



Application

19837 - 2024 Roadway Spot Mobility
20492 - CSAH 16 and Settlers Ridge Parkway Intersection in the City of Woodbury
Regional Solicitation - Roadways Including Multimodal Elements

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Primary Contact

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Name: * She/her/her Andrea Rehm
Pronouns First Name Middle Name Last Name
Title: Planner
Department:
Email: andrea.rehm@co.washington.mn.us
Address: 11660 Myeron Road N

Phone: * Stillwater Minnesota 55082
City State/Province Postal Code/Zip
651-430-4332
Phone Ext.
Fax:
What Grant Programs are you most interested in? Regional Solicitation - Roadways Including Multimodal Elements

Organization Information

Name: WASHINGTON CTY
Jurisdictional Agency (if different):
Organization Type:
Organization Website:
Address: PUBLIC WORKS
11660 MYERON RD

County: STILLWATER Minnesota 55082
City State/Province Postal Code/Zip
Phone: * Washington 651-430-4325
Ext.
Fax:
PeopleSoft Vendor Number 0000028637A10

Project Information

Project Name CSAH 16 and Settlers Ridge Parkway Intersection in the City of Woodbury
Primary County where the Project is Located Washington
Cities or Townships where the Project is Located: City of Woodbury
Jurisdictional Agency (If Different than the Applicant):

Brief Project Description (Include location, road name/functional class, type of improvement, etc.) The proposed project will reconstruct the intersection of CSAH 16, an A-Minor Arterial, and Settlers Ridge Pkwy as a single-lane roundabout within the City of Woodbury. The existing intersection is all-way stop-controlled with crosswalk markings on all legs. There are trails on the east side of Settlers Ridge Pkwy and north of CSAH 16, and sidewalk is present on the west of Settlers Ridge Pkwy. Land use near the intersection includes neighborhoods to the north, south, and west, and rural/agricultural to the east. An existing trail connects with Valley Creek Park to the northeast.

The new roundabout will include high-visibility crossings at each leg and splitter islands with pedestrian refuges. All crossings will include high-visibility signage and be ADA-compliant with appropriate ramp slopes and tactile paving. Crossings will connect with the existing paths and sidewalks that serve the intersection.

These improvements will enhance connections between several existing multimodal facilities. Crossings will link existing trails and sidewalks that connect to adjacent neighborhoods on the north, south, and west. On the east, they will connect to a trail north of CSAH 16 that provides access to Valley Creek Park. With plans for a residential development in the intersection's northeast quadrant, the enhanced crossings will be key to providing safe and accessible active transportation options within this growing area of the community.

The project will serve as a critical link to existing and future regional multimodal networks. The project is located on the CSAH 16 Tier 1 RBTN Alignment, where it provides continuity between the TH 95 Tier 2 Alignment to the east and the Woodbury Dr Tier 2 Alignment to the west. The CSAH 16 Tier 1 Alignment also links with the existing Central Greenway Regional Trail 1.25 miles west on Woodbury Dr. The CSAH 16/Settlers Ridge Pkwy intersection is located on the future off-road network within the Washington County Bike and Pedestrian Plan.

(Limit 2,800 characters; approximately 400 words)

TRANSPORTATION IMPROVEMENT PROGRAM (TIP) DESCRIPTION - will be used in TIP if the project is selected for funding. See MnDOT's TIP description guidance. Construction of Roundabout at CSAH 16 (Valley Creek Rd) and Settlers Ridge Pkwy in Washington County

Include both the CSAH/MSAS/TH references and their corresponding street names in the TIP Description (see Resources link on Regional Solicitation webpage for examples).

Project Length (Miles) 0.1
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 \$2,384,160.00
Match Amount \$596,040.00

Minimum of 20% of project total

Project Total \$2,980,200.00
For transit projects, the total cost for the application is total cost minus fare revenues.

Match Percentage 20.0%
Minimum of 20%
Compute the match percentage by dividing the match amount by the project total

Source of Match Funds County 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

Preferred Program Year
Select one: 2028
Select 2026 or 2027 for TDM and Unique projects only. For all other applications, select 2028 or 2029.

Additional Program Years:
Select all years that are feasible if funding in an earlier year becomes available.

Project Information: Roadway Projects

NOTE: If your project has already been assigned a State Aid Project # (SAP or SP), please Indicate SAP# here
SAP#:

County, City, or Lead Agency Washington County

Functional Class of Road A-Minor Arterial

Road System CSAH

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

Road/Route No. 16

i.e., 53 for CSAH 53

Name of Road Valley Creek Rd

Example; 1st ST., MAIN AVE

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

From:

Road System

Road/Route No.

i.e., 53 for CSAH 53

Name of Road

Example; 1st ST., MAIN AVE

To:

Road System

DO NOT INCLUDE LEGAL DESCRIPTION

Road/Route No.

i.e., 53 for CSAH 53

Name of Road

Example; 1st ST., MAIN AVE

In the City/Cities of:

(List all cities within project limits)

OR:

At:

Road System

(TH, CSAH, MSAS, CO. RD., TWP. RD., City Street)

Road/Route No.

i.e., 53 for CSAH 53

Name of Road

Example; 1st ST., MAIN AVE

In the City/Cities of:

(List all cities within project limits)

PROJECT LENGTH

Miles 0.1

(nearest 0.1 miles)

Primary Types of Work (check all the apply)

New Construction

Reconstruction

Resurfacing

Bituminous Pavement Yes

Concrete Pavement

Roundabout Yes

New Bridge

Bridge Replacement

Bridge Rehab

New Signal

Signal Replacement/Revision

Bike Trail Yes

Other (do not include incidental items)

The project will construct a new roundabout at the CSAH 16 and Settlers Ridge Pkwy intersection. The primary work types include grade work, aggregate base, bituminous base, bituminous surface, lighting, sections of bike path, pedestrian ramps, crosswalk markings, and splitter islands with pedestrian refuges.

BRIDGE/CULVERT PROJECTS (IF APPLICABLE)

Old Bridge/Culvert No.:

New Bridge/Culvert No.:

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

OTHER INFORMATION:

Zip Code where Majority of Work is Being Performed	55129
Approximate Begin Construction Date	03/01/2028
Approximate End Construction Date	10/31/2028
Miles of Trail (nearest 0.1 miles)	0.2
Miles of Sidewalk (nearest 0.1 miles)	0
Miles of trail on the Regional Bicycle Transportation Network (nearest 0.1 miles):	0.1
Is this a new trail?	Yes

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 (2018), the 2040 Regional Parks Policy Plan (2018), 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.

Briefly list the goals, objectives, strategies, and associated pages: Goal B: Safety and Security (p.2.5). Objective A (p.2.5), Strategy B1 (p.2.5), Strategy B3 (p.2.6).

Goal C: Access to Destinations (p.2.10). Objective B (p.2.10); Objective E (p.2.10), Strategy C15 (p. 2.22), Strategy C16 (p. 2.23).

Goal D: Competitive Economy (p.2.26). Objective B (p.2.26), Strategy D2 (p.2.27).

Goal E: Healthy and Equitable Communities (p.2.30). Objective C (p.2.30), Objective D (p.2.30), Strategy E3 (p.2.31).

Goal F: Leveraging Transportation Investment to Guide Land Use (p.2.35). Objective B (p.2.35), Objective C (p.2.35), Strategy F2 (p.2.36), Strategy F6 (p.2.38).

Limit 2,800 characters, approximately 400 words

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

List the applicable documents and pages: Unique projects are exempt Washington County 2024-2028 Capital Improvement Plan, Project# RB-2690 from this qualifying requirement because of their innovative nature. (p.115)

Limit 2,800 characters, approximately 400 words

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. Unique project costs are limited to those that are federally eligible.

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

5. Applicant is a public agency (e.g., county, city, tribal government, transit provider, etc.) or non-profit organization (TDM and Unique Projects applicants only). Applicants that are not State Aid 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 in Table 1. For unique projects, the minimum award is \$500,000 and the maximum award is the total amount available each funding cycle (approximately \$4,000,000 for the 2024 funding cycle).

- Strategic Capacity (Roadway Expansion): \$1,000,000 to \$10,000,000
- Roadway Reconstruction/Modernization: \$1,000,000 to \$7,000,000
- Traffic Management Technologies (Roadway System Management): \$500,000 to \$3,500,000
- Spot Mobility and Safety: \$1,000,000 to \$3,500,000
- 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 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 plan must be completed by the local agency before the Regional Solicitation application deadline. For future Regional Solicitation funding cycles, this requirement may include that the plan has undergone a recent update, e.g., within five years prior to application.

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

Yes

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

Date plan completed:

06/18/2015

Link to plan:

<https://www.co.washington.mn.us/DocumentCenter/View/7981/Cover-page?bidId=>

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

Date self-evaluation completed:

Link to plan:

Upload plan or self-evaluation if there is no link

Upload as PDF

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. This includes assurance of year-round use of bicycle, pedestrian, and transit facilities, per FHWA direction established 8/27/2008 and updated 4/15/2019. Unique projects are exempt from this qualifying requirement.

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 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. Bridge Rehabilitation/Replacement projects must be located on a minor collector and above functionally classified roadway in the urban areas or a major collector and above in the rural areas.

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

Yes

Roadway Strategic Capacity 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 and Strategic Capacity 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.

Bridge Rehabilitation/Replacement projects only:

5. The length of the in-place structure is 20 feet or longer.

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

6. The bridge must have a Local Planning Index (LPI) of less than 60 OR a National Bridge Inventory (NBI) Rating of 3 or less for either Deck Geometry, Approach Roadway, or Waterway Adequacy as reported on the most recent Minnesota Structure Inventory Report.

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

Roadway Expansion, Reconstruction/Modernization, 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 David Elvin at MnDOT (David.Elvin@state.mn.us or 651-234-7795) to determine whether your project needs to go through this process as described in Appendix F of the 2040 Transportation Policy Plan.

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)	\$104,000.00
Removals (approx. 5% of total cost)	\$165,600.00
Roadway (grading, borrow, etc.)	\$237,400.00
Roadway (aggregates and paving)	\$459,100.00
Subgrade Correction (muck)	\$0.00
Storm Sewer	\$160,000.00
Ponds	\$80,000.00
Concrete Items (curb & gutter, sidewalks, median barriers)	\$584,500.00
Traffic Control	\$104,000.00
Striping	\$57,000.00
Signing	\$57,000.00
Lighting	\$95,000.00
Turf - Erosion & Landscaping	\$48,000.00
Bridge	\$0.00
Retaining Walls	\$0.00
Noise Wall (not calculated in cost effectiveness measure)	\$0.00
Traffic Signals	\$0.00
Wetland Mitigation	\$0.00
Other Natural and Cultural Resource Protection	\$0.00
RR Crossing	\$0.00
Roadway Contingencies	\$650,000.00
Other Roadway Elements	\$0.00
Totals	\$2,801,600.00

Specific Bicycle and Pedestrian Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Path/Trail Construction	\$110,880.00
Sidewalk Construction	\$0.00
On-Street Bicycle Facility Construction	\$0.00
Right-of-Way	\$0.00
Pedestrian Curb Ramps (ADA)	\$27,720.00
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	\$40,000.00
Other Bicycle and Pedestrian Elements	\$0.00
Totals	\$178,600.00

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

PROTECT Funds Eligibility

One of the new federal funding sources is Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT). Please describe which specific elements of your project and associated costs out of the Total TAB-Eligible Costs are eligible to receive PROTECT funds. Examples of potential eligible items may include: storm sewer, ponding, erosion control/landscaping, retaining walls, new bridges over floodplains, and road realignments out of floodplains.

INFORMATION: Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Formula Program Implementation Guidance (dot.gov).

Response:	Several elements of the proposed project are eligible to receive PROTECT funds, with a combined \$288,000 of eligible project costs. These include: 1) Storm Sewer (\$160,000); 2) Ponds (\$80,000); and 3) Turf - Erosion & Landscaping (\$48,000). These improvements will increase resilience for CSAH 16/Settlers Ridge Parkway intersection and adjacent communities through improved stormwater management, which will help decrease the magnitude and duration of flood events at this location.
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Totals

Total Cost	\$2,980,200.00
Construction Cost Total	\$2,980,200.00
Transit Operating Cost Total	\$0.00

Congestion within Project Area:

Free-Flow Travel Speed:	37
The free-flow travel speed is the black number	
Peak Hour Travel Speed:	36
The peak hour travel speed is the red number	
Percentage Decrease in Travel Speed in Peak Hour Compared to Free-Flow (calculation):	2.7%
Upload the "Level of Congestion" map:	1702500138989_Attachment D_Make-a-Map Level of Congestion.pdf

Congestion on adjacent Parallel Routes:

Adjacent Parallel Corridor	Hudson Rd
Adjacent Parallel Corridor Start and End Points:	
Start Point:	Karen Dr
End Point:	Settlers Ridge Parkway
Free-Flow Travel Speed:	50
The Free-Flow Travel Speed is black number.	
Peak Hour Travel Speed:	38
The Peak-Hour Travel Speed is red number.	
Percentage Decrease in Travel Speed in Peak Hour Compared to Free-Flow (calculation):	24.0%
Upload the "Level of Congestion" map:	1702500138989_Attachment D_Make-a-Map Level of Congestion.pdf

Principal Arterial Intersection Conversion Study:

Proposed at-grade project that reduces delay at a High Priority Intersection:	
(70 Points)	
Proposed at-grade project that reduces delay at a Medium Priority Intersection:	
(65 Points)	
Proposed at-grade project that reduces delay at a Low Priority Intersection:	
(60 Points)	
Not listed as a priority in the study:	Yes
(0 Points)	

Congestion Management and Safety Plan IV:

Proposed at-grade project that reduces delay at a CMSP opportunity area:	
(70 Points)	
Not listed as a CMSP priority location:	Yes

Measure C: Current Heavy Commercial Traffic

RESPONSE: Select one for your project, based on the updated 2021 Regional Truck Corridor Study:

Along Tier 1:

Miles: 0

(to the nearest 0.1 miles)

Along Tier 2:

Miles: 0

(to the nearest 0.1 miles)

Along Tier 3:

Miles: 0

(to the nearest 0.1 miles)

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

None of the tiers: Yes

Measure A: Engagement

i. Describe any Black, Indigenous, and People of Color populations, low-income populations, disabled populations, youth, or older adults within a ½ mile of the proposed project. Describe how these populations relate to regional context. Location of affordable housing will be addressed in Measure C.

ii. Describe how Black, Indigenous, and People of Color populations, low-income populations, persons with disabilities, youth, older adults, and residents in affordable housing were engaged, whether through community planning efforts, project needs identification, or during the project development process.

iii. Describe the progression of engagement activities in this project. A full response should answer these questions:

- 1. What engagement methods and tools were used?*
- 2. How did you engage specific communities and populations likely to be directly impacted by the project?*
- 3. What techniques did you use to reach populations traditionally not involved in community engagement related to transportation projects?*
- 4. How were the project's purpose and need identified?*
- 5. How was the community engaged as the project was developed and designed?*
- 6. How did you provide multiple opportunities for of Black, Indigenous, and People of Color populations, low-income populations, persons with disabilities, youth, older adults, and residents in affordable housing to engage at different points of project development?*
- 7. How did engagement influence the project plans or recommendations? How did you share back findings with community and re-engage to assess responsiveness of these changes?*
- 8. If applicable, how will NEPA or Title VI regulations will guide engagement activities?*

Response:

FHWA's Screening Tool for Equity Analysis of Projects estimates that within a 1/2 mile of the intersection, only 75% of the population is White--compared to 84% in the County & 82% Statewide. There are also other vulnerable younger & older populations within the area. STEAP estimates show a high concentration of youth, with 36% of the residents within a 1/2 mile of the intersection under 18 years old, compared to 24% in Washington County & 23% statewide. There are two schools within walking distance of this intersection (Liberty Ridge Elementary School 0.8 miles to the south and Brookview Elementary School 1.2 miles to the north) as well as multiple childcare centers. The Legends of Woodbury is independent senior living apartment located on Settlers Ridge Parkway north of the project area.

The project promotes active transportation & greatly improves safety for pedestrians and bicyclists at the intersection. The roundabout design will improve pedestrian & bicycle crossing safety through slower vehicle speeds & shorter crossing distances, while establishing connections to existing & future facilities. This improvement will disproportionately benefit disadvantaged & vulnerable populations who are more likely to rely on non-vehicle modes for transportation & for whom recreation & healthy lifestyles may be more challenging to achieve.

In-depth & broad engagement was conducted for the County Bike & Pedestrian Plan in 2019 & 2020. This engagement included pop-up events, a meeting with the Woodbury Bicycle Advisory Committee, & a project website with online interactive tools. A key focus of the engagement efforts was to meet people where they are. There are currently trails on the north side of CSAH 16 and on the east side of Settlers Ridge Parkway--this plan identifies additional future trails at the intersection. Engagement on this plan identified strong support for pedestrian and bicycle improvements, which have been incorporated into the design with trail connections in all quadrants of the intersection.

The project's purpose & need was identified primarily through engineering analysis of congestion & supported through planning & initial engagement efforts. As this project is still in the early stages of design, future public engagement will expand on these conversations and follow goals set based on input to date. Washington County Public Works has an approved Title VI plan which serves as a resource for nondiscrimination in project planning and engagement practices. The County will facilitate engagement to ensure final design is informed by a community-driven process, with many touch points with the public and elected officials. Engagement strategies will include open houses, a project website, surveys, online comment maps, & pop-up meetings.

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

Measure B: Disadvantaged Communities Benefits and Impacts

Describe the project's benefits to Black, Indigenous, and People of Color populations, low-income populations, children, people with disabilities, youth, and older adults. Benefits could relate to:

- ? pedestrian and bicycle safety improvements;
- ? public health benefits;
- ? direct access improvements for residents or improved access to destinations such as jobs, school, health care, or other;
- ? travel time improvements;
- ? gap closures;
- ? new transportation services or modal options;
- ? leveraging of other beneficial projects and investments;
- ? and/or community connection and cohesion improvements.

This is not an exhaustive list. A full response will support the benefits claimed, identify benefits specific to Disadvantaged communities residing or engaged in activities near the project area, identify benefits addressing a transportation issue affecting Disadvantaged communities specifically identified through engagement, and substantiate benefits with data.

Acknowledge and describe any negative project impacts to Black, Indigenous, and People of Color populations, low-income populations, children, people with disabilities, youth, and older adults. Describe measures to mitigate these impacts. Unidentified or unmitigated negative impacts may result in a reduction in points.

Below is a list of potential negative impacts. This is not an exhaustive list.

- ? Decreased pedestrian access through sidewalk removal / narrowing, placement of barriers along the walking path, increase in auto-oriented curb cuts, 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.

Response:

Constructing this roundabout provides numerous benefits to the higher levels of youth, older adults, and people of color living in the project area and provides a safe connection between existing and future trails. STEAP estimates that 43% of the people living in the project area are either under 18 or over 64 years old, demographics that drive and have access to vehicles at a much lower rate than adults ages 18-64. This project also provides numerous benefits to other underserved populations living in the area, such as people with disabilities and people with lower incomes, as well as underserved people in the greater community who travel through this intersection as a motorist, pedestrian, or bicyclist. In particular, this project supports transportation-vulnerable populations through the incorporation of trail connections in all four quadrants of the intersection and safer crossings than with today's all-way-stop control.

This project promotes active transportation and furthers the goals of the Regional Bicycle Network by providing a comfortable and safe connection between existing trails, neighborhoods, and key destinations: Liberty Ridge and Brookview Elementary Schools, Valley Creek and Stonemill North Parks, and child care centers.

This project also improves safety and mobility for people who must travel through the area in a vehicle. Roundabouts support the safe system approach by slowing vehicles down through the intersection (without negatively impacting overall mobility) and minimizing crash types that lead to serious injury and death.

There are no known negative impacts associated with this project.

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

Measure C: Affordable Housing Access

Describe any affordable housing developments?existing, under construction, or planned?within ½ mile of the proposed project. The applicant should note the number of existing subsidized units, which will be provided on the Socio-Economic Conditions map. Applicants can also describe other types of affordable housing (e.g., naturally-occurring affordable housing, manufactured housing) and under construction or planned affordable housing that is within a half mile of the project. If applicable, the applicant can provide self-generated PDF maps to support these additions. Applicants are encouraged to provide a self-generated PDF map describing how a project connects affordable housing residents to destinations (e.g., childcare, grocery stores, schools, places of worship).

Describe the project?s benefits to current and future affordable housing residents within ½ mile of the project. Benefits must relate to affordable housing residents. Examples may include:

- ? specific direct access improvements for residents*
- ? improved access to destinations such as jobs, school, health care or other;*
- ? new transportation services or modal options;*
- ? and/or community connection and cohesion improvements.*

This is not an exhaustive list. Since residents of affordable housing are more likely not to own a private vehicle, higher points will be provided to roadway projects that include other multimodal access improvements. A full response will support the benefits claimed, identify benefits specific to residents of affordable housing, identify benefits addressing a transportation issue affecting residents of affordable housing specifically identified through engagement, and substantiate benefits with data.

Response:

This project provides safety and mobility benefits to pedestrians and bicyclists as well as motorists through the roundabout construction. For non-motorized traffic, the project improves safety by addressing sight line issues, slowing vehicles down, shortening crossing distances, installing high-visibility signage, and improving ADA compliance.

There are currently 279 publicly subsidized rental housing units in census tracts within a 1/2 mile of the intersection, and this project intersection serves a major crossing location between adjacent neighborhoods and destinations. To the north, Sienna Ridge Townhomes is about 1 mile away and includes 41 subsidized units, and Legends of Woodbury is about 1.6 miles to the north with 216 affordable units serving older adults and people who are disabled. Brookview Elementary School and Brookview Preschool are located about 1.3 miles away. There is also Valley Creek Park located near the intersection. To the south, Liberty Ridge and Stepping Stones Early Learning Center are located about 0.8 miles away. Stonemill Farms community center, is located about 1.1 mile away and there are several parks within walking distance of the intersection.

The roundabout and trail connections provide safe and convenient access to the destinations described above as well as countless others. Residents of affordable housing often do not have reliable access to vehicles and rely on non-motorized transportation at a higher rate than people with higher incomes. Given the intersection's importance for non-motorized travel between adjacent neighborhoods and beyond, the project has been developed to prioritize safety as a key design criterion.

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

Measure D: BONUS POINTS

Project is located in an Area of Concentrated Poverty:

Project's census tracts are above the regional average for population in poverty or population of color (Regional Environmental Justice Area):

Project located in a census tract that is below the regional average for population in poverty or populations of color (Regional Environmental Justice Area):

Yes

Upload the "Socio-Economic Conditions" map used for this measure.

1702500843885_Attachment C_Make-a-Map Socio-Economic Conditions.pdf

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 without the Project (Vehicles per hour)	Volume with the Project (Vehicles Per Hour):	Total Peak Hour Delay without the Project:	Total Peak Hour Delay by the Project:	Total Peak hour Delay Reduced by project	EXPLANATION of methodology used to calculate railroad crossing delay, if applicable.	Synchro or HCM Reports
17.7	10.1	7.6	1589	1589	28125.3	16048.9	12076.4	N/A	1702501002637_Attachment E_CSAH 16_Traffic Packet.pdf
							16049		

Vehicle Delay Reduced

Total Peak Hour Delay Reduced	Total Peak Hour Delay Reduced	Delay Reduced Total
-------------------------------	-------------------------------	---------------------

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):
13.1	12.3	0.8
13	12	1

Total

Total Emissions Reduced:	0.8
Upload Synchro Report	1702501231640_Attachment E_CSAH 16_Traffic Packet.pdf
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	
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: CMF ID 206: Conversion of stop-controlled intersection into single-lane roundabout

(Limit 700 Characters; approximately 100 words)

Rationale for Crash Modification Selected: The above crash modification factor was selected as it was directly related to the proposed improvement and construction of a single-lane roundabout and was highly rated (4-stars) compared to other crash modification factors reviewed.

(Limit 1400 Characters; approximately 200 words)

Project Benefit (\$) from B/C Ratio \$0.03

Total Fatal (K) Crashes: 0

Total Serious Injury (A) Crashes: 0

Total Non-Motorized Fatal and Serious Injury Crashes: 0

Total Crashes: 1

Total Fatal (K) Crashes Reduced by Project: 0

Total Serious Injury (A) Crashes Reduced by Project: 0

Total Non-Motorized Fatal and Serious Injury Crashes Reduced by Project: 0

Total Crashes Reduced by Project: 1

Worksheet Attachment 1702501342007_Attachment G_Crash_BC.pdf

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

Measure B: Pedestrian Safety

Determine if these measures do not apply to your project. Does the project match either of the following descriptions?

If either of the items are checked yes, then score for entire pedestrian safety measure is zero. Applicant does not need to respond to the sub-measures and can proceed to the next section.

Project is primarily a freeway (or transitioning to a freeway) and does not provide safe and comfortable pedestrian facilities and crossings. No

Existing location lacks any pedestrian facilities (e.g., sidewalks, marked crossings, wide shoulders in rural contexts) and project does not add pedestrian elements (e.g., reconstruction of a roadway without sidewalks, that doesn't also add pedestrian crossings and sidewalk or sidepath on one or both sides). No

SUB-MEASURE 1: Project-Based Pedestrian Safety Enhancements and Risk Elements

To receive maximum points in this category, pedestrian safety countermeasures selected for implementation in projects should be, to the greatest extent feasible, consistent with the countermeasure recommendations in the Regional Pedestrian Safety Action Plan and state and national best practices. Links to resources are provided on the Regional Solicitation Resources web page.

Please answer the following two questions with as much detail as possible based on the known attributes of the proposed design. If any aspect referenced in this section is not yet determined, describe the range of options being considered, to the greatest extent available. If there are project elements that may increase pedestrian risk, describe how these risks are being mitigated.

1. Describe how this project will address the safety needs of people crossing the street at signalized intersections, unsignalized intersections, midblock locations, and roundabouts.

Treatments and countermeasures should be well-matched to the roadway's context (e.g., appropriate for the speed, volume, crossing distance, and other location attributes). Refer to the Regional Solicitation Resources web page for guidance links.

Response:

The CSAH 16/Settlers Ridge Pkwy intersection serves as a key crossing location for adjacent residents, allowing them multimodal access to parks and other nearby destinations. The intersection will provide a crucial link for current and future regional multimodal networks given its location on the CSAH 16 Tier 1 RBTN Alignment and role in accessing the Central Greenway Regional Trail, which is located 1.25 miles to the west on Woodbury Dr. Given the intersection's importance for non-motorized travel between adjacent neighborhoods and beyond, the project has been developed to prioritize safety as a key design criterion.

Existing crossing conditions at the project intersection are inadequate, consisting of striping with the addition of reflective panels on the north and south legs. A hillcrest to the west of the intersection causes visibility issues for eastbound traffic approaching at and above posted speeds of 50 mph, an issue that becomes more severe at night and under low-visibility conditions. These challenges are compounded by the intersection's long crossing distances, which are approximately 100' on the north and south legs and 75' on the east and west legs. While these concerns affect all residents, they are especially pressing for those with mobility impairments who may need extra time to cross the road.

The project will reconstruct the CSAH 16/Settlers Ridge Pkwy intersection as a single-lane roundabout. The roundabout will include high-visibility crossings at each leg and splitter islands that serve as pedestrian refuges. Crossings will connect with the existing paths and sidewalks that serve the intersection. All crossings will include high-visibility signage and be ADA-compliant with appropriate ramp slopes and tactile paving.

These improvements will provide crucial enhancements at the CSAH 16/Settlers Ridge Pkwy intersection to create safer, more accessible, and more convenient active transportation conditions within this growing area of the community.

(Limit 2,800 characters; approximately 400 words)

Is the distance in between signalized intersections increasing (e.g., removing a signal)?

Select one:

No

If yes, describe what measures are being used to fill the gap between protected crossing opportunities for pedestrians (e.g., adding High-Intensity Activated Crosswalk beacons to help motorists yield and help pedestrians find a suitable gap for crossing, turning signal into a roundabout to slow motorist speed, etc.).

Response:

(Limit 1,400 characters; approximately 200 words)

Will your design increase the crossing distance or crossing time across any leg of an intersection? (e.g., by adding turn or through lanes, widening lanes, using a multi-phase crossing, prohibiting crossing on any leg of an intersection, pedestrian bridge requiring length detour, etc.). This does not include any increases to crossing distances solely due to the addition of bike lanes (i.e., no other through or turn lanes being added or widened).

Select one:

No

If yes, how many intersections will likely be affected?

Response:

Describe what measures are being used to reduce exposure and delay for pedestrians (e.g., median crossing islands, curb bulb-outs, etc.)

Response:

(Limit 1,400 characters; approximately 200 words)

If grade separated pedestrian crossings are being added and increasing crossing time, describe any features that are included that will reduce the detour required of pedestrians and make the separated crossing a more appealing option (e.g., shallow tunnel that doesn't require much elevation change instead of pedestrian bridge with numerous switchbacks).

Response:

No grade-separated crossings are being proposed.

(Limit 1,400 characters; approximately 200 words)

If mid-block crossings are restricted or blocked, explain why this is necessary and how pedestrian crossing needs and safety are supported in other ways (e.g., nearest protected or enhanced crossing opportunity).

Response: No mid-block crossings will be restricted or blocked.

(Limit 1,400 characters; approximately 200 words)

2. Describe how motorist speed will be managed in the project design, both for through traffic and turning movements. Describe any project-related factors that may affect speed directly or indirectly, even if speed is not the intended outcome (e.g., wider lanes and turning radii to facilitate freight movements, adding turn lanes to alleviate peak hour congestion, etc.). Note any strategies or treatments being considered that are intended to help motorists drive slower (e.g., visual narrowing, narrow lanes, truck aprons to mitigate wide turning radii, etc.) or protect pedestrians if increasing motorist speed (e.g., buffers or other separation from moving vehicles, crossing treatments appropriate for higher speed roadways, etc.).

Response: Roundabouts have well-known effects on reducing motorist speed resulting from their curved geometry and requirement that drivers yield to circulating traffic. Reconstruction of the CSAH 16/Settlers Ridge Pkwy intersection as a roundabout will naturally encourage drivers to slow and stay attentive as they navigate a curved path. The need to yield to circulating traffic and the continuous flow within the roundabout will contribute to more consistent speeds and reduce abrupt stopping and starting. The new roundabout will eliminate the need for left-turn movements against opposing traffic, reducing the likelihood of high-speed collisions.

Washington County will begin a corridor study on CSAH 16 from Interlachen Pkwy to Settlers Ridge Pkwy in 2024. This study may recommend additional speed control improvements in the corridor and approaching the intersection to complement and integrate with the project intersection.

(Limit 2,800 characters; approximately 400 words)

If known, what are the existing and proposed design, operation, and posted speeds? Is this an increase or decrease from existing conditions?

Response: The posted speed along CSAH 16 is 50 mph. The posted speed along Settlers Ridge Pkwy is 40 mph. No changes in posted speeds are proposed as part of the project.

(Limit 1,400 characters; approximately 200 words)

SUB-MEASURE 2: Existing Location-Based Pedestrian Safety Risk Factors

These factors are based on trends and patterns observed in pedestrian crash analysis done for the Regional Pedestrian Safety Action Plan. Check off how many of the following factors are present. Applicants receive more points if more risk factors are present.

- Existing road configuration is a One-way, 3+ through lanes
- or
- Existing road configuration is a Two-way, 4+ through lanes
- Yes
- Existing road has a design speed, posted speed limit, or speed study/data showing 85th percentile travel speeds in excess of 30 MPH or more
- Yes
- Existing road has AADT of greater than 15,000 vehicles per day

List the AADT

SUB-MEASURE 3: Existing Location-Based Pedestrian Safety Exposure Factors

These factors are based on trends and patterns observed in pedestrian crash analysis done for the Regional Pedestrian Safety Action Plan. Check off how many of the following existing location exposure factors are present. Applicants receive more points if more risk factors are present.

- ☐
- Existing road has transit running on or across it with 1+ transit stops in the project area (If flag-stop route with no fixed stops, then 1+ locations in the project area where roadside stops are allowed. Do not count portions of transit routes with no stops, such as non-stop freeway sections of express or limited-stop routes.)
- Existing road has high-frequency transit running on or across it and 1+ high-frequency stops in the project area (high-frequency defined as service at least every 15 minutes from 6am to 7pm weekdays and 9am to 6pm Saturdays.)
- Existing road is within 500' of 1+ shopping, dining, or entertainment destinations (e.g., grocery store, restaurant)

If checked, please describe:

The project is located on the CSAH 16 Tier 1 RBTN Alignment, which intersects the Central Greenway Regional Trail on Woodbury Dr 1.25 miles to the west. This location makes the intersection a key link for accessing the Central Greenway Regional Trail, which is slated to be extended north to the Big marine Park Reserve and south to Cottage Grove Ravine Regional Park.

While not within 500 feet of the project intersection, a variety of dining and shopping destinations are located near the CSAH 16/Woodbury Dr intersection and along the existing Central Greenway Regional Trail alignment. These include Carmine's Restaurant, Carbone's Pizzeria, and Bridgeman's Ice Cream Parlor, with Walmart, Chili's Grill, Culvers, and other destinations located farther north near the I-94 interchange.

(Limit 1,400 characters; approximately 200 words)

Existing road is within 500' of other known pedestrian generators (e.g., school, civic/community center, senior housing, multifamily housing, regulatorily-designated affordable housing)

Yes

If checked, please describe:

The project is located within 500' of Valley Creek Park on the northeast. A planned future residential development will be located in the intersection's northeast quadrant within 500' of the intersection. Liberty Ridge Elementary School, Stepping Stones Early Learning Center, and Stonemill North Park are located less than a mile south of the project, and are accessible using existing paths. St. John Lutheran Church is located less than a mile to the west.

(Limit 1,400 characters; approximately 200 words)

Measure A: Multimodal Elements and Existing Connections

Response:

The project intersection provides key multimodal access to local destinations. With future development of the RBTN and Central Greenway Regional Trail, this crossing will also become an important link within the region's larger multimodal networks. The proposed project will reconstruct the CSAH 16/Settlers Ridge Pkwy intersection as a single-lane roundabout including high visibility crossings on each leg. Given the intersection's nearby pedestrian generators, planned development, and location relative to future multimodal networks, these improvements will enhance the safety, accessibility, and convenience of travel to local destinations while supporting regional connectivity.

Existing crossing conditions at the stop-controlled project intersection are inadequate, consisting of striping with reflective panels added on the north and south legs. Crossing distances are large - 100' on the north and south legs and 75' on the east and west legs - requiring pedestrians to cover long distances without the aid of countdown signals. A hillcrest directly west of the intersection causes visibility challenges for eastbound drivers, particularly at night. The combination of poor visibility, high speeds, and large crossing distances creates safety risks for non-motorized travelers, especially residents with mobility impairments who may need extra time to cross the road.

The new roundabout will include high-visibility crossings at each leg and splitter islands with pedestrian refuges. All crossings will include high-visibility signage and be ADA-compliant with appropriate ramp slopes and tactile paving. Crossings will connect with the existing paths and sidewalks that serve the intersection.

These improvements will enhance connections between several existing multimodal facilities. Crossings will link existing trails and sidewalks that connect to adjacent neighborhoods on the north, south, and west. On the east, they will connect to a trail north of CSAH 16 that provides access to Valley Creek Park. With plans for a residential development in the intersection's northeast quadrant, the enhanced crossings will be key to providing safe and accessible active transportation options within this growing area of the community.

The project will serve as a critical link to existing and future regional multimodal networks. The project is located on the CSAH 16 Tier 1 RBTN Alignment, where it provides continuity between the TH 95 Tier 2 Alignment to the east and the Woodbury Dr Tier 2 Alignment to the west. The CSAH 16 Tier 1 Alignment also links with the existing Central Greenway Regional Trail 1.25 miles west on Woodbury Dr. The CSAH 16/Settlers Ridge Pkwy intersection is located on the future off-road network within the Washington County Bike and Pedestrian Plan.

(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. Public Involvement (20 Percent of Points)

Projects that have been through a public process with residents and other interested public entities are more likely than others to be successful. The project applicant must indicate that events and/or targeted outreach (e.g., surveys and other web-based input) were held to help identify the transportation problem, how the potential solution was selected instead of other options, and the public involvement completed to date on the project. The focus of this section is on the opportunity for public input as opposed to the quality of input. NOTE: A written response is required and failure to respond will result in zero points.

Multiple types of targeted outreach efforts (such as meetings or online/mail outreach) specific to this project with the general public and partner agencies have been used to help identify the project need.

100%

At least one meeting specific to this project with the general public has been used to help identify the project need.

50%

At least online/mail outreach effort specific to this project with the general public has been used to help identify the project need.

50%

No meeting or outreach specific to this project was conducted, but the project was identified through meetings and/or outreach related to a larger planning effort.

Yes

25%

No outreach has led to the selection of this project.

0%

Describe the type(s) of outreach selected for this project (i.e., online or in-person meetings, surveys, demonstration projects), the method(s) used to announce outreach opportunities, and how many people participated. Include any public website links to outreach opportunities.

Response:

While there has not been engagement specific to this project yet, the County executed thorough engagement efforts for the County Bike and Pedestrian Plan in 2020. Engagement via in person pop-up events at community destinations and online interactive maps and surveys showed strong support for pedestrian improvements along and across CSAH 17. Over 2,000 people accessed these tools via the project website: <https://www.co.washington.mn.us/bikepedplan>. This engagement on the County Bike and Pedestrian Plan led to the identification of the need for pedestrian crossing improvements at this location. As this project is still in the early stages of design, future public engagement will expand on these focused conversations held to date.

(Limit 2,800 characters; approximately 400 words)

2. Layout (25 Percent of Points)

Layout includes proposed geometrics and existing and proposed right-of-way boundaries. A basic layout should include a base map (north arrow, scale; legend;* city and/or county limits; existing ROW, labeled; existing signals;* and bridge numbers*) and design data (proposed alignments; bike and/or roadway lane widths; shoulder width;* proposed signals;* and proposed ROW). An aerial photograph with a line showing the project's termini does not suffice and will be awarded zero points. *If applicable

Layout approved by the applicant and all impacted jurisdictions (i.e., cities/counties/MnDOT. If a MnDOT trunk highway is impacted, approval by MnDOT must have occurred to receive full points. A PDF of the layout must be attached along with letters from each jurisdiction to receive points.

100%

A layout does not apply (signal replacement/signal timing, stand-alone streetscaping, minor intersection improvements). Applicants that are not certain whether a layout is required should contact Colleen Brown at MnDOT Metro State Aid ? colleen.brown@state.mn.us.

100%

For projects where MnDOT trunk highways are impacted and a MnDOT Staff Approved layout is required. Layout approved by the applicant and all impacted local jurisdictions (i.e., cities/counties), and layout review and approval by MnDOT is pending. A PDF of the layout must be attached along with letters from each jurisdiction to receive points.

75%

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

Yes

50%

Layout has been started but is not complete. A PDF of the layout must be attached to receive points.

25%

Layout has not been started

0%

Attach Layout

1702502041996_Attachment B_ CSAH 16_Layout.pdf

Please upload attachment in PDF form

Additional Attachments

Please upload attachment in PDF form

3. Review of Section 106 Historic Resources (15 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

4. Right-of-Way (25 Percent of Points)

Right-of-way, permanent or temporary easements, and MnDOT agreement/limited-use permit either not required or all have been acquired

100%

Right-of-way, permanent or temporary easements, and/or MnDOT agreement/limited-use permit required - plat, legal descriptions, or official map complete

50%

Right-of-way, permanent or temporary easements, and/or MnDOT agreement/limited-use permit required - parcels identified

Yes

25%

Right-of-way, permanent or temporary easements, and/or MnDOT agreement/limited-use permit required - parcels not all identified

0%

5. Railroad Involvement (15 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%

Measure A: Cost Effectiveness

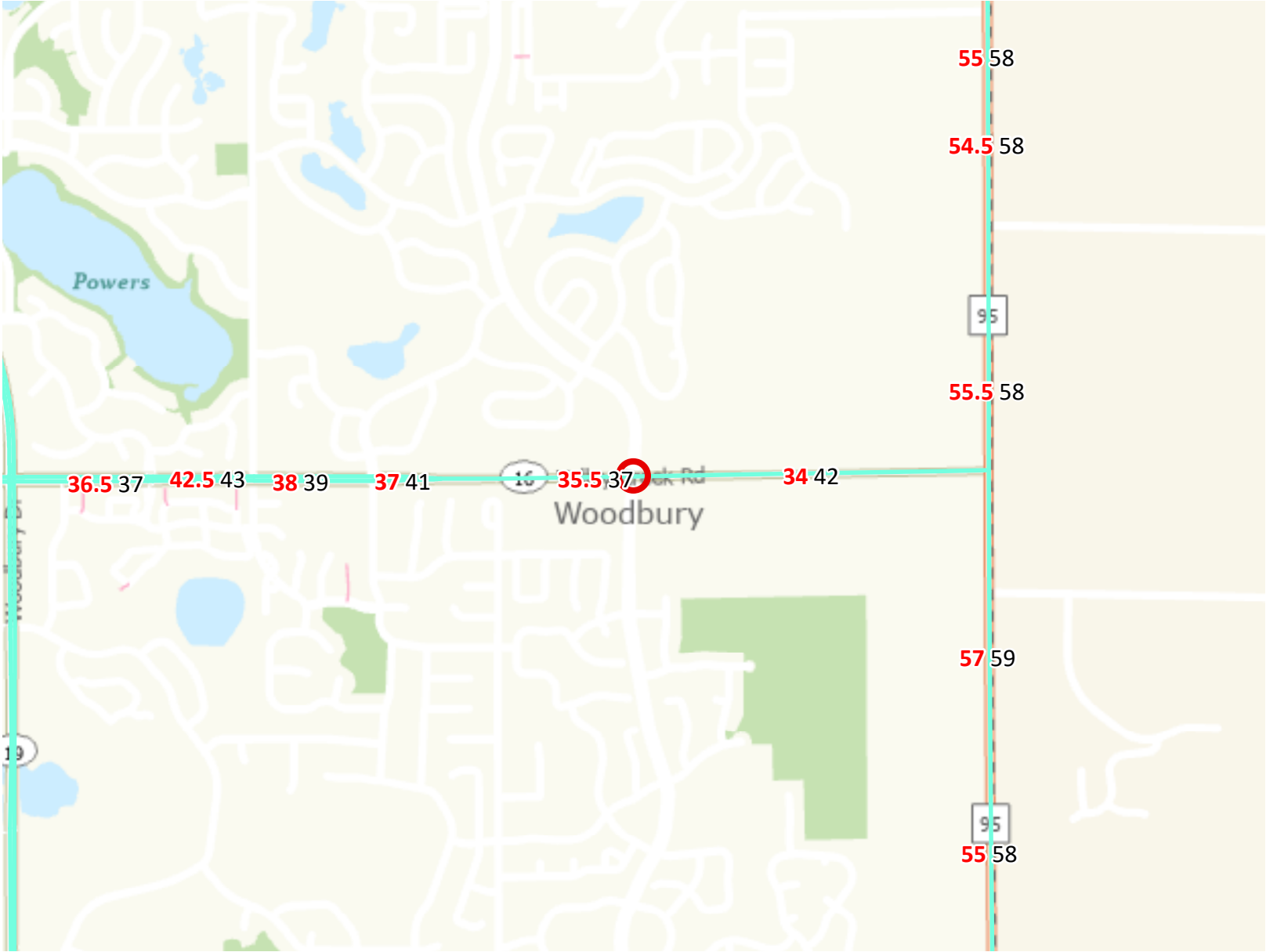
Total Project Cost (entered in Project Cost Form):	\$2,980,200.00
Enter Amount of the Noise Walls:	\$0.00
Total Project Cost subtract the amount of the noise walls:	\$2,980,200.00
Enter amount of any outside, competitive funding:	\$0.00
Attach documentation of award:	
Points Awarded in Previous Criteria	
Cost Effectiveness	\$0.00

Other Attachments

File Name	Description	File Size
Attachment A_One-Pager.pdf	One Page Project Summary	6.7 MB
Attachment F_Crash Summary.pdf	2020-2022 Crash Summary	57 KB
Attachment H_CMF Documentation.pdf	Crash Modification Factor Documentation	143 KB
Attachment I1_2023-141 Reg Sol_Wash Co Resolution of Support SIGNED.pdf	Washington County Resolution of Support	253 KB
Attachment I2_CSAH 16 Settlers Ridge Pkwy LOS_City of Woodbury_sig.pdf	Letter of Support from the City of Woodbury	180 KB
Attachment J_Existing Conditions_CSAH 16 & Settlers Ridge Parkway.pdf	Existing Conditions Photos	1.1 MB

Level of Congestion

Roadway Spot Mobility & Safety Project: CSAH 16 and Settlers Ridge Parkway in Woodbury | Map ID: 1698676286391



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



Created: 10/30/2023
LandscapeRSA1

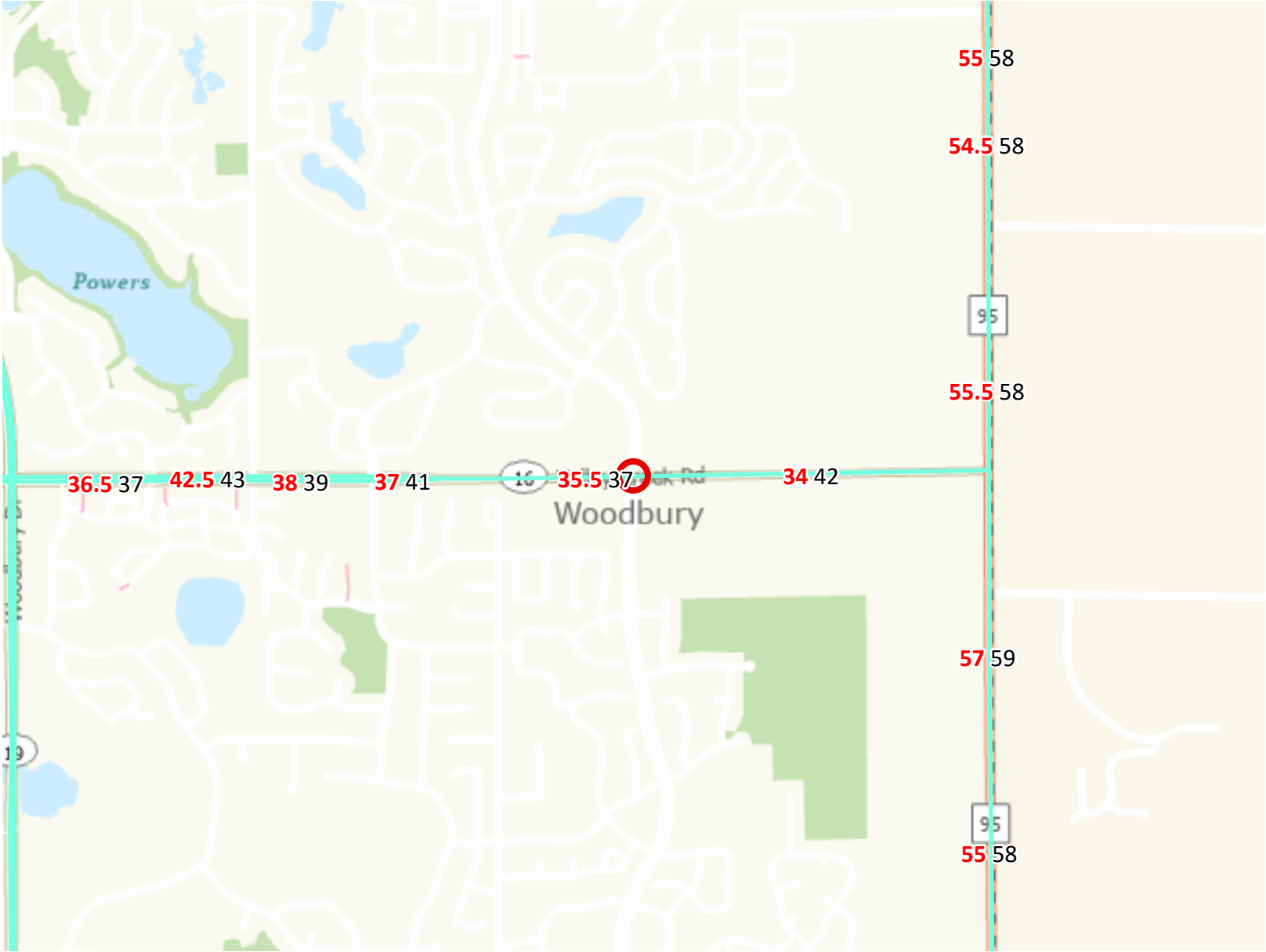


For complete disclaimer of accuracy, please visit
<https://giswebsite.metc.state.mn.us/gissite/notice.aspx>



Level of Congestion

Roadway Spot Mobility & Safety Project: CSAH 16 and Settlers Ridge Parkway in Woodbury | Map ID: 1698676286391



Created: 10/30/2023
LandscapeRSA1



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



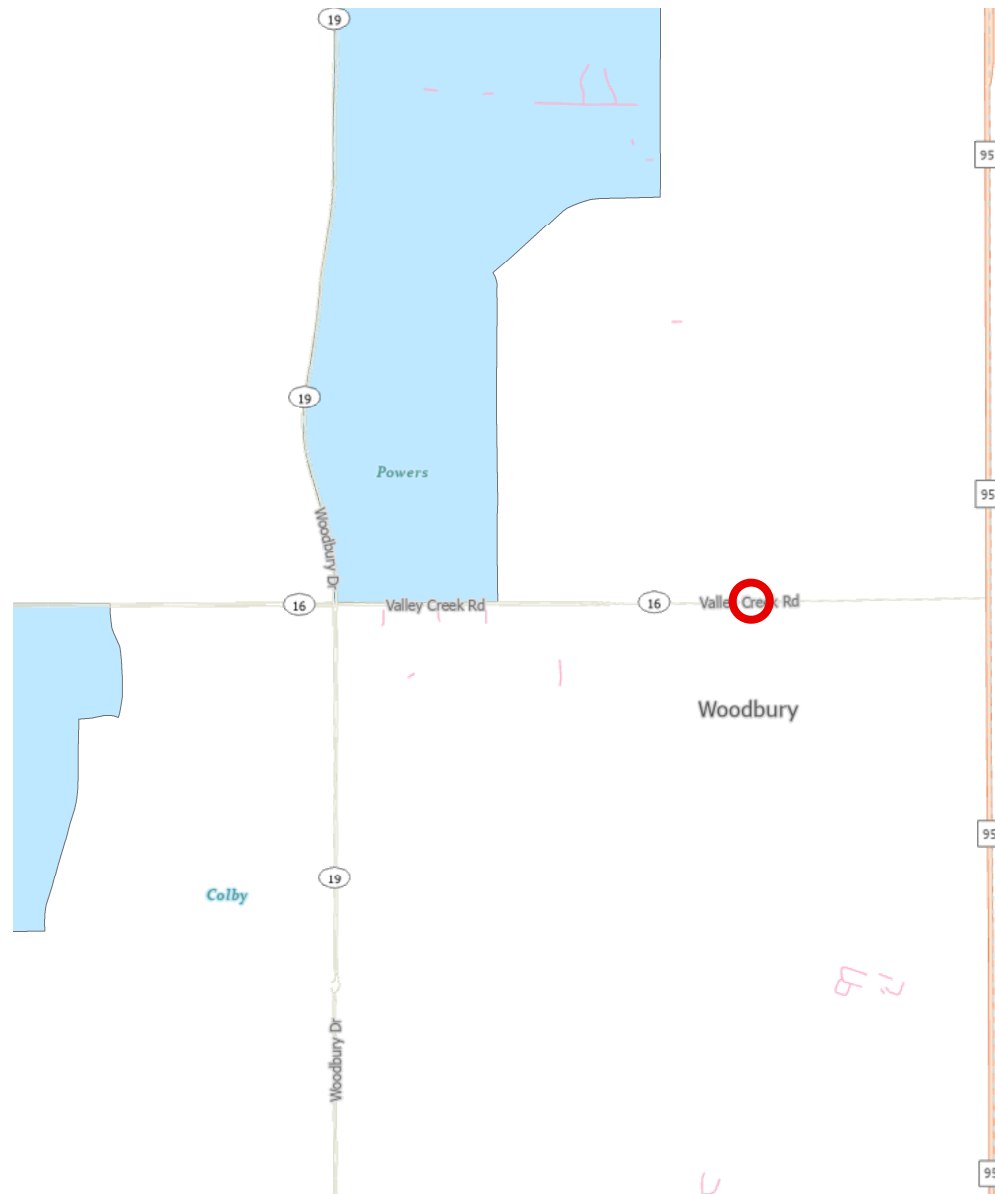
Socio-Economic Conditions

Roadway Spot Mobility & Safety Project: CSAH 16 and Settlers Ridge Parkway in Woodbury | Map ID: 1698676286391

Results

Total of publicly subsidized rental housing units in census tracts within 1/2 mile: 279

Project located in census tracts that are BELOW the regional average for population in poverty or population of color.



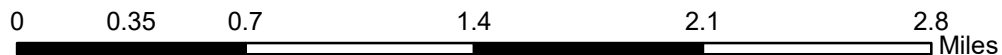
Points



Regional Environmental Justice Area



Area of Concentrated Poverty



Created: 10/30/2023
LandscapeRSA2



























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



Lanes, Volumes, Timings

301: Settlers Ridge Pkwy & CSAH 16/Valley Creek Rd

















11/08/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	261	229	26	196	42	215	168	56	19	214	71
Future Volume (vph)	92	261	229	26	196	42	215	168	56	19	214	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		145	275		175	225		225	205		210
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	125			100			160			160		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1362			1209			955			1085	
Travel Time (s)		18.6			16.5			16.3			18.5	
Peak Hour Factor	0.79	0.71	0.82	0.93	0.96	0.88	0.80	0.76	0.78	0.68	0.88	0.93
Adj. Flow (vph)	116	368	279	28	204	48	269	221	72	28	243	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	116	368	279	28	204	48	269	221	72	28	243	76
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			22			22	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	48.2%						ICU Level of Service A					
Analysis Period (min)	15											

Lanes, Volumes, Timings

301: Settlers Ridge Pkwy & CSAH 16/Valley Creek Rd

11/08/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	261	229	26	196	42	215	168	56	19	214	71
Future Volume (vph)	92	261	229	26	196	42	215	168	56	19	214	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		145	275		175	225		225	205		210
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	125			100			160			160		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.951			0.977			0.983			0.970	
Flt Protected		0.992			0.995			0.977			0.996	
Satd. Flow (prot)	0	1757	0	0	1811	0	0	1789	0	0	1800	0
Flt Permitted		0.992			0.995			0.977			0.996	
Satd. Flow (perm)	0	1757	0	0	1811	0	0	1789	0	0	1800	0
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1362			1209			955			1085	
Travel Time (s)		18.6			16.5			16.3			18.5	
Peak Hour Factor	0.79	0.71	0.82	0.93	0.96	0.88	0.80	0.76	0.78	0.68	0.88	0.93
Adj. Flow (vph)	116	368	279	28	204	48	269	221	72	28	243	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	763	0	0	280	0	0	562	0	0	347	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			22			22	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Yield			Yield			Yield			Yield	
Intersection Summary												
Area Type:	Other											
Control Type:	Roundabout											
Intersection Capacity Utilization	101.2%						ICU Level of Service G					
Analysis Period (min)	15											

SimTraffic Simulation Summary

Existing Conditions

11/08/2023

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:30	4:30	4:30	4:30	4:30	4:30
End Time	5:45	5:45	5:45	5:45	5:45	5:45
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Volume counts from "S:\2023\230170 - 2024 Washington County Regional Solicitation Applications\TRAFFIC ANALYSIS\SYNCHRO\CSV\300_PM_2023.0						
Volume date = 11/06/2023						
Vehs Entered	1680	1581	1595	1554	1537	1590
Vehs Exited	1675	1569	1581	1554	1558	1587
Starting Vehs	22	23	22	28	43	27
Ending Vehs	27	35	36	28	22	30
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	2	1	0	0
Travel Distance (mi)	733	691	695	680	680	696
Travel Time (hr)	32.0	30.5	29.3	28.2	29.6	29.9
Total Delay (hr)	9.8	9.4	8.2	7.5	9.0	8.8
Total Stops	1676	1574	1587	1555	1549	1586
Fuel Used (gal)	26.3	24.5	24.4	23.9	24.7	24.8

Interval #0 Information Seeding

Start Time	4:30
End Time	4:45
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	4:45					
End Time	5:00					
Total Time (min)	15					
Volumes adjusted by Growth Factors.						
Run Number	1	2	3	4	5	Avg
Vehs Entered	427	382	391	378	396	396
Vehs Exited	418	375	387	393	408	397
Starting Vehs	22	23	22	28	43	27
Ending Vehs	31	30	26	13	31	25
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	2	0	1	1	1
Travel Distance (mi)	185	165	172	169	178	174
Travel Time (hr)	8.5	6.6	7.5	6.9	8.1	7.5
Total Delay (hr)	2.9	1.7	2.3	1.8	2.7	2.3
Total Stops	423	374	395	383	406	398
Fuel Used (gal)	6.8	5.8	6.1	5.9	6.4	6.2

SimTraffic Simulation Summary

Existing Conditions

11/08/2023

Interval #2 Information Recording

Start Time 5:00
End Time 5:15
Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	458	443	404	421	455	436
Vehs Exited	455	430	405	402	449	428
Starting Vehs	31	30	26	13	31	25
Ending Vehs	34	43	25	32	37	32
Denied Entry Before	0	2	0	1	1	1
Denied Entry After	0	1	0	1	0	0
Travel Distance (mi)	198	192	175	179	198	188
Travel Time (hr)	8.8	9.7	7.5	7.8	8.8	8.5
Total Delay (hr)	2.7	3.8	2.1	2.4	2.8	2.8
Total Stops	457	447	399	417	453	435
Fuel Used (gal)	7.2	7.0	6.4	6.4	7.3	6.9

Interval #3 Information Recording

Start Time 5:15
End Time 5:30
Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	412	382	424	373	350	386
Vehs Exited	425	398	410	374	368	395
Starting Vehs	34	43	25	32	37	32
Ending Vehs	21	27	39	31	19	26
Denied Entry Before	0	1	0	1	0	0
Denied Entry After	0	1	2	2	1	0
Travel Distance (mi)	185	172	183	163	157	172
Travel Time (hr)	8.2	7.6	7.5	6.6	6.9	7.4
Total Delay (hr)	2.6	2.3	2.0	1.6	2.2	2.1
Total Stops	417	382	420	367	352	387
Fuel Used (gal)	6.7	6.1	6.3	5.8	5.8	6.1

SimTraffic Simulation Summary

Existing Conditions

11/08/2023

Interval #4 Information Recording

Start Time 5:30
End Time 5:45
Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	383	374	376	382	336	370
Vehs Exited	377	366	379	385	333	368
Starting Vehs	21	27	39	31	19	26
Ending Vehs	27	35	36	28	22	30
Denied Entry Before	0	1	2	2	1	0
Denied Entry After	0	0	2	1	0	0
Travel Distance (mi)	165	162	165	169	146	161
Travel Time (hr)	6.6	6.5	6.7	6.9	5.8	6.5
Total Delay (hr)	1.6	1.6	1.7	1.8	1.4	1.6
Total Stops	379	371	373	388	338	370
Fuel Used (gal)	5.7	5.5	5.6	5.8	5.2	5.6

301: Settlers Ridge Pkwy & CSAH 16/Valley Creek Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.1	0.2	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.0	0.1
Denied Del/Veh (s)	3.4	1.0	3.4	3.5	0.4	3.6	3.5	0.2	3.3	3.8	0.1	3.6
Total Delay (hr)	0.4	1.8	0.4	0.1	1.2	0.1	1.3	0.6	0.1	0.1	1.0	0.1
Total Del/Veh (s)	13.4	23.7	6.8	11.5	21.6	5.4	23.7	12.0	5.1	9.1	16.6	6.9
Stop Delay (hr)	0.3	1.1	0.3	0.1	0.7	0.0	1.2	0.3	0.1	0.0	0.6	0.1
Stop Del/Veh (s)	9.6	14.4	4.2	8.1	13.0	3.7	21.1	6.4	4.7	6.9	10.7	6.3
Total Stops	95	263	222	22	200	48	201	174	60	22	211	68
Stop/Veh	0.99	0.99	0.99	0.96	0.99	1.00	0.99	0.99	0.98	0.96	0.99	1.00
Travel Dist (mi)	23.4	65.0	55.1	5.0	44.1	10.5	34.8	30.1	10.6	4.4	41.9	13.5
Travel Time (hr)	1.0	3.1	2.1	0.2	2.1	0.4	2.6	1.4	0.5	0.2	2.0	0.6
Avg Speed (mph)	25	21	28	25	21	29	15	22	25	23	21	25
Fuel Used (gal)	0.7	1.7	1.5	0.2	1.4	0.4	1.3	0.8	0.4	0.1	1.3	0.5
Fuel Eff. (mpg)	33.6	38.9	37.1	28.5	30.4	29.9	27.5	35.8	30.0	31.2	32.9	28.9
HC Emissions (g)	8	19	21	2	18	8	12	8	5	1	15	6
CO Emissions (g)	446	842	1021	128	1011	333	597	405	231	64	652	279
NOx Emissions (g)	27	61	64	7	58	23	38	28	17	4	49	19
Vehicles Entered	95	262	223	23	202	48	201	173	61	22	212	68
Vehicles Exited	95	265	222	22	199	48	202	174	60	22	212	68
Hourly Exit Rate	95	265	222	22	199	48	202	174	60	22	212	68
Input Volume	92	261	229	26	196	42	215	168	56	19	214	71
% of Volume	103	102	97	85	102	114	94	104	107	116	99	96
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0
Density (ft/veh)												
Occupancy (veh)	1	3	2	0	2	0	2	1	0	0	2	1

301: Settlers Ridge Pkwy & CSAH 16/Valley Creek Rd Performance by movement

Movement	All
Denied Delay (hr)	0.8
Denied Del/Veh (s)	1.9
Total Delay (hr)	7.1
Total Del/Veh (s)	15.9
Stop Delay (hr)	4.8
Stop Del/Veh (s)	10.8
Total Stops	1586
Stop/Veh	0.99
Travel Dist (mi)	338.5
Travel Time (hr)	16.4
Avg Speed (mph)	22
Fuel Used (gal)	10.2
Fuel Eff. (mpg)	33.3
HC Emissions (g)	123
CO Emissions (g)	6009
NOx Emissions (g)	394
Vehicles Entered	1590
Vehicles Exited	1589
Hourly Exit Rate	1589
Input Volume	1589
% of Volume	100
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	971
Occupancy (veh)	16

Total Network Performance

Denied Delay (hr)	0.8
Denied Del/Veh (s)	1.9
Total Delay (hr)	8.0
Total Del/Veh (s)	17.7
Stop Delay (hr)	5.1
Stop Del/Veh (s)	11.3
Total Stops	1586
Stop/Veh	0.98
Travel Dist (mi)	695.6
Travel Time (hr)	29.9
Avg Speed (mph)	24
Fuel Used (gal)	24.8
Fuel Eff. (mpg)	28.1
HC Emissions (g)	301
CO Emissions (g)	11834
NOx Emissions (g)	969
Vehicles Entered	1590
Vehicles Exited	1587
Hourly Exit Rate	1587
Input Volume	3178
% of Volume	50
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	519
Occupancy (veh)	29

Queuing and Blocking Report

Existing Conditions

11/08/2023

Intersection: 301: Settlers Ridge Pkwy & CSAH 16/Valley Creek Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	76	186	88	49	144	53	179	58	44	44	33	86
Average Queue (ft)	36	76	41	14	60	19	66	29	18	15	12	44
95th Queue (ft)	65	145	72	38	114	40	142	50	36	33	33	73
Link Distance (ft)	1299			1146			906			906		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225	145		275	175		225	225			205	
Storage Blk Time (%)	2		0			1						
Queuing Penalty (veh)	6		0			1						

Intersection: 301: Settlers Ridge Pkwy & CSAH 16/Valley Creek Rd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	57	64
Average Queue (ft)	21	19
95th Queue (ft)	46	44
Link Distance (ft)	1038	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	210	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 7

SimTraffic Simulation Summary

Proposed Conditions

11/08/2023

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:30	4:30	4:30	4:30	4:30	4:30
End Time	5:45	5:45	5:45	5:45	5:45	5:45
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Volume counts from "S:\2023\230170 - 2024 Washington County Regional Solicitation Applications\TRAFFIC ANALYSIS\SYNCHRO\CSV\300_PM_2023.0						
Volume date = 11/06/2023						
Vehs Entered	1662	1687	1638	1544	1574	1621
Vehs Exited	1665	1681	1628	1550	1592	1623
Starting Vehs	26	27	24	22	37	26
Ending Vehs	23	33	34	16	19	24
Denied Entry Before	0	1	0	0	1	0
Denied Entry After	0	0	0	1	0	0
Travel Distance (mi)	738	750	725	689	707	722
Travel Time (hr)	27.6	28.6	27.1	25.6	27.1	27.2
Total Delay (hr)	4.7	5.3	4.7	4.2	5.2	4.8
Total Stops	557	616	542	443	594	551
Fuel Used (gal)	24.8	25.0	24.1	22.8	23.8	24.1

Interval #0 Information Seeding

Start Time	4:30
End Time	4:45
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	4:45					
End Time	5:00					
Total Time (min)	15					
Volumes adjusted by Growth Factors.						
Run Number	1	2	3	4	5	Avg
Vehs Entered	427	423	411	395	391	408
Vehs Exited	429	415	411	402	393	410
Starting Vehs	26	27	24	22	37	26
Ending Vehs	24	35	24	15	35	26
Denied Entry Before	0	1	0	0	1	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	191	186	184	179	176	183
Travel Time (hr)	7.3	7.1	6.9	6.8	6.7	7.0
Total Delay (hr)	1.3	1.4	1.2	1.3	1.3	1.3
Total Stops	164	144	147	141	164	152
Fuel Used (gal)	6.5	6.3	6.1	5.9	5.9	6.1

SimTraffic Simulation Summary

Proposed Conditions

11/08/2023

Interval #2 Information Recording

Start Time 5:00
End Time 5:15
Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	451	424	400	412	470	431
Vehs Exited	443	436	402	404	460	429
Starting Vehs	24	35	24	15	35	26
Ending Vehs	32	23	22	23	45	30
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	198	192	177	181	210	192
Travel Time (hr)	7.5	7.4	6.7	6.8	8.2	7.3
Total Delay (hr)	1.4	1.4	1.2	1.1	1.7	1.4
Total Stops	168	184	148	135	214	171
Fuel Used (gal)	6.6	6.4	6.0	6.1	7.0	6.4

Interval #3 Information Recording

Start Time 5:15
End Time 5:30
Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	400	437	423	365	360	395
Vehs Exited	414	435	411	368	386	402
Starting Vehs	32	23	22	23	45	30
Ending Vehs	18	25	34	20	19	23
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	181	195	187	163	165	178
Travel Time (hr)	6.7	7.2	7.0	6.0	6.4	6.7
Total Delay (hr)	1.1	1.2	1.2	0.9	1.3	1.1
Total Stops	123	127	136	83	121	116
Fuel Used (gal)	6.0	6.5	6.1	5.4	5.7	5.9

SimTraffic Simulation Summary

Proposed Conditions

11/08/2023

Interval #4 Information Recording

Start Time 5:30
End Time 5:45
Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	384	403	404	372	353	385
Vehs Exited	379	395	404	376	353	382
Starting Vehs	18	25	34	20	19	23
Ending Vehs	23	33	34	16	19	24
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	1	0	0
Travel Distance (mi)	168	177	177	166	157	169
Travel Time (hr)	6.1	6.8	6.5	6.0	5.7	6.2
Total Delay (hr)	0.9	1.3	1.0	0.9	0.9	1.0
Total Stops	102	161	111	84	95	111
Fuel Used (gal)	5.6	5.9	5.9	5.4	5.2	5.6

301: Settlers Ridge Pkwy & CSAH 16/Valley Creek Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.5	0.4	0.5	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.3
Total Delay (hr)	0.2	0.9	0.5	0.0	0.5	0.1	0.5	0.5	0.2	0.0	0.5	0.1
Total Del/Veh (s)	8.1	12.2	8.2	5.7	9.2	5.4	8.1	10.4	8.6	6.4	8.2	6.1
Stop Delay (hr)	0.0	0.2	0.1	0.0	0.1	0.0	0.2	0.2	0.1	0.0	0.1	0.0
Stop Del/Veh (s)	1.8	2.2	1.9	1.3	1.5	1.4	3.3	3.4	3.5	2.6	2.0	1.9
Total Stops	22	71	63	8	65	15	86	72	25	8	76	24
Stop/Veh	0.24	0.26	0.28	0.32	0.32	0.32	0.41	0.40	0.40	0.40	0.34	0.35
Travel Dist (mi)	22.6	65.0	55.8	5.3	44.3	10.0	34.8	30.0	10.5	3.9	42.9	13.3
Travel Time (hr)	0.8	2.3	1.9	0.2	1.4	0.3	1.5	1.3	0.5	0.2	1.6	0.5
Avg Speed (mph)	30	29	30	31	31	31	24	23	23	27	27	27
Fuel Used (gal)	0.6	1.6	1.4	0.2	1.3	0.3	1.0	0.9	0.3	0.1	1.2	0.4
Fuel Eff. (mpg)	40.5	40.8	40.5	32.9	33.5	35.2	34.1	34.6	34.9	36.9	35.2	35.5
HC Emissions (g)	5	21	19	2	23	5	10	8	5	1	17	6
CO Emissions (g)	297	961	843	123	1020	221	513	420	181	38	642	204
NOx Emissions (g)	19	67	61	8	72	16	33	27	14	3	54	19
Vehicles Entered	92	266	228	25	205	46	207	177	63	20	223	69
Vehicles Exited	93	267	227	24	204	46	207	178	63	20	222	69
Hourly Exit Rate	93	267	227	24	204	46	207	178	63	20	222	69
Input Volume	92	261	229	26	196	42	215	168	56	19	214	71
% of Volume	101	102	99	92	104	110	96	106	112	105	104	97
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0
Density (ft/veh)												
Occupancy (veh)	1	2	2	0	1	0	1	1	0	0	2	0

301: Settlers Ridge Pkwy & CSAH 16/Valley Creek Rd Performance by movement

Movement	All
Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.4
Total Delay (hr)	4.1
Total Del/Veh (s)	9.0
Stop Delay (hr)	1.0
Stop Del/Veh (s)	2.3
Total Stops	535
Stop/Veh	0.33
Travel Dist (mi)	338.7
Travel Time (hr)	12.4
Avg Speed (mph)	28
Fuel Used (gal)	9.2
Fuel Eff. (mpg)	36.9
HC Emissions (g)	122
CO Emissions (g)	5465
NOx Emissions (g)	394
Vehicles Entered	1621
Vehicles Exited	1620
Hourly Exit Rate	1620
Input Volume	1589
% of Volume	102
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	355
Occupancy (veh)	12

Total Network Performance

Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.4
Total Delay (hr)	4.6
Total Del/Veh (s)	10.1
Stop Delay (hr)	1.2
Stop Del/Veh (s)	2.5
Total Stops	551
Stop/Veh	0.33
Travel Dist (mi)	721.9
Travel Time (hr)	27.2
Avg Speed (mph)	27
Fuel Used (gal)	24.1
Fuel Eff. (mpg)	29.9
HC Emissions (g)	293
CO Emissions (g)	11062
NOx Emissions (g)	944
Vehicles Entered	1621
Vehicles Exited	1623
Hourly Exit Rate	1623
Input Volume	3178
% of Volume	51
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	161
Occupancy (veh)	27

Queuing and Blocking Report

Proposed Conditions

11/08/2023

Intersection: 301: Settlers Ridge Pkwy & CSAH 16/Valley Creek Rd

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	182	95	171	112
Average Queue (ft)	58	38	61	45
95th Queue (ft)	136	75	129	88
Link Distance (ft)	1292	1139	889	1019
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

























Network Summary

Network wide Queuing Penalty: 0

Lanes, Volumes, Timings

301: Settlers Ridge Pkwy & CSAH 16/Valley Creek Rd

















11/08/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	261	229	26	196	42	215	168	56	19	214	71
Future Volume (vph)	92	261	229	26	196	42	215	168	56	19	214	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		145	275		175	225		225	205		210
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	125			100			160			160		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1362			1209			955			1085	
Travel Time (s)		18.6			16.5			16.3			18.5	
Peak Hour Factor	0.79	0.71	0.82	0.93	0.96	0.88	0.80	0.76	0.78	0.68	0.88	0.93
Adj. Flow (vph)	116	368	279	28	204	48	269	221	72	28	243	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	116	368	279	28	204	48	269	221	72	28	243	76
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			22			22	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	48.2%						ICU Level of Service A					
Analysis Period (min)	15											

Lanes, Volumes, Timings

301: Settlers Ridge Pkwy & CSAH 16/Valley Creek Rd

11/08/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	261	229	26	196	42	215	168	56	19	214	71
Future Volume (vph)	92	261	229	26	196	42	215	168	56	19	214	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		145	275		175	225		225	205		210
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	125			100			160			160		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.951			0.977			0.983			0.970	
Flt Protected		0.992			0.995			0.977			0.996	
Satd. Flow (prot)	0	1757	0	0	1811	0	0	1789	0	0	1800	0
Flt Permitted		0.992			0.995			0.977			0.996	
Satd. Flow (perm)	0	1757	0	0	1811	0	0	1789	0	0	1800	0
Link Speed (mph)		50			50			40			40	
Link Distance (ft)		1362			1209			955			1085	
Travel Time (s)		18.6			16.5			16.3			18.5	
Peak Hour Factor	0.79	0.71	0.82	0.93	0.96	0.88	0.80	0.76	0.78	0.68	0.88	0.93
Adj. Flow (vph)	116	368	279	28	204	48	269	221	72	28	243	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	763	0	0	280	0	0	562	0	0	347	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			22			22	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Yield			Yield			Yield			Yield	
Intersection Summary												
Area Type:	Other											
Control Type:	Roundabout											
Intersection Capacity Utilization	101.2%						ICU Level of Service G					
Analysis Period (min)	15											

SimTraffic Simulation Summary

Existing Conditions

11/08/2023

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:30	4:30	4:30	4:30	4:30	4:30
End Time	5:45	5:45	5:45	5:45	5:45	5:45
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Volume counts from "S:\2023\230170 - 2024 Washington County Regional Solicitation Applications\TRAFFIC ANALYSIS\SYNCHRO\CSV\300_PM_2023.0						
Volume date = 11/06/2023						
Vehs Entered	1680	1581	1595	1554	1537	1590
Vehs Exited	1675	1569	1581	1554	1558	1587
Starting Vehs	22	23	22	28	43	27
Ending Vehs	27	35	36	28	22	30
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	2	1	0	0
Travel Distance (mi)	733	691	695	680	680	696
Travel Time (hr)	32.0	30.5	29.3	28.2	29.6	29.9
Total Delay (hr)	9.8	9.4	8.2	7.5	9.0	8.8
Total Stops	1676	1574	1587	1555	1549	1586
Fuel Used (gal)	26.3	24.5	24.4	23.9	24.7	24.8

Interval #0 Information Seeding

Start Time	4:30
End Time	4:45
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	4:45					
End Time	5:00					
Total Time (min)	15					
Volumes adjusted by Growth Factors.						
Run Number	1	2	3	4	5	Avg
Vehs Entered	427	382	391	378	396	396
Vehs Exited	418	375	387	393	408	397
Starting Vehs	22	23	22	28	43	27
Ending Vehs	31	30	26	13	31	25
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	2	0	1	1	1
Travel Distance (mi)	185	165	172	169	178	174
Travel Time (hr)	8.5	6.6	7.5	6.9	8.1	7.5
Total Delay (hr)	2.9	1.7	2.3	1.8	2.7	2.3
Total Stops	423	374	395	383	406	398
Fuel Used (gal)	6.8	5.8	6.1	5.9	6.4	6.2

SimTraffic Simulation Summary

Existing Conditions

11/08/2023

Interval #2 Information Recording

Start Time 5:00
End Time 5:15
Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	458	443	404	421	455	436
Vehs Exited	455	430	405	402	449	428
Starting Vehs	31	30	26	13	31	25
Ending Vehs	34	43	25	32	37	32
Denied Entry Before	0	2	0	1	1	1
Denied Entry After	0	1	0	1	0	0
Travel Distance (mi)	198	192	175	179	198	188
Travel Time (hr)	8.8	9.7	7.5	7.8	8.8	8.5
Total Delay (hr)	2.7	3.8	2.1	2.4	2.8	2.8
Total Stops	457	447	399	417	453	435
Fuel Used (gal)	7.2	7.0	6.4	6.4	7.3	6.9

Interval #3 Information Recording

Start Time 5:15
End Time 5:30
Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	412	382	424	373	350	386
Vehs Exited	425	398	410	374	368	395
Starting Vehs	34	43	25	32	37	32
Ending Vehs	21	27	39	31	19	26
Denied Entry Before	0	1	0	1	0	0
Denied Entry After	0	1	2	2	1	0
Travel Distance (mi)	185	172	183	163	157	172
Travel Time (hr)	8.2	7.6	7.5	6.6	6.9	7.4
Total Delay (hr)	2.6	2.3	2.0	1.6	2.2	2.1
Total Stops	417	382	420	367	352	387
Fuel Used (gal)	6.7	6.1	6.3	5.8	5.8	6.1

SimTraffic Simulation Summary
Existing Conditions

11/08/2023

Interval #4 Information Recording

Start Time 5:30
End Time 5:45
Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	383	374	376	382	336	370
Vehs Exited	377	366	379	385	333	368
Starting Vehs	21	27	39	31	19	26
Ending Vehs	27	35	36	28	22	30
Denied Entry Before	0	1	2	2	1	0
Denied Entry After	0	0	2	1	0	0
Travel Distance (mi)	165	162	165	169	146	161
Travel Time (hr)	6.6	6.5	6.7	6.9	5.8	6.5
Total Delay (hr)	1.6	1.6	1.7	1.8	1.4	1.6
Total Stops	379	371	373	388	338	370
Fuel Used (gal)	5.7	5.5	5.6	5.8	5.2	5.6

301: Settlers Ridge Pkwy & CSAH 16/Valley Creek Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.1	0.2	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.0	0.1
Denied Del/Veh (s)	3.4	1.0	3.4	3.5	0.4	3.6	3.5	0.2	3.3	3.8	0.1	3.6
Total Delay (hr)	0.4	1.8	0.4	0.1	1.2	0.1	1.3	0.6	0.1	0.1	1.0	0.1
Total Del/Veh (s)	13.4	23.7	6.8	11.5	21.6	5.4	23.7	12.0	5.1	9.1	16.6	6.9
Stop Delay (hr)	0.3	1.1	0.3	0.1	0.7	0.0	1.2	0.3	0.1	0.0	0.6	0.1
Stop Del/Veh (s)	9.6	14.4	4.2	8.1	13.0	3.7	21.1	6.4	4.7	6.9	10.7	6.3
Total Stops	95	263	222	22	200	48	201	174	60	22	211	68
Stop/Veh	0.99	0.99	0.99	0.96	0.99	1.00	0.99	0.99	0.98	0.96	0.99	1.00
Travel Dist (mi)	23.4	65.0	55.1	5.0	44.1	10.5	34.8	30.1	10.6	4.4	41.9	13.5
Travel Time (hr)	1.0	3.1	2.1	0.2	2.1	0.4	2.6	1.4	0.5	0.2	2.0	0.6
Avg Speed (mph)	25	21	28	25	21	29	15	22	25	23	21	25
Fuel Used (gal)	0.7	1.7	1.5	0.2	1.4	0.4	1.3	0.8	0.4	0.1	1.3	0.5
Fuel Eff. (mpg)	33.6	38.9	37.1	28.5	30.4	29.9	27.5	35.8	30.0	31.2	32.9	28.9
HC Emissions (g)	8	19	21	2	18	8	12	8	5	1	15	6
CO Emissions (g)	446	842	1021	128	1011	333	597	405	231	64	652	279
NOx Emissions (g)	27	61	64	7	58	23	38	28	17	4	49	19
Vehicles Entered	95	262	223	23	202	48	201	173	61	22	212	68
Vehicles Exited	95	265	222	22	199	48	202	174	60	22	212	68
Hourly Exit Rate	95	265	222	22	199	48	202	174	60	22	212	68
Input Volume	92	261	229	26	196	42	215	168	56	19	214	71
% of Volume	103	102	97	85	102	114	94	104	107	116	99	96
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0
Density (ft/veh)												
Occupancy (veh)	1	3	2	0	2	0	2	1	0	0	2	1

301: Settlers Ridge Pkwy & CSAH 16/Valley Creek Rd Performance by movement

Movement	All
Denied Delay (hr)	0.8
Denied Del/Veh (s)	1.9
Total Delay (hr)	7.1
Total Del/Veh (s)	15.9
Stop Delay (hr)	4.8
Stop Del/Veh (s)	10.8
Total Stops	1586
Stop/Veh	0.99
Travel Dist (mi)	338.5
Travel Time (hr)	16.4
Avg Speed (mph)	22
Fuel Used (gal)	10.2
Fuel Eff. (mpg)	33.3
HC Emissions (g)	123
CO Emissions (g)	6009
NOx Emissions (g)	394
Vehicles Entered	1590
Vehicles Exited	1589
Hourly Exit Rate	1589
Input Volume	1589
% of Volume	100
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	971
Occupancy (veh)	16

Total Network Performance

Denied Delay (hr)	0.8
Denied Del/Veh (s)	1.9
Total Delay (hr)	8.0
Total Del/Veh (s)	17.7
Stop Delay (hr)	5.1
Stop Del/Veh (s)	11.3
Total Stops	1586
Stop/Veh	0.98
Travel Dist (mi)	695.6
Travel Time (hr)	29.9
Avg Speed (mph)	24
Fuel Used (gal)	24.8
Fuel Eff. (mpg)	28.1
HC Emissions (g)	301
CO Emissions (g)	11834
NOx Emissions (g)	969
Vehicles Entered	1590
Vehicles Exited	1587
Hourly Exit Rate	1587
Input Volume	3178
% of Volume	50
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	519
Occupancy (veh)	29

Queuing and Blocking Report

Existing Conditions

11/08/2023

Intersection: 301: Settlers Ridge Pkwy & CSAH 16/Valley Creek Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	76	186	88	49	144	53	179	58	44	44	33	86
Average Queue (ft)	36	76	41	14	60	19	66	29	18	15	12	44
95th Queue (ft)	65	145	72	38	114	40	142	50	36	33	33	73
Link Distance (ft)	1299			1146			906			906		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225	145		275	175		225	225			205	
Storage Blk Time (%)	2		0			1						
Queuing Penalty (veh)	6		0			1						

Intersection: 301: Settlers Ridge Pkwy & CSAH 16/Valley Creek Rd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	57	64
Average Queue (ft)	21	19
95th Queue (ft)	46	44
Link Distance (ft)	1038	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	210	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 7

SimTraffic Simulation Summary

Proposed Conditions

11/08/2023

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:30	4:30	4:30	4:30	4:30	4:30
End Time	5:45	5:45	5:45	5:45	5:45	5:45
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Volume counts from "S:\2023\230170 - 2024 Washington County Regional Solicitation Applications\TRAFFIC ANALYSIS\SYNCHRO\CSV\300_PM_2023.0						
Volume date = 11/06/2023						
Vehs Entered	1662	1687	1638	1544	1574	1621
Vehs Exited	1665	1681	1628	1550	1592	1623
Starting Vehs	26	27	24	22	37	26
Ending Vehs	23	33	34	16	19	24
Denied Entry Before	0	1	0	0	1	0
Denied Entry After	0	0	0	1	0	0
Travel Distance (mi)	738	750	725	689	707	722
Travel Time (hr)	27.6	28.6	27.1	25.6	27.1	27.2
Total Delay (hr)	4.7	5.3	4.7	4.2	5.2	4.8
Total Stops	557	616	542	443	594	551
Fuel Used (gal)	24.8	25.0	24.1	22.8	23.8	24.1

Interval #0 Information Seeding

Start Time	4:30
End Time	4:45
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	4:45					
End Time	5:00					
Total Time (min)	15					
Volumes adjusted by Growth Factors.						
Run Number	1	2	3	4	5	Avg
Vehs Entered	427	423	411	395	391	408
Vehs Exited	429	415	411	402	393	410
Starting Vehs	26	27	24	22	37	26
Ending Vehs	24	35	24	15	35	26
Denied Entry Before	0	1	0	0	1	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	191	186	184	179	176	183
Travel Time (hr)	7.3	7.1	6.9	6.8	6.7	7.0
Total Delay (hr)	1.3	1.4	1.2	1.3	1.3	1.3
Total Stops	164	144	147	141	164	152
Fuel Used (gal)	6.5	6.3	6.1	5.9	5.9	6.1

SimTraffic Simulation Summary

Proposed Conditions

11/08/2023

Interval #2 Information Recording

Start Time 5:00
End Time 5:15
Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	451	424	400	412	470	431
Vehs Exited	443	436	402	404	460	429
Starting Vehs	24	35	24	15	35	26
Ending Vehs	32	23	22	23	45	30
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	198	192	177	181	210	192
Travel Time (hr)	7.5	7.4	6.7	6.8	8.2	7.3
Total Delay (hr)	1.4	1.4	1.2	1.1	1.7	1.4
Total Stops	168	184	148	135	214	171
Fuel Used (gal)	6.6	6.4	6.0	6.1	7.0	6.4

Interval #3 Information Recording

Start Time 5:15
End Time 5:30
Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	400	437	423	365	360	395
Vehs Exited	414	435	411	368	386	402
Starting Vehs	32	23	22	23	45	30
Ending Vehs	18	25	34	20	19	23
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0
Travel Distance (mi)	181	195	187	163	165	178
Travel Time (hr)	6.7	7.2	7.0	6.0	6.4	6.7
Total Delay (hr)	1.1	1.2	1.2	0.9	1.3	1.1
Total Stops	123	127	136	83	121	116
Fuel Used (gal)	6.0	6.5	6.1	5.4	5.7	5.9

SimTraffic Simulation Summary

Proposed Conditions

11/08/2023

Interval #4 Information Recording

Start Time 5:30
End Time 5:45
Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	384	403	404	372	353	385
Vehs Exited	379	395	404	376	353	382
Starting Vehs	18	25	34	20	19	23
Ending Vehs	23	33	34	16	19	24
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	0	0	1	0	0
Travel Distance (mi)	168	177	177	166	157	169
Travel Time (hr)	6.1	6.8	6.5	6.0	5.7	6.2
Total Delay (hr)	0.9	1.3	1.0	0.9	0.9	1.0
Total Stops	102	161	111	84	95	111
Fuel Used (gal)	5.6	5.9	5.9	5.4	5.2	5.6

301: Settlers Ridge Pkwy & CSAH 16/Valley Creek Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.5	0.4	0.5	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.3
Total Delay (hr)	0.2	0.9	0.5	0.0	0.5	0.1	0.5	0.5	0.2	0.0	0.5	0.1
Total Del/Veh (s)	8.1	12.2	8.2	5.7	9.2	5.4	8.1	10.4	8.6	6.4	8.2	6.1
Stop Delay (hr)	0.0	0.2	0.1	0.0	0.1	0.0	0.2	0.2	0.1	0.0	0.1	0.0
Stop Del/Veh (s)	1.8	2.2	1.9	1.3	1.5	1.4	3.3	3.4	3.5	2.6	2.0	1.9
Total Stops	22	71	63	8	65	15	86	72	25	8	76	24
Stop/Veh	0.24	0.26	0.28	0.32	0.32	0.32	0.41	0.40	0.40	0.40	0.34	0.35
Travel Dist (mi)	22.6	65.0	55.8	5.3	44.3	10.0	34.8	30.0	10.5	3.9	42.9	13.3
Travel Time (hr)	0.8	2.3	1.9	0.2	1.4	0.3	1.5	1.3	0.5	0.2	1.6	0.5
Avg Speed (mph)	30	29	30	31	31	31	24	23	23	27	27	27
Fuel Used (gal)	0.6	1.6	1.4	0.2	1.3	0.3	1.0	0.9	0.3	0.1	1.2	0.4
Fuel Eff. (mpg)	40.5	40.8	40.5	32.9	33.5	35.2	34.1	34.6	34.9	36.9	35.2	35.5
HC Emissions (g)	5	21	19	2	23	5	10	8	5	1	17	6
CO Emissions (g)	297	961	843	123	1020	221	513	420	181	38	642	204
NOx Emissions (g)	19	67	61	8	72	16	33	27	14	3	54	19
Vehicles Entered	92	266	228	25	205	46	207	177	63	20	223	69
Vehicles Exited	93	267	227	24	204	46	207	178	63	20	222	69
Hourly Exit Rate	93	267	227	24	204	46	207	178	63	20	222	69
Input Volume	92	261	229	26	196	42	215	168	56	19	214	71
% of Volume	101	102	99	92	104	110	96	106	112	105	104	97
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0
Density (ft/veh)												
Occupancy (veh)	1	2	2	0	1	0	1	1	0	0	2	0

301: Settlers Ridge Pkwy & CSAH 16/Valley Creek Rd Performance by movement

Movement	All
Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.4
Total Delay (hr)	4.1
Total Del/Veh (s)	9.0
Stop Delay (hr)	1.0
Stop Del/Veh (s)	2.3
Total Stops	535
Stop/Veh	0.33
Travel Dist (mi)	338.7
Travel Time (hr)	12.4
Avg Speed (mph)	28
Fuel Used (gal)	9.2
Fuel Eff. (mpg)	36.9
HC Emissions (g)	122
CO Emissions (g)	5465
NOx Emissions (g)	394
Vehicles Entered	1621
Vehicles Exited	1620
Hourly Exit Rate	1620
Input Volume	1589
% of Volume	102
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	355
Occupancy (veh)	12

Total Network Performance

Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.4
Total Delay (hr)	4.6
Total Del/Veh (s)	10.1
Stop Delay (hr)	1.2
Stop Del/Veh (s)	2.5
Total Stops	551
Stop/Veh	0.33
Travel Dist (mi)	721.9
Travel Time (hr)	27.2
Avg Speed (mph)	27
Fuel Used (gal)	24.1
Fuel Eff. (mpg)	29.9
HC Emissions (g)	293
CO Emissions (g)	11062
NOx Emissions (g)	944
Vehicles Entered	1621
Vehicles Exited	1623
Hourly Exit Rate	1623
Input Volume	3178
% of Volume	51
Denied Entry Before	0
Denied Entry After	0
Density (ft/veh)	161
Occupancy (veh)	27

Queuing and Blocking Report

Proposed Conditions

11/08/2023

Intersection: 301: Settlers Ridge Pkwy & CSAH 16/Valley Creek Rd

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	182	95	171	112
Average Queue (ft)	58	38	61	45
95th Queue (ft)	136	75	129	88
Link Distance (ft)	1292	1139	889	1019
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

**A. Roadway Description**

Route	CSAH 16	District	Metro	County	Washington
Begin RP	n/a	End RP	n/a	Miles	n/a
Location	CSAH 16/Valley Creek Road & Settlers Ridge Parkway				

B. Project Description

Proposed Work	RAB at CSAH 16 & Settlers Ridge Parkway				
Project Cost*	\$2,980,200	Installation Year	2028		
Project Service Life	20 years	Traffic Growth Factor	2.4%		

* exclude Right of Way from Project Cost

C. Crash Modification Factor

0.28	Fatal (K) Crashes	Reference	CMF ID 206: CONVERSION OF STOP-CONTROLLED INTERSECTION INTO SINGLE-LANE ROUNDABOUT		
0.28	Serious Injury (A) Crashes				
0.28	Moderate Injury (B) Crashes	Crash Type	All		
0.28	Possible Injury (C) Crashes				
0.28	Property Damage Only Crashes		www.CMFclearinghouse.org		

D. Crash Modification Factor (optional second CMF)

	Fatal (K) Crashes	Reference			
	Serious Injury (A) Crashes				
	Moderate Injury (B) Crashes	Crash Type			
	Possible Injury (C) Crashes				
	Property Damage Only Crashes		www.CMFclearinghouse.org		

E. Crash Data

Begin Date	1/1/2020	End Date	12/31/2022	3 years
Data Source	Minnesota Crash Mapping Analysis Tool (MnCMAT2)			
Crash Severity	All		< optional 2nd CMF >	
K crashes	0			
A crashes	0			
B crashes	0			
C crashes	0			
PDO crashes	1			

F. Benefit-Cost Calculation

\$84,047	Benefit (present value)	B/C Ratio = 0.03
\$2,980,200	Cost	
Proposed project expected to reduce 1 crashes annually, 0 of which involving fatality or serious injury.		

F. Analysis Assumptions

Crash Severity	Crash Cost
K crashes	\$1,600,000
A crashes	\$800,000
B crashes	\$250,000
C crashes	\$130,000
PDO crashes	\$15,000

Link: mndot.gov/planning/program/appendix_a.html

Real Discount Rate: 0.8% Default

Traffic Growth Rate: 2.4% Revised

Project Service Life: 20 years Revised

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	\$0
A crashes	0.00	0.00	\$0
B crashes	0.00	0.00	\$0
C crashes	0.00	0.00	\$0
PDO crashes	0.72	0.24	\$3,600

\$3,600

H. Amortized Benefit

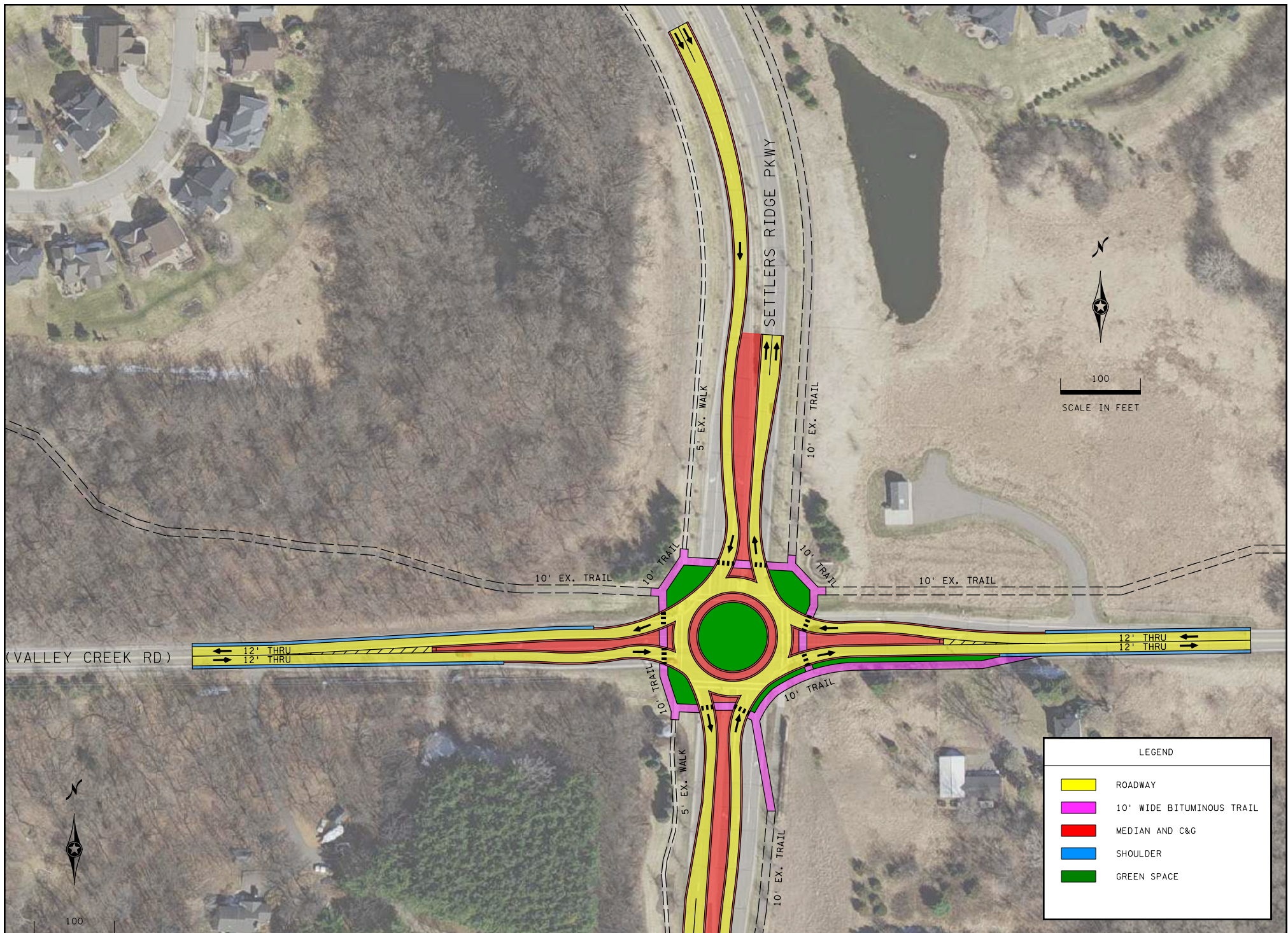
Year	Crash Benefits	Present Value
2028	\$3,600	\$3,600
2029	\$3,687	\$3,658
2030	\$3,776	\$3,716
2031	\$3,867	\$3,775
2032	\$3,960	\$3,836
2033	\$4,055	\$3,897
2034	\$4,153	\$3,959
2035	\$4,253	\$4,022
2036	\$4,356	\$4,087
2037	\$4,461	\$4,152
2038	\$4,568	\$4,218
2039	\$4,678	\$4,286
2040	\$4,791	\$4,354
2041	\$4,906	\$4,424
2042	\$5,025	\$4,494
2043	\$5,146	\$4,566
2044	\$5,270	\$4,639
2045	\$5,397	\$4,713
2046	\$5,527	\$4,788
2047	\$5,660	\$4,865
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0

Total = \$84,047

NOTE:

This calculation relies on the real discount rate, which accounts for inflation. No further discounting is necessary.







Spot Mobility & Safety



Project Total: \$2,980,200

The project will reconstruct the intersection as a single-lane roundabout. This includes high-visibility crossings at each leg with splitter islands and pedestrian refuges, high-visibility signage, and full ADA-compliance. The roundabout will enhance vehicle safety and efficiency by eliminating left-turn movements, providing continuous flow, and naturally encouraging drivers to slow and remain aware at the intersection. Non-motorized safety and connectivity to adjacent neighborhoods will be improved.

Summary of Project Benefits

- ⇒ Provides high-visibility, ADA-compliant crossings of CSAH 16 and Settlers Ridge Pkwy
- ⇒ Reduces crossing distances and adds splitter islands, which will serve as pedestrian refuges for two-phase crossing
- ⇒ Naturally reduces driver speeds on this wide-open corridor through roundabout design elements such as curved geometry, yielding requirements, and continuous, predictable traffic flow
- ⇒ Eliminates left-turn movements against opposing traffic, reducing the likelihood of high-speed right-angle collisions
- ⇒ Provides the well-known safety and efficiency benefits of roundabouts, including reduced conflict points, slower, more controlled vehicle speeds, increased pedestrian visibility, and reduced vehicle idling and emissions



INCIDENT ID	INTERSECTION	SEGMENT	INCLUDE	NOTES	ACCIDENT #	MONTH	DAY	YEAR	DAY OF WEEK	HOUR	SEVERITY	MANNER OF COLLISION	COLLISION - ALLIANT	LIGHTING	WEATHER 1	WEATHER 2	SURFACE	UTM X	UTM Y	LATITUDE	LONGITUDE	DATE & TIME	STATUS	COLLISION DIAGRAM
835876	INT 1	YES		distracted	202280175	8	15	2020	Sat	12	B	Front to Front	Head On	Daylight	Clear	-	Dry	501268.0547	5009909.833	45.24268858	-92.98385041	2020/08/15-12:21	Accepted	2020/08/15-12:21-L-C-D
10623951	INT 1	YES		WB failed to yield ROW to NB	223400007	12	6	2022	Tue	7	PDO	Angle	Angle	Daylight	Clear	-	Dry	501268.6826	5009902.105	45.24261902	-92.98384243	2022/12/06-07:44	Accepted	2022/12/06-07:44-L-C-D
1022018	INT 1	YES		failed to see traffic stopped for ped	221290176	5	9	2022	Mon	17	PDO	Front to Rear	Rear End	Daylight	Rain	-	Wet	501266.9047	5009923.987	45.24281599	-92.98386503	2022/05/09-17:00	Accepted	2022/05/09-17:00-L-R-W
777780	INT 1	YES		phantom vehicle caused run off road	200020204	1	2	2020	Thu	18	PDO	-	Run Off Road	Dark (Str Lights On)	Clear	-	Dry	501266.7617	5009925.747	45.24283183	-92.98386685	2020/01/02-18:04	Accepted	2020/01/02-18:04-Dh-C-D
1007382	INT 1	YES		WB failed to yield ROW to SB	220490164	2	18	2022	Fri	2	PDO	Angle	Angle	Daylight	1 Sand/Sol/Dir	-	Wet	501266.3757	5009930.499	45.24287461	-92.98387175	2022/02/18-02:10	Accepted	2022/02/18-02:10-L-B-W
1005384	INT 1	YES		EB failed to yield ROW to SB	220400161	2	9	2022	Wed	18	B	Angle	Angle	Dark (Str Lights On)	Cloudy	-	Dry	501265.7253	5009938.504	45.24294666	-92.98388002	2022/02/09-18:09	Accepted	2022/02/09-18:09-Dh-C-D
931944	INT 1	YES		failed to see pedestrian in crosswalk	212140130	8	2	2021	Mon	14	B	Other	Other	Daylight	Clear	-	Dry	501264.589	5009952.489	45.24307256	-92.98389447	2021/08/02-14:30	Accepted	2021/08/02-14:30-L-C-D
778189	INT 1	YES		conflicting "at-fault" statements; aggressing driving overtake	200090100	1	9	2020	Thu	17	PDO	Sideswipe - Same Direction	Sideswipe	Dark (Str Lights On)	Clear	-	Dry	501264.1485	5009957.911	45.24312136	-92.98390006	2020/01/09-17:45	Accepted	2020/01/09-17:45-Dh-C-D
814798	INT 1	YES		conflicting "at-fault" statements	201680055	6	16	2020	Tue	15	B	Angle	Angle	Daylight	Clear	-	Dry	501209.6808	5009941.33	45.24297221	-92.98459413	2020/06/16-15:45	Accepted	2020/06/16-15:45-L-C-D
813397	INT 1	YES		failed to see traffic stopped for ped	201600022	6	8	2020	Mon	10	PDO	Front to Rear	Rear End	Daylight	Clear	-	Dry	501212.0089	5009940.999	45.24296919	-92.98430963	2020/06/08-10:49	Accepted	2020/06/08-10:49-L-C-D
1055275	INT 1	YES		medical episode; backed into on WB approach	223060016	11	2	2022	Wed	7	PDO	Rear to Side	Other	Sunrise	Clear	-	Dry	501273.6202	5009940.373	45.24296348	-92.98377942	2022/11/02-07:30	Accepted	2022/11/02-07:30-Dh-C-D



Home > CMF / CRF Details

CMF / CRF DETAILS

CMF ID: 206

CONVERSION OF STOP-CONTROLLED INTERSECTION INTO SINGLE-LANE ROUNDABOUT

DESCRIPTION:

PRIOR CONDITION: NO PRIOR CONDITION(S)

CATEGORY: INTERSECTION GEOMETRY

STUDY: OBSERVATIONAL BEFORE-AFTER STUDY OF THE SAFETY EFFECT OF U.S. ROUNDABOUT CONVERSIONS USING THE EMPIRICAL BAYES METHOD, PERSAUD ET AL., 2001

Star Quality Rating:	<div><div><div></div><div></div><div></div><div></div><div></div></div><div>[VIEW SCORE DETAILS]</div></div>
Rating Points Total:	130
Crash Modification Factor (CMF)	
Value:	0.28
Adjusted Standard Error:	0.11
Unadjusted Standard Error:	0.06
Crash Reduction Factor (CRF)	
Value:	72 (This value indicates a decrease in crashes)
Adjusted Standard Error:	11
Unadjusted Standard Error:	6
Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	Not specified
Street Type:	
Minimum Number of Lanes:	
Maximum Number of Lanes:	
Number of Lanes Direction:	
Number of Lanes Comment:	

Crash Weather:	Not specified
Road Division Type:	
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Urban
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	
If countermeasure is intersection-based	
Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	Not specified
Traffic Control:	Stop-controlled
Major Road Traffic Volume:	
Minor Road Traffic Volume:	
Average Major Road Volume :	
Average Minor Road Volume :	
Development Details	
Date Range of Data Used:	
Municipality:	
State:	
Country:	
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	Dec 01, 2009
Comments:	

[VIEW THE FULL STUDY DATA](#)[EXPORT DETAIL PAGE AS PDF](#)

BOARD OF COUNTY COMMISSIONERS
WASHINGTON COUNTY, MINNESOTARESOLUTION NO. 2023-141DATE November 28, 2023

DEPARTMENT

Public Works

MOTION

SECONDED BY

BY COMMISSIONER Karwoski

COMMISSIONER

Clasen

**RESOLUTION AUTHORIZING SUBMITTAL OF APPLICATIONS TO THE
METROPOLITAN COUNCIL FOR FUNDING UNDER THE
2024 REGIONAL SOLICITATION PROGRAM**

WHEREAS, the Regional Solicitation process started with the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991; and

WHEREAS, as authorized by the most recent federal surface transportation funding act, FAST ACT, projects will be selected for funding as part of three federal programs: Surface Transportation Program (STP), Congestion Mitigation and Air Quality Improvement (CMAQ) Program, and Transportation Alternatives Program (TAP); and

WHEREAS, pursuant to the Regional Solicitation and the regulations promulgated thereunder, eligible project sponsors wishing to receive federal grants for a project shall submit an application first with the appropriate metropolitan planning organization (MPO) for review and inclusion in the MPO's Transportation Improvement Program (TIP); and

WHEREAS, the Metropolitan Council and the Transportation Advisory Board (TAB) act as the MPO for the seven county Twin Cities region and have released the Regional Solicitation for federal transportation funds for 2028 and 2029; and

WHEREAS, Washington County is an eligible project sponsor for Regional Solicitation funds; and

WHEREAS, Washington County is proposing to submit grant applications to Metropolitan Council as part of the 2024 Regional Solicitation for the following projects:

1. CSAH 15/Manning Avenue Corridor Improvements: CSAH 14 to Stillwater High School (Strategic Capacity)
2. CSAH 16/Valley Creek Road and Settlers Ridge Parkway Intersection in Woodbury (Spot Mobility)
3. CSAH 17 Corridor Improvements in Lake Elmo: CSAH 14 to 43rd St. (Roadway Reconstruction and Modernization)
4. Highway 61 and County Road 50 Intersection in Forest Lake (Spot Mobility)
5. Hardwood Creek Trail Extension in Hugo (Multiuse Trail and Bike Facilities)
6. Traffic Signal Battery Backup Systems in the Cities of Lake Elmo, Oakdale, and Woodbury (Traffic Management Technology)
7. Electric Vehicle (EV) Carshare at Suburban METRO Gold Line BRT Stations (Unique Projects Category); and

WHEREAS, the projects will be of mutual benefit to the Metropolitan Council, Washington County, and the Cities and Townships of Baytown, Forest Lake, Hugo, Lake Elmo, Oakdale, Oak Park Heights, St Paul, and Woodbury; and

WHEREAS, Washington County is committed to providing the county share of the costs if the projects are selected as part of the 2024 Regional Solicitation; and

WHEREAS, Washington County is committed to completing the project, if selected, and funding is provided as part of the 2024 Regional Solicitation.

NOW, THEREFORE, BE IT RESOLVED, that Washington County is requesting funding from the federal government through the Metropolitan Council’s 2024 Regional Solicitation and the county is committed to completing the projects identified above and providing the county share of funding.

ATTEST:

Kevin Corbid

COUNTY ADMINISTRATOR

Gary Kriesel

COUNTY BOARD CHAIR

	YES	NO
MIRON	<u>X</u>	_____
KARWOSKI	<u>X</u>	_____
KRIESEL	<u>X</u>	_____
BIGHAM	<u>X</u>	_____
CLASEN	<u>X</u>	_____



8301 Valley Creek Road • Woodbury, MN 55125 • woodburymn.gov
651-714-3593 • TTY 651-714-3568

November 9, 2023

Wayne Sandberg
Public Works Director/County Engineer
Washington County Public Works
11660 Myeron Road
Stillwater, MN 55082

RE: Support for Washington County's Regional Solicitation application for Spot Mobility and Safety at the intersection of CSAH (County State Aid Highway) 16 (Valley Creek Road) and Settlers Ridge Parkway in the City of Woodbury.

Dear Mr. Sandberg,

The purpose of this letter is to express the City of Woodbury's support for Washington County's 2024 solicitation of Federal funds through the Metropolitan Council's Regional Solicitation program for Spot Mobility and Safety at the intersection of CSAH (County State Aid Highway) 16 (Valley Creek Road) and Settlers Ridge Parkway in the City of Woodbury.

The proposed project will replace a stop sign-controlled intersection with a roundabout and include trail connections to existing and future trails, including those that run through Valley Creek Park. The proposed project was identified to relieve congestion and improve safety and is an important part of the County's wider vision to improve the CSAH 16 corridor. Lastly, the proposed project is consistent with both the City's and the County's 2040 comprehensive plans.

Thank you for your consideration. If you have any questions, please contact me at 651-714-3593 or at christopher.hartzell@woodburymn.gov.

Sincerely,

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

Chris Hartzell
Engineering Director

CSAH 16 (Valley Creek Road) & Settlers Ridge Parkway

Spot Mobility & Safety

Existing Conditions Photographs



Image 1: Aerial view – Intersection of Valley Creek Road (CSAH 16) and Settlers Ridge Parkway



Image 2: Eastbound Valley Creek Road at Settlers Ridge Parkway



Image 3: Westbound Valley Creek Road at Settlers Ridge Parkway



Image 4: Southbound Settlers Ridge Parkway at Valley Creek Road



Image 5: Northbound Settlers Ridge Parkway at Valley Creek Road