



Application

10353 - 2018 Roadway Expansion

10832 - West Broadway Avenue (CSAH 103) Roadway Expansion

Regional Solicitation - Roadways Including Multimodal Elements

Status: Submitted
Submitted Date: 07/12/2018 2:02 PM

Primary Contact

Name:* Jeff Holstein
Salutation First Name Middle Name Last Name

Title: City Transportation Engineer

Department:

Email: jeff.holstein@brooklynpark.org

Address: 5200 85th Avenue North

***** Brooklyn Park Minnesota 55443
City State/Province Postal Code/Zip

Phone:* 763-493-8102
Phone Ext.

Fax:

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

Organization Information

Name: BROOKLYN PARK, CITY OF

Jurisdictional Agency (if different):

Organization Type:

City

Organization Website:

Address:

5200 85TH AVE N

*

BROOKLYN PARK Minnesota

55443

City

State/Province

Postal Code/Zip

County:

Hennepin

Phone:*

763-493-8185

Ext.

Fax:

PeopleSoft Vendor Number

0000020926A1

Project Information

Project Name

West Broadway Avenue (CSAH 103) Roadway Expansion

Primary County where the Project is Located

Hennepin

Cities or Townships where the Project is Located:

Brooklyn Park

Jurisdictional Agency (If Different than the Applicant):

Applicant & Hennepin County

West Broadway Avenue (County State Aid Highway 103) is primarily a rural, two-lane undivided, 60-year-old roadway classified as an A-Minor Expander (from 85th Avenue to 93rd Avenue) and an A-Minor Reliever (from 93rd Avenue to Trunk Highway (TH) 610) located in Hennepin County. This north-south corridor provides an integral connection to community destinations like the North Hennepin Community College, Brooklyn Park Library, Elementary Education, and several places of worship. Furthermore, it provides direct access to TH 610 and indirect access to TH 169 and Interstate (I) 94.

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

The West Broadway Avenue reconstruction is tied to the Bottineau Light Rail Transitway (BLRT) Project that will provide for transit improvements in the highly traveled northwest area of the Twin Cities. The BLRT in Hennepin County will extend approximately 13 miles from downtown Minneapolis passing through north Minneapolis, Golden Valley, Robbinsdale, Crystal, and Brooklyn Park. The BLRT project will connect north Minneapolis and the region's northwest suburbs with a regional system of transitways consisting of light rail transit (LRT) on the Blue Line (Hiawatha) and Green Line (Central Corridor and the planned Southwest line), bus rapid transit (BRT) on the Red Line (Cedar Avenue) and Orange Line (I-35W South), the Northstar commuter rail, and express bus routes. The BLRT project will also maintain or enhance local and express bus service throughout the Corridor surrounding the Transitway. The proposed roadway improvements include:

- Widen West Broadway Avenue from a two-lane rural roadway to a four-lane urban roadway with turn lanes
- Upgrade traffic signals, lighting, drainage, curb and

gutter

- Paving of multi-use trails along both sides of West Broadway Avenue including ADA improvements and count down timers
- Burying of overhead transmission and distribution electric facilities

- Provide final grading throughout the project limits for the future track of the BLRT Project.
- New potable water infrastructure

Overall, these improvements are critical in meeting existing and future needs. The project area continues to develop, adding pressure to the supporting transportation network. New residential, commercial, and industrial developments are targeted for this area and recognized in local comprehensive plans. Furthermore, the proposed facility upgrades throughout the corridor will improve pedestrian connections to a large employment center called the Crosstown North Industrial Park. In general, the improvements along West Broadway Avenue will:

- Enhance safety and mobility for all users.

- Address aged pavement conditions

- Improve traffic operations

- Accommodate transit service

- Address the lack of bicycle and pedestrian accommodations along the corridor

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

Reconstruction and Expansion of West Broadway Avenue from 85th Avenue to 93rd Avenue

Project Length (Miles)

1.0

to the nearest one-tenth of a mile

Project Funding

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

No

If yes, please identify the source(s)

Federal Amount

\$7,000,000.00

Match Amount

\$6,965,399.00

Minimum of 20% of project total

Project Total

\$13,965,399.00

Match Percentage

49.88%

Minimum of 20%

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

Source of Match Funds

City of Brooklyn Park

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:

2022

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

Metro Transit

Functional Class of Road

A-Minor Expander/Reliever

Road System

CSAH

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

Road/Route No.

103

i.e., 53 for CSAH 53

Name of Road

West Broadway Avenue

Example; 1st ST., MAIN AVE

Zip Code where Majority of Work is Being Performed

55445

(Approximate) Begin Construction Date

04/01/2020

(Approximate) End Construction Date 12/01/2022

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

From: 85th Avenue (CSAH 109)
(Intersection or Address)

To: 93rd Avenue (CSAH 30)
(Intersection or Address)

DO NOT INCLUDE LEGAL DESCRIPTION

Or At

Primary Types of Work

Grading, Aggregate Base, Concrete and Bituminous Surface, Sidewalk, Curb and Gutter, Storm Sewer, Signal, Lighting, Ped Ramps

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.

Goal B: Strategies B1 and B6; pg 2.7

Goal C: Strategies C1, C4, C7, C9, C11, C12, C15, and C18; pg 2.8-2.10

Goal D: Strategies D1, D2, and D3; pg 2.11

Goal E: Strategies E2, E3, E4, E5, E6, and E7; pg 2.12-2.13

Goal F: Strategies F2, F3, F4, F5, F7, and F8; pg 2.14-2.15

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

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.

City of Brooklyn Park 2030 Transportation Plan.
Chapter 5: Transportation, Programmed Roadway
Improvements by 2030: Figure 5.3.13 (Page 5-19)

City of Brooklyn Park Park System Plan. Chapter 2,
Blue Line Light Rail Transit (Page 22)

List the applicable documents and pages:

Met Council 2040 Transportation Policy Plan.
Chapter 6: Transit Investment Direction and Plan,
Existing and Potential High-Frequency Transit
Routes: Figure 6.4 (Page 6-28)

Hennepin County 2030 Transportation System
Plan. Chapter 4: Multimodal Planning, Bottineau
Transitway (Page 4-19)

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.

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. Yes

06/01/2016

12/31/2018

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. Yes

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. 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.

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. Yes

Requirements - Roadways Including Multimodal Elements

Specific Roadway Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Mobilization (approx. 5% of total cost)	\$508,727.00
Removals (approx. 5% of total cost)	\$774,257.00
Roadway (grading, borrow, etc.)	\$1,697,407.00
Roadway (aggregates and paving)	\$1,204,731.00
Subgrade Correction (muck)	\$335,508.00
Storm Sewer	\$1,113,949.00
Ponds	\$0.00
Concrete Items (curb & gutter, sidewalks, median barriers)	\$441,586.00
Traffic Control	\$194,504.00

Striping	\$72,495.00
Signing	\$25,980.00
Lighting	\$0.00
Turf - Erosion & Landscaping	\$215,424.00
Bridge	\$0.00
Retaining Walls	\$0.00
Noise Wall (not calculated in cost effectiveness measure)	\$0.00
Traffic Signals	\$1,271,125.00
Wetland Mitigation	\$0.00
Other Natural and Cultural Resource Protection	\$0.00
RR Crossing	\$0.00
Roadway Contingencies	\$1,416,692.00
Other Roadway Elements	\$3,994,708.00
Totals	\$13,267,093.00

Specific Bicycle and Pedestrian Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Path/Trail Construction	\$392,751.00
Sidewalk Construction	\$67,104.00
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)	\$238,451.00
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	\$698,306.00

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	\$13,965,399.00
Construction Cost Total	\$13,965,399.00
Transit Operating Cost Total	\$0.00

Congestion on adjacent Parallel Routes:

Adjacent Parallel Corridor	Zane Avenue/CSAH 14
Adjacent Parallel Corridor Start and End Points:	
Start Point:	85th Avenue (CSAH 109)
End Point:	93rd Avenue (CSAH 30)
Free-Flow Travel Speed:	36
<i>The Free-Flow Travel Speed is black number.</i>	
Peak Hour Travel Speed:	29
<i>The Peak Hour Travel Speed is red number.</i>	
Percentage Decrease in Travel Speed in Peak Hour Compared to Free-Flow:	19.44%
Upload Level of Congestion Map:	1529350607781_West Broadway Avenue (CSAH 103) Expansion - Level of Congestion Map.pdf

Principal Arterial Intersection Conversion Study:

Proposed interchange or at-grade project that reduces delay at a High Priority Intersection:

(80 Points)

Proposed at-grade project that reduces delay at a Medium Priority Intersection:

(60 Points)

Proposed at-grade project that reduces delay at a Low Priority Intersection:

(50 Points)

Proposed interchange project that reduces delay at a Medium Priority Intersection:

(40 Points)

Proposed interchange project that reduces delay at a Low Priority Intersection:

(0 Points)

Not listed as a priority in the study: Yes

(0 Points)

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

Existing Employment within 1 Mile: 10291

Existing Manufacturing/Distribution-Related Employment within 1 Mile: 3729

Existing Post-Secondary Students within 1 Mile: 7286

Upload Map 1529351509437_West Broadway Avenue (CSAH 103) Expansion - Regional Econ Map.pdf

Please upload attachment in PDF form.

Measure C: Current Heavy Commercial Traffic

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

Along Tier 1:

Along Tier 2:

Along Tier 3:

The project provides a direct and immediate connection (i.e., intersects) with either a Tier 1, Tier 2, or Tier 3 corridor: Yes

None of the tiers:

Measure A: Current Daily Person Throughput

Location	West Broadway Avenue from 85th Avenue to 93rd Avenue
Current AADT Volume	9500
Existing Transit Routes on the Project	723, 724, 760

For New Roadways only, list transit routes that will likely be diverted to the new proposed roadway (if applicable).

Upload Transit Connections Map	1530566196842_West Broadway Avenue (CSAH 103) Expansion - Transit Map.pdf
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Please upload attachment in PDF form.

Response: Current Daily Person Throughput

Average Annual Daily Transit Ridership	556.0
Current Daily Person Throughput	12906.0

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

OR

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

Forecast (2040) ADT volume 13100

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):

(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: Yes

(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.

Hennepin County has a history of robust community engagement throughout the Bottineau Corridor. County staff have and continue to work closely with cities, community organizations, residents, businesses, and institutions to shape the vision and reality of corridor improvements.

The Bottineau Community Works (BCW) program is currently facilitating Advanced Planning for community and economic development around the planned Bottineau LRT by advancing conceptual to implementation and defining the policies and designs that are needed for future investments. BCW is a collaboration, led by Hennepin County in partnership with corridor cities and community stakeholders, to maximize the economic development value of the BLRT project and supports the planning for infrastructure, transit access, and transit oriented development outside of the Bottineau LRT project.

Response:

BCW incorporates health considerations as an essential focus area, recognizing that transportation systems along with the characteristics of neighborhoods have a substantial impact on community health outcomes and disparities which are further pronounced in populations that have historically been under-represented in planning processes and implementation. BCW will continue to include the under-represented and work together to reduce disparities and achieve equitable outcomes for all communities along the corridor.

(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.

As noted in the Socio-Econ Met Council generated map, the project area is located in an area defined as above the regional average of concentrated populations in poverty or population of color persons. Traffic on West Broadway Avenue experiences lengthy delays during peak hours due to the two-lane nature of the existing roadway. The proposed expansion from two-lane to four-lane (with multi-use trail) will greatly reduce congestion in this section as well as provide continuity throughout the corridor, as all other sections are four-lane sections. Supplemental data collected from the Brooklyn Park police department has shown that since 2016, there has been 125 accidents reported along West Broadway Avenue from 85th Avenue to 93rd Avenue. The roadway expansion will alleviate the need for lane merging, provide better channelization, and add capacity for this stretch of West Broadway Avenue promoting safer travel.

Response:

Nearby residents who are predominantly low income and/or people of color will benefit from the reduced travel time and connectivity to large establishments such as the Target North Campus and the North Hennepin Community College. Hennepin County is partnering with the affected cities to identify and pursue community and economic development opportunities through the Bottineau Community Works program. This program allows Hennepin County and cities in the Bottineau corridor (Brooklyn Park, Brooklyn Center, Crystal, Golden Valley, Minneapolis, New Hope and Robbinsdale) to make policy and infrastructure improvements that benefit the impacted communities. Enhancement of livability, community cohesion, and economic vitality are crucial to the success of this project and are accomplished by:

Supporting new and existing businesses

Preserving and expanding housing options

Improving connections for walking, biking and rolling

Helping to attract and guide development and investment

Engaging communities and residents in planning activities

Overall, the project will benefit under-represented populations by improving connections throughout the West Broadway Avenue corridor for motorists, walkers/bikers, and transit. Furthermore, the proposed project will also provide greater opportunities to link these populations to job concentration centers as this corridor is a mixed use of residential, educational, and industrial.

(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

As with most large projects, negative impacts are anticipated however an exuberant effort was put forth to help mitigate and reduce the effects of these impacts. Right of way impacts are to be expected however, the amount and severity of impacts was reduced through creative and careful design practices. With the increase of impervious land area and widening of West Broadway Avenue, a large retention basin is to be constructed adjacent to 89th Avenue. Lastly, Xcel Energy will have major impacts to their transmission and distribution assets which normally the costs would be passed onto the rate payers however, many of these costs will be encumbered by Hennepin County and the City of Brooklyn Park.

Response:

Additionally, there will be short term construction related inconveniences for residents, businesses, and commuters throughout the West Broadway Avenue corridor. Dust, noise, reduced access, and travel hindrances are likely to impact residents and motorists during the duration of construction. In an effort to combat restricted travel/access, bi-directional traffic will be accommodated and an adjacent parking lane will be open for parking/access to local residences and businesses. Due to the magnitude of the project, short term nuisances are expected however the final product should lead to vast community benefits from both, a local and regional perspective.

(Limit 2,800 characters; approximately 400 words)

Upload Map

1529357625531_West Broadway Avenue (CSAH 103)
Expansion - Soci-Econ Map.pdf

Measure B: Affordable Housing

City	Segment Length (For stand-alone projects, enter population from Regional Economy map) within each City/Township	Segment Length/Total Project Length	Score	Housing Score Multiplied by Segment percent
Brooklyn Park	1.0	1.0	100.0	100.0

Total Project Length

Total Project Length (as entered in the "Project Information" form) 1.0

Affordable Housing Scoring

Total Project Length (Miles) or Population 1.0
 Total Housing Score 100.0

Affordable Housing Scoring

Measure A: Infrastructure Age

Year of Original Roadway Construction or Most Recent Reconstruction	Segment Length	Calculation	Calculation 2
1958.0	1.033	2022.614	1958.0
	1	2023	1958

Average Construction Year

Weighted Year 1958.0

Total Segment Length (Miles)

Total Segment Length 1.033

Measure A: Congestion Reduction/Air Quality

Total Peak Hour Delay Per Vehicle Without The Project (Seconds/Vehicle)	Total Peak Hour Delay Per Vehicle With The Project (Seconds/Vehicle)	Total Peak Hour Delay Per Vehicle Reduced by Project (Seconds/Vehicle)	Volume (Vehicles per hour)	Total Peak Hour Delay Reduced by the Project:	EXPLANATION of methodology used to calculate railroad crossing delay, if applicable.	Synchro or HCM Reports
57.0	31.0	26.0	2166	56316.0		15306463905 77_Existing and Proposed PM Report.pdf
2.0	0	2.0	1209	2418.0		15306464133 89_Existing and Proposed PM Report.pdf
2.0	16.0	-14	1210	-16940		15306464289 67_Existing and Proposed PM Report.pdf
1.0	0	1.0	1151	1151.0		15306464559 05_Existing and Proposed PM Report.pdf
2.0	13.0	-11	1186	-13046		15306464735 77_Existing and Proposed PM Report.pdf

Vehicle Delay Reduced

Total Peak Hour Delay Reduced 29899.0

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

Total (CO, NOX, and VOC) Peak Hour Emissions without the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions with the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):
9.39	9.92	-0.53
9	10	-1

Total

Total Emissions Reduced: -0.53

Upload Synchro Report

Please upload attachment in PDF form. (Save Form, then click 'Edit' in top right to upload file.)

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, and VOC) Peak Hour Emissions without the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions with the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):
0	0	0

Total Parallel Roadway

Emissions Reduced on Parallel Roadways 0

Upload Synchro Report 1530646877592_Existing and Proposed PM Report.pdf

Please upload attachment in PDF form. (Save Form, then click 'Edit' in top right to upload file.)

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)

Measure A: Benefit of Crash Reduction

Crash Modification Factor Used:	See attached.
<i>(Limit 700 Characters; approximately 100 words)</i>	
Rationale for Crash Modification Selected:	See Attached.
<i>(Limit 1400 Characters; approximately 200 words)</i>	
Project Benefit (\$) from B/C Ratio:	3677972.0
Worksheet Attachment	1531329843593_West Broadway Final Crash Analysis.pdf
<i>Please upload attachment in PDF form.</i>	

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

The project will support a variety of multi-modal elements:

Sidewalks/Trails: Currently, there is existing sidewalk on the west side of West Broadway Avenue from Maplebrook Parkway to the south project limits. There is also an existing multi-use trail along both sides of West Broadway Avenue starting at 93rd Avenue and running north but there is no continuity or connection between the aforementioned sidewalk and trail. West Broadway Avenue has been identified as part of the Regional Bicycle Transportation Network (RTBN) - Tier 2 alignments however, there is only a two-foot shoulder for the majority of the project segment. This is an important north-south connection as Zane Avenue is not recognized in the RTBN and TH 169 is non-traversable for non-motorized transportation. This connection provides direct access to Target North Campus, North Hennepin Community College, and Brooklyn Park Library. A new multi-use path would provide an off-street facility for users to travel to all of the above-mentioned locations as well as provide a connection to the Rush Creek Regional Trail System while protecting users from high-speed traffic and create safer routes.

Response:

Transit: Currently, the project area is served by Metro Transit Routes 723, 724, and 760 however, transit opportunities are expected to increase greatly. The roadway expansion project is a precursor for the BLRT. The BLRT will have connections to the Metro Regional System consisting of light rail transit (LRT) on the Blue Line (Hiawatha) and Green Line (Central Corridor and the planned Southwest line), bus rapid transit (BRT) on the Red Line (Cedar Avenue) and Orange Line (I-35W), the Northstar commuter rail, and express bus routes. The BLRT will also maintain or

enhance local and express bus service throughout the Corridor surrounding the Transitway. The proposed project will greatly increase transit access to under-served populations (above the regional average of concentration for poverty and race) in the area, while improving headway times.

Design: The proposed project will improve the signalized intersection of West Broadway Avenue/93rd Avenue to be ADA compliant, while providing count down timers. It will also add signals at the intersections of Maplebrook Terrace and Setzler Parkway to promote safer pedestrian crossing of West Broadway Avenue. These improvements are critical to support safe routes for all users of all abilities.

(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. Yes

100%

Attach Layout

1530904062514_BrooklynPark-WestBroadway Layout.pdf

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

0%

Anticipated date or date of completion 11/01/2017

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

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 Yes

25%

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

0%

Anticipated date or date of acquisition 04/01/2020

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

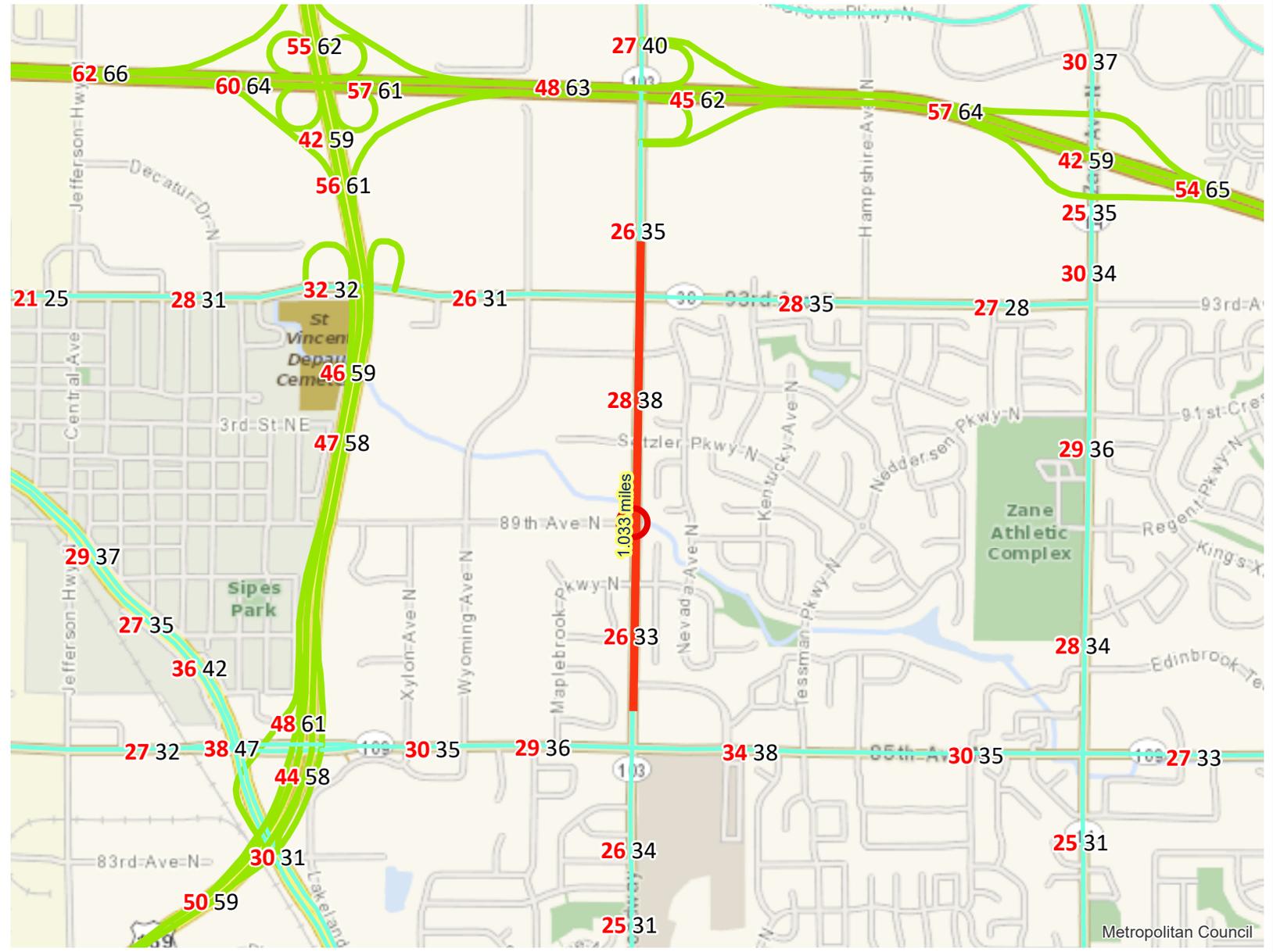
Total Project Cost (entered in Project Cost Form):	\$13,965,399.00
Enter Amount of the Noise Walls:	\$0.00
Total Project Cost subtract the amount of the noise walls:	\$13,965,399.00
Points Awarded in Previous Criteria	
Cost Effectiveness	\$0.00

Other Attachments

File Name	Description	File Size
Accidents on W Bdwy 85th to 93rd since 2016.pdf	Police Reported Accidents Since 2016	224 KB
BPO Letter of Support.pdf	BPO Letter of Support	286 KB
Existing_PM_Scenario1 - Timings.pdf	Existing PM Peak Timings	40 KB
Improved_PM_Scenario1 - Timings.pdf	Project Improved PM Peak Timings	53 KB
Letter of Support - West Broadway Avenue Roadway Expansion - Brooklyn Park.pdf	Met Council - Letter of Support	106 KB
Project Summary.pdf	Project Summary	301 KB
West Broadway Avenue Existing Pictures.pdf	Existing Pictures	736 KB

Level of Congestion

Roadway Reconstruction/Modernization Project: BP (Short) | Map ID: 1528755650903



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



Created: 6/11/2018
LandscapeRSA1



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



Regional Economy

Roadway Reconstruction/Modernization Project: BP (Short) | Map ID: 1528755650903

Results

WITHIN ONE MI of project:
 Postsecondary Students: 7286

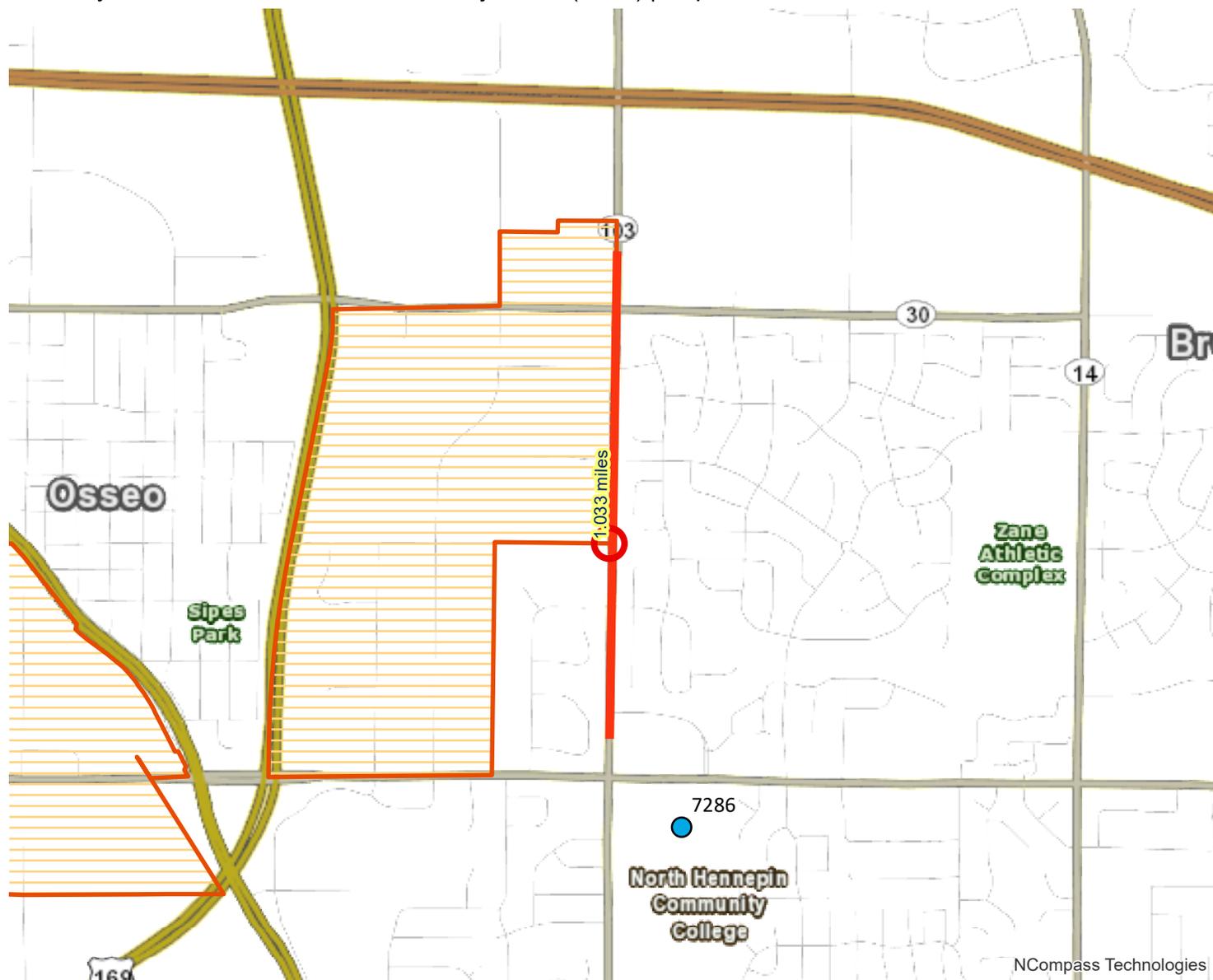
Totals by City:

Brooklyn Park

Population: 14009
 Employment: 9723
 Mfg and Dist Employment: 3720

Osseo

Population: 2052
 Employment: 568
 Mfg and Dist Employment: 9



NCompass Technologies

- Project Points
- Postsecondary Education Centers
- Job Concentration Centers
- Project
- Manufacturing/Distribution Centers



Created: 6/11/2018
 LandscapeRSA5

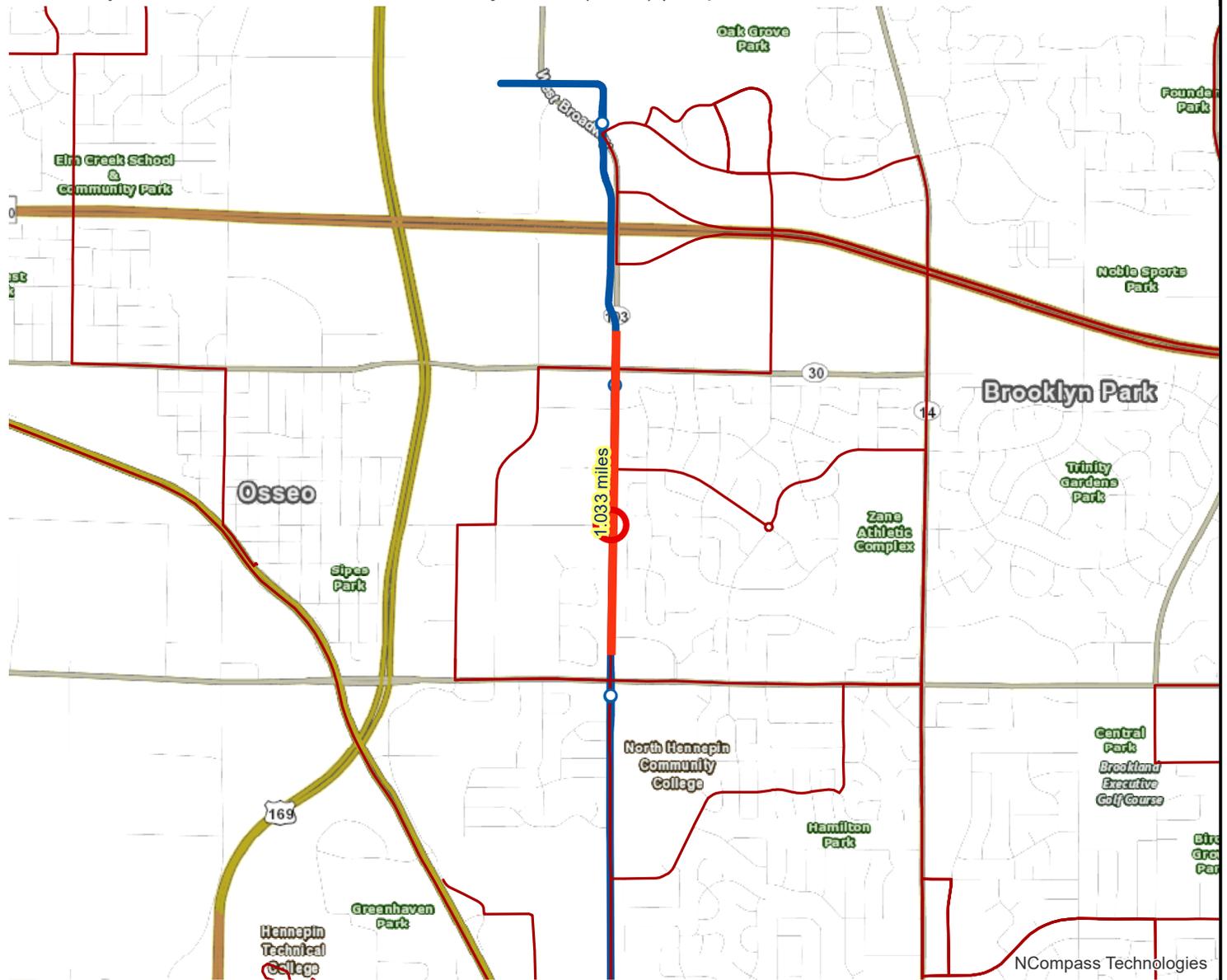


For complete disclaimer of accuracy, please visit
<http://giswebsite.metc.state.mn.us/gissitenew/notice.aspx>



Transit Connections

Roadway Reconstruction/Modernization Project: BP (Short) | Map ID: 1528755758868



Results

Transit with a Direct Connection to project:

723 724 760

*Blue Line Extension

*Blue Line Extension

**indicates Planned Alignments*

 Project Points **Planned Transitway Stations** **Planned Transitway Alignments**

 Project

 Blue Line Extension

 Blue Line Extension

 Transit Routes



Created: 6/11/2018
LandscapeRSA3



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

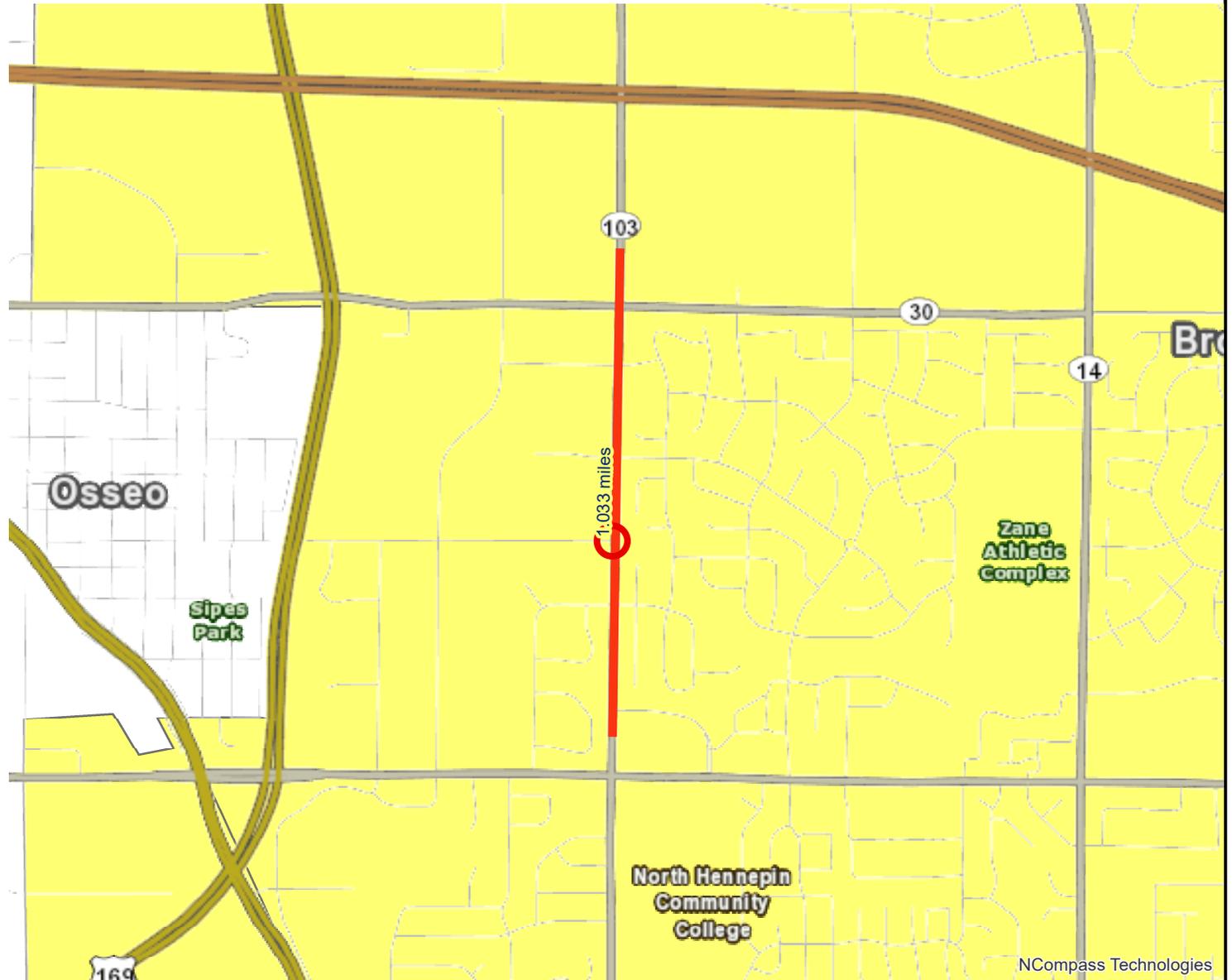


Socio-Economic Conditions

Roadway Reconstruction/Modernization Project: BP (Short) | Map ID: 1528755650903

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 of Concentrated Poverty > 50% residents of color

 Area of Concentrated Poverty

 Above reg'l avg conc of race/poverty



Created: 6/11/2018
LandscapeRSA2



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



7: CSAH 103 (W Broadway Ave) & CSAH 30 (93rd Ave N)

Direction	All
Future Volume (vph)	2166
Total Delay / Veh (s/v)	57
CO Emissions (kg)	4.33
NOx Emissions (kg)	0.84
VOC Emissions (kg)	1.00

8: CSAH 103 (W Broadway Ave) & 92nd Ave N

Direction	All
Future Volume (vph)	1209
Total Delay / Veh (s/v)	2
CO Emissions (kg)	0.60
NOx Emissions (kg)	0.12
VOC Emissions (kg)	0.14

9: CSAH 103 (W Broadway Ave) & Setzler Pkwy

Direction	All
Future Volume (vph)	1210
Total Delay / Veh (s/v)	2
CO Emissions (kg)	0.67
NOx Emissions (kg)	0.13
VOC Emissions (kg)	0.16

10: CSAH 103 (W Broadway Ave) & 89th Ave N

Direction	All
Future Volume (vph)	1151
Total Delay / Veh (s/v)	1
CO Emissions (kg)	0.51
NOx Emissions (kg)	0.10
VOC Emissions (kg)	0.12

11: CSAH 103 (W Broadway Ave) & Maplebrook Pkwy

Direction	All
Future Volume (vph)	1186
Total Delay / Veh (s/v)	2
CO Emissions (kg)	0.47
NOx Emissions (kg)	0.09
VOC Emissions (kg)	0.11

7: CSAH 103 (W Broadway Ave) & CSAH 30 (93rd Ave N)

Direction	All
Future Volume (vph)	2166
Total Delay / Veh (s/v)	31
CO Emissions (kg)	3.42
NOx Emissions (kg)	0.67
VOC Emissions (kg)	0.79

8: CSAH 103 (W Broadway Ave) & 92nd Ave N

Direction	All
Future Volume (vph)	1197
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.48
NOx Emissions (kg)	0.09
VOC Emissions (kg)	0.11

9: CSAH 103 (W Broadway Ave) & Setzler Pkwy

Direction	All
Future Volume (vph)	1291
Total Delay / Veh (s/v)	16
CO Emissions (kg)	1.33
NOx Emissions (kg)	0.26
VOC Emissions (kg)	0.31

10: CSAH 103 (W Broadway Ave) & 89th Ave N

Direction	All
Future Volume (vph)	1142
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.43
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.10

11: CSAH 103 (W Broadway Ave) & Maplebrook Pkwy

Direction	All
Future Volume (vph)	1240
Total Delay / Veh (s/v)	13
CO Emissions (kg)	1.30
NOx Emissions (kg)	0.25
VOC Emissions (kg)	0.30

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NOx Emissions (kg)	0.09
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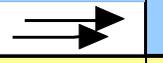
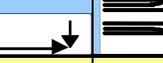
Direction	All
Future Volume (vph)	1291
Total Delay / Veh (s/v)	16
CO Emissions (kg)	1.33
NOx Emissions (kg)	0.26
VOC Emissions (kg)	0.31

10: CSAH 103 (W Broadway Ave) & 89th Ave N

Direction	All
Future Volume (vph)	1142
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.43
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.10

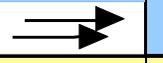
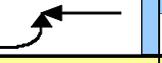
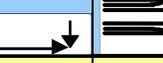
11: CSAH 103 (W Broadway Ave) & Maplebrook Pkwy

Direction	All
Future Volume (vph)	1240
Total Delay / Veh (s/v)	13
CO Emissions (kg)	1.30
NOx Emissions (kg)	0.25
VOC Emissions (kg)	0.30

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 103	Maplebrook Parkway					Brooklyn Park	1/1/2013	12/31/2015
Description of Proposed Work		Expand Roadway to 4 Lanes and install a traffic signal									
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									
		B									
		C									
	Property Damage	PD				1		1		2	
% Change in Crashes	Fatal	F									
	PI	A									
		B									
		C									
	Property Damage	PD				-90%		-100%			
Change in Crashes = No. of crashes X % change in crashes	Fatal	F									
	PI	A									
		B									
		C									
	Property Damage	PD				-0.90		-1.00		-1.90	
Year (Safety Improvement Construction)		2022									
Project Cost (exclude Right of Way)		\$ 13,965,399	Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit	<div style="border: 1px solid black; padding: 5px; display: inline-block;">B/C= 0.01</div> <i>Using present worth values,</i> B= \$ 116,363 C= \$ 13,965,399 <i>See "Calculations" sheet for amortization.</i>			
Right of Way Costs (optional)			F			\$ 1,180,000					
Traffic Growth Factor		3%	A			\$ 590,000					
Capital Recovery			B			\$ 170,000					
1. Discount Rate		1.3%	C			\$ 87,000					
2. Project Service Life (n)		20	PD	-1.90	-0.63	\$ 7,800	\$ 4,945				
			Total			\$ 4,945					

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 103	89th Avenue Intersection					Brooklyn Park	1/1/2013	12/31/2015
Description of Proposed Work		Expand Roadway to 4 Lanes with a median and restrict side-street left-turns with a new median.									
Accident Diagram Codes		1 Rear End	2 Sideswipe Same Direction	3 Left Turn Main Line	5 Right Angle	4,7 Ran off Road	8, 9 Head On/ Sideswipe - Opposite Direction	Pedestrian	Other	Total	
											
Study Period: Number of Crashes	Fatal	F									
	Personal Injury (PI)	A									
		B									
		C									
Property Damage	PD	1							1		
% Change in Crashes	Fatal	F									
	PI	A									
		B									
		C									
Property Damage	PD	-71%									
Change in Crashes = No. of crashes X % change in crashes	Fatal	F									
	PI	A									
		B									
		C									
Property Damage	PD	-0.71							-0.71		
Year (Safety Improvement Construction)		2022									
Project Cost (exclude Right of Way)		\$ 13,965,399	Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit	<div style="border: 1px solid black; background-color: #FFDAB9; padding: 5px; display: inline-block;">B/C= 0.00</div> <i>Using present worth values,</i> B= \$ 43,483 C= \$ 13,965,399 <i>See "Calculations" sheet for amortization.</i>			
Right of Way Costs (optional)			F			\$ 1,180,000					
Traffic Growth Factor		3%	A			\$ 590,000					
Capital Recovery			B			\$ 170,000					
1. Discount Rate		1.3%	C			\$ 87,000					
2. Project Service Life (n)		20	PD	-0.71	-0.24	\$ 7,800	\$ 1,848				
			Total				\$ 1,848				

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 103	Seltzer Avenue Intersectin					Brooklyn Park	1/1/2013	12/31/2015
Description of Proposed Work		Expand Roadway to 4 Lanes and install a traffic signal									
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									
		B									
		C									
	Property Damage	PD		1							1
% Change in Crashes	Fatal	F									
	PI	A									
		B									
		C									
	Property Damage	PD		-77%							
Change in Crashes = No. of crashes X % change in crashes	Fatal	F									
	PI	A									
		B									
		C									
	Property Damage	PD		-0.77							-0.77
Year (Safety Improvement Construction)		2022									
Project Cost (exclude Right of Way)		\$ 13,695,399	Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit	<div style="border: 1px solid black; padding: 5px; display: inline-block;">B/C= 0.00</div> <i>Using present worth values,</i> B= \$ 47,158 C= \$ 13,695,399 <i>See "Calculations" sheet for amortization.</i>			
Right of Way Costs (optional)			F			\$ 1,180,000					
Traffic Growth Factor		3%	A			\$ 590,000					
Capital Recovery			B			\$ 170,000					
1. Discount Rate		1.3%	C			\$ 87,000					
2. Project Service Life (n)		20	PD	-0.77	-0.26	\$ 7,800	\$ 2,004				
			Total				\$ 2,004				

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 103	93rd Avenue Intersectin					Brooklyn Park	1/1/2013	12/31/2015
Description of Proposed Work		Expand Roadway to 4 Lanes with a median and restrict side-street left-turns									
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									
		B									
		C	3		1	1		1			6
	Property Damage	PD	2			2	1		1		6
% Change in Crashes	Fatal	F									
	PI	A									
		B									
		C	-86%		-83%	-57%		-73%			
	Property Damage	PD	-86%			-57%	-71%			-57%	
Change in Crashes = No. of crashes X % change in crashes	Fatal	F									
	PI	A									
		B									
		C	-2.58		-0.83	-0.57		-0.73			-4.71
	Property Damage	PD	-1.72			-1.14	-0.71			-0.57	-4.14
Year (Safety Improvement Construction)		2022									
Project Cost (exclude Right of Way)		\$ 13,965,399	Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit	<div style="border: 1px solid black; padding: 5px; display: inline-block;">B/C= 0.25</div> <i>Using present worth values,</i> B= \$ 3,470,968 C= \$ 13,965,399 <i>See "Calculations" sheet for amortization.</i>			
Right of Way Costs (optional)			F			\$ 1,180,000					
Traffic Growth Factor		3%	A			\$ 590,000					
Capital Recovery			B			\$ 170,000					
1. Discount Rate		1.3%	C	-4.71	-1.57	\$ 87,000	\$ 136,715				
2. Project Service Life (n)		20	PD	-4.14	-1.38	\$ 7,800	\$ 10,774				
			Total				\$ 147,489				



Search Results

There were 26 CMFs with star ratings returned for this filter selection. [\[modify your search\]](#)

Having trouble deciding between similar CMFs? [Check out our FAQs.](#)

- ▶ Star Quality Rating
 - ▶ Country
 - ▼ Crash Type
 - All (0)
 - Angle (20)
 - Cross median (0)
 - Day time (0)
 - Dry weather (0)
 - Fixed object (0)
 - Head on (8)
 - Left turn (9)
 - Multiple vehicle (0)
 - Nighttime (0)
 - Non-intersection (0)
 - Parking related (0)
 - Rear end (1)
 - Rear to rear (1)
 - Right turn (1)
 - Run off road (0)
 - Sideswipe (4)
 - Single vehicle (0)
 - Speed related (0)
 - Truck related (0)
 - Vehicle/bicycle (0)
 - Vehicle/pedestrian (0)
 - Vehicle/animal (0)
 - Wet road (0)
 - Other (0)
 - Not specified (0)
 - ▶ Crash Severity
 - ▶ Roadway Type
 - ▶ Area Type
 - ▶ Intersection Type
 - ▶ Intersection Geometry
 - ▶ Traffic Control
 - ▶ In HSM
- [Filter Results](#)

Results Control: [Collapse All](#) | [Expand All](#)
 Click on the links below to expand individual categories.

Category: Intersection traffic control (26)

Subcategory: Traffic control type (21)

Countermeasure: Change traffic signal spacing from X to Y signals per mile

Countermeasure: Install a traffic signal

<input type="checkbox"/>	CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
<input type="checkbox"/>	0.23 [B]	77	★★★★★	Angle	All	Rural	Harkey et al., 2008	Countermeasure name changed to match ... [read more]
<input type="checkbox"/>	0.33	67	★★★★☆	Angle	K,A,B,C	Urban	McGee et al., 2003	Countermeasure name has been slightly ... [read more]
<input type="checkbox"/>	0.7	30	★★★★☆	Angle	All	Rural	Abdel-Aty et al., 2014	
<input type="checkbox"/>	0.67	33	★★★★☆	Angle	All	Urban	Abdel-Aty et al., 2014	
<input type="checkbox"/>	0.46	54	★★★★☆	Angle	All	Urban	Abdel-Aty et al., 2014	
<input type="checkbox"/>	0.356	64.4	★★★★☆	Angle,Left turn	All		Wang et al., 2015	Angle & left-turn crashes months ... [read more]
<input type="checkbox"/>	0.575	42.5	★★★★☆	Angle,Left turn	All		Wang et al., 2015	Angle & left-turn crashes months ... [read more]
<input type="checkbox"/>	0.284	71.6	★★★★☆	Angle,Left turn	All		Wang et al.,	Angle & left-turn crashes

							2015	months ... [read more]
<input type="checkbox"/>	0.362	63.8	★★★★☆	Angle, Left turn	K,A,B,C		Wang et al., 2015	Angle & left-turn F&I crashes ... [read more]
<input type="checkbox"/>	0.62	38	★★★★☆	Angle	All	All	Pernia et al., 2002	
<input type="checkbox"/>	0.5	50	★★★★☆	Angle	All	All	Pernia et al., 2002	
<input type="checkbox"/>	0.71	29	★★★★☆	Angle	All	All	Pernia et al., 2002	
<input type="checkbox"/>	0.51	49	★★★★☆	Angle, Head on, Left turn, Rear end, Rear to rear, Right turn, Sideswipe	All	Urban	Li Chen, Cynthia Chen, and Reid Ewing, 2012	Countermeasure name has been slightly ... [read more]
<input type="checkbox"/>	0.43	57	★★★★☆	Head on	All	Not specified	Schultz et al., 2014	CMF for new signal installation ... [read more]
<input type="checkbox"/>	1.15	-15	★★★★☆	Sideswipe	All	Not specified	Schultz et al., 2014	CMF for new signal installation ... [read more]
<input type="checkbox"/>	0.42	58	★★★★☆	Head on		Not specified	Schultz et al., 2014	CMF for new signal installation ... [read more]
<input type="checkbox"/>	1.23	-23	★★★★☆	Sideswipe		Not specified	Schultz et al., 2014	CMF for new signal installation ... [read more]
<input type="checkbox"/>	0.64	36	★★★★☆	Head on		Not specified	Schultz et al., 2014	CMF for new signal installation ... [read more]
<input type="checkbox"/>	0.64	36	★★★★☆	Sideswipe		Not specified	Schultz et al., 2014	CMF for new signal installation ... [read more]

[Compare](#) [Reset Compare](#)

*NOTE: You can compare CMFs across countermeasures, subcategories, and categories.

Countermeasure: Install a traffic signal (major road speed limit at least 40 mph)

Subcategory: Signal phasing or timing (1)

Subcategory: Other (4)

Search Results Without Star Ratings

There was 1 CMF returned for the search that does not have a star rating. [\(view additional results\)](#)

Export All Results To Excel

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For more information, contact Karen Scurry at karen.scurry@dot.gov

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Desktop Reference for Crash Reduction Factors

Roadway Departure Crashes

Countermeasure(s)	Crash Type	Crash Severity	Area Type	Road Type	Daily Traffic Volume (veh/day)	Ref	Effectiveness			Study Type	
							Crash Reduction Factor / Function	Std Error	Range		
									Low		High
Flatten side slopes and remove guardrail	All	All	All	All		27	42	58		EB Before-After	
	All	All	Rural	All		21	0				Expert Panel
Improve curve superlevation	All	All	Rural			21	$100(1-(1.00+6(SD-0.01)))$; SD=superlevation deficiency between 0.01 and 0.02			Expert Panel	
	All	All	Rural			21	$100(1-(1.06+3(SD-0.02)))$; SD=superlevation deficiency greater than 0.02				
	All	All				15	25				
	All	All	All	All		1	25				
	All	All				15	58				
	All	All	All	All		1	50				
	All	All				15	50				
	All	All				15	50				
	All	All				15	73				
	All	All				15	49				
Improve horizontal and vertical alignments	All	All				15	50				
	All	All				15	50				
	All	All				15	50				
	All	All	All	All		1	40				
	All	All				15	40				
	All	All				15	40				
	All	All				15	57				
	All	All				15	87				
	All	Fatal/Injury				15	83				
	All	PDO				15	40				
Improve superlevation	All	All				15	40				
	All	All				1	40				
	ROR	All				15	50				
	All	All				15	45				
	All	All				15	40				
Improve superlevation (for drainage)	All	All				15	49				
	All	All				15	20				
	All	All			<5,000/lane	15	31				
	All	All			>5,000/lane	15	10				
Increase number of lanes	All	All				15	20				
	All	All				15	20				
	All	All				15	22				

Desktop Reference for Crash Reduction Factors

Roadway Departure Crashes

Countermeasure(s)	Crash Type	Crash Severity	Area Type	Road Type	Daily Traffic Volume (veh/day)	Ref	Effectiveness			Study Type	
							Crash Reduction Factor / Function	Std Error	Range		
									Low		High
Increase number of lanes (cont'd)	All	All				15	25				
	All	All				15	25				
	All	All				15	25				
	All	Fatal				15	39				
	All	Injury				15	23				
	All	PDO				15	27				
	Head-on	All			<5,000/lane	15	38				
	Head-on	All			>5,000/lane	15	44				
	Head-on	All				15	53				
	Head-on	All				15	53				
	Head-on	All				15	50				
	Head-on	PDO				15	71				
	Left-turn	All				15	67				
	Left-turn	PDO				15	44				
	ROR	All			<5,000/lane	15	50				
	ROR	All			>5,000/lane	15	42				
	ROR	All			<5,000/lane	15	52				
	ROR	All			>5,000/lane	15	42				
	Rear-end	All			<5,000/lane	15	52				
	Rear-end	All			>5,000/lane	15	42				
Rear-end	All				15	52					
Rear-end	All				15	32					
Rear-end	All				15	32					
Rear-end	All				15	40					
Rear-end	All				15	53					
Rear-end	PDO				15	53					
Right-angle	All			<5,000/lane	15	35					
Right-angle	All			>5,000/lane	15	45					
Right-angle	All				15	15					
Right-angle	All				15	46					
Sideswipe	All			<5,000/lane	15	38					

Countermeasure(s)	Crash Type	Crash Severity	Area Type	Road Type	Daily Traffic Volume (veh/day)	Ref	Effectiveness			Study Type	
							Crash Reduction Factor / Function	Std Error	Range		
									Low		High
Increase number of lanes (cont'd)	Sideswipe	All			>5,000/lane	15	44				
	Sideswipe	All				15	30				
	Sideswipe	All				15	30				
	Sideswipe	All				15	35				
	Sideswipe	PDO				15	64				
Increase vertical grade by 1%	All	All	Rural	2-lane		23	-1.6P; P=percent grade (absolute value)				
	All	All				15	26				
	All	All	All	All		1	10				
	All	All				15	10				
	All	All				15	10				
	All	All				15	10				
	All	All				15	25				
	All	All				15	75				
	Rear-end	All				15	75				
	Sideswipe	All				15	75				
Install channelized lane	All	All				15	67				
	All	PDO				15	62				
	Rear-end	All				15	93				
Install climbing lane (where large difference between car and truck speed)	All	Fatal/ Injury	Rural	2-lane		38	33				
	All	All	All	All		1	20				
Install passing/climbing lane	All	Fatal/ Injury	Rural	2-lane		38	33				
	All	All				15	9				
Install shoulder	Head-on	Fatal/ Injury				15	50				
	Head-on	PDO				15	86				
Install shoulder bus lanes	Left-turn	Fatal/ Injury				15	42				
	Left-turn	PDO				15	57				

Countermeasure: Improve pavement friction (increase skid resistance)

CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
0.799	20.1	★★★★★	All	All	All	Lyon and Persaud, 2008	

0.667	33.3	★★★★★	All	All	All	Lyon and Persaud, 2008	
-------	------	-------	-----	-----	-----	------------------------	--

0.819	18.1	★★★★★	All	All	All	Lyon and Persaud, 2008	
-------	------	-------	-----	-----	-----	------------------------	--

0.797	20.3	★★★★★	All	All	All	Lyon and Persaud, 2008	
-------	------	-------	-----	-----	-----	------------------------	--

1.271	- 27.1	★★★★★	All	All	All	Lyon and Persaud, 2008	
-------	-----------	-------	-----	-----	-----	------------------------	--

0.426	57.4	★★★★★	Wet road	All	All	Lyon and Persaud, 2008	
-------	------	-------	----------	-----	-----	------------------------	--

0.372	62.8	★★★★★	Wet road	All	All	Lyon and Persaud,	
-------	------	-------	----------	-----	-----	-------------------	--

0.575

42.5



Rear end, Wet road

All

Lyon and Persaud, 2008

0.59

41



All

All

All

Lyon and Persaud, 2008

0.589

41.1



All

All

All

Lyon and Persaud, 2008

0.361

63.9



Wet road

All

All

Lyon and Persaud, 2008

0.304

69.6



Rear end

All

All

Lyon and Persaud, 2008

0.943

5.7



Rear end

All

All

Lyon and Persaud, 2008

0.504

49.6



Rear end

All

All

Lyon and Persaud, 2008

0.221

77.9



Rear end, Wet road

All

All

Lyon and Persaud, 2008

0.787

21.3



Angle

All

All

Lyon and Persaud, 2008

0.828

17.2



Angle

All

All

Lyon and Persaud, 2008

0.898

10.2



Angle

All

All

Lyon and Persaud, 2008

0.799

20.1



Angle, Wet road

All

All

Lyon and Persaud, 2008

0.47

53



Angle, Wet road

All

All

Lyon and Persaud, 2008

0.828

17.2



Angle, Wet road

All

All

Lyon and Persaud, 2008

Countermeasure: Install raised median

CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
0.61	39	★★★★☆	All	All		Schultz et al., 2011	

▪

0.56	44	★★★★☆	All	Fatal, Serious injury		Schultz et al., 2011	
------	----	-------	-----	-----------------------	--	----------------------	--

▪

0.29	70.77	★★★★☆	All	All	Urban	Schultz et al., 2008	
------	-------	-------	-----	-----	-------	----------------------	--

▪

0.45	55.43	★★★★☆	Angle	All	Urban	Schultz et al., 2008	
------	-------	-------	-------	-----	-------	----------------------	--

▪

0.86	14	★★★★☆	All	All	Urban	Yanmaz-Tuzel and Ozbay, 2010	
------	----	-------	-----	-----	-------	------------------------------	--

Dual CRF for Broadway Avenue intersections with Maplebrook Pkwy and Seltzer Ave

Improvements include a 2 lane to 4 lane conversion and installing a traffic signal from a side-street stop control. Determined that the two factors below give best result for B/C.

CR1=Increase Number of Lanes

CR2=Install a traffic signal

$$CR=1 - (1-CR1)*(1-CR2)$$

Head On: CR=100% due to installation of a median.

Right Angle: $CR=1 - (1-.64)*(1-.72) = .90$

Sideswipe (PDO): $CR=1 - (1-.64)*(1-.36) = .77$

Dual CRF for Broadway Avenue intersection with 89th Avenue

Improvements include a 2 lane to 4 lane conversion and installing a median. Determined that the two factors below give best result for B/C.

CR1=Increase Number of Lanes

CR2=Install a raised median

$$CR=1 - (1-CR1)*(1-CR2)$$

$$\text{Rear End: } CR=1 - (1-.53)*(1-.39) = .71$$

Dual CRF for Broadway Avenue/93rd Avenue Intersection

Improvements include a 2 lane to 4 lane conversion and reconstruct the roadway pavement.
Determined that the two factors below give best result for B/C.

CR1=Increase Number of Lanes

CR2=Improve Roadway Pavement (skid resistance)

$$CR=1 - (1-CR1)*(1-CR2)$$

$$\text{Rear End (PDO) } CR=1 - (1-.53)*(1-.70) = .86$$

$$\text{Rear End (Injury) } CR=1 - (1-.53)*(1-.70) = .86$$

$$\text{Left-turn (injury) } CR=1 - (1-.71)*(1-.41) = .83$$

$$\text{Right Angle (PDO) } CR=1 - (1-.45)*(1-.21) = .57$$

$$\text{Right Angle (Injury) } CR=1 - (1-.45)*(1-.21) = .57$$

$$\text{ROR (PDO) } CR=1 - (1-.50)*(1-.41) = .71$$

$$\text{Head On (injury) } CR=1 - (1-.53)*(1-.41) = .73$$

$$\text{Other (PDO) } CR=1 - (1-.27)*(1-.41) = .57$$

Broadway and Maplebrook Pkwy - Created on 6/28/18 by Tsachi

Sys	Route	Ref Point	Co	City	Dist	Trib	Crash_Num	Month	Day	Year	DYWK	Time	Rd_Dir	Elem	Rely	Investigat	Sev	NumKilled	Diag	NunYeh
04-CSAH	27000103	001+00.360		27	465	0	130380041		2	5	2013 TUE	658 N	Z	Z	1	3 N		0	8	2
04-CSAH	27000103	001+00.360		27	465	0	132550172		9	12	2013 THU	712 Z	Z	Z	1	3 N		0	5	2

Junc	SL	Type	Loc1	TCD	LIT	Wthr1	Wthr2	Surf	Char	Desgn	WZ	V1Type	V1Dir	V1Act	V1Fac1	V1Fac2	V1Phys	V1Age	V1Sex	V2Type
4	45	1	1	1	98	7	2	5	4	1	8	98	1	1	1	1	1	1	17 F	8
4	45	1	1	1	4	2	1	0	1	1	8	98	2	7	34	2	0	1	16 M	4

V4Age	V4Sex	True_MilesRoute_Code	POINT_X	POINT_Y
		1.36	427000103	470363.8
		1.36	427000103	470363.8
				4995707

Broadway and 89th Avenue - Created on 6/28/18 By Teachi

Sys	Route	Ref Point	Co	City	Dist	Trib	Crash_Num	Month	Day	Year	DWVK	Time	Rd_Dir	Elem	Rely	Investigat	Sev	NumKilled	Diag	NunYeh
05-ANSAS	4650128	000-00470		27	465	0	133200020		8	7	2013 WED	452 Z	Z	Z	1	3 N		0	2	2
04-CSAH	27000103	001+00.490		27	465	0	131680053		6	17	2013 MON	841 Z	Z	Z	2	3 N		0	1	2

Junc	SL	Type	Loc1	TCD	LIT	Wthr1	Wthr2	Surf	Char	Desgn	WZ	V1Type	V1Dir	V1Act	V1Fac1	V1Fac2	V1Phys	V1Age	V1Sex	V2Type
	1	30	2	1	98	4	1	1	1	1	8 MC	98	3	3	1	15	24	7	24 F	
	2	50	1	1	4	1	0	1	1	1					1	0	1	41 M		3

V4Age	V4Sex	True_MilesRoute_Code	POINT_X	POINT_Y
		0.47	504650129	470328.9
		1.49	427000103	470366.7
				4995917

Broadway and Seltzer Avenue - Created on 6/28/18 By Tsachi

Sys	Route	Ref_Point	Co	City	Dist	Trib	Crash_Num	Month	Day	Year	DYWK	Time	Rd_Dir	Elem	Rely	Investigat	Sev	NumKilled	Diag	NunYeh	
04-CSAH	27000103	001+00.675		27	465	0	131570108		6	5	2013	WED	1601 S	Z		3	N	0		2	2

Junc	SL	Type	Loc1	TCD	LIT	Wthr1	Wthr2	Surf	Char	Desgn	WZ	V1Type	V1Dir	V1Act	V1Fac1	V1Fac2	V1Phys	V1Age	V1Sex	V2Type
4		50	1	1	98	1	1	1	1	1	3	98	1	5	6	2	2	1	20 F	1

V4Age	V4Sex	True MilesRoute Code	POINT X	POINT Y
		1.675 427000103	470369	4996219

Broadway Avenue and 93rd Avenue - Created on 6/28/18 By Tsachi

Sys	Route	Ref Point	Co	City	Dist	Trib	Crash_Num	Month	Day	Year	DWVK	Time	Rd_Dir	Elem	Rely	Investigat	Sev	NumKilled	Diag	NunVeh	
04-CSAH	27000103	001+00.990		465	0		133280022	11	18	2013	MON	1631 N	Z	Z	1	3	N	0	0	1	2
04-CSAH	27000103	001+00.990		465	0		133500117	12	16	2013	MON	933 Z	Z	Z	1	3	N	0	0	5	2
04-CSAH	27000103	001+00.990		465	0		143140073	11	10	2014	MON	550 S	Z	Z	1	3	N	0	0	7	2
04-CSAH	27000103	001+00.990		465	0		143380291	12	4	2014	THU	1719 N	Z	Z	1	1	C	0	0	1	2
04-CSAH	27000103	001+00.990		465	0		151510047	5	30	2015	SAT	708 W	Z	Z	1	3	N	0	0	90	2
04-CSAH	27000103	001+00.990		465	0		131570123	6	6	2013	THU	1105 Z	Z	Z	1	3	N	0	0	1	2
04-CSAH	27000103	002+00.004		465	0		140450011	2	6	2014	THU	1549 S	Z	Z	1	3	C	0	0	3	2
04-CSAH	27000030	012+00.761		465	0		133150055	11	9	2013	SAT	1521 Z	Z	Z	1	3	C	0	0	1	2
04-CSAH	27000030	012+00.745		465	0		152550015	9	11	2015	FRI	1637 Z	Z	Z	2	3	C	0	0	1	2
04-CSAH	27000030	012+00.745		465	0		152000041	7	12	2015	SUN	1755 Z	Z	Z	1	3	C	0	0	5	2
04-CSAH	27000030	012+00.745		465	0		132040028	7	23	2013	TUE	631 Z	Z	Z	1	3	C	0	0	8	2
04-CSAH	27000030	012+00.744		465	0		140560235	1	22	2014	WED	930 Z	Z	Z	1	0	N	0	0	5	2

Junc	SL	Type	Loc1	TCD	LIT	Wthr1	Wthr2	Surf	Char	Desgn	WZ	V1Type	VIDir	VIAct	VIFac1	VIFac2	V1Phvs	V1Age	V1Sex	V2Type
4	45	1	1	1	1	1	1	0	1	1	5	98	1	1	1	0	1	1	37 M	1
4	45	1	1	1	1	1	4	0	3	1	5	98	8	7	1	1	1	64 M	1	
4	50	1	1	1	4	4	4	0	3	1	5	98	2	5	2	0	1	57 M	1	
4	45	1	1	1	1	4	1	1	1	1	5	98	1	1	15	2	1	18 F	1	
4	40	1	1	1	2	2	99	0	1	1	5	98	1	7	1	0	1	37 F	1	
4	45	1	1	1	1	1	1	0	1	1	3	98	1	5	1	0	1	23 M	2	
2	45	1	1	1	4	1	0	0	1	1	5	98	1	3	2	0	1	36 M	1	
4	50	1	1	1	1	1	2	2	1	1	6	98	8	3	4	0	1	68 F	1	
1	50	1	1	1	1	1	1	0	1	1	8	98	1	1	1	0	1	43 M	3	
4	45	1	1	1	1	1	1	1	1	1	8	98	1	1	1	0	1	54 F	3	
4	45	1	1	1	1	1	1	1	1	1	7	98	1	3	1	0	1	21 M	3	
0	45	1	1	0	1	1	4	0	5	0	0	98	2	1	0	0	0	41 M	4	

V4Age	V4Sex	True_MilesRoute	Code	POINT_X	POINT_Y
1.99		427000103		470376.7	4996716
1.99		427000103		470376.7	4996716
1.99		427000103		470376.7	4996716
1.99		427000103		470376.7	4996716
1.99		427000103		470376.7	4996716
2.004		427000103		470376.9	4996740
12.761		427000030		470402.2	4996716
12.745		427000030		470376.4	4996716
12.745		427000030		470376.4	4996716
12.745		427000030		470376.4	4996716
12.744		427000030		470374.8	4996716

CITY OF BROOKLYN PARK



Brooklyn Park Police Department
 Car accidents on West Broadway between 85th Ave & 93rd Ave
 1/1/2016 through 6/25/2018

ACCIDENT-HIT & RUN PD	
85TH AVE N / WEST BROADWAY	5
85TH AVE N / WEST BROADWAY	1
92ND AVE N / WEST BROADWAY	1
93RD AVE N / WEST BROADWAY	1
MAPLEBROOK PKWY N / WEST BROADWAY	1
ACCIDENT-HIT & RUN PD Total	9
ACCIDENT-PI	
85TH AVE N / WEST BROADWAY	5
92ND AVE N / WEST BROADWAY	1
MAPLEBROOK PKWY N / WEST BROADWAY	1
WEST BROADWAY / 89TH AVE N	1
WEST BROADWAY / 93RD AVE N	2
ACCIDENT-PI Total	10
ACCIDENT-PROPERTY DAMAGE	
85TH AVE N / WEST BROADWAY	64
85TH AVE N / WEST BROADWAY	8
89TH AVE N / WEST BROADWAY	1
92ND AVE N / WEST BROADWAY	1
9300 WEST BROADWAY	5
93RD AVE N / WEST BROADWAY	16
93RD AVE N / WEST BROADWAY	2
COLLEGE PKWY / WEST BROADWAY	1
MAPLEBROOK PKWY N / WEST BROADWAY	1
MAPLEBROOK PKWY N / WEST BROADWAY	1
MAPLEBROOK TER N / WEST BROADWAY	1
SETZLER PKWY N / WEST BROADWAY	1
WEST BROADWAY / 85TH AVE N	1
WEST BROADWAY / 93RD AVE N	2
WEST BROADWAY / MAPLEBROOK PKWY N	1
ACCIDENT-PROPERTY DAMAGE Total	106
Grand Total	125



METRO Blue Line LRT Extension (BLRT)

5514 West Broadway Avenue, Suite 200, Crystal, MN 55428 www.bluelineext.org

July 9, 2018

Jesse Struve, PE
City Engineer
City of Brooklyn Park
5200 85th Ave. N.
Brooklyn Park, MN 55443

Re: Letter of Support for the West Broadway Roadway Expansion- 85th Avenue to 93rd Avenue

Dear Jesse,

This is a letter of support from the Blue Line LRT Extension Project Office for the City of Brooklyn Park's application for the West Broadway Roadway Expansion to be considered for Federal funding through the 2018 Regional Solicitation.

The BLRT project office has worked closely with the City of Brooklyn Park and Hennepin County to carefully design a multimodal corridor to meet the transportation and transit needs for this area of Brooklyn Park. This corridor will continue to function as a county road and will include center running light rail as well as pedestrian and bicycle facilities on both sides of the roadway.

The CSAH 103 project includes the complete reconstruction of West Broadway between 85th and 93rd Avenues. This reconstruction will not only upgrade the existing County road facilities to meet the projected vehicle traffic needs but also include center running light rail with LRT stations at 85th Avenue and 93rd Avenue.

The Blue Line LRT Extension Project Office recognizes the financial commitment that the City of Brooklyn Park will be dedicating to make this a successful project. The Blue Line LRT Extension Project Office supports the City of Brooklyn Park's interest in applying for Federal funding through the 2018 Regional Solicitation to assist in its share of funding this project.

Sincerely,

Daniel E. Soler, P.E.
Project Director
METRO Blue Line Extension

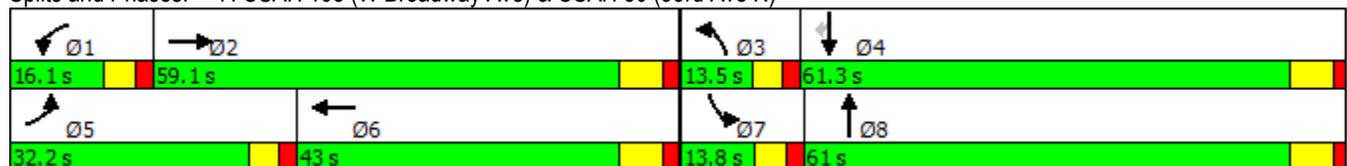


Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBT	NBL	SBT	EBL	WBT	SBL	NBT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes							
Recall Mode	None	None	None	Min	None	None	None	Min
Maximum Split (s)	16.1	59.1	13.5	61.3	32.2	43	13.8	61
Maximum Split (%)	10.7%	39.4%	9.0%	40.9%	21.5%	28.7%	9.2%	40.7%
Minimum Split (s)	13.5	36	13.5	37.5	13.5	43	13.5	36.5
Yellow Time (s)	3.5	5	3.5	5	3.5	5	3.5	5
All-Red Time (s)	2	2	2	1.5	2	2	2	1.5
Minimum Initial (s)	8	10	8	10	8	10	8	10
Vehicle Extension (s)	3.5	5	3.5	5	3.5	5	3.5	5
Minimum Gap (s)	0.2	2.5	0.2	3	0.2	2.5	0.2	3
Time Before Reduce (s)	0	17	0	18	0	17	0	18
Time To Reduce (s)	0	17	0	18	0	17	0	18
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		22		24		29		23
Dual Entry	No							
Inhibit Max	Yes							
Start Time (s)	0	16.1	75.2	88.7	0	32.2	75.2	89
End Time (s)	16.1	75.2	88.7	0	32.2	75.2	89	0
Yield/Force Off (s)	10.6	68.2	83.2	143.5	26.7	68.2	83.5	143.5
Yield/Force Off 170(s)	10.6	46.2	83.2	143.5	26.7	39.2	83.5	143.5
Local Start Time (s)	61.3	77.4	136.5	0	61.3	93.5	136.5	0.3
Local Yield (s)	71.9	129.5	144.5	54.8	88	129.5	144.8	54.8
Local Yield 170(s)	71.9	107.5	144.5	54.8	88	100.5	144.8	54.8

Intersection Summary

Cycle Length	150
Control Type	Actuated-Uncoordinated
Natural Cycle	150

Splits and Phases: 7: CSAH 103 (W Broadway Ave) & CSAH 30 (93rd Ave N)



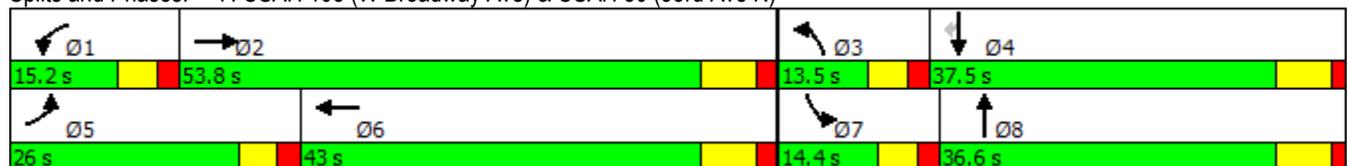


Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBT	NBL	SBT	EBL	WBT	SBL	NBT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes							
Recall Mode	None	None	None	Min	None	None	None	Min
Maximum Split (s)	15.2	53.8	13.5	37.5	26	43	14.4	36.6
Maximum Split (%)	12.7%	44.8%	11.3%	31.3%	21.7%	35.8%	12.0%	30.5%
Minimum Split (s)	13.5	36	13.5	37.5	13.5	43	13.5	36.5
Yellow Time (s)	3.5	5	3.5	5	3.5	5	3.5	5
All-Red Time (s)	2	2	2	1.5	2	2	2	1.5
Minimum Initial (s)	8	10	8	10	8	10	8	10
Vehicle Extension (s)	3.5	5	3.5	5	3.5	5	3.5	5
Minimum Gap (s)	0.2	2.5	0.2	3	0.2	2.5	0.2	3
Time Before Reduce (s)	0	17	0	18	0	17	0	18
Time To Reduce (s)	0	17	0	18	0	17	0	18
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		22		24		29		23
Dual Entry	No							
Inhibit Max	Yes							
Start Time (s)	0	15.2	69	82.5	0	26	69	83.4
End Time (s)	15.2	69	82.5	0	26	69	83.4	0
Yield/Force Off (s)	9.7	62	77	113.5	20.5	62	77.9	113.5
Yield/Force Off 170(s)	9.7	40	77	113.5	20.5	33	77.9	113.5
Local Start Time (s)	37.5	52.7	106.5	0	37.5	63.5	106.5	0.9
Local Yield (s)	47.2	99.5	114.5	31	58	99.5	115.4	31
Local Yield 170(s)	47.2	77.5	114.5	31	58	70.5	115.4	31

Intersection Summary

Cycle Length	120
Control Type	Actuated-Uncoordinated
Natural Cycle	120

Splits and Phases: 7: CSAH 103 (W Broadway Ave) & CSAH 30 (93rd Ave N)



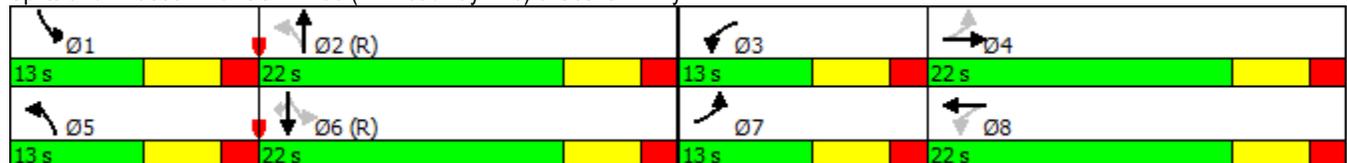


Phase Number	1	2	3	4	5	6	7	8
Movement	SBL	NBTL	WBL	EBTL	NBL	SBTL	EBL	WBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes							
Recall Mode	None	C-Max	None	None	None	C-Max	None	None
Maximum Split (s)	13	22	13	22	13	22	13	22
Maximum Split (%)	18.6%	31.4%	18.6%	31.4%	18.6%	31.4%	18.6%	31.4%
Minimum Split (s)	13	22	13	22	13	22	13	22
Yellow Time (s)	4	4	4	4	4	4	4	4
All-Red Time (s)	2	2	2	2	2	2	2	2
Minimum Initial (s)	7	10	7	10	7	10	7	10
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		5		5		5		5
Flash Dont Walk (s)		11		11		11		11
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes							
Start Time (s)	57	0	22	35	57	0	22	35
End Time (s)	0	22	35	57	0	22	35	57
Yield/Force Off (s)	64	16	29	51	64	16	29	51
Yield/Force Off 170(s)	64	5	29	40	64	5	29	40
Local Start Time (s)	57	0	22	35	57	0	22	35
Local Yield (s)	64	16	29	51	64	16	29	51
Local Yield 170(s)	64	5	29	40	64	5	29	40

Intersection Summary

Cycle Length	70
Control Type	Actuated-Coordinated
Natural Cycle	70
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green	

Splits and Phases: 9: CSAH 103 (W Broadway Ave) & Setzler Pkwy



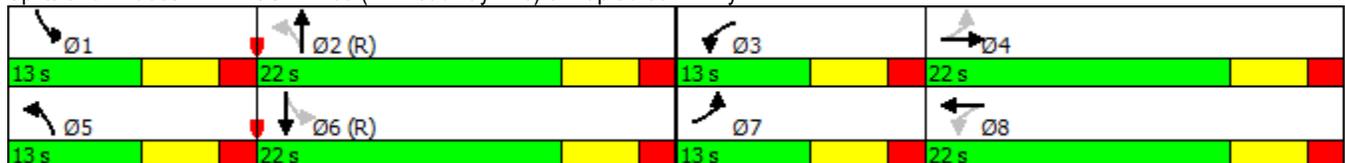


Phase Number	1	2	3	4	5	6	7	8
Movement	SBL	NBTL	WBL	EBTL	NBL	SBTL	EBL	WBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes							
Recall Mode	None	C-Max	None	None	None	C-Max	None	None
Maximum Split (s)	13	22	13	22	13	22	13	22
Maximum Split (%)	18.6%	31.4%	18.6%	31.4%	18.6%	31.4%	18.6%	31.4%
Minimum Split (s)	13	22	13	22	13	22	13	22
Yellow Time (s)	4	4	4	4	4	4	4	4
All-Red Time (s)	2	2	2	2	2	2	2	2
Minimum Initial (s)	7	10	7	10	7	10	7	10
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		5		5		5		5
Flash Dont Walk (s)		11		11		11		11
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Inhibit Max	Yes							
Start Time (s)	57	0	22	35	57	0	22	35
End Time (s)	0	22	35	57	0	22	35	57
Yield/Force Off (s)	64	16	29	51	64	16	29	51
Yield/Force Off 170(s)	64	5	29	40	64	5	29	40
Local Start Time (s)	57	0	22	35	57	0	22	35
Local Yield (s)	64	16	29	51	64	16	29	51
Local Yield 170(s)	64	5	29	40	64	5	29	40

Intersection Summary

Cycle Length	70
Control Type	Actuated-Coordinated
Natural Cycle	70
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green	

Splits and Phases: 11: CSAH 103 (W Broadway Ave) & Maplebrook Pkwy



HENNEPIN COUNTY
MINNESOTA

June 7, 2018

Elaine Koutsoukos, TAB Coordinator
Metropolitan Council
390 North Robert Street
St. Paul, MN 55101

Re: Support for Regional Solicitation Application
West Broadway Avenue (CSAH 103) Roadway Expansion Project
From 85th Avenue (CSAH 109) to 93rd Avenue (CSAH 30)

Dear Ms. Koutsoukos,

Hennepin County has been notified that the City of Brooklyn Park is submitting an application for funding as part of the Regional Solicitation through the Metropolitan Council. The project is the West Broadway Avenue (CSAH 103) Roadway Expansion Project which is currently programmed within the county's 2018-2022 Transportation Capital Improvement Program (CIP).

The project will not only expand and reconstruct West Broadway Avenue (CSAH 103), but also accommodate the potential Bottineau Light Rail Transit (BLRT) service planned by Metropolitan Council and Metro Transit. Hennepin County supports this funding application and acknowledges that the county will operate and maintain the West Broadway Avenue (CSAH 103) roadway facilities for the useful life of the improvements.

Hennepin County looks forward to working with the City of Brooklyn Park on this project.

Sincerely,



Carla Stueve, P.E., P.T.O.E.
County Engineer
Hennepin County Transportation Project Delivery

cc: Chad Ellos, Transportation Planning Division Manger



Project Summary

Project Name – West Broadway Avenue (CSAH 103) Roadway Expansion

Applicant – City of Brooklyn Park

Project Location – West Broadway Avenue from 85th Avenue to 93rd Avenue in the City of Brooklyn Park, Hennepin County

Total Project Cost – \$ 13,965,399.00

Requested Federal Dollars - \$7,000,000

Before Photo –

WEST BROADWAY AVENUE (LOOKING NORTH)



Project Description – West Broadway Avenue (County State Aid Highway 103) is primarily a rural, two-lane undivided, 60-year-old roadway classified as an A-Minor Expander (from 85th Avenue to 93rd Avenue) and an A-Minor Reliever (from 93rd Avenue to Trunk Highway (TH) 610) located in Hennepin County. The West Broadway Reconstruction project is directly related to the Bottineau Light Rail Transitway (BLRT) Project that will provide for transit improvements in the highly traveled northwest area of the Twin Cities. The proposed roadway improvements will widen West Broadway Avenue from a two-lane roadway to a four-lane roadway with turn lanes, upgrade traffic signals and lighting, and provide multi-use trails along both sides of West Broadway Avenue including ADA improvements and count down timers. The proposed project will also perform the grading for the future BLRT project.

Project Benefits – The proposed West Broadway Avenue Expansion project will provide the following benefits:

- Provide final grading throughout the project limits for the future track of the BLRT Project.
- Relocate all overhead electric assets to underground.
- Enhance safety and mobility for all users.
- Address aged pavement conditions
- Underserved residents will benefit from better access to the area's jobs and improved transit facilities/routes.

West Broadway Avenue (CSAH 103) Roadway Expansion

West Broadway Avenue (Southbound) (No Multi-use facilities)



West Broadway Avenue (Southbound) @ Setzler Parkway (Future Signal Location)



West Broadway Avenue (Northbound) @ 93rd Avenue (Signal/Pedestrian Upgrades)



West Broadway Avenue (Northbound) (Transmission Line Relocations)

