

Project Information: Roadway Projects

County, City, or Lead Agency

City of Saint Paul

Functional Class of Road

A Minor & B Minor Arterials

Road System

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

TH, CSAH, MSAS

Road/Route No.

i.e., 53 for CSAH 53

156

Name of Road

Smith Ave. (TH 149), Robert St. (TH 952A), Plato Blvd.(CSAH 40), Cesar Chavez St. (MSAS 235), Concord St. (TH 156), Wabasha St. (MSAS 235)

Example; 1st ST., MAIN AVE

Zip Code where Majority of Work is Being Performed 55107

(Approximate) Begin Construction Date 04/01/2023

(Approximate) End Construction Date 10/31/2018

TERMINI:(Termini listed must be within 0.3 miles of any work)

From:
(Intersection or Address) 7th St. & Smith Ave. (See attached maps)

To:
(Intersection or Address) US 52 & Concord St.(See attached maps)

DO NOT INCLUDE LEGAL DESCRIPTION

Or At

Primary Types of Work Signals, Interconnect

Examples: GRADE, AGG BASE, BIT BASE, BIT SURF, SIDEWALK, CURB AND GUTTER,STORM SEWER, SIGNALS, LIGHTING, GUARDRAIL, BIKE PATH, PED RAMPS, BRIDGE, PARK AND RIDE, ETC.

BRIDGE/CULVERT PROJECTS (IF APPLICABLE)

Old Bridge/Culvert No.:

New Bridge/Culvert No.:

Structure is Over/Under
(Bridge or culvert name):

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 (2015), 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 goals, objectives, and strategies that relate to the project.

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

- A. Operate the regional transportation system to efficiently and cost-effectively connect people and freight to destinations. Pg. 2.6

- B. Reduce the transportation system's vulnerability to natural and manmade incidents and threats. Pg. 2.7

- B2. Regional transportation partners should work with local, state, and federal public safety officials, including emergency responders, to protect and strengthen the role of the regional transportation system in providing security and effective emergency response to serious incidents and threats. Pg. 2.7

- B3. Regional transportation partners should monitor and routinely analyze safety and security

data by mode and severity to identify priorities and progress. Pg. 2.7

- C. Increase travel time reliability and predictability for travel on highway and transit systems. Pg. 2.8

- C2. Local units of government should provide a system of interconnected arterial roads, streets, bicycle facilities, and pedestrian facilities to meet local travel needs using Complete Streets principles. Pg. 2.8

- C7. Regional transportation partners will manage and optimize the performance of the principal arterial system as measured by person throughput. Pg. 2.9

- C9. The Council will support investments in Aminor arterials that build, manage, or improve the

system's ability to supplement the capacity of the principal arterial system and support access to the

region's job, activity, and industrial and manufacturing concentrations. Pg. 2.9

- D. Improve multimodal access to regional job concentrations identified in Thrive MSP 2040. Pg. 2.11

- D4. The Council, MnDOT, and local governments will invest in a transportation system that provides travel conditions that compete well with peer metropolitan areas. Pg. 2.11

- E. Reduce transportation related air emissions. Pg. 2.12

- E. Reduce impacts of transportation construction, operations, and use on the natural, cultural, and developed environments. Pg 2.12

- E. Increase the availability and attractiveness of transit, bicycling, and walking to encourage healthy communities and active car-free lifestyles. Pg 2.12

- F2. Local governments should plan for increased density and a diversification of uses in job

concentrations, nodes along corridors, and local centers to maximize the effectiveness of the

transportation system. Pg. 2.14

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

- Page T5 of the City's Comprehensive Plan expresses a need to '[e]xamine alternatives to

enhance safety through right-of-way design, including narrowing or removing lanes on roads.'

management toolbox must be expanded.

List the applicable documents and pages:

- Page T23 of the City's Comprehensive Plan discusses the importance and potential of the City's fiber optic cable system.

- Page T27 of the City's Comprehensive Plan directs the City to improve access to information

about construction, detours, and events.

4.The project must exclude costs for studies, preliminary engineering, design, or construction engineering. Right-of-way costs are only eligible as part of 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 Modernization and Spot Mobility:** $1,000,000 to $7,000,000*
***Traffic Management Technologies (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 (ADA).

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

9.In order for a selected project to be included in the Transportation Improvement Program (TIP) and approved by USDOT, the public agency sponsor must either have, or be substantially working towards, completing a current Americans with Disabilities Act (ADA) self-evaluation or transition plan that covers the public right of way/transportation, as required under Title II of the ADA.

The applicant is a public agency that employs 50 or more people and has an adopted ADA transition plan that covers the public right of way/transportation. Yes

04/27/2010

Date plan adopted by governing body

The applicant is a public agency that employs 50 or more people and is currently working towards completing an ADA transition plan that covers the public rights of way/transportation.

Date process started

Date of anticipated plan completion/adoption

The applicant is a public agency that employs fewer than 50 people and has a completed ADA self-evaluation that covers the public rights of way/transportation.

Date self-evaluation completed

The applicant is a public agency that employs fewer than 50 people and is working towards completing an ADA self-evaluation that covers the public rights of way/transportation.

Date process started

Date of anticipated plan completion/adoption

(TDM Applicants Only) The applicant is not a public agency subject to the self-evaluation requirements in Title II of the ADA.

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

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

11.The owner/operator of the facility must operate and maintain the project year-round for the useful life of the improvement, per FHWA direction established 8/27/2008 and updated 6/27/2017.

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

12.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

13.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

14.The project applicant must send written notification regarding the proposed project to all affected state and local units of government prior to submitting the application.

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

Roadways Including Multimodal Elements

1.All roadway and bridge projects must be identified as a principal arterial (non-freeway facilities only) or A-minor arterial as shown on the latest TAB approved roadway functional classification map.

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

Roadway Expansion and Reconstruction/Modernization and Spot Mobility 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.

Bridge Rehabilitation/Replacement projects only:

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

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

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

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

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

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

6. The bridge must have a sufficiency rating less than 80 for rehabilitation projects and less than 50 for replacement projects. Additionally, the bridge must also be classified as structurally deficient or functionally obsolete.

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

Roadway Expansion, Reconstruction/Modernization and Spot Mobility, and Bridge Rehabilitation/Replacement projects only:

7. All roadway projects that involve the construction of a new/expanded interchange or new interchange ramps must have approval by the Metropolitan Council/MnDOT Interchange Planning Review Committee prior to application submittal. Please contact Michael Corbett at MnDOT (Michael.J.Corbett@state.mn.us or 651-234-7793) to determine whether your project needs to go through this process.

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

Requirements - Roadways Including Multimodal Elements

Specific Roadway Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Mobilization (approx. 5% of total cost)	$76,000.00
Removals (approx. 5% of total cost)	$76,000.00
Roadway (grading, borrow, etc.)	$0.00
Roadway (aggregates and paving)	$0.00
Subgrade Correction (muck)	$0.00
Storm Sewer	$0.00
Ponds	$0.00
Concrete Items (curb & gutter, sidewalks, median barriers)	$0.00
Traffic Control	$0.00
Striping	$0.00
Signing	$0.00
Lighting	$0.00
Turf - Erosion & Landscaping	$0.00
Bridge	$0.00
Retaining Walls	$0.00
Noise Wall (not calculated in cost effectiveness measure)	$0.00

Traffic Signals	$1,513,000.00
Wetland Mitigation	$0.00
Other Natural and Cultural Resource Protection	$0.00
RR Crossing	$0.00
Roadway Contingencies	$167,000.00
Other Roadway Elements	$0.00
Totals	**$1,832,000.00**

Specific Bicycle and Pedestrian Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Path/Trail Construction	$0.00
Sidewalk Construction	$0.00
On-Street Bicycle Facility Construction	$0.00
Right-of-Way	$0.00
Pedestrian Curb Ramps (ADA)	$0.00
Crossing Aids (e.g., Audible Pedestrian Signals, HAWK)	$0.00
Pedestrian-scale Lighting	$0.00
Streetscaping	$0.00
Wayfinding	$0.00
Bicycle and Pedestrian Contingencies	$0.00
Other Bicycle and Pedestrian Elements	$0.00
Totals	**$0.00**

Specific Transit and TDM Elements

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

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

Transit Operating Costs

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

Totals

Total Cost	$1,832,000.00
Construction Cost Total	$1,832,000.00
Transit Operating Cost Total	$0.00

Measure A: Functional Classification of Project

The majority of the project funds will be invested on the principal arterial system:

(50 points)

The majority of the project funds will be invested on the A-minor arterial system: Yes

(25 points)

The majority of the project funds will be invested on the collector or local system with some investment either on the principal arterial or A-minor arterial system:

(0 points)

Measure 1B: Regional Truck Corridor Tiers

RESPONSE (Select one for your project, based on the Regional Truck Corridor Study):

The majority of the project funds will be invested on either a Tier 1, Tier 2, or Tier 3 corridor:

(50 Points)

A majority of the project funds will NOT be invested on a Tier 1, Tier 2, or Tier 3 corridor, but at least 10 percent of the funds will be invested on these corridors: Yes

(25 Points)

No project funds will be invested on a Tier 1, Tier 2, or Tier 3 corridor:

(0 Points)

Measure C: Integration within existing traffic management systems

The installation of fiber optic interconnect to be performed as part of this project will build on the City's existing traffic management infrastructure by expanding our communications network to include several new signals. The City currently maintains an Advanced Traffic Management System, which monitors traffic signal operations and allows for the City to adjust traffic signal timing and operations in real time when incidents or events occur. This project will add multiple signals to the system, increasing the CIty's ability to respond to outages, and to quickly modify signal operations to adjust for unexpected variations in traffic patterns.

Response:

Also, a number of the signals in this area of the City are not part of a local communications network, so signals that are within a quarter mile of each other are not coordinated, resulting in increased delays and air pollution. This project would allow for coordination of closely spaced signals along multiple corridors.

Finally, the installation of traffic cameras will allow City traffic operations staff to observe and respond to incidents by modifying traffic operations in real-time, and easily evaluate the results of the modified operations. No video feeds of the locations where cameras will be installed as part of this project are currently available to City traffic operations staff.

(Limit 2,800 characters; approximately 400 words)

Measure D: Coordination with other agencies

Response:

As a City of the First Class, the City of Saint Paul operates and maintains traffic signals owned by the Minnesota Department of Transportation and Ramsey County. This work will allow the City to provide traffic signal coordination along corridors owned by the State, County, and City using a single system, and will improve safety on facilities owned by multiple jurisdictions.

The City of Saint Paul Department of Public Works is also working with the Saint Paul Police Department to share resources to improve the scope and reliability of video cameras in the City of Saint Paul. The cameras installed as part of this project would be a part of that effort.

This project would allow the City to add several traffic signals to its advanced traffic management system, providing greater monitoring and control capabilities, improving response times to signal malfunctions, providing better data, and improving the City's ability to control traffic operations.

The installation of modern traffic signal controllers prepares the City for future requests for transit signal priority from transit agencies in the metro area. The proposed Robert Street BRT line would likely desire transit signal priority through this corridor.

(Limit 2,800 characters; approximately 400 words)

Measure A: Current Daily Person Throughput

Location	Robert St between Fillmore Ave & Plato Blvd
Current AADT Volume	17600.0
Existing transit routes at the location noted above	68, 71, 484
Upload "Transit Connections" map	1530566204202_Transit.pdf

Please upload attachment in PDF form.

Response - Daily Person Throughput

Average Annual Daily Transit Ridership	7262.0
Current Daily Person Throughput	30142.0

Measure B: 2040 Forecast ADT

Use Metropolitan Council model to determine forecast (2040) ADT volume	Yes
If checked, METC Staff will provide Forecast (2040) ADT volume	20400

OR

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

Measure A: Connection to disadvantaged populations and projects benefits, impacts, and mitigation

Select one:

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

(up to 100% of maximum score)

Project located in Area of Concentrated Poverty:

(up to 80% of maximum score)

Projects census tracts are above the regional average for population in poverty or population of color:

(up to 60% of maximum score)

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:

(up to 40% of maximum score)

1.(0 to 3 points) A successful project is one that has actively engaged low-income populations, people of color, children, persons with disabilities, and the elderly during the project's development with the intent to limit negative impacts on them and, at the same time, provide the most benefits.
Describe how the project has encouraged or will engage the full cross-section of community in decision-making. Identify the communities to be engaged and where in the project development process engagement has occurred or will occur. Elements of quality engagement include: outreach to specific communities and populations that are likely to be directly impacted by the project; techniques to reach out to populations traditionally not involved in the community engagement related to transportation projects; residents or users identifying potential positive and negative elements of the project; and surveys, study recommendations, or plans that provide feedback from populations that may be impacted by the proposed project. If relevant, describe how NEPA or Title VI regulations will guide engagement activities.

Response:

Due to the scope of the project, limited public engagement is anticipated as part of the project. The City will work with community leaders and local representatives to develop an appropriate outreach strategy to inform the public about the upcoming project and the impacts during construction.

(Limit 1,400 characters; approximately 200 words)

2.(0 to 7 points) Describe the projects benefits to low-income populations, people of color, children, people with disabilities, and the elderly. Benefits could relate to safety; public health; access to destinations; travel time; gap closure; leveraging of other beneficial projects and investments; and/or community cohesion. Note that this is not an exhaustive list.

Response:

This project will benefit the noted populations in several ways, some of which are noted below:

- Providing traffic signal coordination and improving the City's ability to respond to signal malfunctions will reduce travel times for all users looking to access the concentrated job center that is Downtown Saint Paul. Downtown Saint Paul also contains many government agencies, providing services to several populations, including the elderly, people with disabilities, and the low-income population.

- Upgrading existing traffic signal controllers will allow for easier accommodation of future BRT routes and bicycle facilities. Transit is an essential public service for households without automobiles.

- The installation of APS pedestrian push buttons will aid those with hearing or visual impairments safely traverse intersections.

- This project will leverage conduit installations performed as part of other projects to add the area to the City's traffic signal network.

(Limit 2,800 characters; approximately 400 words)

3.(-3 to 0 points) Describe any negative externalities created by the project along with measures that will be taken to mitigate them. Negative externalities can result in a reduction in points, but mitigation of externalities can offset reductions.
Below is a list of negative impacts. Note that this is not an exhaustive list.
Increased difficulty in street crossing caused by increased roadway width, increased traffic speed, wider turning radii, or other elements that negatively impact pedestrian access.
Increased noise.
Decreased pedestrian access through sidewalk removal / narrowing, placement of barriers along the walking path, increase in auto-oriented curb cuts, etc.
Project elements that are detrimental to location-based air quality by increasing stop/start activity at intersections, creating vehicle idling areas, directing an increased number of vehicles to a particular point, etc.
Increased speed and/or cut-through traffic.
Removed or diminished safe bicycle access.
Inclusion of some other barrier to access to jobs and other destinations.
Displacement of residents and businesses.
Construction/implementation impacts such as dust; noise; reduced access for travelers and to businesses; disruption of utilities; and eliminated street crossings. These tend to be temporary.
Other

Response:

The negative impacts of this project will be limited to construction related issues, largely associated with the replacement of the traffic signals at the junction of TH 156 and US 52 and minor disturbances during direct boring operations. The project will work extensively to maintain satisfactory traffic conditions, and provide pedestrian access.

(Limit 2,800 characters; approximately 400 words)

Upload Map

1531334488734_Socio-Economic.pdf

Measure B: Affordable Housing

City	Funds to be spent within each City	Score	Funds/Total Funds	Percent of total funds to be spent within City
St. Paul	1832000.0	100.0	1.0	100.0
	1832000			**100**

Affordable Housing Scoring

Total funds to be spent

$1,832,000.00

Verify that this amount is the same as the total project cost on the Project Information form.

Total Housing Score

100.0

Measure A: Upgrades to obsolete equipment

Reconstruction of the traffic signals at the intersections of Concord St. (TH 156) and US 52 will result in the replacement of many obsolete elements and eliminate a significant maintenance issue for the City of Saint Paul. These traffic signals were constructed approximately 40 years ago, and contain a number of elements that have reached obsolescence, including four-section protected/permissive signal heads, incandescent indications, and 8" indications.

RESPONSE:

This project will replace legacy 170 traffic signal controllers at several locations with modern advanced traffic controllers, providing reporting and operational capabilities that greatly enhance the City's ability to monitor and respond to congestion issues. This will also reduce instances of signals entering flash or experiencing other unexplained problems.

Replacement of existing local coordination using copper interconnect with fiber-optic interconnect on the City's signal network will provide more consistent coordination, and allow for time of day plans to be more accurately deployed. Calendar changes due to daylight savings time will no longer be necessary to perform in the field at these locations.

(Limit 2,800 characters; approximately 400 words)

Measure A: Congested Roadway

RESPONSE:

Corridor: Robert St/Cesar Chavez St

Corridor Start and End Points:

Start Point: Robert St & Fillmore Ave

End Point:	Cesar Chavez St & NB US 52
Free-Flow Travel Speed:	28
Free-Flow Travel Speed is black number.	
Peak Hour Travel Speed:	21.0
Peak Hour Travel Speed is red number.	
Percentage Decrease in Travel Speed in Peak Hour Compared to Free-Flow (online calculation):	25.0%
Upload the "Level of Congestion" map used for this measure.	1530396039327_Congestion.pdf

Measure 5B: Emissions and congestion benefits of project

Response:

This project will reduce emissions and congestion largely through the ability to coordinate and monitor traffic signals along three arterial roadways, Robert Street (TH 952A), Plato Boulevard (CSAH 40) and Cesar Chavez Street.

The elements of this project will allow the City to reduce congestion and reduce emissions in multiple ways:

The installation of fiber-optic interconnect will allow the City to:

- Monitor the signals using the City's Advanced Traffic Management System, automatically sending alerts when signals are in flash, are using battery backup power, or have faulted detection.

- Use the City's Advanced Traffic Management System to alter traffic operations remotely, providing the ability to quickly respond to changes in traffic pattern and prepare for events.

- Provide coordination between traffic signals, directly reducing stops, delay, and emissions, where no coordination is possible today.

With the addition of modern traffic signal controllers, the City will be able to:

- Monitor traffic signal performance.

- Monitor traffic volumes.

- Reduce maintenance issues resulting from legacy traffic signal controller malfunctions.

-Prepare for future implementations of Transit Signal Priority.

The addition of traffic cameras will provide the City with the opportunity to monitor the traffic signal network in real time, and make adjustments as needed when issues arise.

These corridors serve as a reliever to the congested segment of US 52 as it approaches downtown Saint Paul, and are used to access Downtown Saint Paul by many commuters each day. Maintaining efficient traffic operations on the roadways is a must to keep congestion and emissions at a minimum.

(Limit 2,800 characters; approximately 400 words)

Measure A: Benefit of Crash Reduction

CMF of 0.85 used for all crashes at signals where coordination will be implemented and does not currently exist (from FHWA Desktop Reference for Crash Reduction Factors)

Crash Modification Factor Used:

CMF of 0.806 used for left turn crashes where FYA will be installed (Evaluation of Safety Strategies at Signalized Intersections, Srinivasan, et al., 2011)

(Limit 700 Characters; approximately 100 words)

Rationale for Crash Modification Selected:

Crash modification factors were taken from reputable sources and are directly related to the proposed project elements.

(Limit 1400 Characters; approximately 200 words)

Project Benefit ($) from B/C Ratio

$2,722,462.00

Worksheet Attachment

1531244650342_WSSICE benefitcost2015.pdf

Upload Crash Modification Factors and B/C Worksheet in PDF form.

Measure 6B: Safety issues in project area

Response:

This project will improve safety in the project area in several ways.

- Providing flashing yellow arrows at two intersections with confusing elements along Cesar Chavez St., at Robert St. and State St./George St. The installation of flashing yellow arrows will allow the City to remove confusing, non-standard signage and to provide safer operation for pedestrians.

- Installing audible push buttons at the five-legged intersection of Cesar Chavez St., State St., and George St., providing valuable information at a confusing location for the visually impaired.

- Reconstructing two out-of-date signals at the junction of TH 156 and US 52. These two signals will be improved with standard signal indications, flashing yellow arrows, and audible push buttons.

- This project will allow for the implementation of traffic signal coordination, which is expected to reduce crashes along two arterial roadways.

- The addition of these signals to the City signal network will allow for rapid notification of certain malfunctions, reducing the duration of outages and other service disruptions.

(Limit 2,800 characters; approximately 400 words)

Measure A: Multimodal Elements and Existing Connections

Response:

The City of Saint Paul has a high volume of pedestrians, bicyclists, and transit users utilizing its transportation system every day. This project will benefit the elevated numbers of pedestrians, bicyclists, and transit users currently using these roadways, and will provide additional benefits as planned projects are implemented.

This project will positively impact transit service in several ways.

- The installation of fiber-optic interconnect will allow for traffic signal coordination, reducing traffic signal delay for the various bus routes using Robert St., Plato Blvd., and Cesar Chavez St.

- The installation of fiber-optic interconnect will allow the City to more quickly respond to signal outages, increasing the predictability of travel times along several bus routes.

- The installation of modern traffic signal controllers will prepare the City for the needs of the future Bus Rapid Transit route proposed along Robert St.

- The installation of fiber-optic interconnect and traffic cameras will allow City Traffic Operations staff to more easily observe and adjust signal timing based on real-world conditions.

The project also has multiple benefits to pedestrians.

- The installation of fiber-optic interconnect will allow the City to more quickly respond to signal

outages, reducing pedestrian exposure to unpredictable motorist behavior while signals are dark or in flash.

- The replacement of protected/permissive signal heads along Cesar Chavez St. with flashing yellow arrows will improve yielding rates and allow the City to implement a leading interval to protect pedestrians from left-turning vehicles.

- The installation of accessible pedestrian push buttons at the complex, five-legged intersection of Cesar Chavez St., State St. and George St. will help those with visual impairments safely navigate to their destination.

There are currently bike lanes along Cesar Chavez St. in the project area, and the future Robert Piram Regional Trail is planned to travel along Plato Blvd. This project will positively impact the bicycle facilities.

- The installation of fiber-optic interconnect will allow the City to more quickly respond to signal outages, reducing bicyclist exposure to unpredictable motorist behavior while signals are dark or in flash.

- The replacement of protected/permissive signal heads along Cesar Chavez St. with flashing yellow arrows will improve yielding rates and allow the City to implement a leading interval to protect bicyclists from left-turning vehicles.

(Limit 2,800 characters; approximately 400 words)

Transit Projects Not Requiring Construction

If the applicant is completing a transit 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 - Construction Projects

1)Layout (30 Percent of Points)

Layout should include proposed geometrics and existing and proposed right-of-way boundaries.

Layout approved by the applicant and all impacted jurisdictions (i.e., cities/counties that the project goes through or agencies that maintain the roadway(s)). A PDF of the layout must be attached along with letters from each jurisdiction to receive points.

100%

Attach Layout

Please upload attachment in PDF form.

Layout completed but not approved by all jurisdictions. A PDF of the layout must be attached to receive points.

50%

Attach Layout

Please upload attachment in PDF form.

Layout has not been started Yes

0%

Anticipated date or date of completion

2)Review of Section 106 Historic Resources (20 Percent of Points)

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

100%

There are historical/archeological properties present but determination of no historic properties affected is anticipated.

100%

Historic/archeological property impacted; determination of no adverse effect anticipated

80%

Historic/archeological property impacted; determination of adverse effect anticipated

40%

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

0%

Project is located on an identified historic bridge

3)Right-of-Way (30 Percent of Points)

Right-of-way, permanent or temporary easements either not required or all have been acquired	Yes

100%

Right-of-way, permanent or temporary easements required, plat, legal descriptions, or official map complete

50%

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

25%

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

0%

Anticipated date or date of acquisition

4)Railroad Involvement (20 Percent of Points)

No railroad involvement on project or railroad Right-of-Way agreement is executed (include signature page, if applicable)	Yes

100%

Signature Page

Please upload attachment in PDF form.

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

50%

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

0%

Anticipated date or date of executed Agreement

Measure A: Cost Effectiveness

Total Project Cost (entered in Project Cost Form):	$1,832,000.00
Enter Amount of the Noise Walls:	$0.00
Total Project Cost subtract the amount of the noise walls:	$1,832,000.00
Points Awarded in Previous Criteria	
Cost Effectiveness	$0.00

Other Attachments

File Name	Description	File Size
A - WSSICE Project Summary.pdf	One page project description and details.	39 KB
B - WSSICE PROJECT OVERVIEW MAP.pdf	Map of proposed improvement locations.	832 KB
C - WSSICE-PROJECT LOCATION.pdf	Project location map.	189 KB
D - WSSICE Photos.pdf	Photographs of the existing conditions at selected locations. Image files available upon request.	1.1 MB
E - Make-a-Map Summary & Full Set.pdf	Metropolitan Council Make-a-Map maps and summary of maps used.	34.2 MB
F - St. Paul Signal Optimization Support Letter.doc0001.pdf	Letter of project support from Ramsey County.	1.1 MB
G - Support ltr St. Paul-West Side Signalized Intersection Control Enhancements 2018.pdf	Letter of project support from MnDOT.	470 KB
H - Council resolution committing the City to the local match for the project..pdf	The attached Council Resolution commits the City to the local match portion of the proposed project. The resolution was approved by the City Council on 7/12/2018.	65 KB

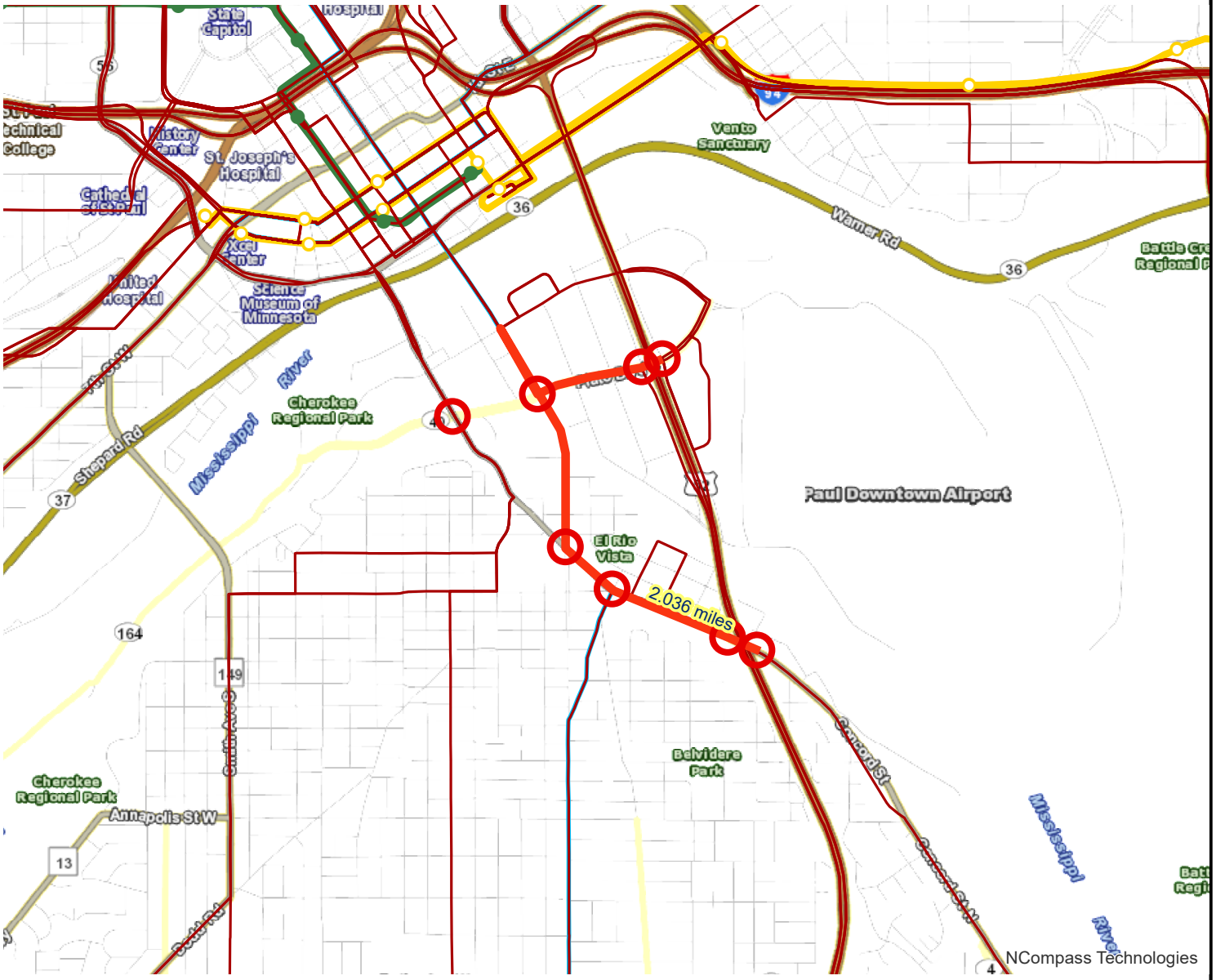
Transit Connections

Roadway System Management Project: West Side Signalized Intersection Control Enhancements | Map ID: 1530395

Results

Transit with a Direct Connection to project:
452 484 68 71 94
*Robert

**indicates Planned Alignments*



Project Points
Project

Transitway Stations
Green Line
Gold Line
Transit Routes

Planned Transitway Stations

Transitway
Green Line

Planned Transitway Alignments
Gold Line
Arterial BRT

0 0.3 0.6 1.2 1.8 2.4 Miles

Created: 6/30/2018
LandscapeRSA3

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

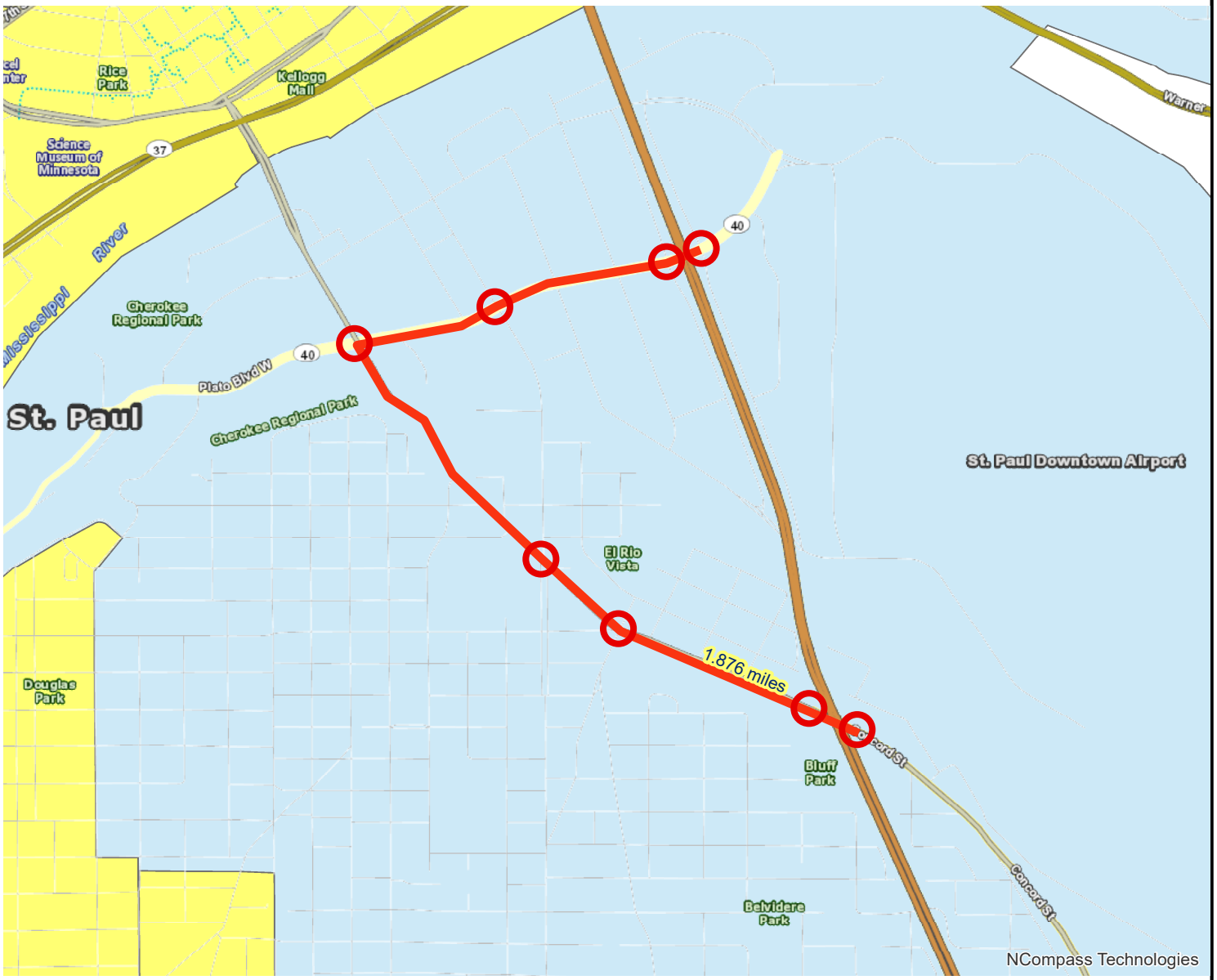
METROPOLITAN COUNCIL

Socio-Economic Conditions

Roadway System Management Project: West Side Signalized Intersection Control Enhancements | Map ID: 1530395191641

Results

Project located **IN**
Area of Concentrated Poverty with 50% or more of residents are people of color (ACP50):
(0 to 30 Points)



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

0 0.175 0.35 0.7 1.05 1.4 Miles

Created: 6/30/2018
LandscapeRSA2

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

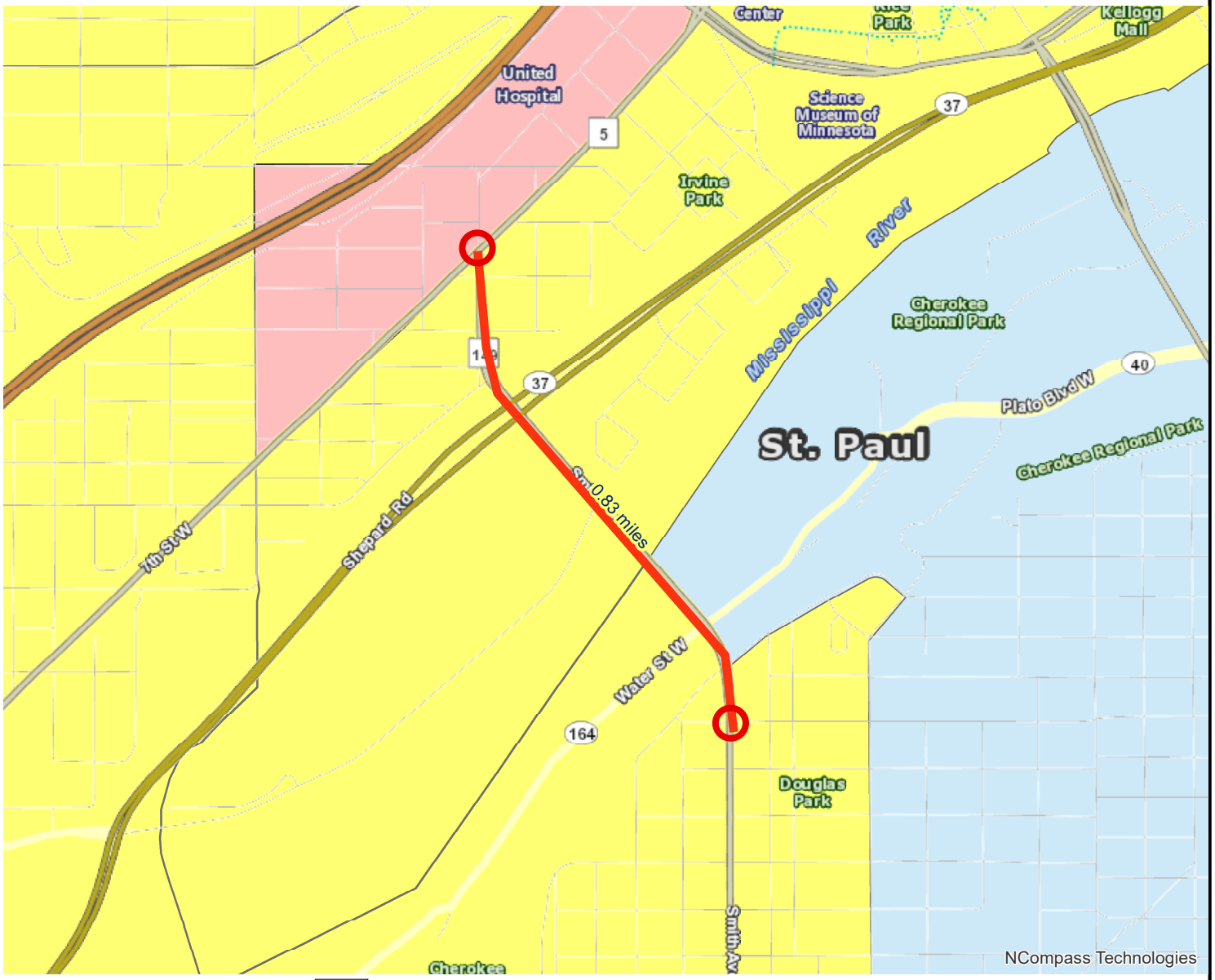
METROPOLITAN COUNCIL

Socio-Economic Conditions

Roadway System Management Project: West Side Signalized Intersection Control Enhancements | Map ID: 1531332904867

Results

Project located **IN**
Area of Concentrated Poverty:
(0 to 24 Points)



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

0 0.125 0.25 0.5 0.75 1 Miles

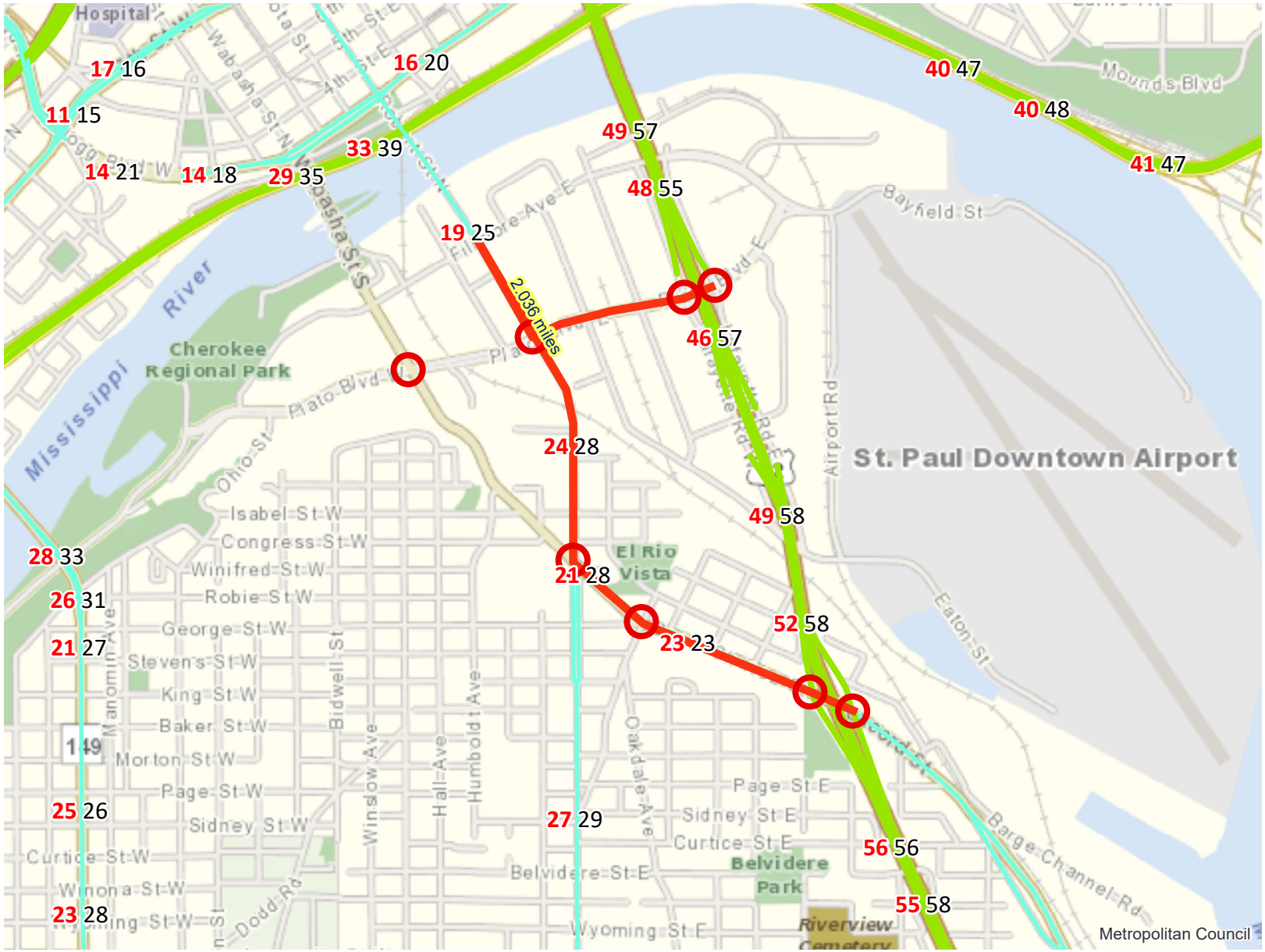
Created: 7/11/2018
LandscapeRSA2

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

METROPOLITAN COUNCIL

Level of Congestion

Roadway System Management Project: West Side Signalized Intersection Control Enhancements | Map ID: 1530395465179



Project Points
Project
Principal Arterials
A Minor Arterials
Principal Arterials Planned
A Minor Arterials Planned

0 0.175 0.35 0.7 1.05 1.4 Miles

Created: 6/30/2018
LandscapeRSA1

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

METROPOLITAN COUNCIL

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
	Mult.	Signals along Robert St and Cesar Chavez St			Saint Paul	1/1/2013	12/31/2015

Description of Proposed Work: Multiple improvements at various signalized intersections. See other worksheets for treatment at individual site.

Accident Diagram Codes			1 Rear End	2 Sideswipe Same Direction	3 Left Turn Main Line	5 Right Angle	4,7 Ran off Road	8, 9 Head On/ Sideswipe - Opposite Direction	Pedestrian	6, 90, 99 Other	Total
Study Period: Number of Crashes	Fatal	F	0	0	0	0	0	0	0	0	
	Personal Injury (PI)	A	0	0	0	0	0	0	0	0	
		B	0	0	2	0	1	0	0	0	**3**
		C	6	0	2	3	1	1	0	0	**13**
	Property Damage	PD	20	14	16	9	6	2	2	9	**78**
% Change in Crashes *Use Desktop Reference for Crash Reduction Factors	Fatal	F	Combined from other worksheets								
	PI	A									
		B									
		C									
	Property Damage	PD									
Change in Crashes = No. of crashes **X** % change in crashes	Fatal	F	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	
	PI	A	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	
		B	**0.00**	**0.00**	**-0.46**	**0.00**	**-0.15**	**0.00**	**0.00**	**0.00**	**-0.61**
		C	**-0.45**	**0.00**	**-0.62**	**-0.30**	**-0.15**	**-0.15**	**0.00**	**0.00**	**-1.67**
	Property Damage	PD	**-2.85**	**-1.80**	**-3.72**	**-1.35**	**-0.60**	**-0.30**	**-0.15**	**-1.35**	**-12.12**

Year (Safety Improvement Construction): **2023**

Project Cost (exclude Right of Way): **$ 1,832,000**

Right of Way Costs (optional):

Traffic Growth Factor: **0.5%**

Capital Recovery

1. **Discount Rate**: **2%**
2. **Project Service Life (n)**: **30**

Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
F			$ 1,140,000	
A			$ 570,000	
B	-0.61	-0.20	$ 170,000	$ 34,598
C	-1.67	-0.56	$ 83,000	$ 46,246
PD	-12.12	-4.04	$ 7,600	$ 30,732
Total				$ 111,576

B/C= 1.49

Using present worth values,

B= $ 2,722,462

C= $ 1,832,000

See "Calculations" sheet for amortization.

Office of Traffic, Safety and Technology **August 2015**

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
	MSAS 235	Cesar Chavez, State & George			Saint Paul	1/1/2013	12/31/2015

Description of Proposed Work: Install flashing yellow arrows and interconnect

Accident Diagram Codes			1 Rear End	2 Sideswipe Same Direction	3 Left Turn Main Line	5 Right Angle	4,7 Ran off Road	8, 9 Head On/ Sideswipe - Opposite Direction	Pedestrian	6, 90, 99 Other	Total
Study Period: Number of Crashes	Fatal	F									
	Personal Injury (PI)	A									
		B			1						1
		C				2	1	1			4
	Property Damage	PD	4	5	7	1	1	1		2	21
% Change in Crashes *Use Desktop Reference for Crash Reduction Factors	Fatal	F	-15%	-15%	-31%	-15%	-15%	-15%	-15%	-15%	
	PI	A	-15%	-15%	-31%	-15%	-15%	-15%	-15%	-15%	
		B	-15%	-15%	-31%	-15%	-15%	-15%	-15%	-15%	
		C	-15%	-15%	-31%	-15%	-15%	-15%	-15%	-15%	
	Property Damage	PD	-15%	-15%	-31%	-15%	-15%	-15%	-15%	-15%	
Change in Crashes = No. of crashes **X** % change in crashes	Fatal	F	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	PI	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		B	0.00	0.00	-0.31	0.00	0.00	0.00	0.00	0.00	-0.31
		C	0.00	0.00	0.00	-0.30	-0.15	-0.15	0.00	0.00	-0.60
	Property Damage	PD	-0.60	-0.75	-2.17	-0.15	-0.15	-0.15	0.00	-0.30	-4.27

Year (Safety Improvement Construction): 2023

Project Cost (exclude Right of Way): $ 1,832,000

Right of Way Costs (optional):

Traffic Growth Factor: 0.5%

Capital Recovery

1. **Discount Rate**: 2%
2. **Project Service Life (n)**: 30

Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
F			$ 1,140,000	
A			$ 570,000	
B	-0.31	-0.10	$ 170,000	$ 17,583
C	-0.60	-0.20	$ 83,000	$ 16,615
PD	-4.27	-1.42	$ 7,600	$ 10,827
Total				$ 45,025

B/C= 0.60

Using present worth values,

B= $ 1,098,617

C= $ 1,832,000

See "Calculations" sheet for amortization.

Office of Traffic, Safety and Technology August 2015

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
	TH 952A	Robert & Cesar Chavez			Saint Paul	1/1/2013	12/31/2015

Description of Proposed Work: Install flashing yellow arrows and interconnect

Accident Diagram Codes			1 Rear End	2 Sideswipe Same Direction	3 Left Turn Main Line	5 Right Angle	4,7 Ran off Road	8, 9 Head On/ Sideswipe - Opposite Direction	Pedestrian	6, 90, 99 Other	Total
Study Period: Number of Crashes	Fatal	F									
	Personal Injury (PI)	A									
		B									
		C			2						**2**
	Property Damage	PD	8	4	1	4			1	3	**21**
% Change in Crashes *Use Desktop Reference for Crash Reduction Factors	Fatal	F	-15%	-15%	-31%	-15%	-15%	-15%	-15%	-15%	
	PI	A	-15%	-15%	-31%	-15%	-15%	-15%	-15%	-15%	
		B	-15%	-15%	-31%	-15%	-15%	-15%	-15%	-15%	
		C	-15%	-15%	-31%	-15%	-15%	-15%	-15%	-15%	
	Property Damage	PD	-15%	-15%	-31%	-15%	-15%	-15%	-15%	-15%	
Change in Crashes = No. of crashes **X** % change in crashes	Fatal	F	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	
	PI	A	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	
		B	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	
		C	**0.00**	**0.00**	**-0.62**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**-0.62**
	Property Damage	PD	**-1.20**	**-0.60**	**-0.31**	**-0.60**	**0.00**	**0.00**	**-0.15**	**-0.45**	**-3.31**

Year (Safety Improvement Construction): **2023**

Project Cost (exclude Right of Way): **$ 1,832,000**

Right of Way Costs (optional):

Traffic Growth Factor: **0.5%**

Capital Recovery

1. **Discount Rate:** **2%**
2. **Project Service Life (n):** **30**

Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
F			$ 1,140,000	
A			$ 570,000	
B			$ 170,000	
C	-0.62	-0.21	$ 83,000	$ 17,169
PD	-3.31	-1.10	$ 7,600	$ 8,393
Total				$ 25,562

B/C= 0.34

Using present worth values,

B= $ 623,715

C= $ 1,832,000

See "Calculations" sheet for amortization.

Office of Traffic, Safety and Technology **August 2015**

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
	TH 952A	Robert & Plato (CSAH 40)			Saint Paul	1/1/2013	12/31/2015

Description of Proposed Work: Install interconnect (coordination)

Accident Diagram Codes			1 Rear End	2 Sideswipe Same Direction	3 Left Turn Main Line	5 Right Angle	4,7 Ran off Road	8, 9 Head On/ Sideswipe - Opposite Direction	Pedestrian	6, 90, 99 Other	Total
Study Period: Number of Crashes	Fatal	F									
	Personal Injury (PI)	A									
		B									
		C									
	Property Damage	PD	2	1	7	3	2	1		1	**17**
% Change in Crashes *Use Desktop Reference for Crash Reduction Factors	Fatal	F	-15%	-15%	-15%	-15%	-15%	-15%	-15%	-15%	
	PI	A	-15%	-15%	-15%	-15%	-15%	-15%	-15%	-15%	
		B	-15%	-15%	-15%	-15%	-15%	-15%	-15%	-15%	
		C	-15%	-15%	-15%	-15%	-15%	-15%	-15%	-15%	
	Property Damage	PD	-15%	-15%	-15%	-15%	-15%	-15%	-15%	-15%	
Change in Crashes = No. of crashes **X** % change in crashes	Fatal	F	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	
	PI	A	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	
		B	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	
		C	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	
	Property Damage	PD	**-0.30**	**-0.15**	**-1.05**	**-0.45**	**-0.30**	**-0.15**	**0.00**	**-0.15**	**-2.55**

Year (Safety Improvement Construction): **2023**

Project Cost (exclude Right of Way): **$ 1,832,000**

Right of Way Costs (optional):

Traffic Growth Factor: **0.5%**

Capital Recovery

1. **Discount Rate:** **2%**
2. **Project Service Life (n):** **30**

Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
F			$ 1,140,000	
A			$ 570,000	
B			$ 170,000	
C			$ 83,000	
PD	-2.55	-0.85	$ 7,600	$ 6,466
Total				$ 6,466

B/C= 0.09

Using present worth values,

B= $ 157,769

C= $ 1,832,000

See "Calculations" sheet for amortization.

Office of Traffic, Safety and Technology **August 2015**

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
	TH 952A	Robert & Fillmore			Saint Paul	1/1/2013	12/31/2015

Description of Proposed Work: Install interconnect (coordination)

Accident Diagram Codes			1 Rear End	2 Sideswipe Same Direction	3 Left Turn Main Line	5 Right Angle	4,7 Ran off Road	8, 9 Head On/ Sideswipe - Opposite Direction	Pedestrian	6, 90, 99 Other	Total
Study Period: Number of Crashes	Fatal	F									
	Personal Injury (PI)	A									
		B			1		1				2
		C	3								3
	Property Damage	PD	5	2		1	1			3	12
% Change in Crashes *Use Desktop Reference for Crash Reduction Factors	Fatal	F	-15%	-15%	-15%	-15%	-15%	-15%	-15%	-15%	
	PI	A	-15%	-15%	-15%	-15%	-15%	-15%	-15%	-15%	
		B	-15%	-15%	-15%	-15%	-15%	-15%	-15%	-15%	
		C	-15%	-15%	-15%	-15%	-15%	-15%	-15%	-15%	
	Property Damage	PD	-15%	-15%	-15%	-15%	-15%	-15%	-15%	-15%	
Change in Crashes = No. of crashes **X** % change in crashes	Fatal	F	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	
	PI	A	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	
		B	**0.00**	**0.00**	**-0.15**	**0.00**	**-0.15**	**0.00**	**0.00**	**0.00**	**-0.30**
		C	**-0.45**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**-0.45**
	Property Damage	PD	**-0.75**	**-0.30**	**0.00**	**-0.15**	**-0.15**	**0.00**	**0.00**	**-0.45**	**-1.80**

Year (Safety Improvement Construction): **2023**

Project Cost (exclude Right of Way): **$ 1,832,000**

Right of Way Costs (optional):

Traffic Growth Factor: **0.5%**

Capital Recovery

1. **Discount Rate:** **2%**
2. **Project Service Life (n):** **30**

Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
F			$ 1,140,000	
A			$ 570,000	
B	-0.30	-0.10	$ 170,000	$ 17,016
C	-0.45	-0.15	$ 83,000	$ 12,461
PD	-1.80	-0.60	$ 7,600	$ 4,564
Total				$ 34,041

B/C= 0.45

Using present worth values,

B= $ 830,606

C= $ 1,832,000

See "Calculations" sheet for amortization.

Office of Traffic, Safety and Technology **August 2015**

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
	TH 156	US 52 Ramps	3+00.848	4+00.357	Hennepin Co.	1/1/2012	12/31/2014

Description of Proposed Work: Traffic signal reconstruction, including flashing yellow arrow & APS.

Accident Diagram Codes			1 Rear End	2 Sideswipe Same Direction	3 Left Turn Main Line	5 Right Angle	4,7 Ran off Road	8, 9 Head On/ Sideswipe - Opposite Direction	Pedestrian	6, 90, 99 Other	Total
Study Period: Number of Crashes	Fatal	F									
	Personal Injury (PI)	A									
		B									
		C	3			1					4
	Property Damage	PD	1	2	1		2		1		7
% Change in Crashes *Use Desktop Reference for Crash Reduction Factors	Fatal	F			-19%						
	PI	A			-19%						
		B			-19%						
		C			-19%						
	Property Damage	PD			-19%						
Change in Crashes = No. of crashes **X** % change in crashes	Fatal	F	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	PI	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		B	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Property Damage	PD	0.00	0.00	-0.19	0.00	0.00	0.00	0.00	0.00	-0.19

Year (Safety Improvement Construction): 2023

Project Cost (exclude Right of Way): $ 1,832,000

Right of Way Costs (optional):

Traffic Growth Factor: 0.5%

Capital Recovery

1. **Discount Rate**: 2%
2. **Project Service Life (n)**: 30

Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
F			$ 1,140,000	
A			$ 570,000	
B			$ 170,000	
C			$ 83,000	
PD	-0.19	-0.06	$ 7,600	$ 481
Total				$ 481

B/C= 0.01

Using present worth values,

B= $ 11,745

C= $ 1,832,000

See "Calculations" sheet for amortization.

Office of Traffic, Safety and Technology **August 2015**

WEST SIDE TRAFFIC SIGNAL CONTROL ENHANCEMENTS

PROJECT ELEMENTS AND BENEFITS

The West Side Traffic Signal Control Enhancements Project would reconstruct and modify traffic signals, install fiber-optic interconnect, and install traffic cameras in the City of Saint Paul's West Side. The proposed elements of the project and some of the benefits of each include:

- Reconstruction of the two traffic signals on Concord St. (TH 156) at the junction with US 52.
    - Built in the 1970s, these two signals are consistent maintenance issues, and require significant staff time to maintain operation.
    - Replacement of the signals will allow for the implementation of improved safety treatments and increased efficiency. The new signals will provide overhead indications for all approaches, flashing yellow arrows, audible pedestrian push buttons, countdown timers, and twelve-inch indications.
- Installation of fiber-optic interconnect to multiple signals along Robert St. (TH 952 A), Smith Ave. (TH 149), Plato Blvd. (CSAH 40), Cesar Chavez St. (MSAS 235) and Concord St, and upgrade of traffic signal controllers where needed.
    - Installation of interconnect will allow the City to remotely monitor and modify the operation of these signals, providing more rapid response to outages and improved ability to adjust settings.
    - Installation of fiber-optic interconnect will allow for the coordination of closely spaced signals along these corridors, reducing stops and delay while improving safety.
    - Replacement of the legacy 170 traffic signal controllers will allow for the use of signal performance measures, responsive traffic signal control, and many other benefits.
- Retrofitting flashing yellow arrows in place of existing protected/permissive signals at the intersections on Cesar Chavez St. at Robert St. and State St. (MSAS 201)/George St. (MSAS 139).
    - Flashing yellow arrows have been shown to reduce crash frequency at intersections.
    - The installation of flashing yellow arrows at the intersection of Cesar Chavez St., State St./George St. is expected to reduce confusion caused by unorthodox signal phasing.
- Installing audible pedestrian push buttons at the intersection of Cesar Chavez St., State St./George St.
    - The installation of audible push buttons will provide valuable wayfinding of a complex, five-legged intersection to the visually impaired.
- Installation of traffic cameras at multiple locations in the area.
    - The ability to remotely observe traffic conditions, combined with the other improvements, will allow for real-time monitoring and adjustment of traffic operations and management of events and incidents.

APPLICATION DETAILS

APPLICANT

Mike Klobucar
City of Saint Paul
Department of Public Works

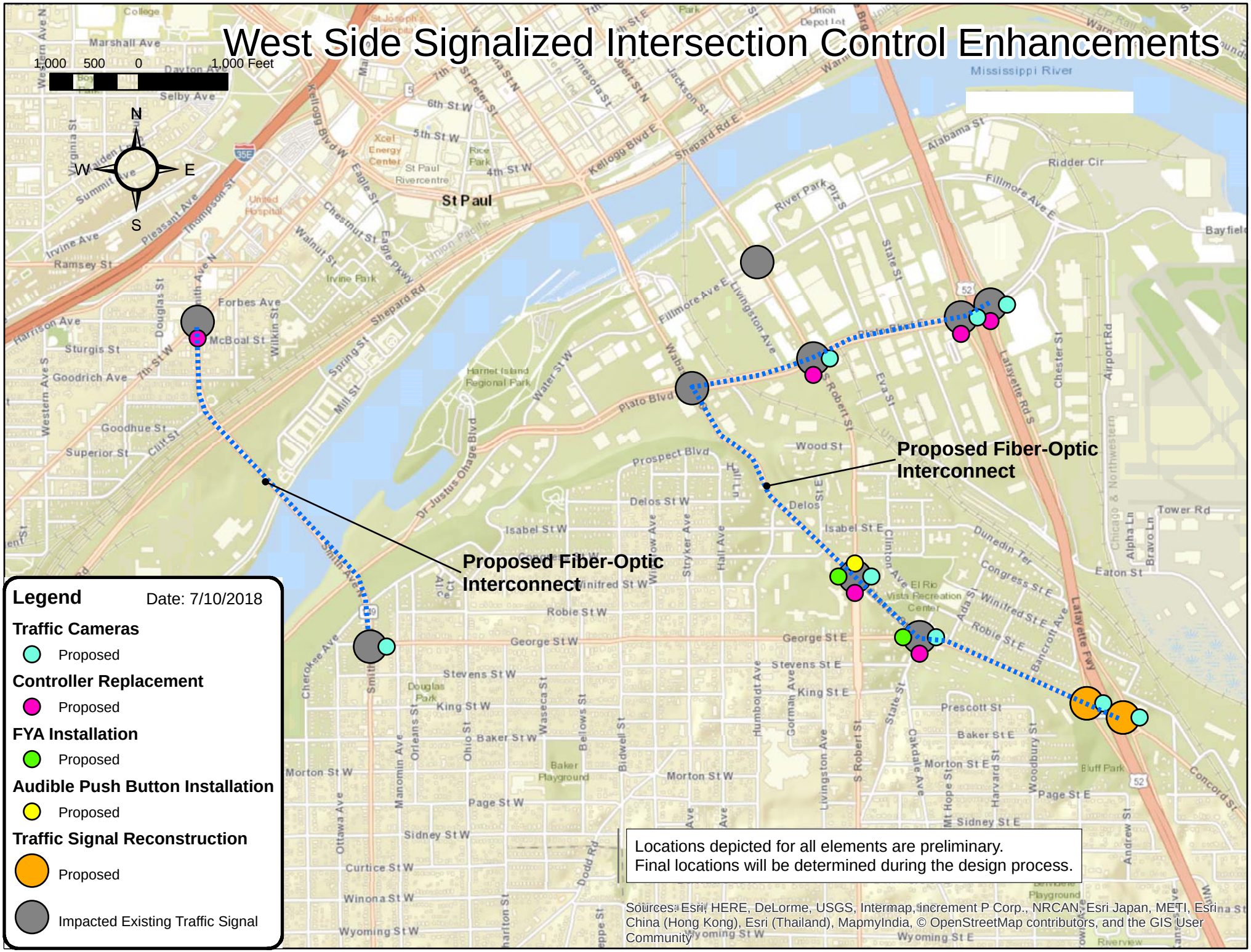
651.266.6208
mike.klobucar@ci.stpaul.mn.us

PROJECT COST

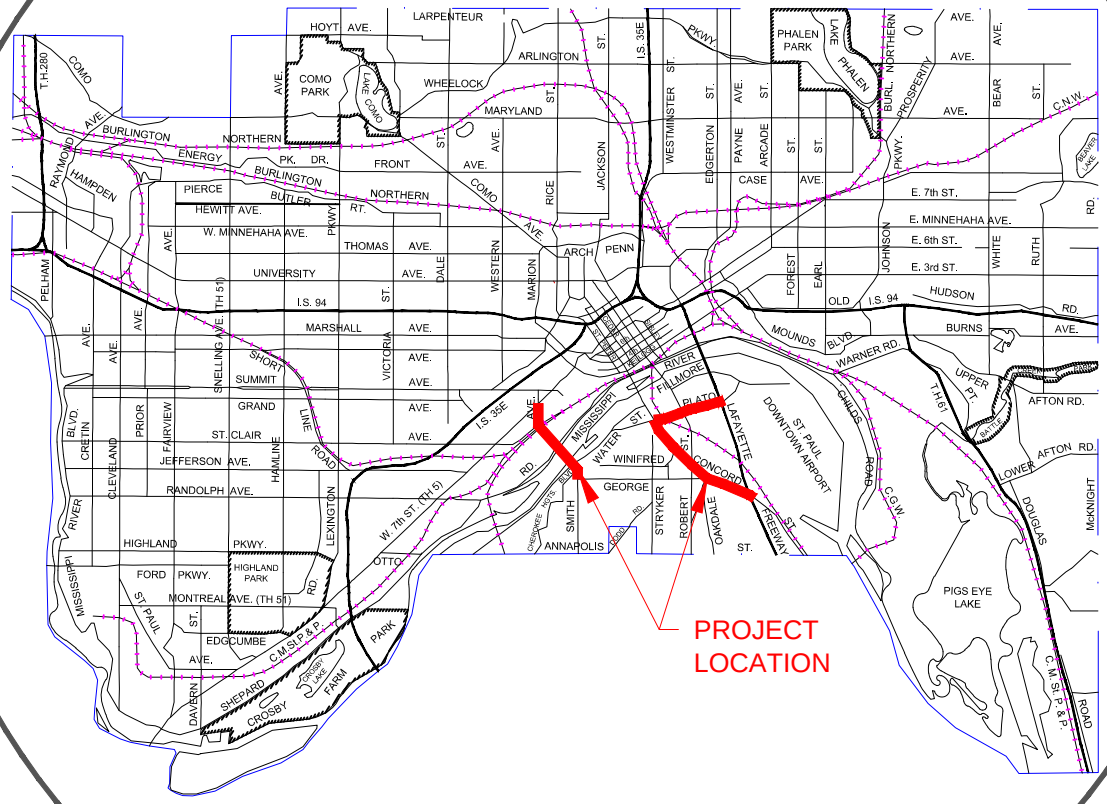
Total project cost: $1,832,000

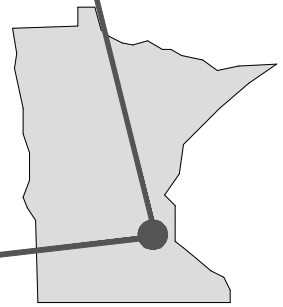
Federal request amount: $1,465,600

West Side Signalized Intersection Control Enhancements



CITY OF SAINT PAUL





PREPARED BY TRAFFIC ENGINEERING DIVISION FOR THE CITY OF ST. PAUL DEPARTMENT OF PUBLIC WORKS

WEST SIDE SIGNALIZED INTERSECTION CONTROL ENHANCEMENTS

PROJECT LOCATION

7/10/18

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7/10/2018 1:02:30 PM

WEST SIDE TRAFFIC SIGNAL CONTROL ENHANCEMENTS

BEFORE CONDITION OF SELECTED IMPROVEMENTS

LOOKING NORTHWEST AT THE TRAFFIC SIGNAL AT CONCORD ST. (TH 156) & NORTHBOUND US 52, PROPOSED FOR RECONSTRUCTION

LOOKING NORTHWEST AT THE TRAFFIC SIGNAL AT CONCORD ST. (TH 156) & SOUTHBOUND US 52, PROPOSED FOR RECONSTRUCTION

WEST SIDE TRAFFIC SIGNAL CONTROL ENHANCEMENTS

BEFORE CONDITION OF SELECTED IMPROVEMENTS

LOOKING WEST AT CESAR CHAVEZ ST., STATE ST. & GEORGE ST., WHERE FLASHING YELLOW ARROWS AND AUDIBLE PUSH BUTTONS ARE PROPOSED TO REDUCE CONFUSION AND IMPROVE SAFETY

LOOKING SOUTH AT ROBERT ST. & CESAR CHAVEZ ST., WHERE FLASHING YELLOW ARROWS ARE PROPOSED TO REDUCE CONFUSION AND IMPROVE SAFETY

WEST SIDE TRAFFIC SIGNAL CONTROL ENHANCEMENTS

NOTES ON MAKE-A-MAP PROCEDURE FOR THIS PROJECT

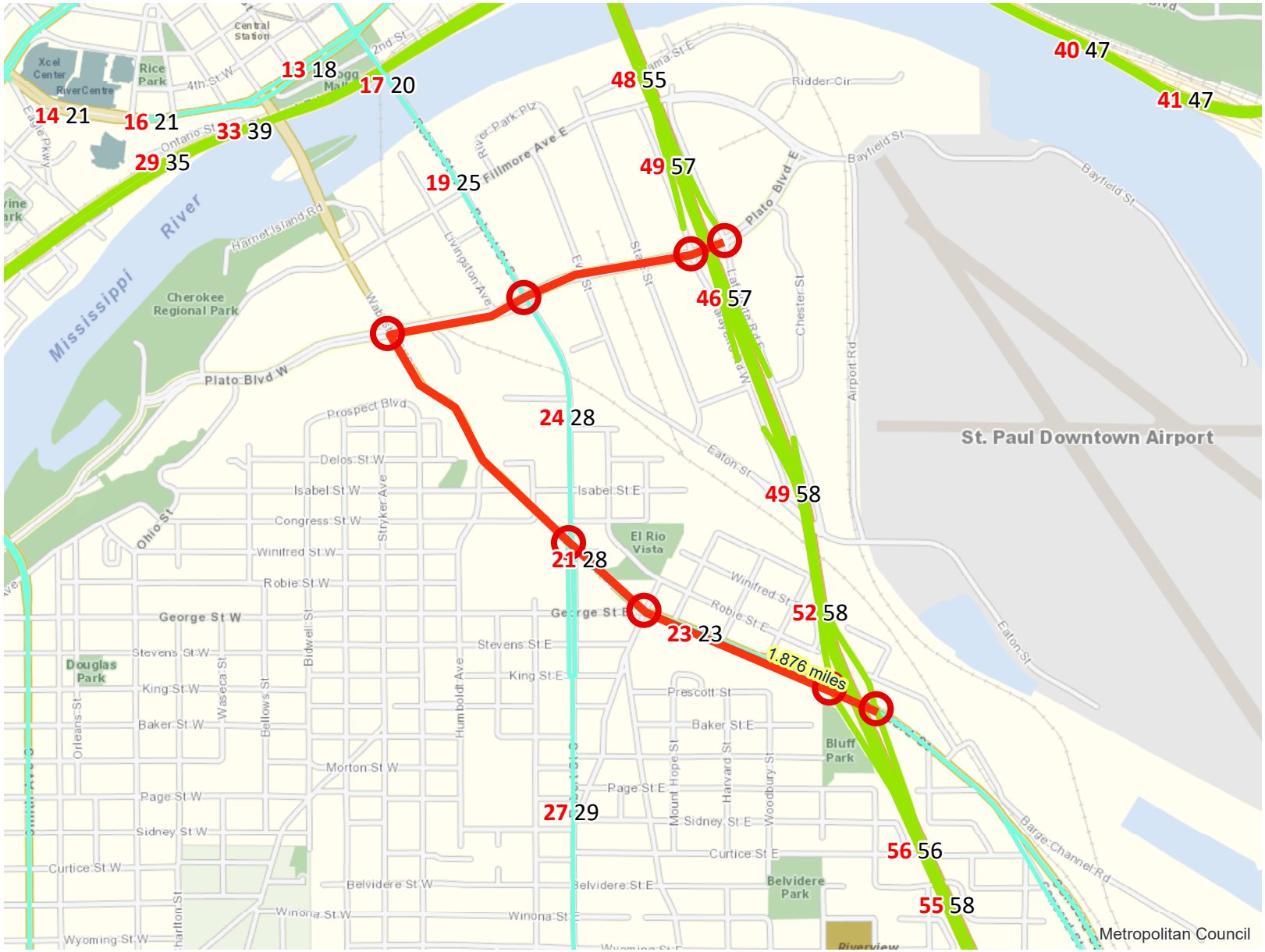
For this application, the City of Saint Paul created two sets of maps using the Metropolitan Council Make-a-Map application. One set follows the physical work, where fiber-optic interconnect installation is proposed and the other follows the corridors where traffic benefits are anticipated.

This procedure was followed to more accurately reflect the project, as the benefits will be seen on corridors that do not follow the proposed interconnect route. Signals will be added to the City's overall network, and will be coordinated along corridors as appropriate, and operations at signals where no work is being done are anticipated to improve due to the new ability to coordinate with other signals.

The set of map results were used in the application as was most appropriate to the information being discussed in each section.

Level of Congestion

Roadway System Management Project: West Side Signalized Intersection Control Enhancements | Map ID: 1530395191641



Project Points — Principal Arterials — Principal Arterials Planned

Project — A Minor Arterials — A Minor Arterials Planned

0 0.175 0.35 0.7 1.05 1.4 Miles

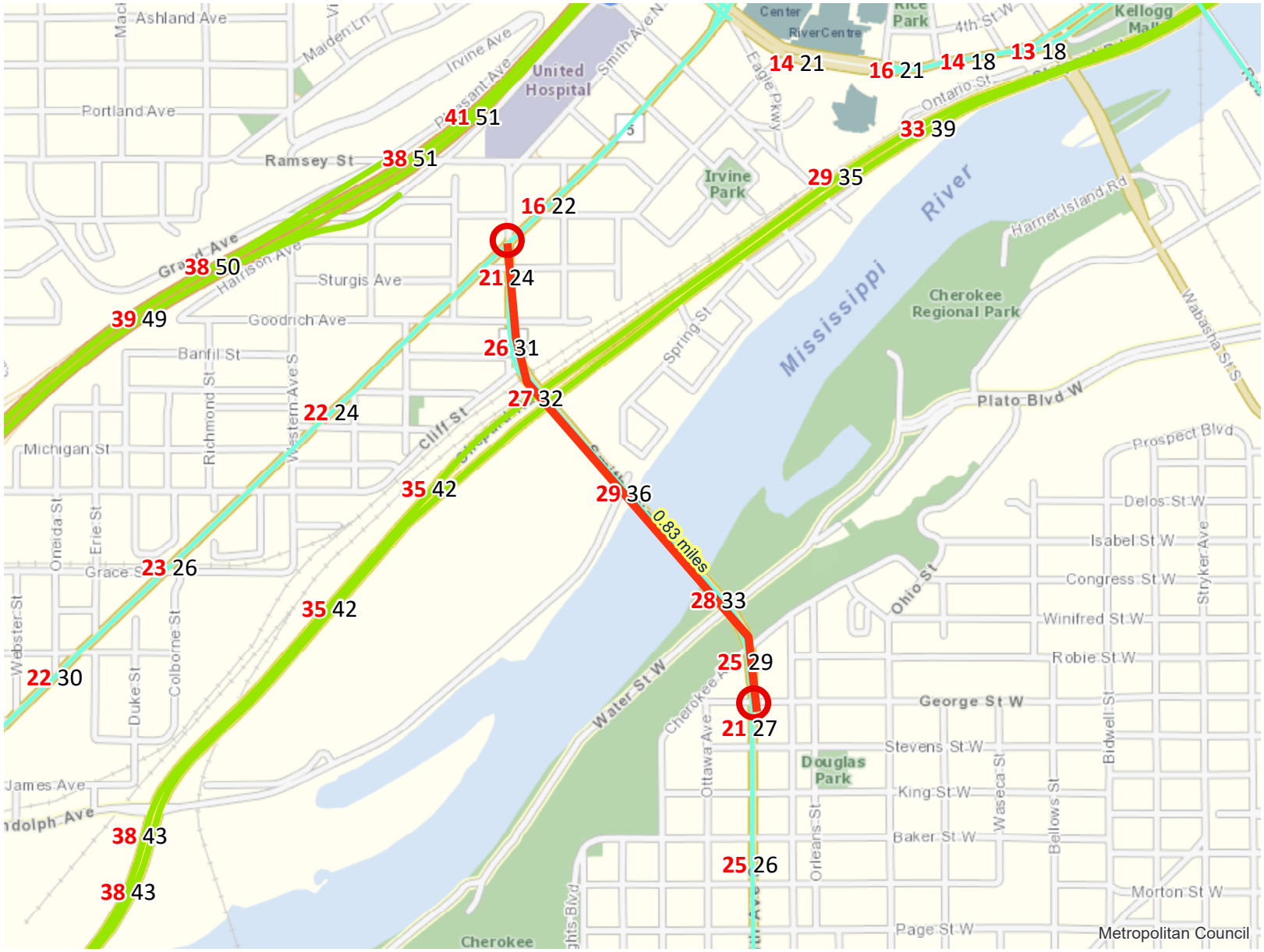
Created: 6/30/2018
LandscapeRSA1

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

METROPOLITAN COUNCIL

Level of Congestion

Roadway System Management Project: West Side Signalized Intersection Control Enhancements | Map ID: 1531332904867



Project Points
Project
Principal Arterials
A Minor Arterials
Principal Arterials Planned
A Minor Arterials Planned

0 0.125 0.25 0.5 0.75 1 Miles

Created: 7/11/2018
LandscapeRSA1

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

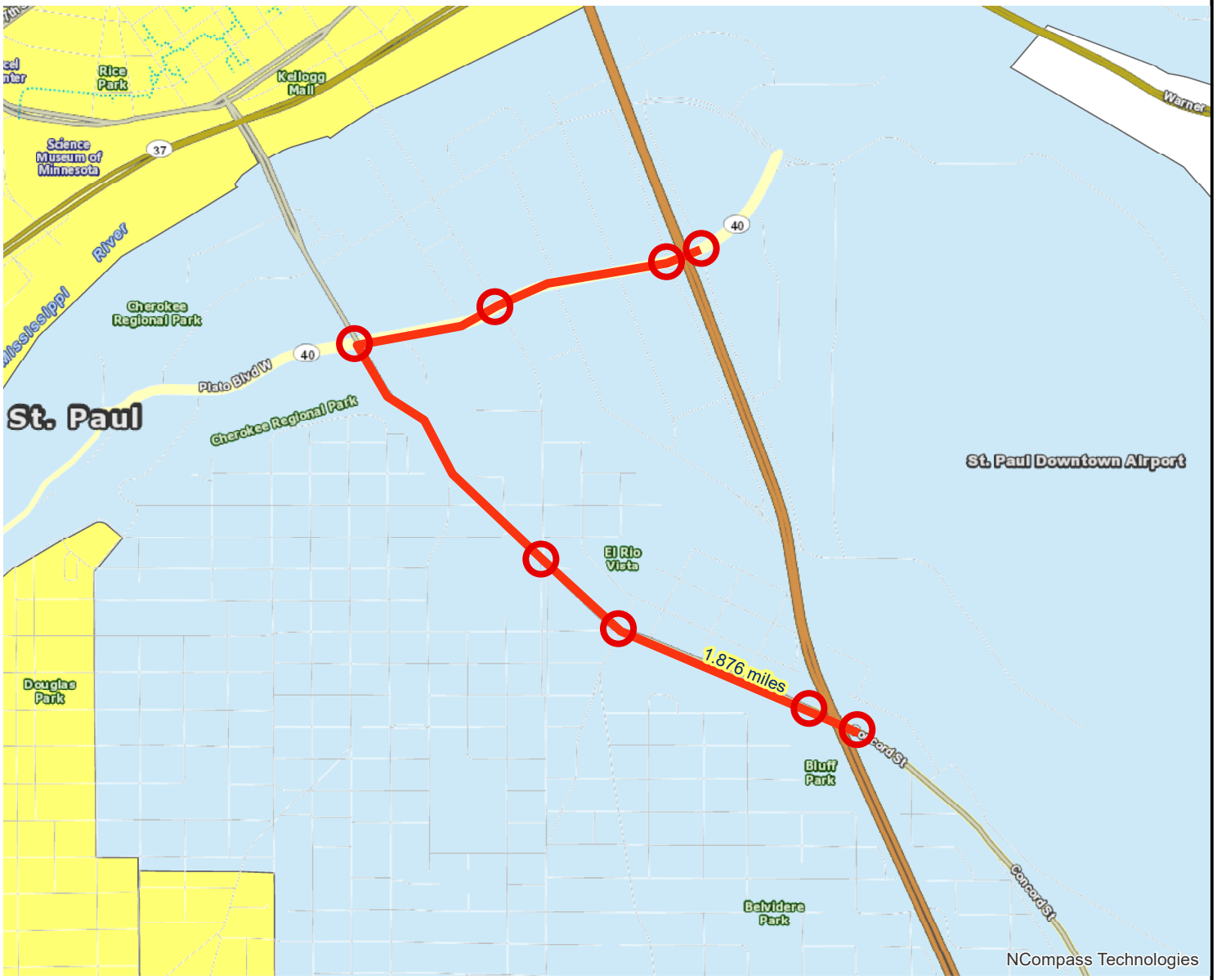
METROPOLITAN COUNCIL

Socio-Economic Conditions

Roadway System Management Project: West Side Signalized Intersection Control Enhancements | Map ID: 1530395191641

Results

Project located **IN**
Area of Concentrated Poverty with 50% or more of residents are people of color (ACP50):
(0 to 30 Points)



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

0 0.175 0.35 0.7 1.05 1.4 Miles

Created: 6/30/2018
LandscapeRSA2

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

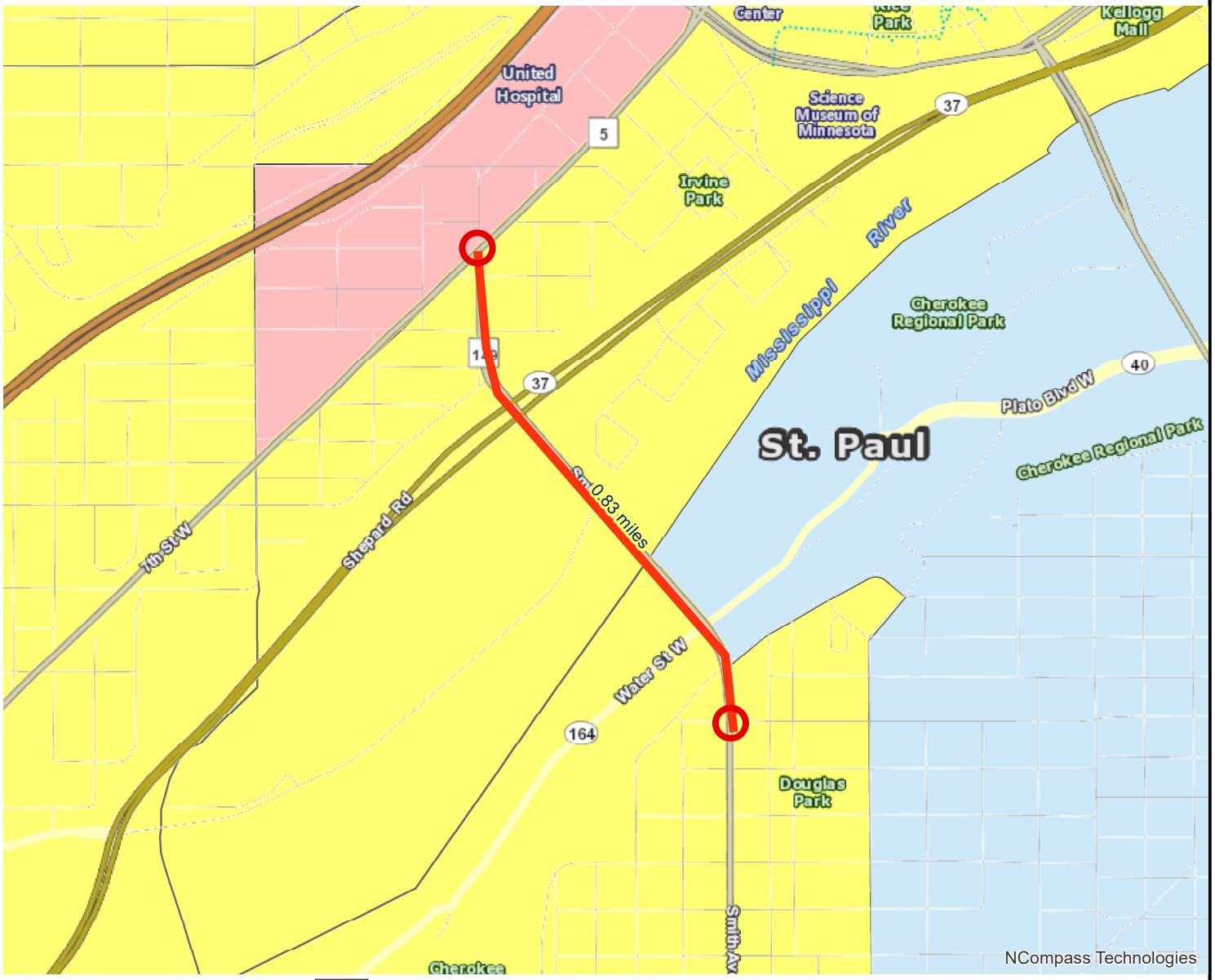
METROPOLITAN COUNCIL

Socio-Economic Conditions

Roadway System Management Project: West Side Signalized Intersection Control Enhancements | Map ID: 1531332904867

Results

Project located **IN**
Area of Concentrated Poverty:
(0 to 24 Points)



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

0 0.125 0.25 0.5 0.75 1 Miles

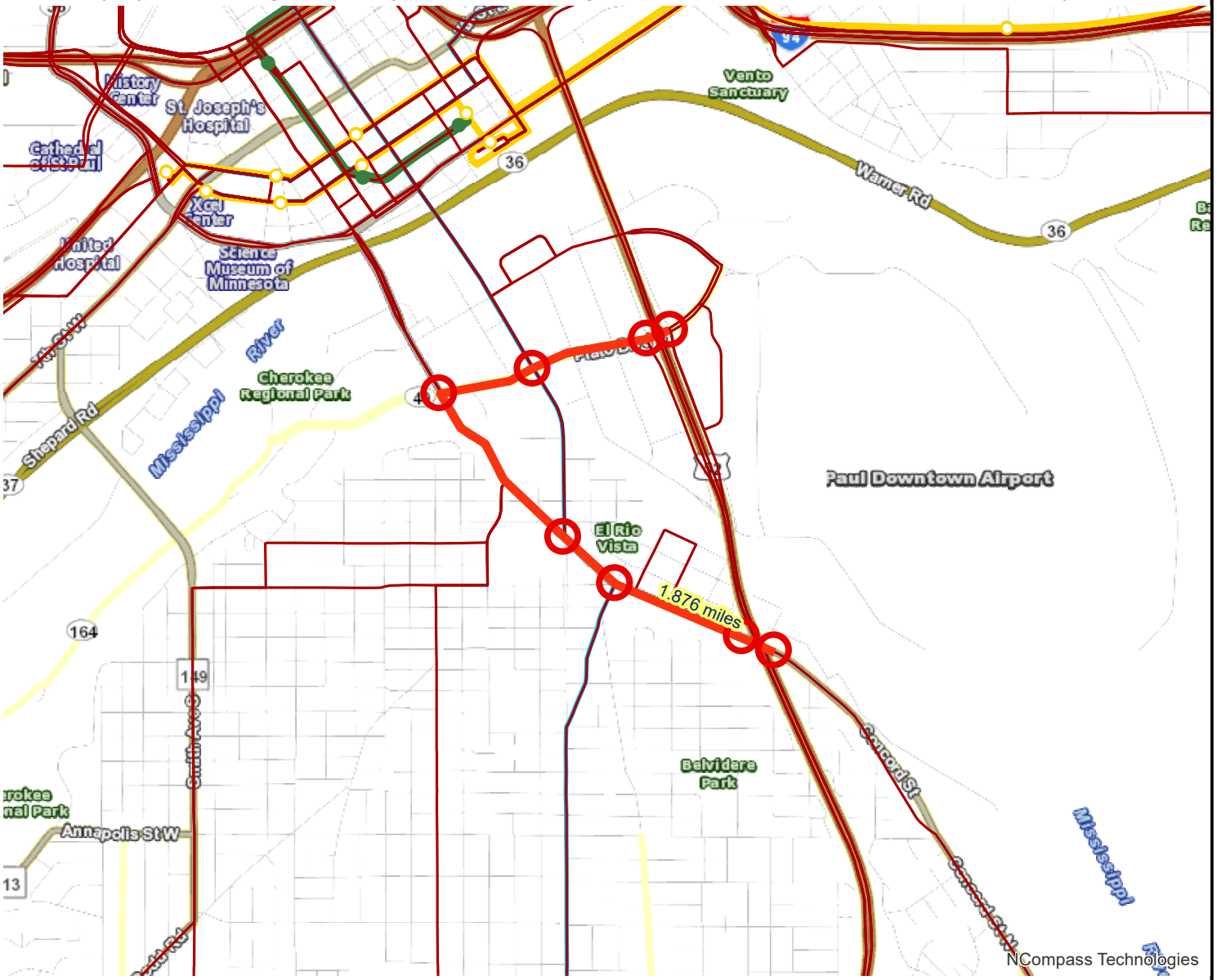
Created: 7/11/2018
LandscapeRSA2

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

METROPOLITAN COUNCIL

Transit Connections

Roadway System Management Project: West Side Signalized Intersection Control Enhancements | Map ID: 1530395



Results

Transit with a Direct Connection to project:
417 452 484 62 68 71 75
*Robert

**indicates Planned Alignments*

Project Points
Project

Transitway Stations
Green Line
Gold Line

Planned Transitway Stations
Transit Routes

Transitway
Green Line

Planned Transitway Alignments
Gold Line
Arterial BRT

0 0.275 0.55 1.1 1.65 2.2 Miles

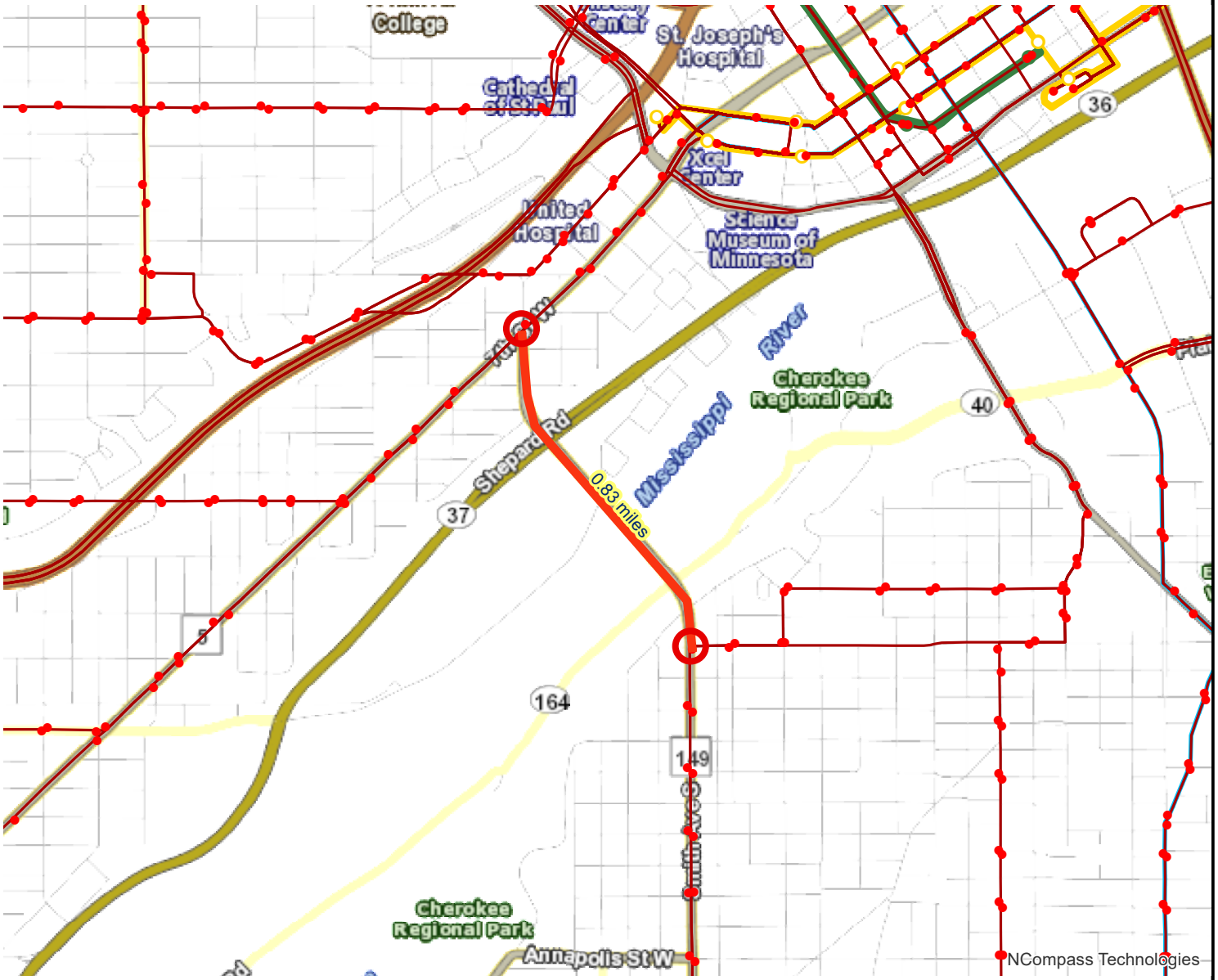
Created: 6/30/2018
LandscapeRSA3

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

METROPOLITAN COUNCIL

Transit Connections

Roadway System Management Project: West Side Signalized Intersection Control Enhancements | Map ID: 1531332



Results

Transit with a Direct Connection to project:
417 54 62 63 65 70 74

**indicates Planned Alignments*

Project Points
Project
Active Stop

Transitway Stations
Green Line

Planned Transitway Stations
Gold Line

Transit Routes

Transitway
Green Line

Planned Transitway Alignments
Gold Line
Arterial BRT

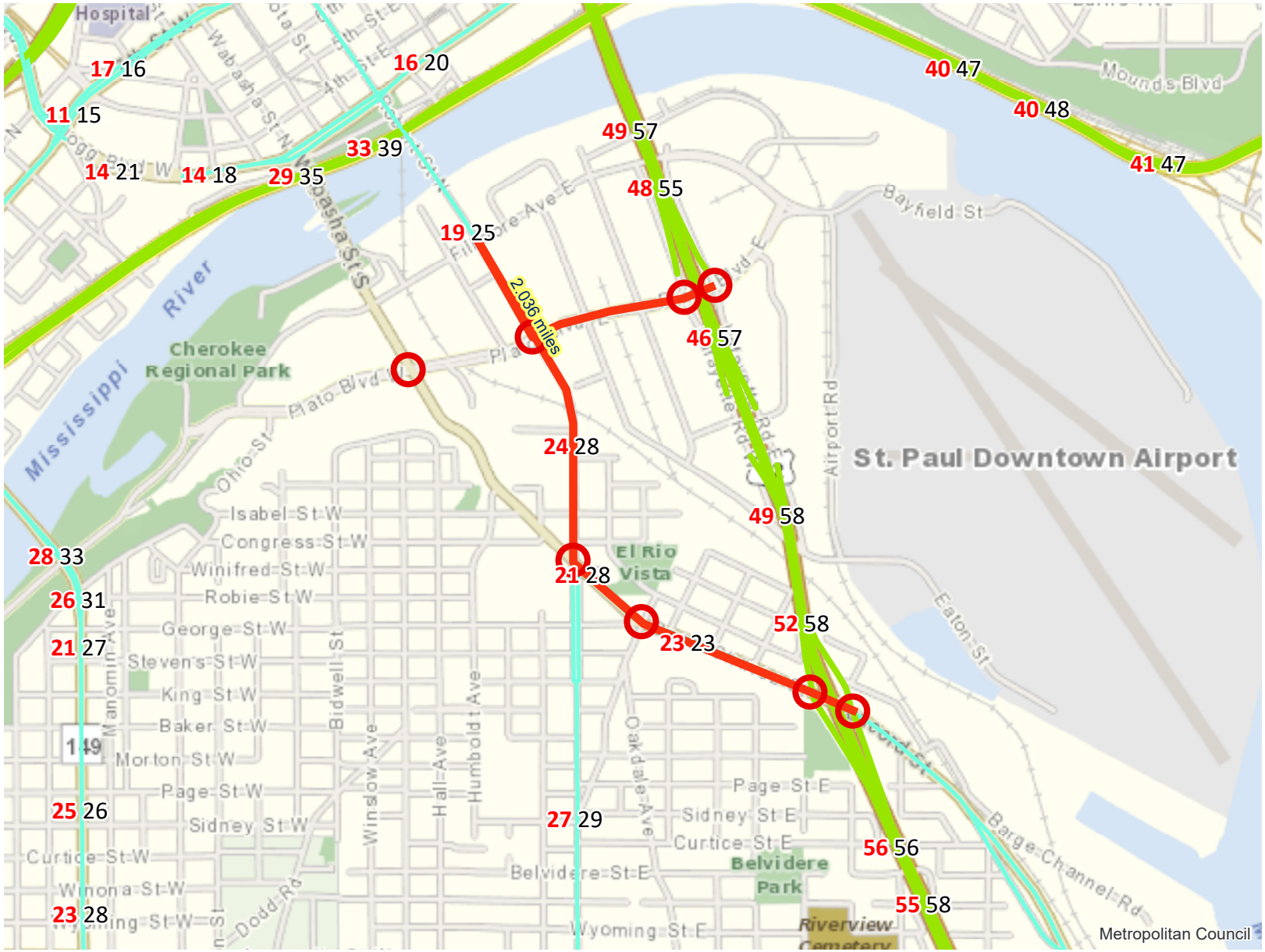
0 0.2 0.4 0.8 1.2 1.6 Miles

Created: 7/11/2018
LandscapeRSA3

METROPOLITAN COUNCIL

Level of Congestion

Roadway System Management Project: West Side Signalized Intersection Control Enhancements | Map ID: 1530395465179



Project Points
Project
Principal Arterials
A Minor Arterials
Principal Arterials Planned
A Minor Arterials Planned

0 0.175 0.35 0.7 1.05 1.4 Miles

Created: 6/30/2018
LandscapeRSA1

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

METROPOLITAN COUNCIL

Socio-Economic Conditions

Roadway System Management Project: West Side Signalized Intersection Control Enhancements | Map ID: 1530395465179

Results

Project located **IN**
Area of Concentrated Poverty with 50% or more of residents are people of color (ACP50):
(0 to 30 Points)

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

0 0.2 0.4 0.8 1.2 1.6 Miles

Created: 6/30/2018
LandscapeRSA2

METROPOLITAN COUNCIL

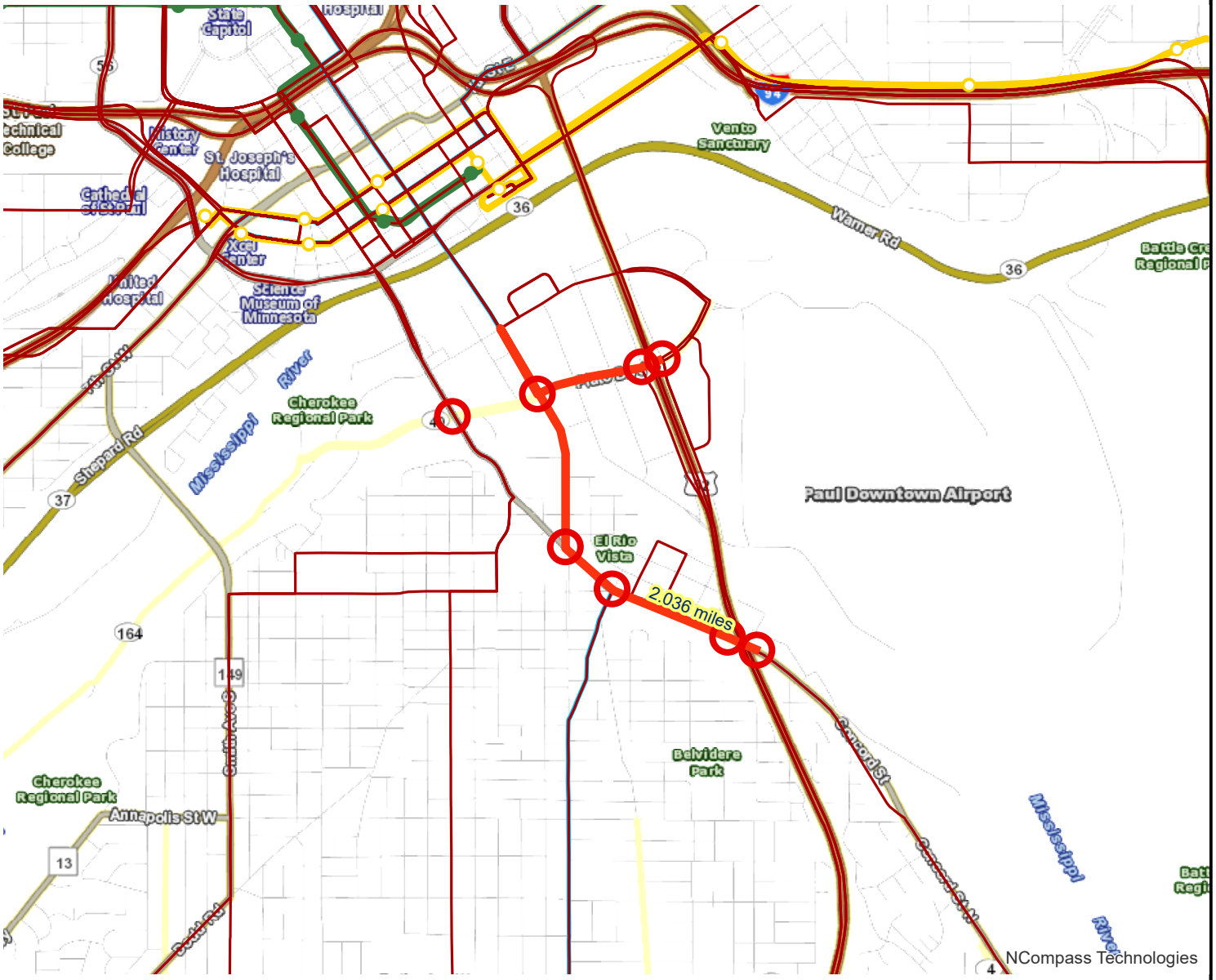
Transit Connections

Roadway System Management Project: West Side Signalized Intersection Control Enhancements | Map ID: 1530395

Results

Transit with a Direct Connection to project:
452 484 68 71 94
*Robert

**indicates Planned Alignments*



Project Points
Project

Transitway Stations
Green Line
Gold Line
Transit Routes

Planned Transitway Stations

Transitway
Green Line

Planned Transitway Alignments
Gold Line
Arterial BRT

0 0.3 0.6 1.2 1.8 2.4 Miles

Created: 6/30/2018
LandscapeRSA3

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

METROPOLITAN COUNCIL

RAMSEY COUNTY
Public Works

July 11, 2018

Kathy Lantry
Director, Saint Paul Department of Public Works
25 W. 4th Street
Saint Paul, MN 55102

PROPOSED SURFACE TRANSPORTATION PROGRAM FUNDING APPLICATION FOR TRAFFIC SIGNAL COORDINATION AND MONITORING

Dear Ms. Lantry:

Ramsey County supports the City's efforts to modernize our shared traffic signal systems and to coordinate their operation through its application for federal funding. Furthermore, if you are successful in obtaining funding, we are committed to contributing to the local share of the proposed improvements on our system, according to our cost participation policy.

We appreciate the City's efforts to modernize the traffic control systems and value our continued cooperation in maintaining our shared assets.

Sincerely,

Ted Schoenecker
Director of Public Works/County Engineer

1425 Paul Kirkwold Drive
Arden Hills, MN 55112
Phone: (651) 266-7100
www.co.ramsey.mn.us

DEPARTMENT OF TRANSPORTATION

MnDOT Metro District
1500 West County Road B-2
Roseville, MN 55113

July 10, 2018

Paul Kurtz, City Engineer
Saint Paul Public Works Department
25 West 4th Street
1500 City Hall Annex
Saint Paul, Minnesota, 55102

Re: Letter of Support for City of Saint Paul
Metro Council/Transportation Advisory Board 2018 Regional Solicitation Funding Request for West Side Signalized Intersection Control Enhancements

Dear Mr. Kurtz,

This letter documents MnDOT Metro District's support for Saint Paul's funding request to the Metro Council for the 2018 regional solicitation for 2022-23 funding for West Side Signalized Intersection Control Enhancements.

As proposed, this project could impact MnDOT right-of-way on MN 5, MN 52, MN 149, and MN 156. As the agency with jurisdiction over these roadways, MnDOT will support Saint Paul and will allow the improvements proposed in the application for the West Side Signalized Intersection Control Enhancements. Details of a future maintenance agreement with the City of Saint Paul will need to be determined during project development to define how the improvements will be maintained for the project's useful life.

No funding from MnDOT is currently programmed for this project. In addition, the Metro District currently does not anticipate any available discretionary funding in years 2022-23 that could fund project construction, nor do we have the resources to assist with construction or with MnDOT services such as the design or construction engineering of the project. However, I would request that you please continue to work with MnDOT Area staff to coordinate project development and to periodically review needs and opportunities for cooperation.

MnDOT Metro District looks forward to continued cooperation with Saint Paul as this project moves forward and as we work together to improve safety and travel options within the Metro Area.

If you have questions or require additional information at this time, please reach out to Sheila Kauppi, your North Area Manager, at Sheila.Kauppi@state.mn.us or 651-234-7718.

Sincerely,

Scott McBride
Metro District Engineer

CC: Sheila Kauppi, Metro District North Area Manager
Lynne Bly, Metro Program Director
Dan Erickson, Metro State Aid Engineer

File #: RES 18-803, **Version:** 1

Authorizing the Departments of Public Works and Parks and Recreation to submit eleven project applications for federal funding into the 2018 Metropolitan Council Regional Solicitation Program and to authorize the commitment of a twenty percent local funding match plus engineering for any project that is awarded federal funding.

WHEREAS, The Departments of Public Works and Parks and Recreation are proposing to submit eleven project applications for federal funding into the 2018 Metropolitan Council Regional Solicitation Program; and

WHEREAS, there is a required twenty percent local funding match to any project awarded to an agency under the Regional Solicitation Program; and

WHEREAS, the City commits to ensuring that all sidewalks and bikeways included in these project applications will be fully open for use and cleared of snow throughout the winter, either by City staff or by adjacent property owners per existing City ordinances; and

WHEREAS, the projects to be submitted by the City under the Metropolitan Council Regional Solicitation are:

- Kellogg/3rd Street Bridge Replacement
- Capital City Bikeway - Kellogg Boulevard from Jackson to St. Peter
- Troutbrook Road Connection - Kittson to Lafayette
- West Side Signalized Intersection Control Enhancements
- Sidewalk In-Fill Project - south side of Front Street from Dale to Mackubin
- Safe Routes to School Project - Bruce Vento Elementary School
- Sam Morgan Regional Trail Segment 1 Reconstruction
- Fish Hatchery Trail Stabilization and Reconstruction
- Point Douglas Regional Trail Phase 1 Construction
- Robert Piram Regional Trail Grade Separation at Barge Channel Rd
- HourCAR Expansion and Electrification

WHEREAS, these projects fall within appropriate funding categories and meet the conditions and requirements specified for eligibility of federal funding; now, therefore, be it

RESOLVED, that the Council of the City of Saint Paul authorizes submission of the project applications for possible award of federal transportation funds through the Metropolitan Council Regional Solicitation Program:

and be it

FURTHER RESOLVED, that the Council of the City of Saint Paul authorizes the commitment of local funds on a twenty percent match basis plus engineering for any project awarded federal funding under the Regional Solicitation Program.