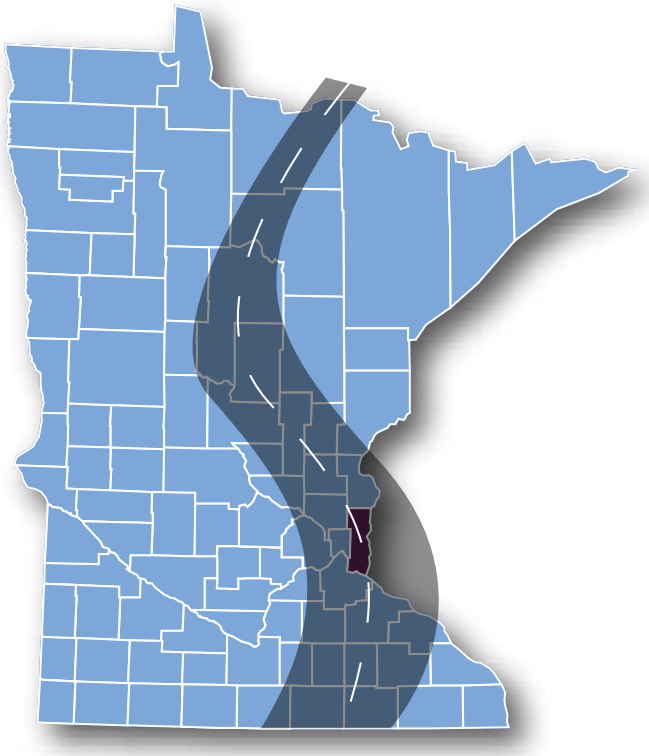
Washington County

COUNTY ROADWAY



Safety PLAN

Moving Toward **ZERO** Deaths

March 2023

DEPARTMENT OF TRANSPORTATION

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Executive Summary

This Safety Plan for Washington County was prepared as part of the County Road Safety Plan update process (CRSP 2). It aligns with the state's Strategic Highway Safety Plan (SHSP) and supports the state's Towards Zero Deaths (TZD) program. This safety plan was developed in a collaborative effort with county safety stakeholders to reduce severe crashes or those involving fatalities and serious injuries. This plan process utilizes a data-driven approach, documents at-risk locations, identifies effective and proven safety improvement strategies, and recommends safety projects to better position the county to compete for available federal safety funds in the Highway Safety Improvement Program (HSIP).

The first round of the County Roadway Safety Plans (CRSP 1) began in 2009 and was completed in 2014. Increased investments in local safety projects and implementation of these low-cost and high-impact safety strategies have contributed to a 22 percent reduction in the number of fatal crashes on the county system while at the same period the state system showed a 3 percent reduction in fatal crashes.

To date, nearly 85 percent of Minnesota counties have participated in HSIP with more than $86 million in safety improvements deployed across the county system. Since the completion of Washington County's initial safety plan, the County secured approximately $1.09 million in HSIP funding to support the implementation of 2 safety projects at intersections. These safety projects included geometric improvements.

This Washington County Safety Plan includes:

- Description of Safety Focus Areas (Section 3.1)
- Identification of a short list of high-priority low-cost strategies (Section 3.3)
- Candidate locations for highway safety funds, which are considered at-risk locations (Appendix D)
- Development of $35.1 million recommended safety projects – these projects are actual application for HSIP funds (Appendix F)

This information is provided to Washington County to reduce the number of severe crashes on their highway system and it is understood that the final decision to implement any of the recommended projects resides with the Washington County Engineer and the Washington County Board of Commissioners. The County is encouraged to coordinate with MnDOT to pursue a partnership that identifies a path toward implementation for projects that involve State trunk highways and/or right-of-way. This Plan does NOT set requirements or mandates, is NOT a standard and is neither intended to be, NOR does it establish, a legal standard of care.

In an effort to help reduce the potential exposure to claims of negligence associated with motor vehicle crashes on Washington County's highway system, three key points should be considered:

1. Federal law (23 U.S.C. Section 409) established that information generated as part of the statewide safety planning process is considered privileged and unavailable to the public. The privileged status includes crash data, where value/detail has been added by analysts

during the safety planning process (for example; computation of crash rates, disaggregation of crashes by type or severity, documentation of contributing factors), the lists of at-risk locations, and information supporting the development and evaluation of potential safety projects. The federal law and the privileged status of the safety information was upheld by the U. S. Supreme Court in the case of Pierce County (Washington) v. Guillen.

2. Minnesota tort law provides for discretionary immunity for decisions made by agency officials when there is documentation of the decision and evidence of consideration of social, economic, and political issues. To help establish immunity for decisions relative to moving forward with development of recommended safety improvement projects, the County Engineer is encouraged to prepare a memorandum/plan of action for the County Board. This document would identify the projects selected for implementation and those they choose to dismiss and why.
3. Minnesota tort law also provides for official immunity for decisions made by agency staff where there is written documentation of the thought process supporting project development and implementation.

As with any transportation plan, the expected shelf life of this document is not infinite. The distribution of crashes can change over time as well as roadway and traffic conditions that can contribute to the occurrence of crashes. This Plan contains $35.1 million of potential safety projects. As a result, Washington County is encouraged to consider periodically updating this Safety Plan to continue to reduce fatalities and serious injuries on its roadways.

Contents

Executive Summary **1**

Acronyms and Abbreviations ..... **vii**

1.0 Introduction **1-1**
1.1 Background 1-1
1.2 National Context 1-4
1.3 State Context 1-6
1.4 Washington County – Local System Description 1-6

2.0 Approach **2-1**
2.1 Proactive Systemic Safety Analysis 2-1
2.2 Safety Workshop 2-3

3.0 Crash Analysis **3-1**
3.1 Safety Focus Areas 3-1
3.2 Roadway Facilities 3-9
3.3 Safety Strategies and Countermeasures 3-15

4.0 System Evaluation **4-1**
4.1 Risk Factor Identification 4-2
4.2 Prioritization of Candidate Locations 4-9

5.0 Beyond Infrastructure – County Highway Collaboration to Improve Local Road Safety **5-1**
5.1 County Highway Engineering Coordination with Minnesota Toward Zero Deaths Program 5-2
5.2 Collaborations to Strengthen Local Road Safety 5-3

6.0 Safety Project Development and Recommended Projects **6-1**
6.1 Safety Project Development Technical Process 6-1
6.2 Rural Segments 6-2
6.3 Rural Curves 6-2
6.4 Rural Intersections 6-9
6.5 Urban Segments 6-9
6.6 Urban Intersections - Vehicle Related Crashes 6-15
6.7 Urban Intersections - Pedestrian/Bike Related Crashes 6-15
6.8 Recommended Safety Project Overview 6-21

7.0 References **7-1**

Appendixes

A List of Analyzed Locations
B Meeting Minutes/Summaries
C Workshop Material
D List of Prioritized Locations
E Regional TZD Coordinator Contact
F List of Recommended Projects
G Recommended Project Maps
H HSIP Submission Forms

Tables

Table 1-1. County Implemented Safety Projects 1-3
Table 1-2. Washington County Highway Safety Improvement Program Overview 1-9
Table 3-1. Minnesota Crash Focus Areas (2016-2020) 3-5
Table 3-2. Washington County Crash Focus Areas (2016-2020) 3-7
Table 4-1. Rural Segment Risk Factors 4-6
Table 4-2. Curves Risk Factors 4-6
Table 4-3. Rural Intersection Risk Factors 4-7
Table 4-4. Urban Segment Risk Factors 4-7
Table 4-5. Urban Intersection Risk Factors/Vehicle Related Crashes 4-8
Table 4-6. Urban Intersection Risk Factors/Pedestrian/Bike Related Crashes 4-8
Table 4-7. Rural Segment Prioritization – Example Table 4-11
Table 4-8. Rural Curve Prioritization - Example Table 4-12
Table 4-9. Rural Intersection Prioritization - Example Table 4-13
Table 4-10. Urban Segment Prioritization - Example Table 4-14
Table 4-11. Urban Intersection Prioritization Vehicle Related - Example Table 4-15
Table 4-12. Urban Intersection Prioritization Pedestrian/Bike Related - Example Table 4-16
Table 6-1. Summary of Washington County Recommended Safety Projects 6-23

Figures

Figure 1-1. Fatal Crashes along Minnesota Roads 1-4
Figure 1-2. Trend in Traffic Fatalities in United States and Minnesota 1-5
Figure 1-3. Washington County Map 1-8
Figure 2-1. Washington County Safety Workshop 2-3
Figure 3-1. Focus Area Priorities 3-2
Figure 3-2. Minnesota's Eight Area Transportation Partnerships 3-3
Figure 3-3. Minnesota Statewide Crash Tree - County Rural System (2016-2020) 3-11
Figure 3-4. Washington County Crash Tree – County Rural System (2016-2020) 3-13
Figure 3-5. Mumble Strip Design – Traditional versus Mumble Strips 3-17
Figure 3-6. Buffers Between Opposing Lanes 3-18
Figure 3-7. Chevrons 3-18
Figure 3-8. Street Light 3-18
Figure 3-9. LED Stop Sign 3-18

Figure 3-10. Dynamic Speed Feedback Sign 3-18
Figure 3-11. Median Refuge Island 3-19
Figure 3-12. Mini Roundabout 3-19
Figure 3-13. High-Intensity Activated Crosswalk Beacon (HAWK) or Pedestrian Hybrid Beacon (PHB) 3-19
Figure 4-1. Systemic Risk Factor Rural Segment Access Density 4-2
Figure 4-2. Systemic Risk Factor Urban Segment Access Density 4-3
Figure 4-3. Systemic Risk Factor Rural Intersection Total Entering Traffic Volume 4-3
Figure 4-4. Systemic Risk Factor Urban Intersection Vehicle Related Total Entering Vehicles 4-4
Figure 4-5. Rural Intersection Crash Density Distribution Versus Systemic Risk Rating 4-5
Figure 4-6. Rural Curve Severe Crash Density Distribution Versus Systemic Risk Rating 4-5
Figure 5-1. Crash Causation Factors 5-1
Figure 6-1. Rural Segment Safety Project Decision Tree 6-5
Figure 6-2. Rural Curve Safety Project Decision Tree 6-7
Figure 6-3. Rural Intersection Safety Project Decision Tree 6-11
Figure 6-4. Urban Segment Safety Project Decision Tree 6-13
Figure 6-5. Urban Intersections – Vehicle Related Safety Project Decision Tree 6-17
Figure 6-6. Urban Intersections – Pedestrian/Bike-Related Safety Project Decision Tree 6-19
Figure 6-7. Sample Highway Safety Improvement Program Submission Form 6-24

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Acronyms and Abbreviations

AADT	annual average daily traffic
AASHTO	American Association of State Highway and Transportation Officials
ADT	average daily traffic
ATP	Area Transportation Partnership
CR	County Road
CRSP	County Roadway Safety Plan
CSAH	county state aid highway
EV	entering vehicles
FAST	Fixing America's Surface Transportation Act
FHWA	U.S. Federal Highway Administration
HSIP	Highway Safety Improvement Program
LED	light-emitting diode
MAP-21	Moving Ahead for Progress in the 21st Century Act
MnDOT	Minnesota Department of Transportation
mph	miles per hour
MVMT	million vehicle miles traveled
NCHRP	National Cooperative Highway Research Program
NV	no value
RE + SSSD	rear end and sideswipe same direction
RRFB	rectangular rapid flash beacon
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SHSP	Strategic Highway Safety Plan
TZD	Toward Zero Deaths
vpd	vehicle(s) per day

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This CRSP 2 was developed in collaboration with FHWA, MnDOT Office of State Aid and Office of Traffic Engineering.

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1.0 Introduction

County safety stakeholders and the Minnesota Department of Transportation (MnDOT) have collaborated to reduce fatalities and serious injuries on local roadways to work towards Minnesota's vision of zero roadway fatalities. The first major initiative was the development of County Roadway Safety Plans (known as CRSP 1), which began in 2009 and was completed in 2014 (CH2M HILL and SRF Consulting Group, Inc., 2014). Counties began implementing the CRSP 1 recommended safety projects in 2013 and have made significant progress.

MnDOT Highway Safety Improvement Program (HSIP) managers have indicated local agency participation in the HSIP program has specifically increased due to:

- CRSP 1 development and resulting safety projects
- Dedicated safety funding for safety strategies
- Technical assistance

Emphasis on local roadways and CRSP as a planning and implementation tool have become integral to the statewide safety program. In 2016, County engineers and MnDOT initiated an update of the CRSPs (known as CRSP 2) to further reduce fatalities and serious injuries on Minnesota local roadways. CRSP 2 is more collaborative, utilizes the most current safety and roadway data, and provides a refreshed list of HSIP-eligible safety projects. This CRSP 2 document outlines results of a comprehensive safety analysis that used crash data and roadway characteristics to identify the most crucial County transportation safety planning needs and associated safety treatments to reduce fatal and serious injury related crashes.

As part of this CRSP 2 development, the following tasks were completed.

- Review of all county road segments, curves, and intersections
- Data-driven review of crashes on county roadways
- Summary of safety focus areas and priority crash types
- List of recommended high priority safety strategies
- Prioritized list of locations that are most at-risk for severe crashes
- Prioritized list of recommended safety projects – specific strategies at specific locations

1.1 Background

Efforts to reduce statewide traffic fatalities and achieve Minnesota's long-term zero fatality vision requires increasing local agency involvement in the State's safety program. Local agencies are responsible for more than 90 percent of the State's roadway miles and approximately 60 percent of severe crashes (those involving a fatality or serious injury) in Minnesota occur on local roads. As a result, the Minnesota's 2007 *Strategic Highway Safety Plan* (SHSP) (MnDOT, 2007) and the current 2020 SHSP identified the need to fully engage local road authorities in Statewide Highway Safety Program.

MnDOT, the U.S. Federal Highway Administration (FHWA), and Minnesota's county engineers partnered to establish the CRSP 1 initiative that developed CRSPs for all 87 Minnesota counties. This multiagency effort had two key components:

1. MnDOT dedicated approximately 50 percent of HSIP funds to support implementation of safety projects along the county roadway system. Prior to this, virtually all HSIP funds were used for projects along State trunk highways.
2. MnDOT provided technical assistance to all 87 counties to analyze and document the outcome of a systemwide systemic risk assessment, prioritize each county's roadway facilities, and share a list of recommended, high priority safety projects for at-risk locations.

Counties have implemented safety treatments using a variety of methods and funding sources. To date, nearly 85 percent of Minnesota counties have participated in HSIP with more than $123 million in safety improvements deployed across the county system. The most common types of safety projects implemented were relatively low-cost and highly effective in reducing severe crashes. Examples of these countermeasures include:

- Shoulder improvements and striping along rural segments
- Chevrons on curves
- Upgraded traffic signs and intersection markings and street lighting at intersections

A further breakdown of typical safety projects implemented by Minnesota counties between 2008-2020 is shown in Table 1-1.

Table 1-1. County Implemented Safety Projects

HSIP Approved 2008-2020	No of Projects	HSIP Funding
Segments		
Edgeline Improvement	6	$1,140,000
Shoulder Improvement	108	$26,433,000
Signing	4	$399,000
Miscellaneous Improvements	1	$630,000
Rumble Strip	29	$2,478,000
Striping	218	$25,872,000
Guardrail	2	$220,000
Rumble StripE	13	$1,779,000
Lane Reassignment	1	$245,000
Clear Zone	2	$298,000
Total Segments	***384***	***$59.5 million***
Intersections		
Geometrics	24	$11,188,000
Lighting	59	$5,100,000
Signing	31	$1,741,000
Roundabout	20	$16,513,000
Miscellaneous Improvements	28	$14,161,000
Signal System	27	$6,178,000
RICWS	11	$1,743,000
Pavement Markings	2	$274,000
Intersections Totals	***202***	***$56.9 million***
Curves		
Chevrons	51	$3,780,000
Geometrics	1	$424,000
Shoulder Improvement	5	$1,291,000
High Friction Surface Treatment	2	$952,000
Guardrail	1	$130,000
Total Curves	***56***	***$6.6 million***
Totals	***646***	***$123 million***

Note:

[a] Geometrics refers to geometric improvements or changes such as changing a stop-controlled intersection to a roundabout or change of curve horizontal or vertical curvature.

The impact of the increased investment in local safety projects has been dramatic. While the number of fatal crashes has increased nationally, the fatal crashes in Minnesota continued to steadily decline through 2019. Since 2013, there has been an approximate 3 percent reduction of fatal crashes on the State system and a 22 percent reduction in the number of fatal crashes on the county system (Figure 1-1). This time period coincides with the completion of CRSP 1 plans and the implementation of the associated safety projects. However, since 2020 the state has shown a steep increase in fatal crashes. This County Road Safety Plan coupled with strategic investment in traffic safety using available state and federal HSIP funds, will be instrumental in reducing the number of fatal and serious injury crashes.

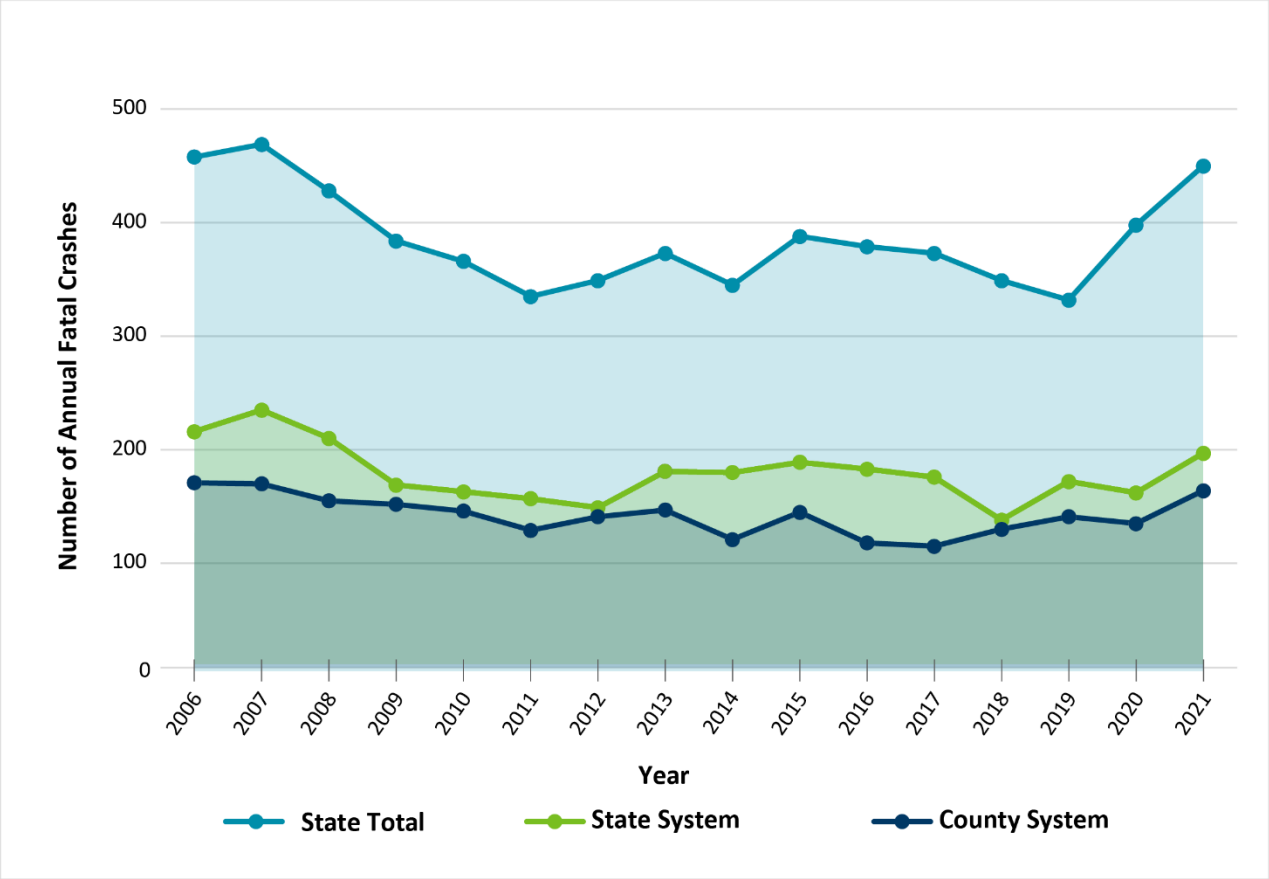


Figure 1-1. Fatal Crashes along Minnesota Roads

1.2 National Context

The HSIP is a core federal-aid program that began in 2005 with the authorization of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users or SAFETEA-LU. SAFETEA-LU required all States to develop data-driven, multidisciplinary SHSPs focused on reducing fatalities and serious injuries on all public roadways. Subsequent transportation legislation, the Moving Ahead for Progress in the 21st Century Act (MAP-21), the Fixing America's Surface Transportation (FAST) Act and the Infrastructure Investment and Jobs Act (IIJA) or the Bipartisan Infrastructure Law (BIL) signed in 2021 extends through 2026, continued

to focus transportation funding on improving safety for all public roadways. The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads that focuses on performance.

The trendline of fatalities throughout the United States and in Minnesota (Figure 1-2), indicates HSIP investments have resulted in lives saved and injuries prevented since 2005. However, traffic crashes still pose a major public health issue in the United States. In 2021, approximately 42,000 people were killed in traffic crashes; an average of 115 people killed every day (FARS, 2021).

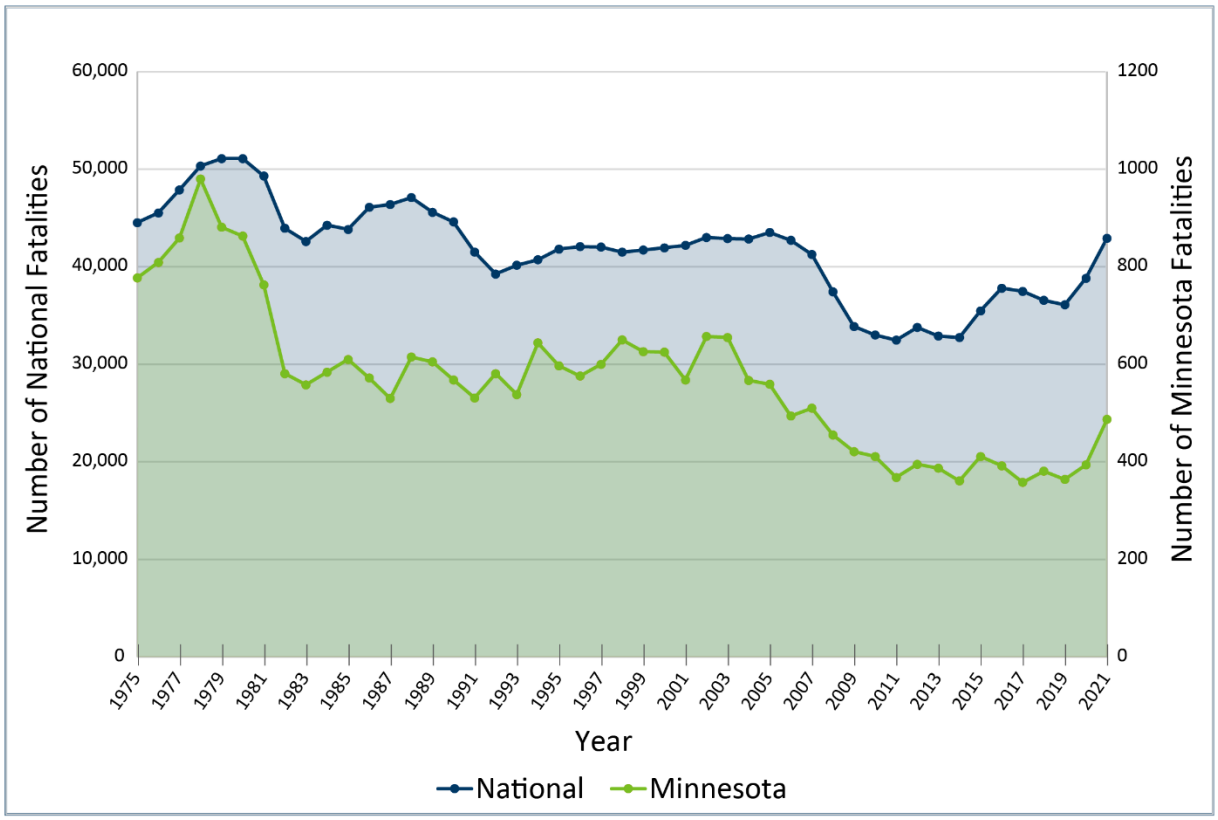


Figure 1-2. Trend in Traffic Fatalities in United States and Minnesota

Achieving greater results and realizing the vision of zero fatalities requires continuous improvements to transportation safety planning and program management. Each state may allocate their transportation and HSIP funding in a manner that addresses their unique needs. The legislative requirement to address safety on all roads is founded on two key facts:

1. Nationally, local governments own and operate almost 76 percent of all public roads (FHWA, 2019) and approximately 35 percent of traffic fatalities occur along these roads (FARS, 2017).
2. Historically, state departments of transportation manage the statewide safety programs, and, in most states, the majority of safety funding has been dedicated to improvements along the state highway system.

States can only achieve significant severe crash reductions if safety on local roads is an integral part of each state's safety planning and investment efforts. In response to federal legislation, all states have accepted an oversight role for safety across all roads in the state and a number of states have dedicated a portion of their HSIP funds to local system improvements. However, only a few states have successfully integrated local agencies into statewide safety planning efforts, Minnesota being one of them.

1.3 State Context

Starting in 2007, Minnesota's SHSP highlighted the need to improve safety of all public roads, including local roads. The current SHSP (2020) continues to emphasize local roads and the plan identified 16 focus areas based on data analysis and stakeholder outreach. The top four focus areas include:

- Intersections (47 percent of severe crashes)
- Lane Departure (31 percent of severe crashes)
- Impairment (25 percent of severe crashes)
- Speed (20 percent of severe crashes)

Total severe crash percentages will be greater than 100 percent because crashes may have multiple contributing factors. For example, an impaired driver may run off the road resulting in a severe injury. In this situation, the crash would be counted as both Lane Departure and Impaired Roadway User focus areas. The SHSP also identified Minnesota's high priority infrastructure-based safety strategies and countermeasures, including:

- Lane Departure
  - Center and edge rumble strips
  - Enhanced pavement markings (6-inch edgelines and embedded markings)
  - Center buffers
  - Wider/paved shoulders
  - Maintain clear zones
- Intersections
  - Enhanced traffic signs and markings
  - Street lights
  - Alternative Intersections (i.e. Roundabouts)
  - Pedestrian/Bicycle strategies (i.e. Pedestrian leading intervals, intersection design)
  - Red light running enforcement assistance (confirmation lights)
  - Restricted/channelized intersections (along divided roadways)

1.4 Washington County – Local System Description

There are approximately 139,000 miles of roadways in Minnesota. Counties own and operate almost 45,000 miles (32 percent) of those roadways. Approximately 32,000 of these roadway miles are paved (70 percent) and the remaining 13,000 miles have a gravel surface. Statewide analysis of County roads indicated a majority of the severe crashes occurred on paved rather

than gravel roadways, 90 percent and 10 percent, respectively. As a result, the focus of CRSP 2 is on paved County roads.

Figure 1-3 shows Washington County roads that were analyzed as part of this project (does not include gravel roads) and county boundary. The Washington County Highway Department in Minnesota is responsible for maintenance and management of a system that includes:

- 287 total miles of county roads, all of which have a paved surface.
- 231 miles of county state-aid highways (CSAH) roadways, which are eligible for direct State Trunk Highway funding
- 56 miles of county roads
- 644 lane miles of county roads
- 86 Traffic Signals
- 13 Roundabouts
- 33 bridges owned by Washington County; 10 more bridges inspected by Washington County but owned by others (such as Brown's Creek Trail bridge over Manning Avenue).
- 381 horizontal curves

Washington County has often taken a leading role in traffic safety through participation with statewide safety efforts including the Statewide Speed Limit Visioning project, the Minnesota Toward Zero Deaths initiative and various local Road Research Board safety studies. Washington County has also been an early adopter of roundabouts, developed a strong network of paved shoulders and trails, and has implemented wet-reflective pavement markings, pedestrian refuge islands, and, in 2023, plans to install sinusoidal rumble strips on CSAH 15 (Manning Ave/Trail North).

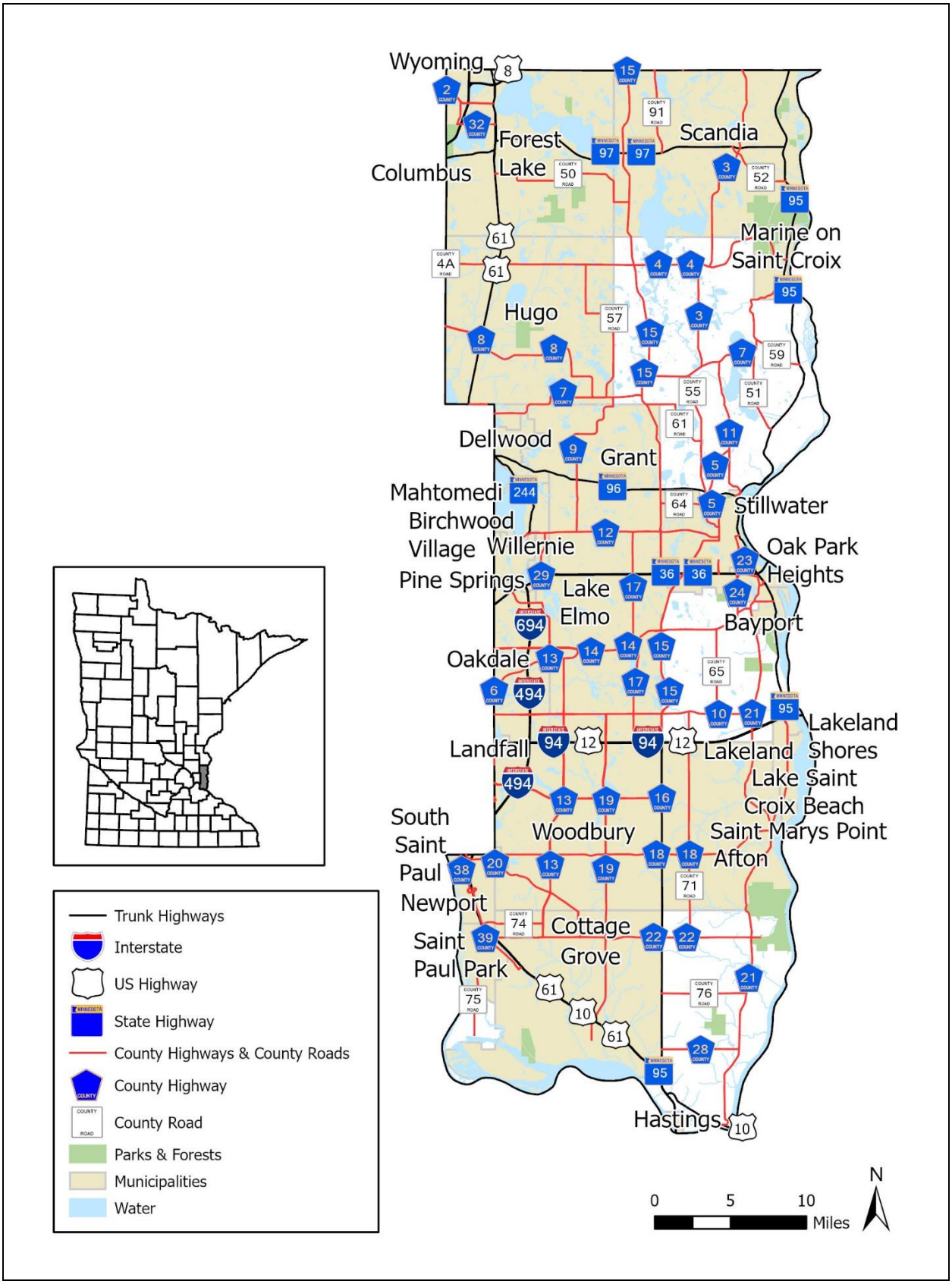


Figure 1-3. Washington County Map

Between the years 2008-2020, Washington County secured approximately $1.09 million in HSIP funding to support the implementation of 2 safety projects at intersections (Table 1-2). These safety projects included geometric improvements.

Table 1-2. Washington County Highway Safety Improvement Program Overview

Project Description	No. of Projects	Project Costs
Intersections		
Geometrics	2	$1,088,000
Total Intersections	*2*	*$1.09 million*
Total Projects	***2***	***$1.09 million***

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2.0 Approach

CRSP 2 aligns with the Minnesota SHSP and supports the TZD statewide target of fewer than 225 traffic fatalities and 980 serious injuries by the year 2025.

In recognition of the TZD Program, Washington County identified the following goals for this update:

- Provide the basis for a shared understanding of the approach used to analyze and address safety on Washington County's roadway system
- Provide improved understanding of the effectiveness (at reducing crashes) of safety and maintenance strategies
- Document a prioritized list of HSIP-eligible projects and safety-related maintenance activities
- Document any safety issues in Washington County's small cities and townships
- Provide information to increase understanding of pedestrian safety issues
- Conduct a data-driven safety analysis of the county's roadway system
- Identify and prioritize candidate locations for safety investment
- Develop safety projects – with specific strategies at specific locations

The CRSP 1 and CRSP 2 approach has been to work closely with county safety stakeholders to establish program goals and develop a collaborative, data-driven plan along with safety treatments at appropriate locations to direct the local safety program. This was accomplished through data analysis, identification of safety emphasis areas, development of a comprehensive list of safety strategies, coordination with safety stakeholders through meetings and workshops, narrow the list of strategies to county specific strategies, identify safety projects and develop the safety plan. Workshop and meeting summaries can be found in Appendix B. This section of the plan discusses the project approach in more detail.

2.1 Proactive Systemic Safety Analysis

From the beginning of the Federal highway safety program in the 1970s, the primary method for conducting a safety analysis largely involved a reactive approach by searching along highway systems for high-crash locations. A corridor segment or intersection is generally considered a high-crash location if the severe crash rate exceeds the severe critical crash rate. Using this methodology was a barrier to local systems participating in the statewide safety program because few locations along the local roadway systems met the high-crash definition. As a result, almost all safety investments were made along the state's system of trunk highways.

Minnesota's 2007 SHSP prioritized increasing the level of local highway agency involvement in statewide safety planning efforts (MnDOT, 2007). Following adoption of the SHSP, MnDOT and Minnesota's county engineers developed a new safety analysis process to supplement the high-crash location search. This systemic risk assessment, which uses a data-driven process, looked at crash patterns to determine high-risk locations that would be safety investment candidates. The five key steps in the CRSP systemic process include:

1. Conduct a crash analysis that includes reviewing each of the approximate 2,500 statewide locations along the county roadway system where severe (fatal + serious injury) crashes occurred during a 5-year study period.
2. Identify roadway and traffic characteristics common at locations with severe crashes.
3. Adopt a list of risk factors that show locations with a specific risk factor and a higher density (number of severe crashes per mile, curve, or intersection per year) of crashes rather than locations that don't contain this risk factor.
4. Conduct a census of each county system of roadway segments, curves, and intersections and record the number of risk factors at each location.
5. Prioritize the county roadway system for safety investment based on the number of risk factors at each location. The greater the number of risk factors, the greater the risk of a future severe crash and, therefore, the higher the priority the candidate location is for safety investment.

This systemic risk analysis was conducted across all 87 counties as part of the CRSP 1 efforts. At the end of that project, a final review concluded that the new process was successful. More than $300 million in low-cost safety improvements along the county system were identified and over $123 million of HSIP-funded CRSP safety projects were implemented in CRSP programs.

Successful CRSP project implementation led the FHWA to approve and adopt this systemic risk analysis technique as a model for their own, national, data-driven safety analysis initiative. Most significantly, the systemic approach allowed agencies to move from a reactive approach of addressing severe crashes to a proactive approach of deploying safety projects at high priority at-risk locations.

Based on success in the CRSP 1 effort, this CRSP 2 systemic risk analysis follows the same five key steps used in the CRSP 1 effort.

2.2 Safety Workshop

In addition to the technical analysis, an integral part of CRSP 2 included conducting a safety workshop. Washington County's workshop was held on October 18, 2018 at the Washington County Public Works Building (refer to Appendix C for details). The workshop was attended by 30 of the county's safety partners representing engineering, enforcement, education, and emergency response as well as the County's elected officials.

The CRSP Project Team's primary workshop goals included creating a shared understanding of the technical approach to updating the CRSP, having participants identify what they considered important themes to advance road safety in Washington County, and providing feedback to help the County prioritize infrastructure safety strategies. Figure 2-1 shows participants at the Washington County Safety Workshop.



Figure 2-1. Washington County Safety Workshop

During the workshop, the CRSP 2 Project Team outlined the technical approach and described key parts of the data-driven analytical process, including the proactive systemic risk evaluation, and provided an overview of the county system crash data. Participants in the workshop discussed a wide range of safety concerns, such as:

- Distracted driving
    - Law enforcement offered that, when patrolling, it is rare to not see a driver on the phone
    - Millennial drivers (roughly 26-41) are more prone to drive while using their phones; younger drivers demonstrate greater commitment to model what they've learned and remove the distraction and put phones in glove box before driving, a norm to do so

    - Challenge for law enforcement to determine if a driver is dialing or adjusting navigation
- Aggressive and speeding drivers
    - Drivers are hurried, driving above speed limits, not paying attention to road signals, and aggressively pull out in front of emergency vehicles to avoid traffic
    - When receiving calls on aggressive drivers, law enforcement is challenged because the offender is long gone when law enforcement arrives
    - Today's vehicles are designed to offer faster and faster speeds with ease; new Teslas can accelerate from zero to a hundred in just a few feet—what are the safety implications?
- Impaired drivers using illegal and prescription drugs
    - Washington county law enforcement has strengthened impaired driving enforcement through equipping more officers with specialized training and becoming a Drug Recognition Evaluator (DRE) to detect specific drug impairment and effectively remove drug-impaired drivers from the road
- Infrastructure-related safety
    - Diminished shoulders put runners at risk
    - Numerous uncontrolled intersections and 4-way stops needing stronger safety controls
    - The impact of congestion on left-turn safety at Valley Creek Road onto 95
    - Rumble strips on the shoulders may pose a problem to bikers
    - Sign visibility is a concern--too many signs and drivers are ignoring; consider minimizing signage to maximize effectiveness
- Need for on-going education due to the driving environment continuously changing; no mechanism to educate the public on changes made

In addition to the County highlighting implemented safety projects, the Project Team facilitated an extensive discussion of a wide range of infrastructure safety strategies for Washington County's consideration, including:

- Stop signs
- Streetlights
- Centerline and shoulder/edge line rumble strips
- Center buffer between opposing lanes
- Clear zone maintenance and enhancements
- Road diet (3 and 5-lane conversions)
- Dynamic speed feedback sign

- Restricted crossing U-turn (RCUT)
- Confirmation Lights
- Curb Extensions
- Center Island Medians
- Pedestrian crosswalks
- Rectangular Rapid Flash Beach (RRFB)
- High-Intensity Activated Walking Crosswalk Beacon (HAWK) or Pedestrian Hybrid Beacon (PHB)

The safety workshop concluded with participants' comments regarding the implementation of safety strategies including the need for community education of infrastructure improvements and the use of performance management to demonstrate how specific strategies effect safety; valuable information when addressing citizen concerns.

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3.0 Crash Analysis

The CRSP 2 is based on a data-driven analytical process to identify optimal safety investment candidates. A data-driven process is necessary, so all crash types and roadway facilities are not mistakenly considered equal candidates for safety projects. However, prior studies show that while crashes involving fatalities and serious injuries are scattered widely across Minnesota's local system of roads (an average of 0.006 severe crashes per mile per year), these crashes are neither uniformly nor randomly scattered. As a result, analysis of crash data and roadway system characteristics are necessary to support prioritization, which is an integral part of the strategic safety planning process.

The level of statewide safety funding is not sufficient to support wide deployment of projects that address all crash types. Therefore, states are encouraged to adopt a short list of safety focus areas among the categories that include the greatest number of severe crashes. Focusing safety investment on the top-ranked focus areas is likely to result in the greatest opportunity for crash reduction derived from a data-driven analytical process. This process involved three steps:

1. Disaggregate crash types into categories (focus areas) defined by FHWA, then rank each category based on the number of crashes that involve fatalities and serious injuries (severe crashes).
2. Identify the types of roadway facilities at which the priority crash types occur in the greatest numbers.
3. Identify high priority safety countermeasures/strategies linked to the specific crash types.

3.1 Safety Focus Areas

Consistent with FHWA guidance, Minnesota adopted the number of fatal and serious injury (severe) crashes as the safety performance measure underlying development of the CRSP 2. Crash data from the 5-year period 2016 through 2020 were assembled, analyzed, and disaggregated into 16 safety focus areas, which are shown in Table 3-1. In addition to disaggregating by safety focus area, severe crashes were also disaggregated by state highways versus county roadways. This 2011 to 2015 timeframe was selected as the study period since Minnesota's new crash records system was not populated with enough years of more recent data at the onset of this update effort to support a 5-year study period.

Based on statewide data analysis, the most frequent contributing factors for severe crashes are given priority in Minnesota's SHSP (MnDOT, 2020) as Safety Focus Areas, which are shown in Figure 3-1. The colors of the groups also correspond with the colors in Table 3-1, which will be discussed shortly.



Figure 3-1. Focus Area Priorities

The analysis reviewed statewide crash data across all systems. Crashes that occurred along the County jurisdiction were disaggregated by the state, Area Transportation Partnership (ATP) and county levels also including Greater Minnesota Area and Metro areas. Table 3-1 shows crashes at the statewide level and within the Greater Minnesota Area and Metro areas for all systems and county system only. Table 3-2 shows the same crashes but for ATP METRO and for Washington County.

Assigning crashes to the safety focus areas often involves double or triple counting because the number of severe crashes documented is greater than the actual number of crashes across the state and county systems. Multiple counting is the result from a crash potentially having multiple contributing factors. An example could be a single severe crash involving an unbelted, older driver at an intersection. This crash would include driver behavior of unbelted and the older driver safety focus areas. Therefore, the actual number of crashes across the state and county systems may be lower than the total number of crashes indicated when broken down by safety focus areas.

Figure 3-2 shows the various ATPs throughout the state. The analysis relied on statewide and district level crash trends because in most cases, the total number of severe crashes that occur in a 5-year timeframe within a single county is too small and would not be considered statistically reliable. To have a statistically reliable dataset at any level, a minimum of 500 crashes is required (Minnesota Local Road Research Board, 1998).

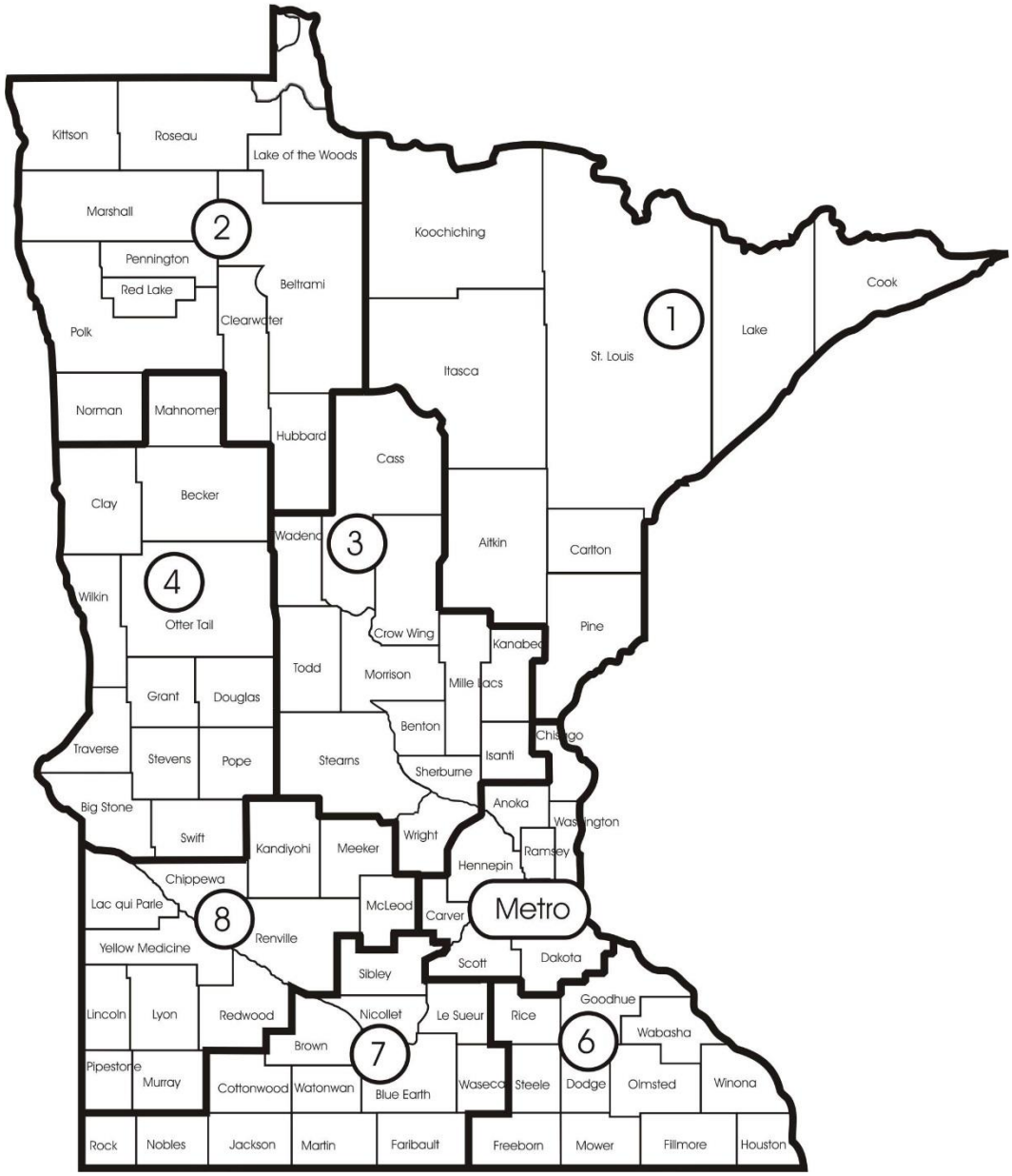


Figure 3-2. Minnesota's Eight Area Transportation Partnerships

Results of the analysis were consistent among Greater Minnesota, ATP METRO, and Washington County and support adoption of the following infrastructure-based safety focus areas:

- Lane Departure (run-off-road and head-on)
- Intersections
- Non-motorized (pedestrians/bicyclists)

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Table 3-1. Minnesota Crash Focus Areas (2016-2020)

		Statewide				Greater Minnesota				Metro			
		All Systems		County System		All Systems		County System		All Systems		County System	
Total Severe Crashes		**8960**	**100%**	**3388**	**100%**	**4859**	**100%**	**1962**	**100%**	**4100**	**100%**	**1426**	**100%**
Core Areas	Intersection	4358	49%	1583	47%	1991	41%	721	37%	2367	58%	862	60%
	Lane Departure	3852	43%	1639	48%	2465	51%	1132	58%	1387	34%	507	36%
	Run-Off-Road	2850	32%	1238	37%	1890	39%	929	47%	960	23%	309	22%
	Head-On	1002	11%	401	12%	575	12%	203	10%	427	10%	198	14%
	Impaired	2449	27%	963	28%	1429	29%	618	31%	1020	25%	345	24%
	Speed	2012	22%	693	20%	1132	23%	437	22%	880	21%	256	18%
	Unbelted	1362	15%	507	15%	955	20%	380	19%	407	10%	127	9%
	Inattentive	904	10%	365	11%	537	11%	230	12%	367	9%	135	9%
Strategic	Older Driver	1609	18%	600	18%	969	20%	339	17%	640	16%	261	18%
	Motorcycle	1502	17%	659	19%	851	18%	404	21%	651	16%	255	18%
	Younger Driver	1422	16%	531	16%	819	17%	321	16%	603	15%	210	15%
	Non-motorist	1445	16%	383	11%	477	10%	110	6%	968	24%	273	19%
	Pedestrian	1104	12%	273	8%	369	8%	74	4%	735	18%	199	14%
	Bicyclist	343	4%	110	3%	109	2%	36	2%	234	6%	74	5%
	Commercial Vehicles	794	9%	237	7%	521	11%	149	8%	273	7%	88	6%
	Work Zone	202	2%	58	2%	85	2%	24	1%	117	3%	34	2%
Connected	Unlicensed	1572	18%	559	16%	792	16%	322	16%	780	19%	237	17%
	Trains	23	0%	5	0%	21	0%	5	0%	2	0%	0	0%
	Deer/Animal	176	2%	109	3%	156	3%	98	5%	20	0%	11	1%
	Winter Weather	1066	12%	358	11%	668	14%	236	12%	398	10%	122	9%

a. Focus Area definitions consistent with the 2020-2024 Minnesota Strategic Highway Safety Plan unless otherwise noted.
b. County System via crash report attribute 'Route System' values CSAH (4) and County Road (7)
c. Head-on here includes sideswipe opposite direction (per SHSP) but omits Deer/Animal Crashes.

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Table 3-2. Washington County Crash Focus Areas (2016-2020)

		Washington County				ATP Metro			
		All Systems		County System		All Systems		County System	
Total Severe Crashes		**229**	**100%**	**90**	**100%**	**4092**	**100%**	**1421**	**100%**
Core Areas	Intersection	109	48%	50	56%	2364	58%	861	61%
	Lane Departure	91	40%	34	38%	1385	34%	505	36%
	Run-Off-Road	64	28%	17	19%	959	23%	308	22%
	Head-On	27	12%	17	19%	426	10%	197	14%
	Impaired	60	26%	20	22%	1018	25%	343	24%
	Speed	59	26%	16	18%	879	21%	255	18%
	Unbelted	23	10%	4	4%	407	10%	127	9%
	Inattentive	34	15%	18	20%	369	9%	136	10%
Strategic	Older Driver	41	18%	19	21%	639	16%	260	18%
	Motorcycle	54	24%	27	30%	649	16%	254	18%
	Younger Driver	42	18%	20	22%	603	15%	210	15%
	Non-motorist	29	13%	7	8%	969	24%	273	19%
	Pedestrian	20	9%	4	4%	736	18%	199	14%
	Bicyclist	9	4%	3	3%	234	6%	74	5%
	Commercial Vehicles	24	10%	9	10%	273	7%	88	6%
	Work Zone	6	3%	2	2%	117	3%	34	2%
Connected	Unlicensed	26	11%	9	10%	780	19%	237	17%
	Trains	0	0%	0	0%	2	0%	0	0%
	Deer/Animal	6	3%	3	3%	20	0%	11	1%
	Winter Weather	27	12%	7	8%	395	10%	121	9%

a. Focus Area definitions consistent with the 2020-2024 Minnesota Strategic Highway Safety Plan unless otherwise noted.
b. County System via crash report attribute 'Route System' values CSAH (4) and County Road (7)
c. Head-On here includes sideswipe opposite direction (per SHSP) but omits Deer/Animal crashes.

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3.2 Roadway Facilities

As part of the data-driven prioritization process, crash trees were developed using statewide (Figure 3-3) and Washington County (Figure 3-4) data to document a disaggregation by state versus local systems, by rural versus urban areas, and by roadway segment versus intersection related crashes.

A statewide crash tree was developed because the results would not meet the threshold to be considered statistically significant since there were eighteen severe crashes per year on Washington County roadways. The percentages associated with the various disaggregation between statewide and county values varied slightly, the key takeaways were the same and suggest the following priorities for Washington County:

- Rural roadways (17 percent of severe crashes)
- Lane Departure crashes along segments (60 percent), including both single-vehicle run-off-road (33 percent) and multi-vehicle head-on (67 percent)
- Lane Departure crashes in curves (33 percent)
- Right-angle crashes at through/stop controlled rural Intersections (33 percent)

The four bullets above are shown visually in Washington County's rural crash tree. Seventeen percent of the severe crashes in a rural environment is found in the fourth row, first box from the left, titled Rural. Following the tree down to the segment box shows 67 percent of severe crashes and stepping down twice below the Lane Departure box shows that "Run-Off-Road" severe crashes comprise 33 percent of Lane Departure and the other 67 percent were identified in the Head-On box. For Lane Departure crashes in curves, the 33 percent is calculated by adding up severe crashes in the Curvature Characteristics boxes for horizontal and/or vertical curvature related divided by the total number of Lane Departure crashes.

Additional analysis of severe crashes was conducted to help focus attention on the portion of county roadway system at higher risk. This analysis concluded that paved county roadways across the state account for approximately 70 percent of roadway miles but around 94 percent of severe crashes. Paved county roadways also have a crash density (0.02 severe crashes per mile per year) that is 10 times higher than the crash density on gravel roads. This information supports the focus of the analytical process on paved county roadways. The severe crash over-representation along paved county roads also has been documented in North Dakota, South Dakota, and Iowa. The proportion of paved versus gravel roads and the distribution of severe crashes varies from state to state, but the trend is the same in each case, with severe crashes overrepresented along paved county roadways.

Detailed analysis of severe crashes was also extended to rural county roadway intersections. Based on a sample of over 11,000 rural intersections (all Phase 1 counties), county roadway intersections with state highways and other county roadways accounted for 36 percent of intersections but 72 percent of severe crashes. County roadway intersections with township roads accounted for 64 percent of intersections but only 28 percent of severe crashes. County roadway intersections with state highways and other county roadways also have a crash density (0.03 severe crashes per intersection per year) that is 5 times higher than at county roadway intersections with township roads. This information supports the decision to focus the remainder of the analytical process on county roadway intersections with state highways and other county roadways.

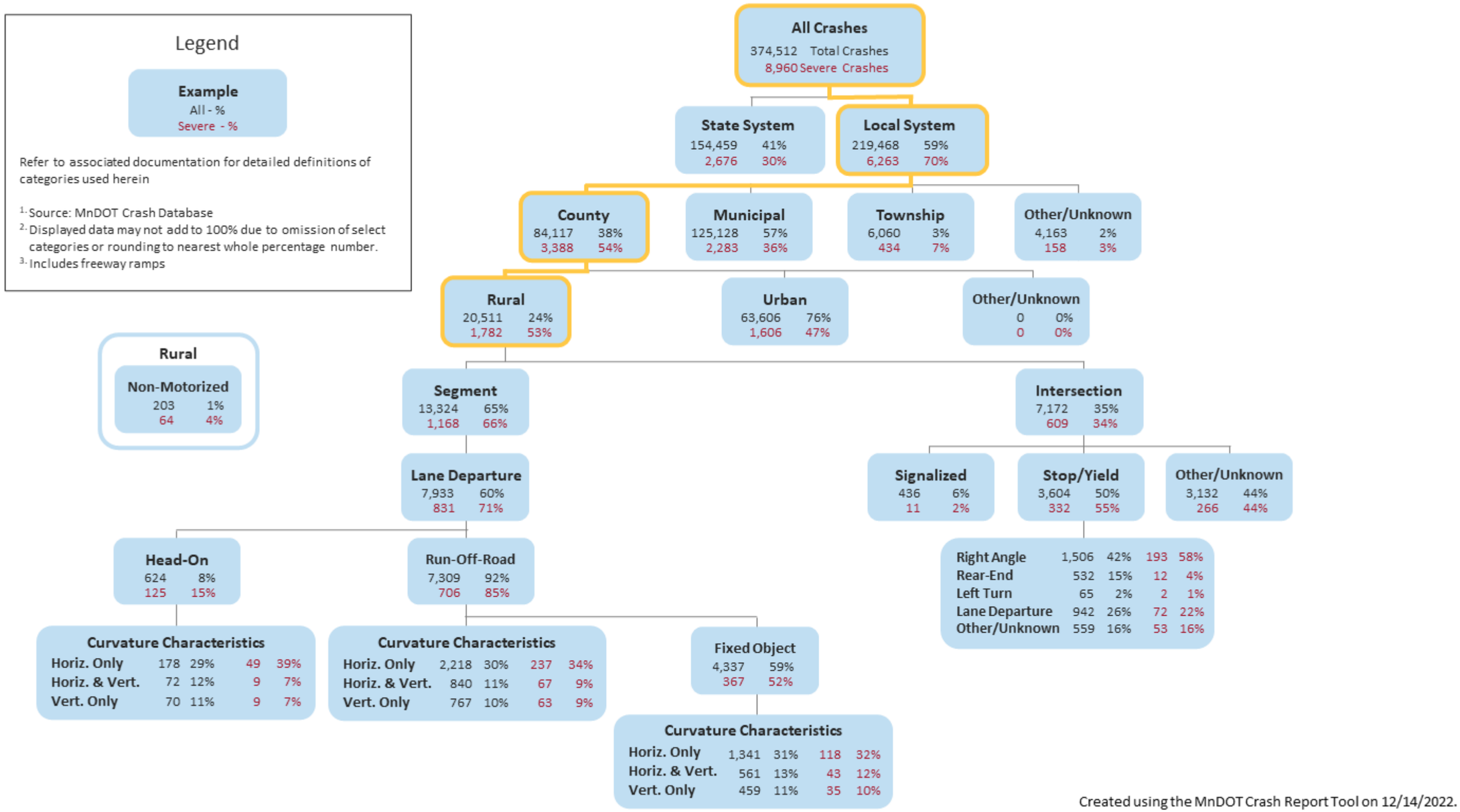


Figure 3-3. Minnesota Statewide Crash Tree - County Rural System (2016-2020)

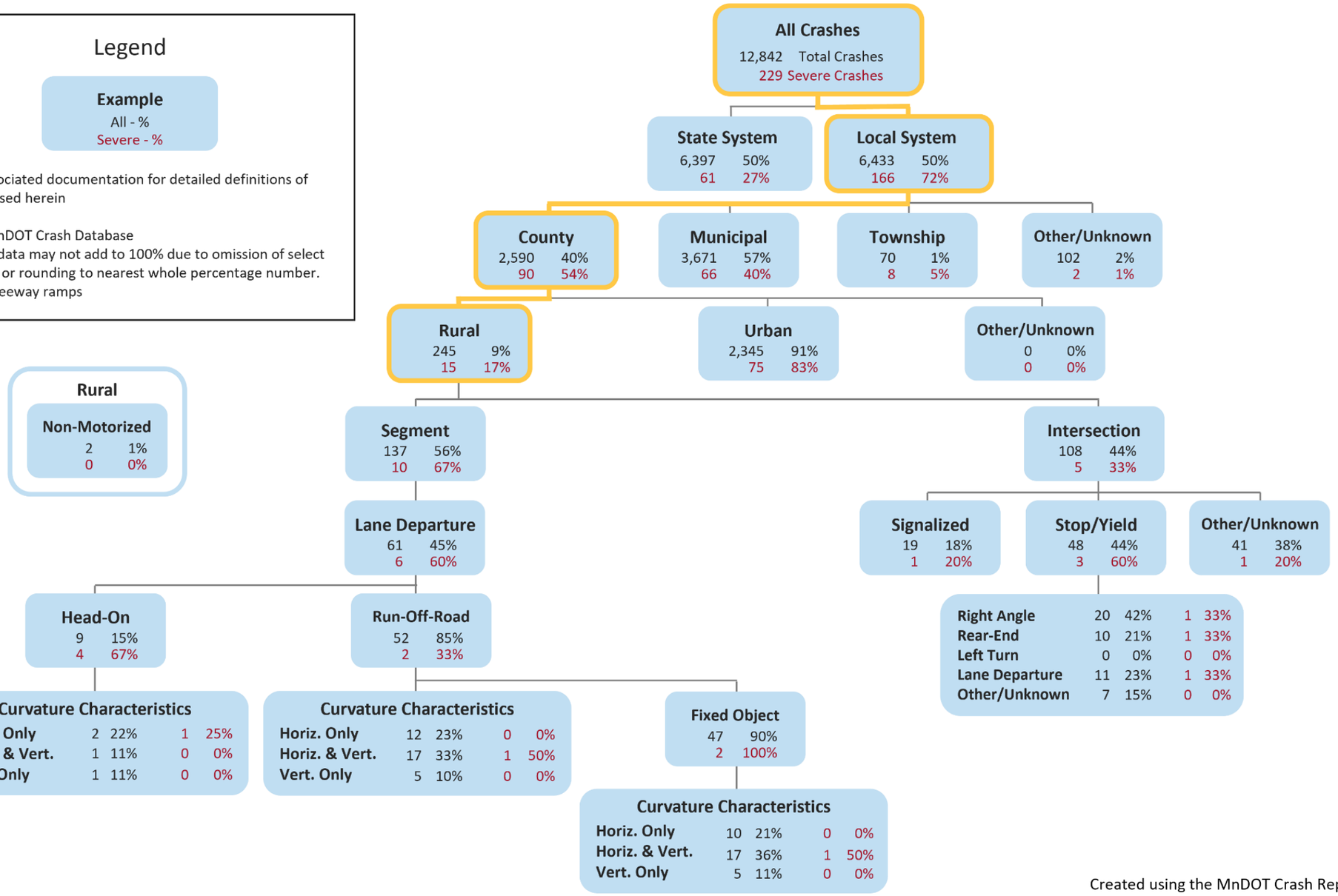
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Legend

Example
All - %
Severe - %

Refer to associated documentation for detailed definitions of categories used herein

1. Source: MnDOT Crash Database
2. Displayed data may not add to 100% due to omission of select categories or rounding to nearest whole percentage number.
3. Includes freeway ramps



Created using the MnDOT Crash Report Tool on 12/14/2022.

Figure 3-4. Washington County Crash Tree – County Rural System (2016-2020)

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3.3 Safety Strategies and Countermeasures

Adoption of the Lane Departure, Intersections, and Non-motorized safety focus areas began the process for determining appropriate safety strategies. Several safety research reports were reviewed, including:

- National Cooperative Highway Research Program's (NCHRP's) Report 500 Series (2003-2009)
- FHWA's Crash Modification Factor Clearinghouse (2014)
- American Association of State Highway and Transportation Officials' (AASHTO's) Highway Safety Manual (2010)

Following the review, priority was given to adopted safety focus areas to reduce the number of potential infrastructure-related safety strategies from more than 100 to around 60. From there, Washington County screened the list of strategies based on factors such as proven effectiveness (to reduce severe crashes), implementation cost, consistency with Minnesota's SHSP priorities, probability of being supported by HSIP funding, prior experience and acceptance in Washington County, and safety partner input. This process resulted in selection of the 55 priority safety strategies listed below for use in the subsequent safety project development exercise.

- Rural Segments
  - Centerline Rumble Strip
    - Sinusoidal Rumble "Mumble" Strips included
  - Shoulder/Edgeline Rumble Strips (Figure 3-5)
    - Sinusoidal Rumble "Mumble" Strips included
  - Buffers Between Opposing Lanes (Figure 3-6)
  - Safety Edge
  - Enhanced Edgeline (6" & 8")
  - Shoulder Paving (2', 4', 6')
  - Clear Zone Enhancements
  - Ditch/Embankment Improvements
  - Separated Bike Trail/Path
- Rural Curves
  - Curve Warning Sign, Speed Advisory & Chevrons or Arrow Board (Figure 3-7)
  - Delineators
  - High-Friction Surface Treatment (HFST)
  - Dynamic Curve Signing
  - Lighting
  - Clear Zone Enhancement
  - Reconstruct TT to a Single T

- Rural Intersections
  - Upgrade Signs and Pavement Markings
  - Street Lights and Approaches (Figure 3-8)
  - Thru Stop to All-Way Stop/Yield
  - J-Turn Intersection
  - Rural Intersection Conflict Warning System (RICWS)
  - Offset T-Intersections (provide offset between opposing turn lanes to improve sight distance)
  - Roundabout
  - Turn Lanes (Offset, Channelized)
  - Continuous Green T
  - Mainline Dynamic Warning System
  - Median Acceleration Lanes (MALs)
  - LED Stop Signs (Figure 3-9)
  - Remove Skew / Realign Intersections
- Urban Segments
  - Roadway configuration (convert to 3-lane)
  - ¾-Intersection
  - Divided Roadway
  - Access Management
  - Bike Lane/Boulevard
  - Urbanization (make it feel urban)
  - Vehicle Speed Feedback Sign (Figure 3-10)
  - Sidewalks
- Urban Intersections
  - Echelon
  - Continuous Flow Intersection (CFI)
  - Signalized J-Turn Intersection
  - Confirmation Lights
  - Pedestrian Countdown Timers
  - Leading Pedestrian Intervals
  - Curb Extensions
  - Median Refuge Islands (Figure 3-11)
  - Roundabout
  - Mini Roundabout (Figure 3-12)
  - Urbanization (make it feel urban)
  - Rectangular Rapid Flash Beacon (RRFB)
  - High-Intensity Activated Crosswalk Beacon (HAWK) or Pedestrian Hybrid Beacon (Figure 3-13)
  - Flashing Yellow Arrow (FYA)
  - Reflective Streetlight Backplate
  - Turn Lanes (Offset, Channelized)
  - Zig Zag Pavement Markings

– Pedestrian Education/Visibility

After reducing the number of safety strategies to these shown, data analysis of the roadway network continued to identify the prioritized locations and correlate the appropriate treatments to develop effective recommended projects.



Figure 3-5. Mumble Strip Design – Traditional versus Mumble Strips
Wave-shaped design produced less external noise than MnDOT's current design

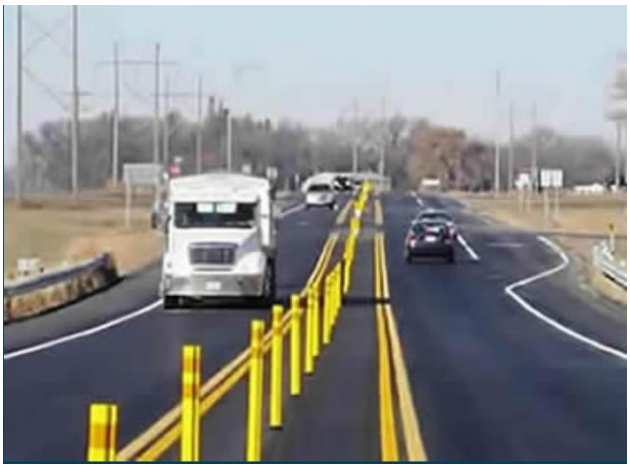


Figure 3-6. Buffers Between Opposing Lanes



Figure 3-9. LED Stop Sign



Figure 3-7. Chevrons



Figure 3-8. Street Light



Figure 3-10. Dynamic Speed Feedback Sign



Figure 3-11. Median Refuge Island



Figure 3-12. Mini Roundabout



Figure 3-13. High-Intensity Activated Crosswalk Beacon (HAWK) or Pedestrian Hybrid Beacon (PHB)

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4.0 System Evaluation

The analytical approach that underlies CRSP 2 is a proactive systemic safety evaluation that identifies, evaluates, and prioritizes roadway safety deficiencies based on crash risk.

Prior to undertaking Minnesota CRSPs, the traditional method supporting safety project development for HSIP in Minnesota involved searching across the state's highway system for intersections and roadway segments with multiple crashes – considered high-crash locations. Around the time that MnDOT adopted increasing local agency involvement in the HSIP, they also recognized that reliance on the high-crash method of analysis presented two major problems. First, the method was entirely reactive – crashes had to occur before any safety investments could be made. This resulted in the public asking agencies after a severe crash occurred – "How many people have to die before something is done?" Under this high-crash analytical method, crashes had to occur and be counted prior toallocating safety funds towards improvements.

Experience suggested that when using the high-crash methodology there were only a few locations across Minnesota's expansive local system that would qualify as a high-crash location. Relying on this method alone was a barrier to deploying safety improvement projects along local systems.

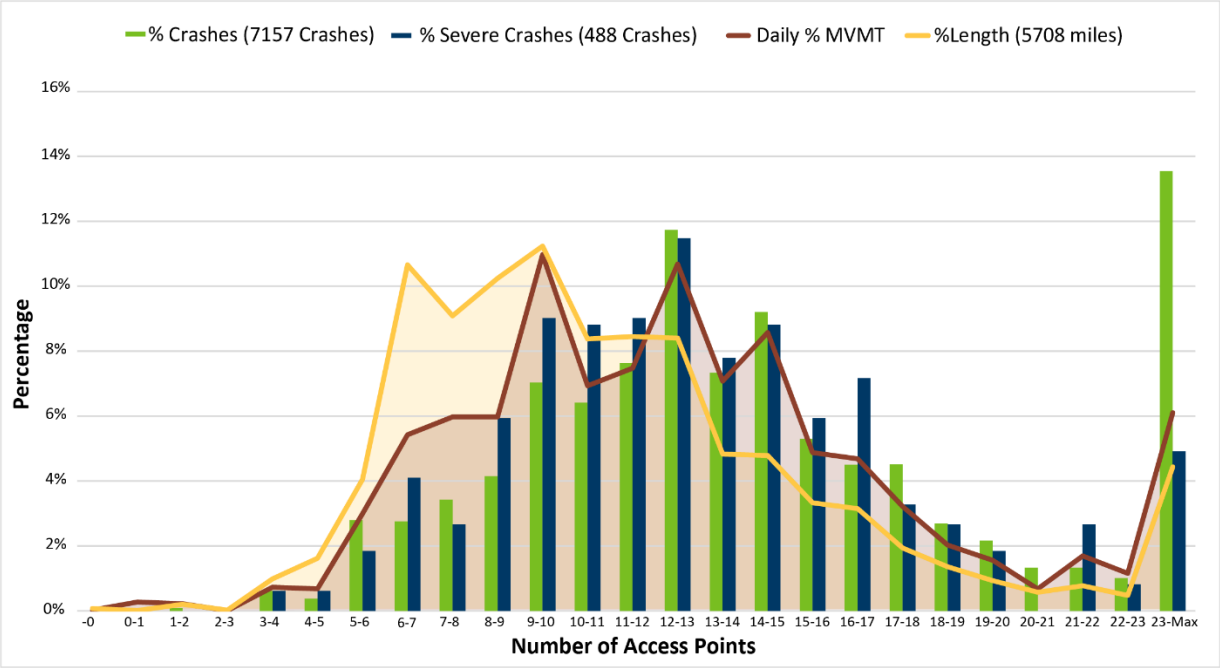
The solution to these problems was the development of a new safety analysis approach – the proactive systemic method that resulted from collaboration between MnDOT and the counties. The underlying premise for this systemic process is that severe crashes along the county roadway system are infrequent and widely scattered – 0.01 severe crashes per year per mile across the 45,000-mile county system. However, the expectation was that these severe crashes were neither uniformly nor randomly scattered and that a set of roadway characteristics could be found at severe crash locations that could help predict where crashes were most likely to occur at future locations.

The systemic process used for CRSP 2 was refined from the CRSP 1 effort. While both analyses consisted of reviewing basic roadway and traffic characteristics along the county system that documented severe crashes, CRSP 2 increased the total number of data elements collected as well as expanded the detail of prior data elements across segments, intersections and curves. For example, the data element "Alignment Skew" in CRSP 1 had a binary option (yes/no) however data analysts for CRSP 2 data collection efforts measured the actual angle of skew to the nearest five degrees. In total, there were 79 unique data elements collected for the CRSP 1 effort for segments, intersections, and curves in rural and urban areas. There was an approximate 50 percent increase (117) in the total number of data elements that were collected for CRSP 2. This additional detail resulted in the generation of more risk factors through a crash frequency analysis leading to a more comprehensive prioritization effort. The following sections describe in more detail how risk factors were identified and the subsequent prioritization process.

4.1 Risk Factor Identification

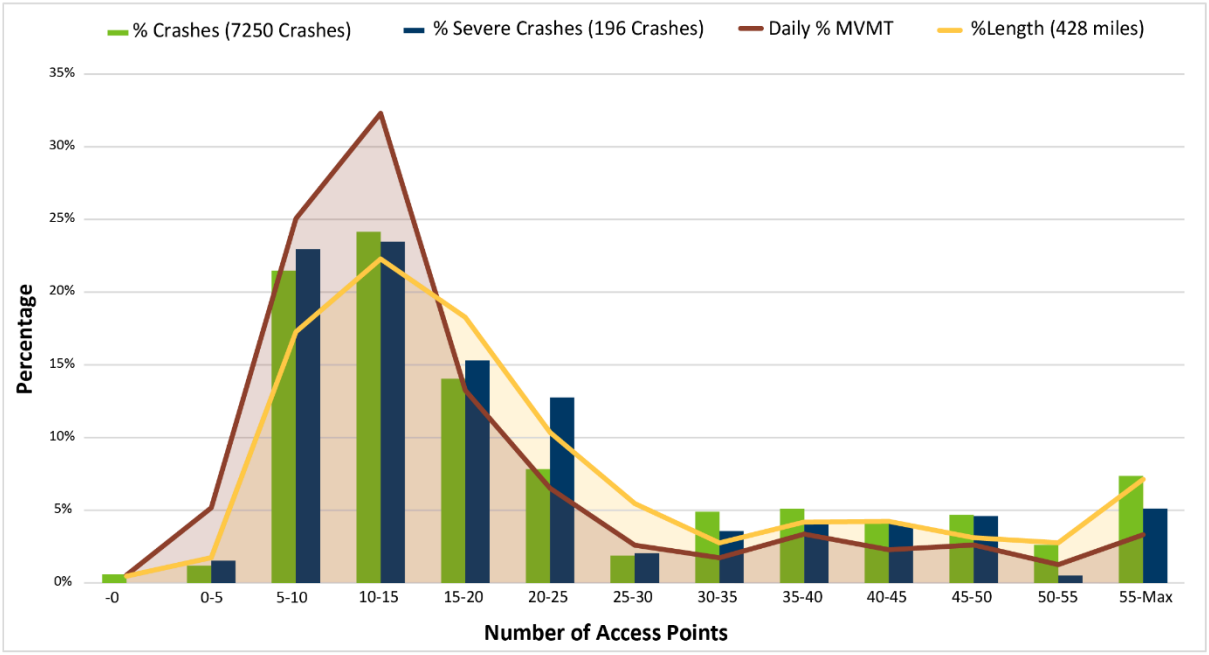
The process of identifying risk factors for CRPS 2 followed a similar process to that of CRSP 1; review the locations with severe crashes, note the roadway and traffic characteristics, and test for over-representation. Examples of the results of the testing for over-representation include:

- Rural Segments: Segments where access density (field entrances + private driveways + public road intersections/mile of roadway) is between 7 and 18 per mile accounted for 80 percent of all severe crashes and 85 percent of severe Lane Departure crashes versus 73 percent of rural roadway miles (Figure 4-1).
- Urban Segments: Segments where access density is between 15 and 25 per mile accounted for 28 percent of all severe crashes and 18 percent of severe rear-end plus sideswipe same direction crashes versus 29 percent of urban roadway miles in Greater Minnesota (Figure 4-2).
- Rural Intersections: Intersections with total entering traffic volumes exceeding 2,000 vehicles per day accounted for 67 percent of all severe crashes and 70 percent of severe right-angle crashes versus 31 percent of all rural intersections (Figure 4-3).
- Urban Intersections: Intersections with total entering traffic volumes exceeding 12,000 vehicles per day accounted for 63 percent of all severe crashes and 59 percent of severe right-angle crashes versus 40 percent of all rural intersections (Figure 4-4).



Note: MVMT = million vehicle miles traveled

Figure 4-1. Systemic Risk Factor Rural Segment Access Density



Notes: MVMT = million vehicle miles traveled

Figure 4-2. Systemic Risk Factor Urban Segment Access Density

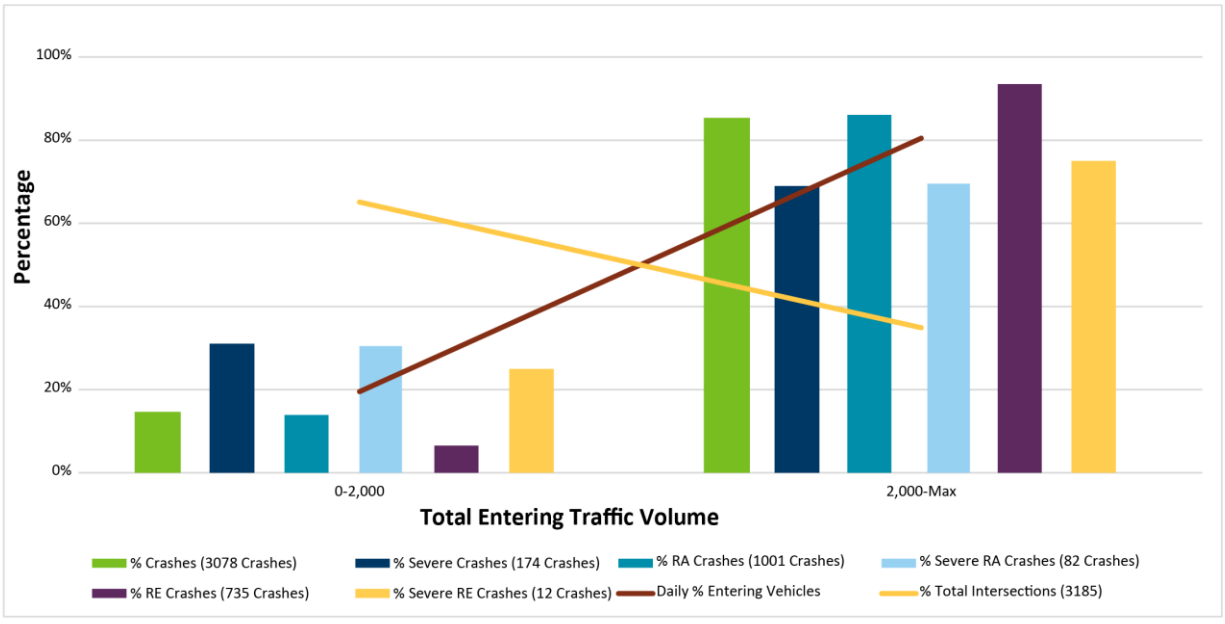


Figure 4-3. Systemic Risk Factor Rural Intersection Total Entering Traffic Volume

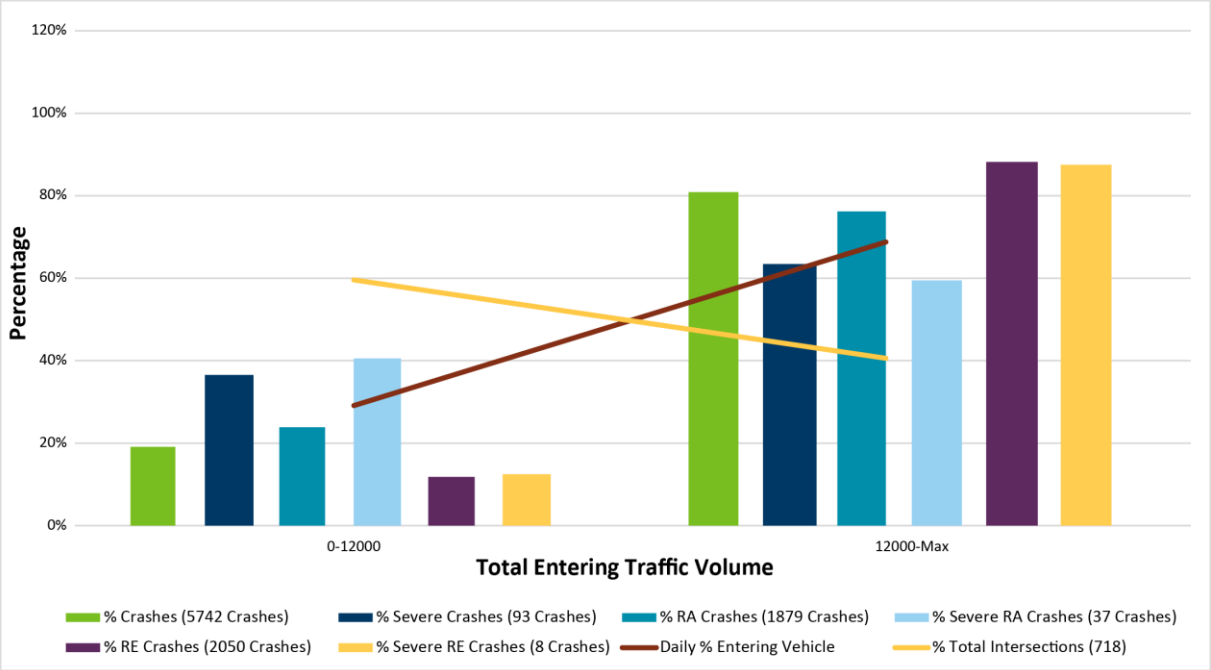


Figure 4-4. Systemic Risk Factor Urban Intersection Vehicle Related Total Entering Vehicles

In addition to testing each risk factor for over-representation, tests were also conducted to demonstrate that increasing numbers of risk factors were associated with greater risk, as measured by the density of crashes. Examples of the testing results for increased crash density include:

- Rural Intersections: Intersections with 5 risk factors present had a severe crash density that were twice the average for all rural intersections and the severe crash density for intersections with 6 or more risk factors were at least four times higher than the average (Figure 4-5).
- Rural Curves: Curves with 6 to 8 risk factors present had severe crash densities and severe Lane Departure crash densities as much as six times higher than the average for all rural curves (Figure 4-6).

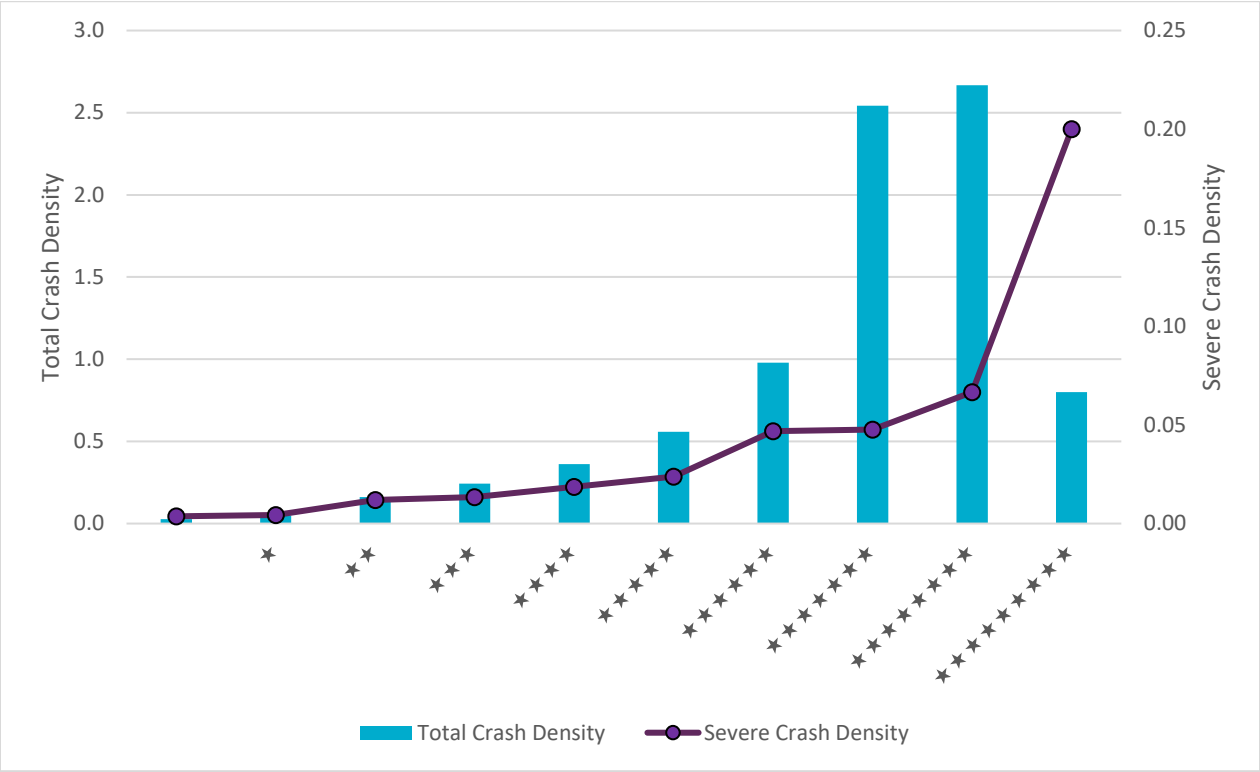


Figure 4-5. Rural Intersection Crash Density Distribution Versus Systemic Risk Rating

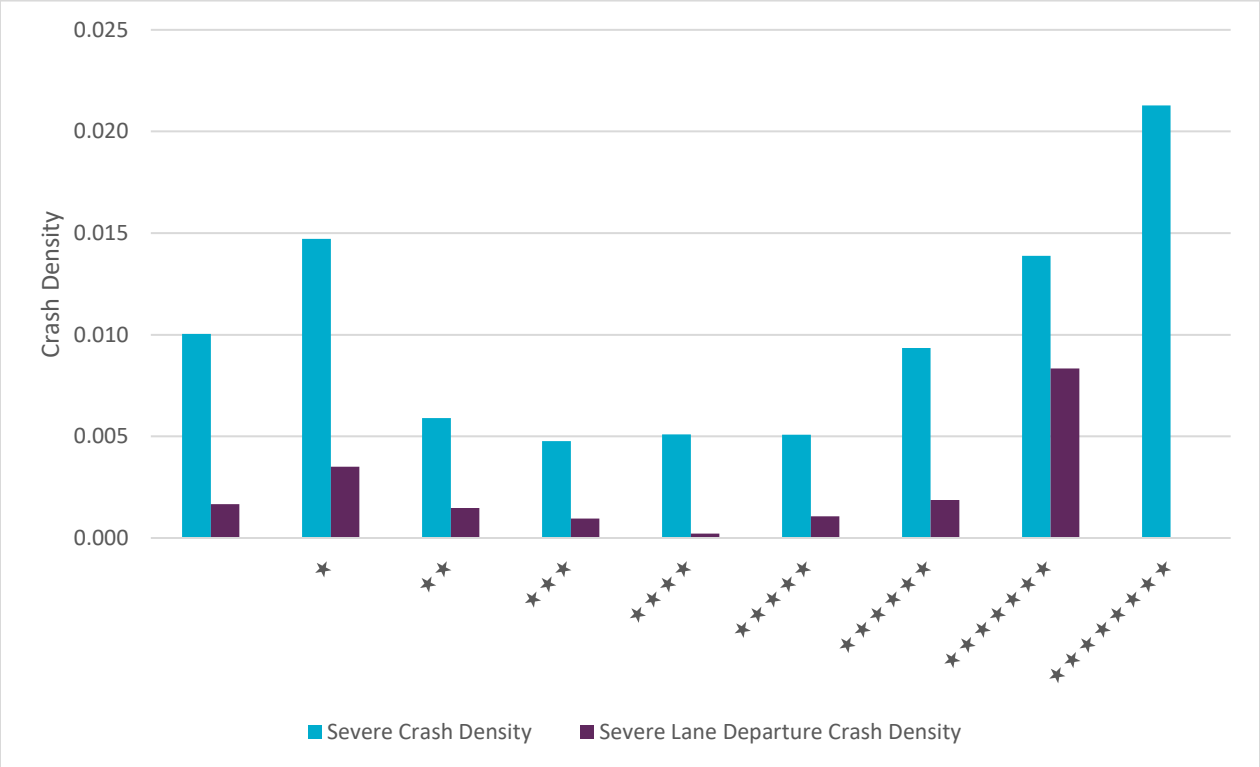


Figure 4-6. Rural Curve Severe Crash Density Distribution Versus Systemic Risk Rating

The results of over-representation testing and severe crash distribution along with additional data recommended the use of an expanded list of risk factors for Washington County. The adopted risk factors for rural segments, curves and intersections plus urban segments and intersections in Washington County are documented in Tables 4-1 through 4-6. It should be noted that the factors listed do not *cause* crashes to occur, for example roadways with lower speed limits typically have higher crash rates than roadways with higher speed limits. Rather, the factors listed are indicative of locations where safety improvements might provide the greatest future benefit.

Table 4-1. Rural Segment Risk Factors

Risk Factor	**Risk Factor Criteria**
Speed Limit	55 miles per hour or greater
ADT Single Vehicle[1]	500 to 2,000 vehicles per day
ADT Multi-Vehicle[2]	1,250 vehicles per day and greater
Access Density	More than 7 accesses per mile (driveways, field entrances, and public streets), but less than 18 per mile
Curve Density	.6 or more curves per mile
Edge Risk	2S with no shoulder or steep slopes or 3 deficiencies (no shoulder, steep slope, or fixed objects)

[1]Risk factor intended to address severe crashes involving single vehicles
[2]Risk factor intended to address severe crashes involving multiple vehicles

Table 4-2. Curves Risk Factors

Risk Factor	**Risk Factor Criteria**
Speed Limit	-
Radius	500 feet to 1,400 feet
Traffic Volume	200 to 800 vehicles per day
Lane Width	Less than 12 feet
Shoulder Type	None, gravel, composite
Total Cross Section Width	28 to 34 feet
Adjacent Intersection	Roadway or railroad crossing
Visual Trap	Present
Outside Edge Risk	2S or 3 deficiencies (no shoulder, steep slope, or fixed objects)

Table 4-3. Rural Intersection Risk Factors

Risk Factor	**Risk Factor Criteria**
Context Zone	Commercial, industrial, mixed use, or residential
Total Entering ADT *OR* *ADT Cross Product*	Volume ≥2,000 vehicles per day OR Greater than 1,000,000 vehicles per day
Leg Configuration	4
Alignment Skew	Greater than 10 degrees
Adjacent Railroad Crossing	Present
Adjacent Curve	Horizontal, vertical, or both
Adjacent Commercial Development	Present
Previous STOP	Greater than 5 miles
Major Approach Speed Limit	60 miles per hour or greater on either major approach
Major Approach Turn Lane Configuration	Left/through/through/right, and turn/bypass on either major approach

Table 4-4. Urban Segment Risk Factors

Risk Factor	**Risk Factor Criteria**
Context Zone	Commercial and mixed use
Speed Limit	50 and above miles per hour
Lane Width	10 to 11.5 feet
Edgeline Striping	None
Parking	Present
ADT	4,000 to 14,000 vehicles per day
Access Density	Greater than 15 accesses per mile (driveways, field entrances and public streets), but less than 25 per mile
Cross Section	Multi-lane
Edge Risk	3 deficiencies (no shoulder, steep slope, or fixed objects)
Shoulder Width	Less than 3 feet

Table 4-5. Urban Intersection Risk Factors/Vehicle Related Crashes

Risk Factor	**Risk Factor Criteria**
Context Zone	Commercial
Traffic Control Device	Signal
Total Entering ADT *OR* *ADT Cross Product*	Greater than 12,000 vehicles per day OR Greater than 20,000,000 vehicles per day
Leg Configuration	4
Major Division Type	Divided
Alignment Skew	Greater than 10 degrees
Adjacent Commercial Development	Present
Major Approach Speed Limit *OR* *Minor Approach Speed Limit*	40 miles per hour and greater OR 35 miles per hour and greater
Major Approach Left Turn Phasing	Any type of permitted operation
Major Approach Turn Lane Configuration.	2 left turn lanes OR 2 or more through lanes

Table 4-6. Urban Intersection Risk Factors/Pedestrian/Bike Related Crashes

Risk Factor	**Risk Factor Criteria**
Traffic Signal	Present
Total Entering ADT	12,000 and greater
Adjacent Development	Present
Number of Lanes Crossed	4 or more
Presence of Sidewalk	Some or none
Crossing Type	Markings only

4.2 Prioritization of Candidate Locations

The analytical process applied the adopted risk factors to Washington County's roadway segments, curves, and intersections to generate a priority listing – the greater the number of locational risk factors, the higher the candidate priority for safety project development. The overall objective was to use the risk factors to identify a minority of the county system that contained a majority of severe crashes and designate these locations as high priority candidates.

The number of risk factors varies by facility type, from a low of three risk factors for urban intersections related to Pedestrian/Bike crashes to a high of twelve risk factors for urban intersections related to Vehicle crashes. The distribution of severe crashes by risk factors also varies by facility type. As a result, the threshold for designating locations as high priority also varied, from a low of two for urban segments to a high of six for Vehicle Related urban intersections. However, across all counties, the sliding scale of risk factors generally resulted in between 20 percent and 50 percent of the system designated as high priority for safety project development. This was considered a reasonable fraction of the county system based on factors such as the amount of HSIP funding available, the typical cost of safety projects, the extraordinarily low density of severe crashes, and the goal of widely deploying safety projects across the county system.

Results of the prioritization process in Washington County include identifying the following high priority candidate locations for safety project development. Tables 4-7 through 4-12 show an example (first 10 projects) of the full project lists included in Appendix D:

- Rural Segments:
  - 89 segments (211 miles) evaluated
  - 36 segments (101 miles) designated as high priority (4 or more risk factors)
- Rural Curves:
  - 381 curves evaluated
  - 59 curves designated as high priority (5 or more risk factors)
- Rural Intersections:
  - 131 intersections evaluated
  - 69 intersections designated as high priority (3 or more risk factors)
- Urban Segments:
  - 85 segments (85 miles) evaluated
  - 26 segments (26 miles) designated as high priority (5 or more risk factors)
- Urban Intersections (Vehicle Related):
  - 179 intersections evaluated
  - 90 intersections designated as high priority (5 or more risk factors)
- Urban Intersections (Pedestrian/Bike Related):
  - 179 intersections evaluated
  - 82 intersections designated as high priority (4 or more risk factors)

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Table 4-7. Rural Segment Prioritization – Example Table

List No.	Project Page No.	CRSP 2 ID	Route System	Route No.	Segment Start Description	Segment End Description	Length (Miles)	ADT [vpd]	Speed Limit	ADT Rural Single-Vehicle	ADT Rural Multi-Vehicle	Access Density	Curve Density	Edge Risk	Total Stars
17	1	8.003	CSAH	8	Goodview Ave N	140th St N	1.72	1950	★	★	★	★	★	★	★★★★★★
63	2	22.005	CSAH	22	840 ft East of CSAH 19	Peller Ave S	5.38	1752	★	★	★	★	★		★★★★★
12	3	7.001	CSAH	7	Goodview Ave	Jody Ave N	4.06	1833	★	★	★	★	★		★★★★★
18	4	8.004	CSAH	8	Homestead Ave N	122nd St N	3.30	870	★	★		★	★	★	★★★★★
60	5	21.004	CSAH	21	170 ft North of 37th St	1320 ft Southwest of 45th St	1.40	1350		★	★	★	★	★	★★★★★
55	6	20.003	CSAH	20	632 ft Northwest of Radio Dr	710 ft Southwest of Radio Dr	0.25	5200	★		★	★	★	★	★★★★★
19	7	9.001	CSAH	9	75th St	Ironwood Ave	3.49	3567	★		★	★	★		★★★★
22	8	10.004	CSAH	10	Lake Elmo Ave N	Stagecoach Trail N	4.25	4675	★		★	★	★		★★★★
68	9	50.002	CR	50	Harrow Ave N	Manning Trail N	4.60	640	★	★			★	★	★★★★
81	10	91.001	CR	91	270 ft North of 239th St N	Scandia Trail N	3.00	825	★	★		★	★		★★★★

See Appendix D for complete table of prioritized locations

Notes: ADT = average daily traffic

CRSP 2 ID Example: 1.001: 1 = Route Number 1; 001 = First Segment

Table 4-8. Rural Curve Prioritization - Example Table

List No.	Project Page No.	CRSP 2 ID	Route System	Route No.	Segment Start Description	Segment End Description	Radius [Feet]	ADT [vpd]	Lane Width [Feet]	High Side Shoulder Type	Total Cross Section Width [Feet]	Adjacent Intersection	Visual Trap	Outside Edge Risk	Total Stars
101	1	9.007	CSAH	9	122nd St N	Ironwood Ave N	★		★	★	★	★	★	★	★★★★★★★
89	2	8.007	CSAH	8	Goodview Ave N	140th St N	★		★	★	★	★		★	★★★★★★
69	3	7.022	CSAH	7	Squarelake Trail N	St Croix Trail	★	★	★	★	★			★	★★★★★★
67	4	7.02	CSAH	7	Squarelake Trail N	St Croix Trail	★	★	★	★	★			★	★★★★★★
66	5	7.019	CSAH	7	Squarelake Trail N	St Croix Trail	★	★	★	★	★			★	★★★★★★
64	6	7.017	CSAH	7	Squarelake Trail N	St Croix Trail	★	★	★	★	★			★	★★★★★★
256	7	21.04	CSAH	21	10th St N	St Croix Trail S	★	★	★	★		★		★	★★★★★★
330	8	57.003	CR	57	170th St N	122nd St N	★	★	★	★		★		★	★★★★★★
90	9	8.008	CSAH	8	Homestead Ave N	122nd St N	★		★	★	★	★		★	★★★★★★
94	10	8.012	CSAH	8	Homestead Ave N	122nd St N	★		★	★	★	★		★	★★★★★★

See Appendix D for complete table of prioritized locations.

Notes: CR = County Road; mph = mile(s) per hour;

CRSP 2 ID Example: 1.001: 1 = Route Number 1; 001 = First Curve

Table 4-9. Rural Intersection Prioritization - Example Table

List No.	Project Page No.	CRSP 2 ID	Route System	Route No.	Major Approach	Minor Approach	Context Zone	Entering ADT or Cross Product[a]	Leg Configuration	Alignment Skew [Degrees]	Adjacent Railroad Crossing	Adjacent Curve	Adjacent Development	Previous STOP [> 5 Miles]	Major Approach Speed Limit	Major Approach Turn Lane Configuration	Total Stars
36	1	16.006	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 106 (Bielenberg RD)	★	★	★	★		★	★			★	★★★★★★★
42	2	17.007	CSAH	17	MN 36	CSAH 17 (Lake Elmo Ave N)	★	★	★					★	★	★	★★★★★★
3	3	10.012	CSAH	10	CSAH 15 (Manning Ave N)	CSAH 10 (10th St N)		★	★	★		★				★	★★★★★
9	4	12.008	CSAH	12	CSAH 15 (Manning AVE N)	CSAH 12 (75th St N)	★	★	★			★				★	★★★★★
12	5	13.004	CSAH	13	CSAH 13 (Radio DR)	CSAH 20 (Military RD)	★	★	★	★		★					★★★★★
18	6	14.003	CSAH	14	CSAH 14 (34th St N)	MSAS 121 (Hadley Ave N)	★	★	★				★			★	★★★★★
72	7	29.001	CSAH	29	CSAH 29 (Hilton TRL N)	M 2 (Viking Dr)	★	★	★	★		★					★★★★★
129	8	91.001	CR	91	MN 97 (Scandia Tr N)	CR 91 (Lofton Ave N)		★	★	★		★		★			★★★★★
4	9	10.013	CSAH	10	CSAH 10 (10th ST N)	CR 71 (Neal Ave N)	★	★	★			★					★★★★
10	10	12.011	CSAH	12	CSAH 12 (75th St N)	M 211 (Northland Ave)	★	★	★			★					★★★★

See Appendix D for complete table of prioritized locations.

Notes:[a] Units of measure differ. Entering ADT is vpd, cross product is vpd^2
CRSP 2 ID Example: 1.001: 1 = Route Number 1; 001 = First Intersection

Table 4-10. Urban Segment Prioritization - Example Table

List No.	Project Page No.	CRSP 2 ID	Route System	Route No.	Segment Start Description	Segment End Description	Length [Miles]	ADT [vpd]	Context Zone	Speed Limit	Lane Width	Edgeline Striping	Parking	ADT-U	Access Density	Cross Section and Design	Edge Risk	Shoulder Width	Total Stars
12	1	12.001	CSAH	12	Wildwood Rd	Ideal Ave N	0.81	8600	★		★	★	★	★			★	★	★★★★★★★
35	2	17.004	CSAH	17	Stillwater Blve N	80 ft North of 33rd St N	0.25	4500	★		★	★	★	★			★	★	★★★★★★★
65	3	25.002	CSAH	25	Brookview Dr E	Lake Rd	1.88	13367	★			★		★	★	★	★	★	★★★★★★★
16	4	13.004	CSAH	13	CSAH 13	790 ft South of Hargis Pkwy	2.18	11767	★	★				★		★	★	★	★★★★★★
30	5	15.005	CSAH	15	1386 North of 75th St N	MN 36	1.79	17650		★			★		★	★	★	★	★★★★★★
61	6	24.003	CSAH	24	CSAH24/Upper 56th St	740 ft North of State Route 36	0.47	12050	★		★			★		★	★	★	★★★★★★
5	7	5.002	CSAH	5	Owens St N	230 ft NorthEast of Autumn Way	1.87	8667			★	★	★	★			★	★	★★★★★★
14	8	13.001	CSAH	13	69th St S	70th St S	0.14	6000	★					★		★	★	★	★★★★★
15	9	13.002	CSAH	13	580 ft North of CSAH 20	69th St S	1.61	6400		★				★		★	★	★	★★★★★
21	10	13.01	CSAH	13	Intersection of Stillwater Blvd N	Intersection of 34th St N	0.45	5200	★					★	★		★	★	★★★★★

See Appendix D for complete table of prioritized locations.

Note: CRSP 2 ID Example: 1.001: 1 = Route Number 1; 001 = First Segment

Table 4-11. Urban Intersection Prioritization Vehicle Related - Example Table

List No.	Project Page No.	CRSP 2 ID	Route System	Route No.	Major Approach Name	Minor Approach Name	Context Zone	Traffic Control Device	Total Entering ADT or Cross Product[a]	Leg Configuration	Major Division Type	Alignment Skew [Degrees]	Adjacent Commercial Development	Major/Minor Approach Speed Limit	Major Approach Left Turn Lane Phasing	Major Approach Turn Lane Configuration	Total Stars
148	1	39.001	CSAH	39	CSAH 39 (80th ST S)	US 61 (Ramp)	★	★	★	★	★	★	★	★	★	★	★★★★★★★★★★
149	2	39.002	CSAH	39	MSAS 102 (80th St S)	US 61 (Ramp)	★	★	★	★	★	★	★	★	★	★	★★★★★★★★★★
3	3	10.003	CSAH	10	CSAH 10 (10th ST N)	MSAS 121 (Hadley Ave N)	★	★	★	★	★		★	★	★	★	★★★★★★★★★
4	4	10.005	CSAH	10	CSAH 10 (10th ST N)	SB I-694 (Ramp)	★	★	★	★	★		★	★	★	★	★★★★★★★★★
6	5	10.007	CSAH	10	CSAH 10 (10th ST N)	MSAS 237 (Helmo AVE N)	★	★	★	★	★		★	★	★	★	★★★★★★★★★
26	6	13.013	CSAH	13	CSAH 13 (Radio DR)	CSAH 16 (Valley Creek Rd)	★	★	★	★	★		★	★	★	★	★★★★★★★★★
35	7	13.025	CSAH	13	CSAH 13 (Radio DR)	MSAS 142 (Woodbury Lakes RD)	★	★	★	★	★	★	★	★		★	★★★★★★★★★
54	8	16.002	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 101 (Weir Dr)	★	★	★	★	★		★	★	★	★	★★★★★★★★★
55	9	16.003	CSAH	16	CSAH 16 (Valley Creek Rd)	I 494 (Ramp)	★	★	★	★	★	★		★	★	★	★★★★★★★★★
58	10	16.007	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 105 (Tower Dr)		★	★	★	★	★	★	★	★	★	★★★★★★★★★

See Appendix D for complete table of prioritized locations.

Notes: [a] Units of measure differ. Entering ADT is vpd, cross product is vpd^2.
CRSP 2 ID Example: 1.001: 1 = Route Number 1; 001 = First Intersection

List No.	Project Page No.	CRSP 2 ID	Route System	Route No.	Major Approach Name	Minor Approach Name	Traffic Control Device	Entering ADT	Adjacent Development	Max Number of Lanes Crossed	Presence of Sidewalk	Pedestrian Crossing Type	Total Stars
85	1	2.002	CSAH	2	CSAH 2 (Broadway Ave)	MSAS 137 (Everton Ave N)	★	★	★	★	★	★	★★★★★★
86	2	2.003	CSAH	2	CSAH 2 (W Broadway Ave)	CSAH 33 (Everton Ave N)	★	★	★	★	★	★	★★★★★★
87	3	2.004	CSAH	2	CSAH 2 (Broadway Ave W)	MSAS 142 (19th St SW)	★	★	★	★	★	★	★★★★★★
89	4	2.006	CSAH	2	CSAH 2 (Broadway Ave)	MSAS 102 (12th St SW)	★	★	★	★	★	★	★★★★★★
154	5	5.001	CSAH	5	CSAH 5 (Stillwater Blvd N)	Westbound TH 36 (Ramp)	★	★	★	★	★	★	★★★★★★
155	6	5.002	CSAH	5	CSAH 5 (Stillwater Blvd N)	MSAS 112 (Curve Crest Blvd)	★	★	★	★	★	★	★★★★★★
163	7	6.001	CSAH	6	MN 120 (Century Ave N)	MN 5 (Stillwater Rd)	★	★	★	★	★	★	★★★★★★
1	8	10.001	CSAH	10	MN 120 (Century Ave N)	CSAH 34 (Minnehaha Ave E)	★	★	★	★	★	★	★★★★★★
3	9	10.003	CSAH	10	CSAH 10 (10th ST N)	MSAS 121 (Hadley Ave N)	★	★	★	★	★	★	★★★★★★
4	10	10.005	CSAH	10	CSAH 10 (10th ST N)	SB I-694 (Ramp)	★	★	★	★	★	★	★★★★★★

Table 4-12. Urban Intersection Prioritization Pedestrian/Bike Related - Example Table

See Appendix D for complete table of prioritized locations.

Note: CRSP 2 ID Example: 1.001: 1 = Route Number 1; 001 = First Intersection

5.0 Beyond Infrastructure – County Highway Collaboration to Improve Local Road Safety

The focus of CRSP is to identify recommended priority safety projects at priority site locations within the County highway department's area of responsibility—namely, roadway infrastructure or engineering. However, the CRSP 2 process and this Plan recognize that severe traffic crashes are often largely due to poor driving behavior such as willful disregard for traffic laws and traffic control devices (e.g., texting while driving, not stopping at stop signs, red-light-running, speeding). Consequently, infrastructure safety improvements (e.g., rumble strips, improved intersection signing, etc.) are enhanced when deployed as part of a comprehensive and community-wide traffic safety approach. This section of the Plan looks beyond infrastructure safety improvements to guide county engineering staff to further engage with Regional TZD efforts through interdisciplinary collaboration to improve safety on county roads.

Traffic crashes are complex occurrences that often have multiple crash contributors. Traffic crashes may result from any combination of overlapping crash factors including the roadway or driving environment, the vehicle, and driver behavior. Figure 5-1 illustrates the complex interrelationship among these three crash contributors.

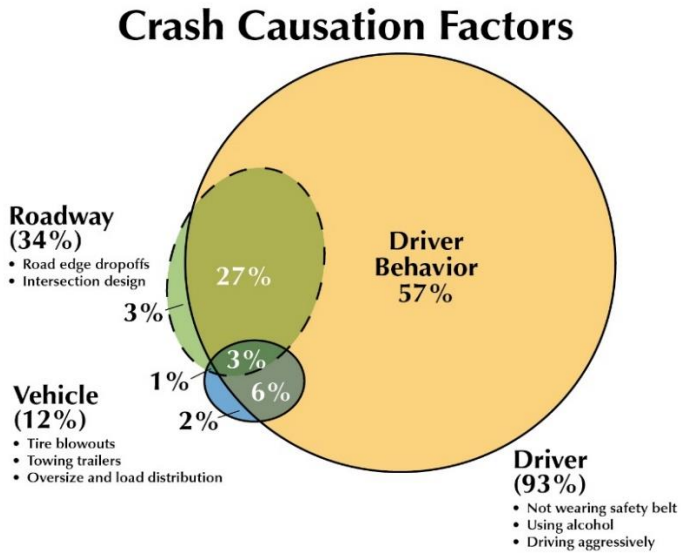


Figure 5-1. Crash Causation Factors[1]

Source: Human Factors and Highway Safety, FHWA Office of Safety Programs

[1] Figure 5-1 indicates the percentage of crashes influenced by each factor alone represented by non-overlapping sections (driver behavior is yellow, roadway is green, and vehicle is blue) while those sections that do overlap with other crash factors indicate the complex occurrence where multiple factors contribute to a crash. The percentages in the parentheses indicate the total influence a crash factor has to all crashes, whether exclusive or contributing with other factors.

These crash causation factors indicate that 93 percent of traffic crashes are due, in part, to driver behavior. Research supports, and CRSP 2 workshop participants across the state observed, that driver inattention/distractions, driver decision errors/poor judgment, and poor driver performance are primary factors contributing to traffic crashes (NHTSA, 2015a).

Minnesota statewide crash data from 2016 through 2020 was reviewed during CRSP 2 and revealed the following crash factors for the county road system statewide:

- 48 percent Lane Departure while operating a motor vehicle
- 47 percent Intersection Related
- 15 percent Unbelted Motorists
- 28 percent Impaired Driver
- 11 percent Inattentive/Distracted Driver
- 20 percent Speed Related

The risk factors and their percentages, when added together, exceed 100 percent because severe crashes typically involve multiple overlapping factors working in unison to contribute to the crash (e.g., an impaired driver who was driving too fast and departed his lane). In addition to infrastructure safety needs, CRSP 2 workshop participants discussed common themes and expressed concern about the growing number of drivers who:

- Use their smartphone
- Drive under the influence of alcohol and drugs
- Are/have unbelted motorists
- Drive at unsafe speeds
- Fail to stop or yield at stop-through intersections

Minnesota's county highway staff recognizes that engineering and infrastructure investments alone will not eliminate all fatal and severe crashes until motorists also make safer choices. Therefore, county road safety efforts must reach beyond infrastructure or engineering safety strategies and actively support a comprehensive, multi-disciplinary approach to road safety. This approach includes, but is not limited to, effective local traffic law enforcement, public education that touts the risks associated with poor driving choices, and emergency medical responses to effectively treat and transfer crash victims to the appropriate level of hospital care. Leveraging local infrastructure strategies with driver behavior-related safety strategies strengthens the safety impact of county efforts to reduce severe crashes.

5.1 County Highway Engineering Coordination with Minnesota Toward Zero Deaths Program

To foster interdisciplinary cooperation and engagement at the state, regional, and local level, the statewide Minnesota TZD Program employs an integrated approach of engineering, enforcement, education, emergency medical and trauma services, and more (e.g., supportive and informed judicial staff and strong traffic safety legislation) to move Minnesota toward its zero fatality vision. In addition to the statewide TZD Program efforts, regional partnerships created in eight Minnesota geographic areas promote local-level TZD efforts. Each Regional TZD partnership has a

local steering committee, co-led by MnDOT and State Patrol District personnel, to foster cooperation, establish safety priorities and initiatives, and leverage resources.

Minnesota's 87 counties are encouraged to collaborate with local driver-behavior safety partners and with the county's Regional TZD Program Coordinator to improve safety on local roadways. See Appendix E for Regional TZD Coordinator contact information.

5.2 Collaborations to Strengthen Local Road Safety

The following are a few examples of infrastructure-based safety strategies enhanced through interdisciplinary TZD collaboration.

- **Cooperatively conduct county road safety presentations with the assistance of local law enforcement and local safety coalition members**. Extend invitations to local law enforcement and safety coalition members to cooperatively participate in road safety presentations for county board or other public meetings on crash-causation and trends, effective safety countermeasures, and local support needed. Safety presentations that include behavioral safety partners reinforce awareness that preventing roadway deaths cannot be achieved through infrastructure improvements alone but require a comprehensive, interdisciplinary approach.
- **Deploy Lane Departure infrastructure safety strategies coupled with enhanced enforcement and public outreach**. To maximize the expected safety benefit of the Lane Departure safety strategies – such as centerline and edge line rumble or mumble strips, high visibility pavement markings, and adding or widening edgelines – integrate increased enforcement presence at targeted, high-risk locations and timeframes. Coupling infrastructure strategies with additional enforcement, along with public media outreach about the problem/risk, infrastructure deployment and the added enforcement, will improve safety and reduce risky driver behavior by strengthening the public's perceived risk of being stopped.
- **Cooperatively deploy roving vehicle speed display signs, with extra enforcement, to reduce speed**. Speed is a persistent contributor to traffic deaths on Minnesota roads and obtaining reductions in speed related crashes has proven difficult. Roving dynamic speed display signs are changeable message signs activated by radar, or other speed-sensing devices, that display an approaching driver's traveling speed. This driver feedback in conjunction with visible enforcement puts the driver on notice to slow down. Deployment of dynamic speed display signs to reduce speed requires the cooperative effort of highway agencies and law enforcement as well as local media to inform the public.
- **Support the expanded use of red light running confirmation lights coupled with enhanced enforcement**. To reduce the most common type of serious crash at signalized intersections (right-angle crashes), an innovative, low-cost red light running confirmation enforcement light enables one officer to monitor an intersection from a downstream location to directly observe red light running violations and issue citations more effectively and safely without requiring pursuit through the intersection. Red light running confirmation lights require only one officer and, because the confirmation lights reliably come on the same instant as the red light of the signal, officers spend less time in court. Red light running confirmation lights

require strong collaboration between county engineering and local law enforcement. In addition, public education and media outreach about the red light running confirmation lights, with supporting enforcement, deters drivers from high-risk red light running.

- **Consider the use of road safety audits and other crash analysis approaches to gain post-crash perspectives of severe crash causation and potential safety improvements**. Although a cornerstone of the CRSP 2 process is the systemic analyses of roadway risk factors contributing to severe crashes and to proactively apply a safety treatment to priority locations to prevent a severe crash, if a fatal or serious injury crash occurs, consider engaging a multi-disciplinary safety team to share perspectives. Local safety stakeholders representing engineering, enforcement, education, and education outreach or local TZD Safe Road Coalition members can offer valuable insight to both the roadway and driver behavior components of a severe crash, its causation, and interdisciplinary approaches to improving the roadway safety and maximizing the impact of infrastructure safety strategies.

Although the focus of the CRSPs is to identify priority infrastructure safety investments at high-risk locations, county highway staff recognize the importance of reaching beyond infrastructure and implementing a collaborative, multi-disciplinary approach to improving road safety, an approach that aligns with the statewide Minnesota TZD Program and the Minnesota SHSP.

6.0 Safety Project Development and Recommended Projects

This CRSP document is developed with a focus on proven effective strategies that can be widely implemented at low-cost and at several locations with a higher probability of risk of severe crashes. A systemic deployment of strategies is implemented to address risk of potential for severe crashes where the crash densities are too low to warrant a spot analysis. In Minnesota, the crash densities are approximately 0.01 severe crashes per mile per year across the county roadway system, which is not statistically significant when observed individually. In the CRSP 2 approach, the presence of a crash is viewed as complimentary to the risk analysis rather than a sole influencer. Additionally, since HSIP provides limited funding, low-cost strategies allow for wider deployment and treatment of more at-risk locations on the county system.

6.1 Safety Project Development Technical Process

The first step in the safety project development process involved documenting existing roadway and traffic volume characteristics of each candidate location and then working through a checklist that considers how these features influence selection of a particular recommended strategy. After the initial check, the second step is developing a **decision tree** for candidate locations. Multiple iterations and refinement went into the development of the six unique decision trees for CRSP 2 that helped guide safety strategies for:

- Rural Segments (See Figure 6.1)
- Rural Curves (See Figure 6.2)
- Rural Intersections (See Figure 6.3)
- Urban Segments (See Figure 6.4)
- Urban Intersections – Vehicle Related (See Figure 6.5)
- Urban Intersections – Ped/Bike Related (See Figure 6.6)

The final step in the technical process of updating the Washington CRSP involves developing a list of recommended safety projects – a specific infrastructure-based safety strategy for each of the identified high priority locations. The updating process for CRSP 2 is more complex and comprehensive than CRSP 1 because Washington County has already implemented many of the recommended safety projects identified in CRSP 1. Additionally, CRSP 2 has a large number of strategies that are eligible to compete for HSIP funding.

The process for safety project development utilizes a technical approach to limit subjectivity that could be exhibited when making countermeasure recommendations. Collaboration with County staff was also necessary so that the final lists of recommended projects will be the most impactful and reduce the associated risk and/or address prior crash history at high priority locations. Key points associated with the individual crash trees are described in the following paragraphs and illustrated in the accompanying figures.

6.2 Rural Segments

Preventing Lane Departure crashes, both single vehicle run-off the road and cross center head-on collisions, is the primary focus of safety project development along rural segments. Crash data indicates that single-vehicle crashes are over-represented where traffic volumes are between 500 and 2,000 vehicles per day and multiple Vehicle crashes are over-represented where traffic volumes are 1,250 vehicles per day and greater. This suggests, for single-vehicle related crashes, implementing road edge improvements such as enhanced edgelines or edge/shoulder rumble strips along lower volume segments would be the most beneficial to address the associated risk. As for multi-vehicle related crashes, a combination of edge and centerline improvements such as center rumble strips or center buffers should be implemented along higher volume segments.

Other factors considered include lane width and the presence of noise sensitive receivers (residences, schools, etc.). Implementation of edge rumble strips results in the perception that the width of the road has been narrowed which can increase complaints about vehicle noise in a more residentially dense area. One experimental countermeasure that can improve road edge safety as well as reduce the noise from vehicles striking rumble strips is a newer technology called sinusoidal rumble strips, or mumble strips. Since this is still an experimental strategy and not widely deployed, further research and performance evaluation should be considered before wide deployment. If lane widths are 12 feet, edge rumble strips are recommended. However, if lane widths are less than 12 feet, then enhanced edgelines are recommended, which can consist of, for example, 6-inch edgelines or embedded wet-reflective pavement markings.

Project implementation typically focuses lower cost strategies (enhanced edgelines) on roadways with less volume where crash densities are low and the highest cost strategies (center buffers) are reserved for application along only the highest volume roadways.

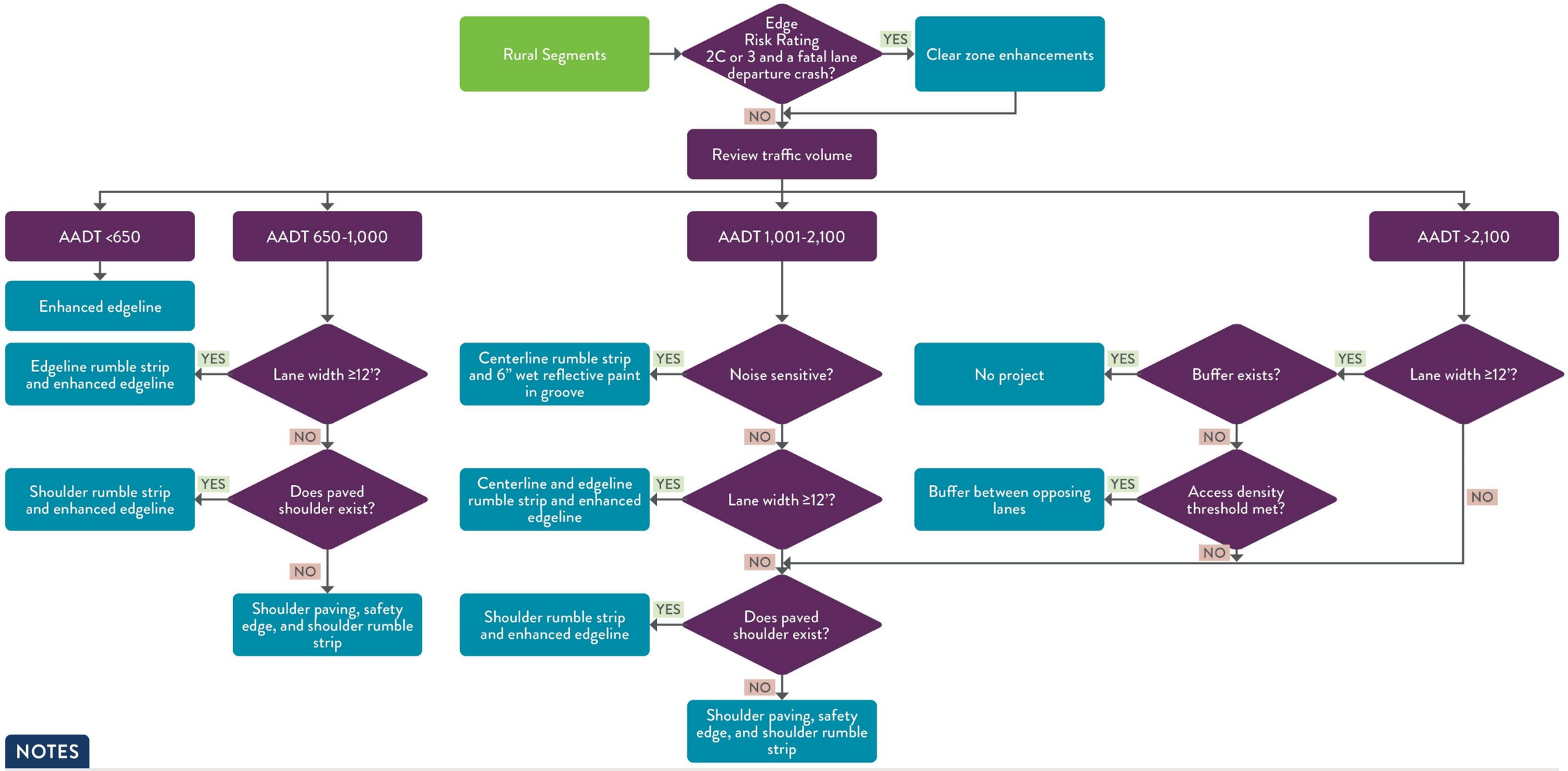
6.3 Rural Curves

Preventing Lane Departure crashes is the primary focus of rural curve safety project development. Safety literature and Minnesota's crash data indicates that the risk of a Lane Departure crash in curves decreases with increasing length of curve radius. However, reconstructing curves to increase their radius typically costs between $500,000 and $1,000,000 per curve. There are approximately 30,000 curves along Minnesota's county road system; therefore, reconstruction was not considered a feasible strategy to implement statewide due to limited funding. Instead, a number of lower cost safety strategies for curves were identified and include enhanced warning signs to improve navigation through curves, address slippery surfaces in curves with a history of crashes related to adverse pavement conditions, clear zone maintenance to reduce the severity of crashes when vehicles run off the road, and convert curves with multiple-T intersections to single-T intersections.

When deciding on a package of enhanced warning signs for rural curves, the primary factor considered is the speed differential between the posted speed limit on the curve approach and either the posted advisory speed in the curve or an inferred advisory speed computed using a formula that accounts for curve radius, super-elevation, and pavement friction. A speed differential of 5 miles per hour typically results in use of an advanced curve warning sign (if not already in-place), 10 miles per hour suggests the use of an advanced sign plus a speed advisory, and a 15 mile per hour differential suggests the use of an advanced sign, a speed advisory, and chevrons.

If the curve has a radius in the critical range and has a visual trap, chevrons would be recommended regardless of the speed differential.

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NOTES

Edge Risk Rating 2C: Usable shoulder, roadside with fixed objects

Edge Risk Rating 3: No usable shoulder, roadside with fixed objects

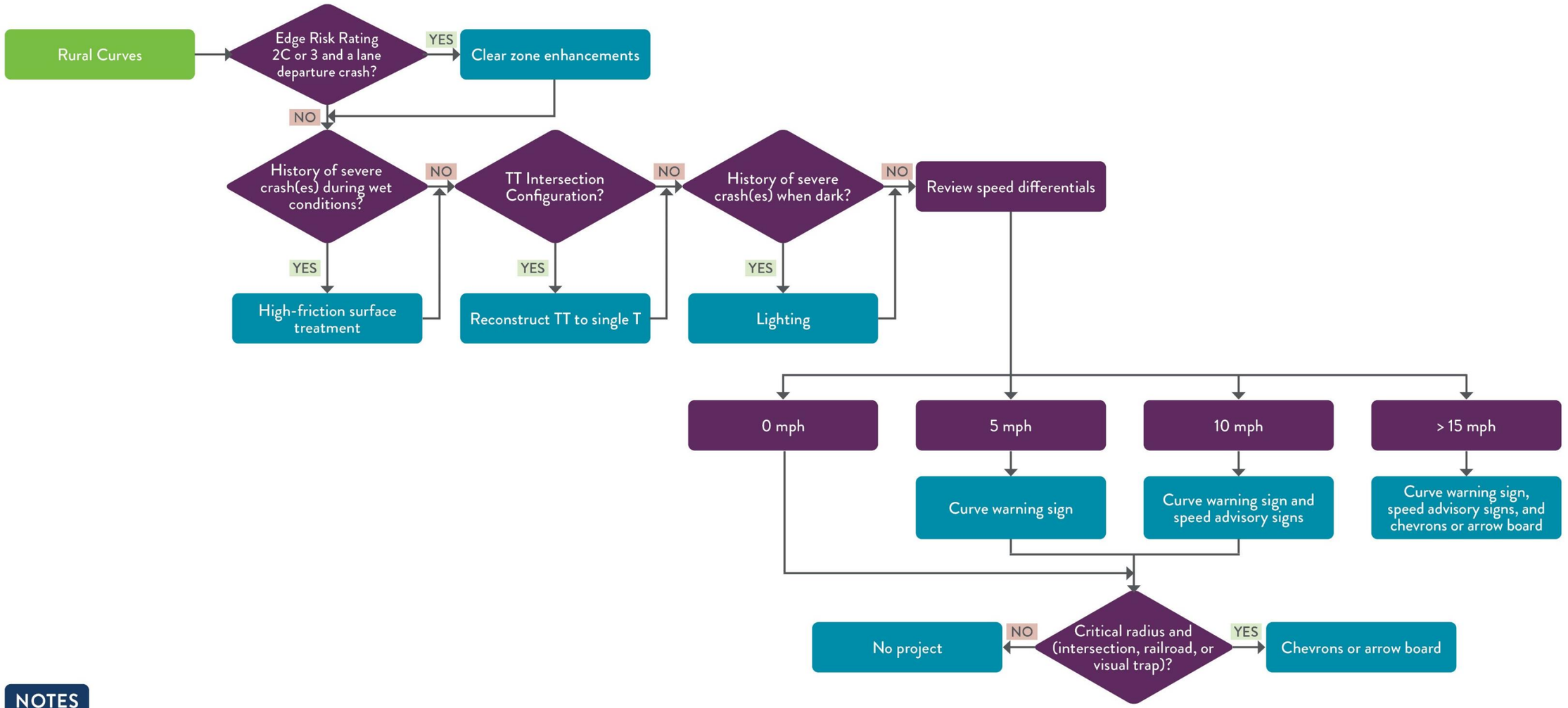
Clear Zone Enhancements: The project includes flattening of slopes, clearing, grubbing, right-of-way, entrance approaches and perhaps utility poles relocated. It does not include clear zone maintenance.

Noise Sensitive: Determined as residential areas, recreational, etc.

Manual Project Assignment: Locations that do not satisfy any case explicitly in the decision trees are not automatically assigned a project and are separately considered for manual project assignment.

Figure 6-1. Rural Segment Safety Project Decision Tree

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NOTES

Edge Risk Rating 2C: Usable shoulder, roadside with fixed objects

Edge Risk Rating 3: No usable shoulder, roadside with fixed objects

Clear Zone Enhancements: The project includes flattening of slopes, clearing, grubbing, right-of-way, entrance approaches and perhaps utility poles relocated. It does not include clear zone maintenance.

TT Intersection Configuration: A closely spaced intersection to a curve with skewed approaches to the major road creating conflicting movements, with both vehicles turning at the intersections and vehicles maneuvering through the curve.

Speed Differential: Difference between the speed limit and the advisory speed.

Manual Project Assignment: Locations that do not satisfy any case explicitly in the decision trees are not automatically assigned a project and are separately considered for manual project assignment.

Figure 6-2. Rural Curve Safety Project Decision Tree

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6.4 Rural Intersections

In Minnesota, a right-angle collision is the most common type of severe crash at rural intersections. County-selected strategies for this collision type have been very effective at mitigating these crashes. Strategies have included enhancing intersection related traffic signs and pavement markings, adding street lights, providing a dynamic warning system, and geometric upgrades (turning lanes, J-Turn intersections, and roundabouts). Implementing these strategies range from a few thousand dollars for upgraded traffic signs and pavement markings to around $1 million for J-Turn intersections and roundabouts. The volume of traffic through the intersection and the roadway geometry were key factors considered when assigning a particular strategy to a specific intersection.

The crash analysis indicated that rural intersections with lower traffic volumes have fewer severe crashes than comparable intersections with higher volumes. Therefore, projects with lower costs were focused on for at-risk intersections with a variety of traffic volumes while projects of medium to higher costs were focused on for at-risk intersections with higher traffic volumes.

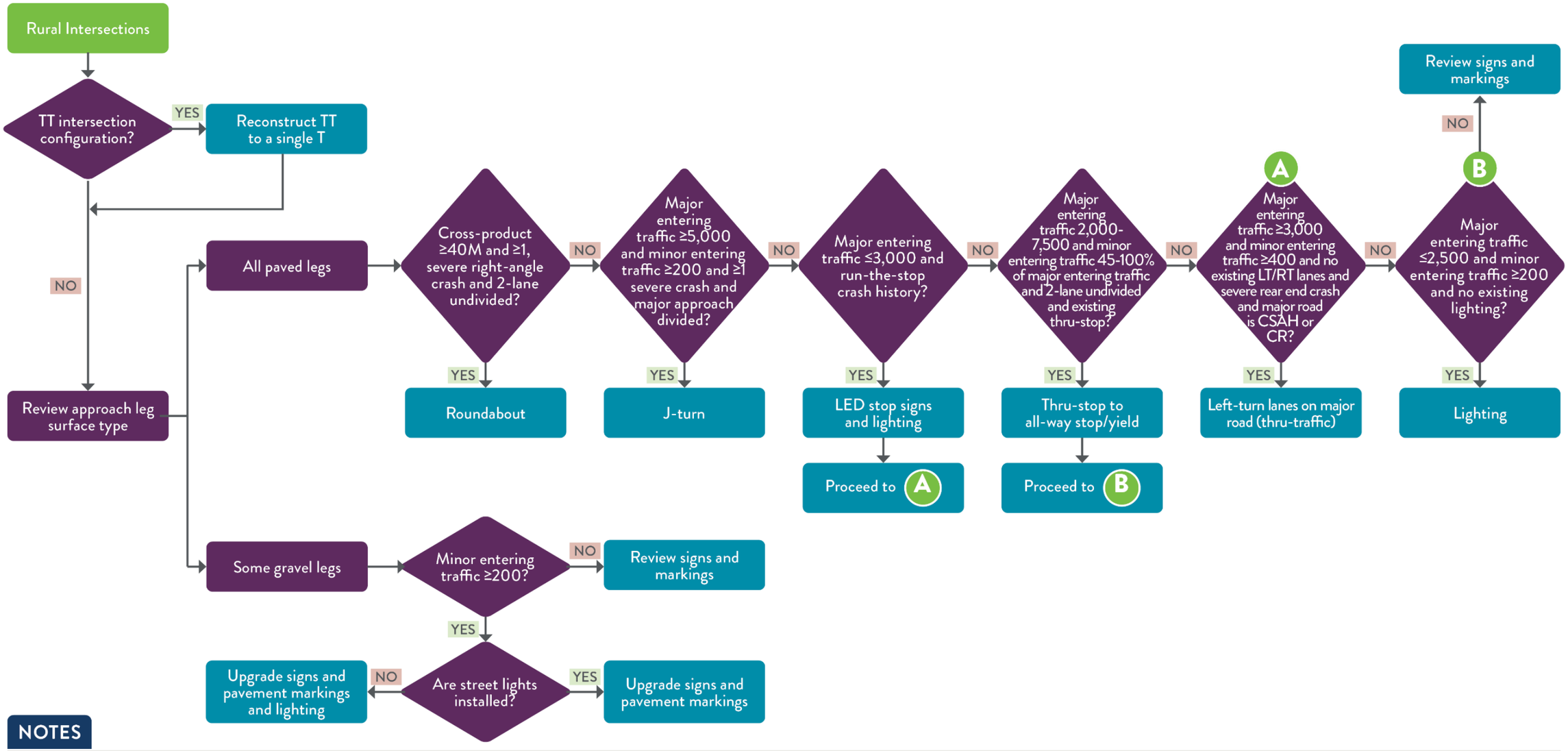
The cross section and geometry of the major roadway were also considered during project development. Since J-Turn intersections are most appropriately applied at intersections where the mainline has a divided cross section, they were only considered at locations where county roadways intersect with four-lane divided state highways. Application of rural roundabouts were only considered at intersections where the volume cross product (multiplication of major approaching volume with minor approaching volume) was equal to or exceeded 40 million. In other words, if an existing STOP controlled intersection met or exceeded the traffic volume that warrants a traffic signal, the project team recommended implementing a roundabout.

The occurrence of a prior severe crash was a prerequisite for suggesting higher cost strategies as a way of limiting the number of candidate locations consistent with the limitations in available safety funding. Additionally, to recommend a feasible number of projects with an appropriate associated cost, higher cost strategies were reserved for unique situations due to the limited amount of transportation safety funding available.

6.5 Urban Segments

The most common type of severe crashes along urban roadway segments are two-vehicle, rear-end and head-on crashes. The most commonly recommended project involves separating opposing traffic lanes and using this space to accommodate left-turning vehicles by converting wide two-lane or four-lane undivided roadways to either three-lane or five-lane cross sections. Key factors that were developed through the analysis that were considered during project development included roadway cross section, the volume of traffic, and access density.

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NOTES

Cross-Product: The product of the major entering traffic and minor entering traffic.

Entering Traffic:

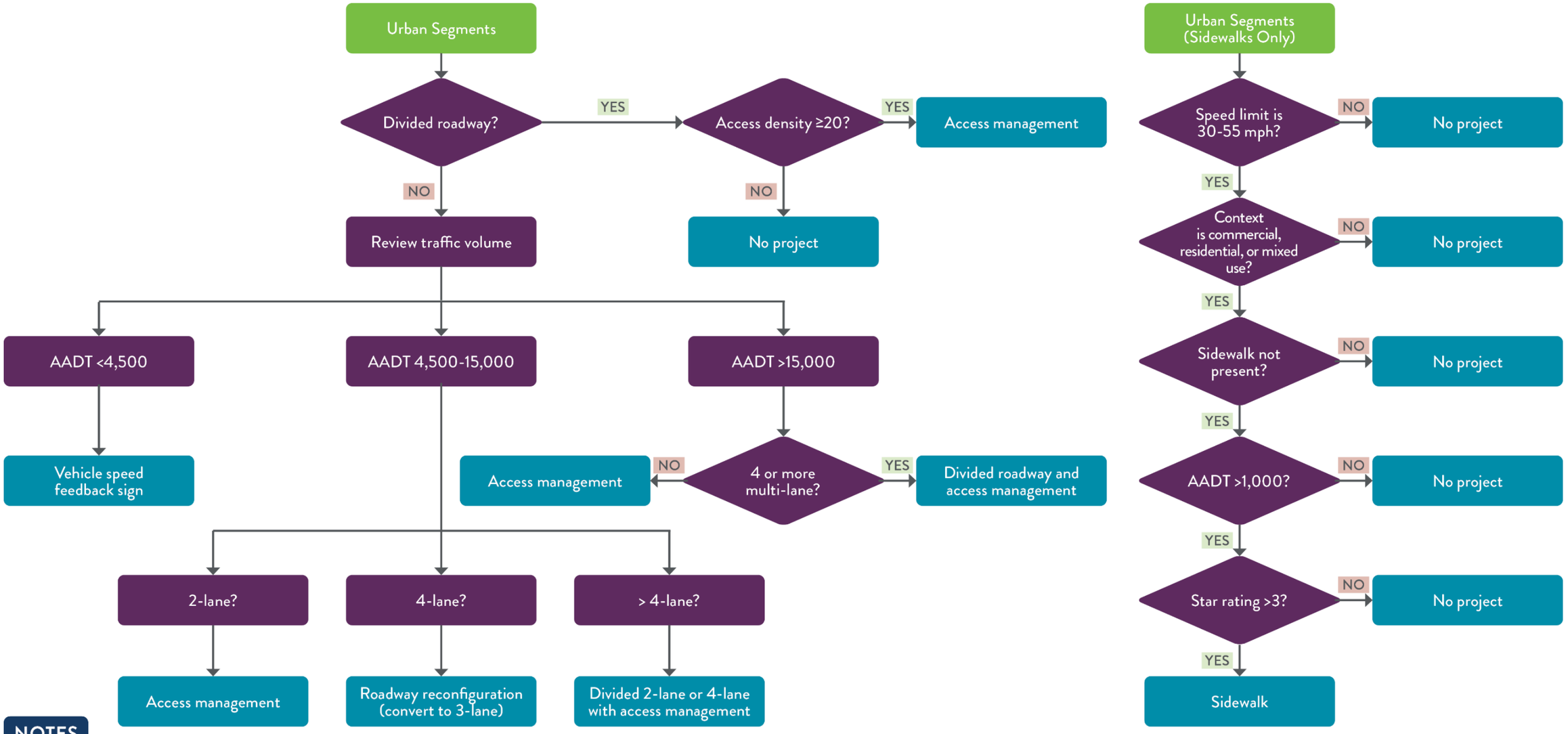
- *Total Entering Traffic*. The sum of AADT on all approaches divided by 2.
- *Major or Minor Entering Traffic*. The sum of AADT for the Major or Minor approaches divided by 2. If a 5-leg intersection, the sum of three Major or Minor approaches is divided by 2.

Manual Project Assignment: Locations that do not satisfy any case explicitly in the decision trees are not automatically assigned a project and are separately considered for manual project assignment.

TT Intersection Configuration: A closely spaced intersection to a curve with skewed approaches to the major road creating conflicting movements, with both vehicles turning at the intersections and vehicles maneuvering through the curve.

Figure 6-3. Rural Intersection Safety Project Decision Tree

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NOTES

Access Management: The planning, design, and implementation of land use and transportation strategies to maintain a safe flow of traffic while accommodating the access needs of adjacent development. Projects include limiting access points along the roadway and conflicts at driveways and intersections and increasing the distance between conflict points, so vehicles don't turn and cross in a chaotic way.

Manual Project Assignment: Locations that do not satisfy any case explicitly in the decision trees are not automatically assigned a project and are separately considered for manual project assignment.

Figure 6-4. Urban Segment Safety Project Decision Tree

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6.6 Urban Intersections - Vehicle Related Crashes

In Minnesota, a right-angle collision between two vehicles is the most common type of severe crash at urban intersections. County-selected safety strategies at urban intersections include: improving intersection geometry at unsignalized locations since installing traffic signals is not a safety strategy, adding confirmation lights to assist law enforcement to more efficiently address red light running, upgrading signal hardware, and converting to signalized J-Turn intersections at locations already controlled by traffic signals.

Key considerations include the current type of intersection control, the volume of traffic through the intersection, the cross section of the major roadway, and the presence of a prior severe crash.

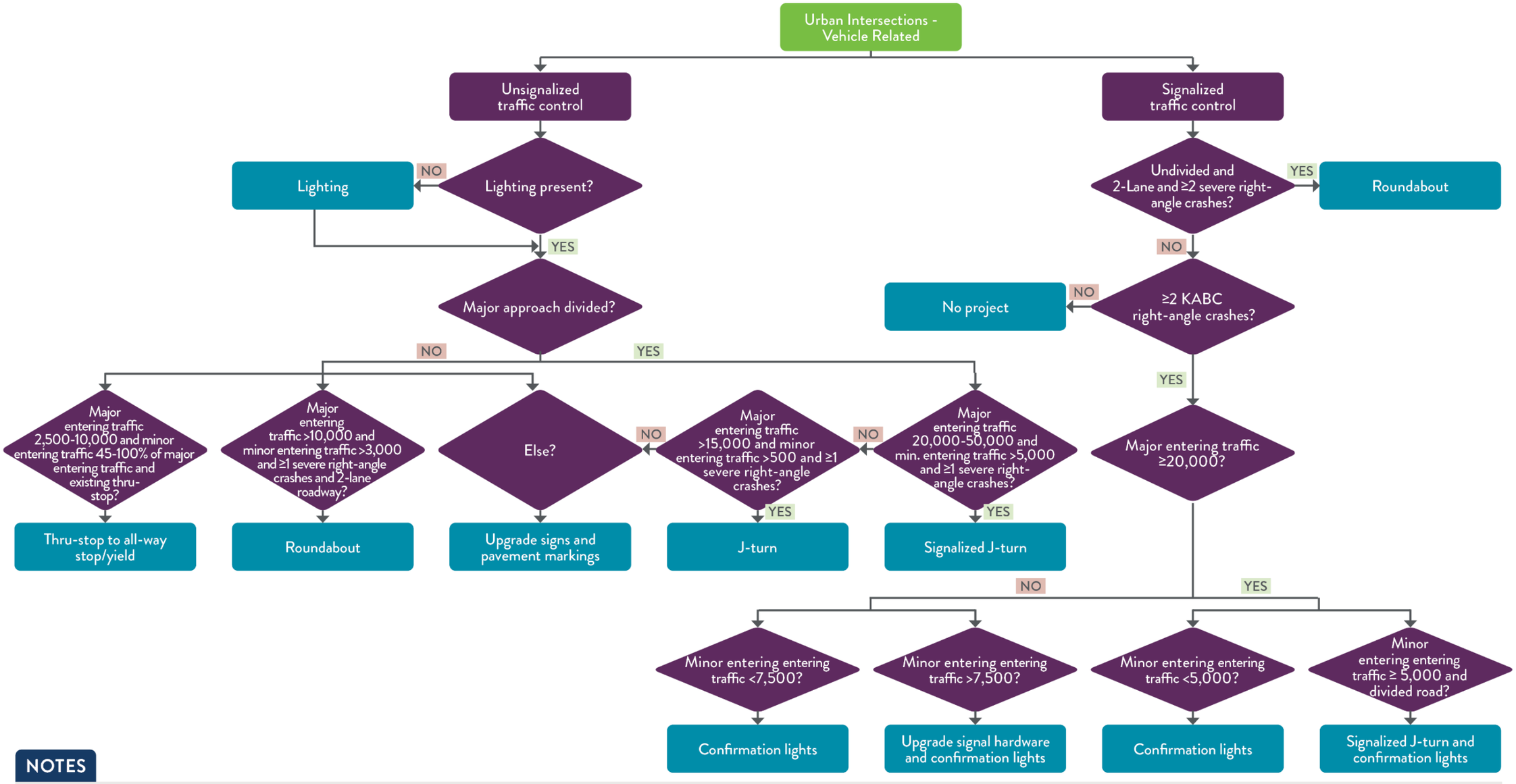
6.7 Urban Intersections - Pedestrian/Bike Related Crashes

In urban areas, the majority of severe pedestrian/bike related crashes occur at intersections and the majority of these occur at intersections controlled by traffic signals. This suggests that traffic signals by themselves are not a safety strategy for pedestrians and bicyclists. Primary objectives for this type of project development include:

- Avoiding the addition of traffic signals at unsignalized intersections and instead focusing on reducing the crossing distance that pedestrians and bicyclists must traverse by adding curb extensions or median refuge islands.
- Adding pedestrian activated devices such as rectangular rapid flash beacons and high intensity activated crosswalk beacons where appropriate.
- Adding proven effective strategies at already signalized intersections, such as countdown timers and a leading pedestrian interval, which provides pedestrians with a 3 to 5 second head start before providing vehicles with a green light.

Key factors considered during the project development process include intersection control, the traffic volume, and the roadway cross section.

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NOTES

Entering Traffic:

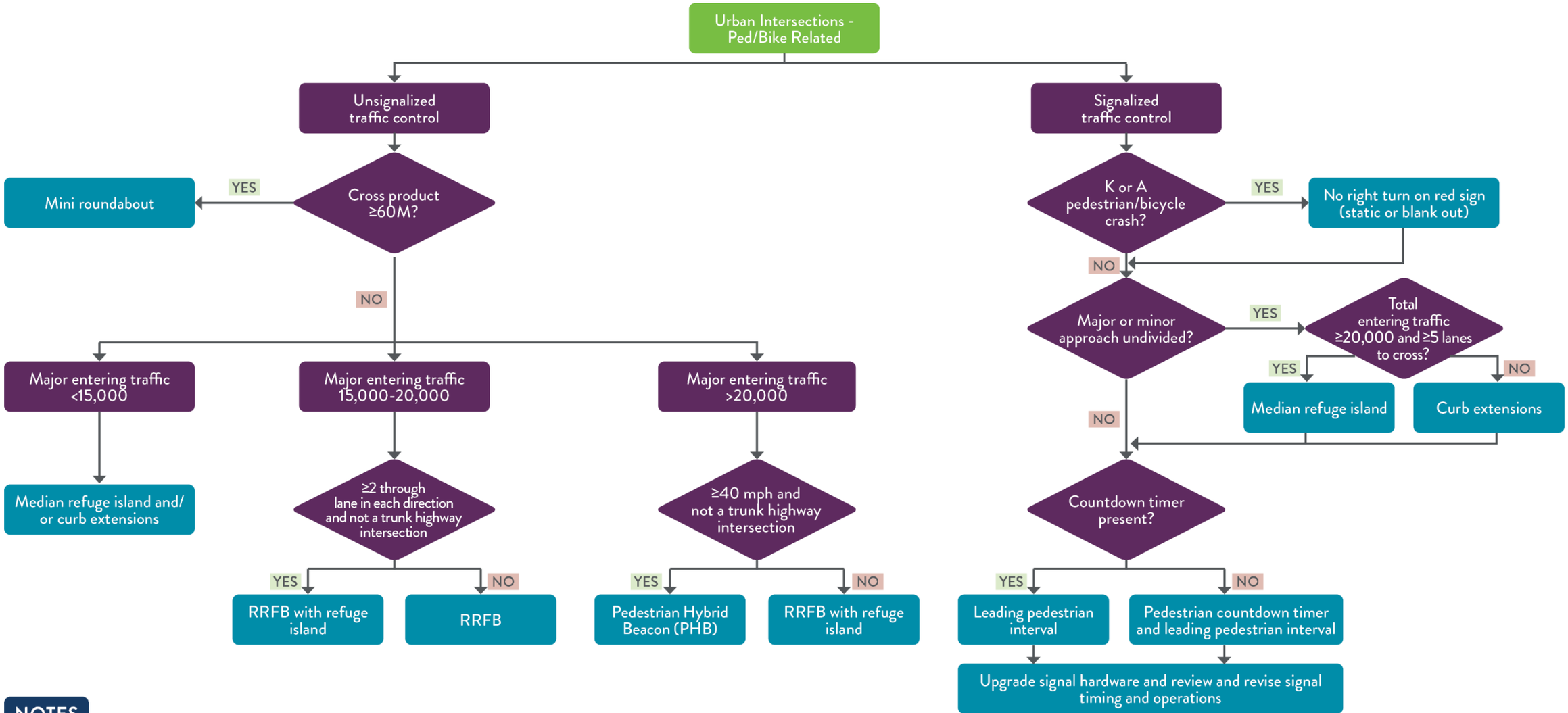
- *Total Entering Traffic.* The sum of AADT on all approaches divided by 2.
- *Major or Minor Entering Traffic.* The sum of AADT for the Major or Minor approaches divided by 2. If a 5-leg intersection, the sum of three Major or Minor approaches is divided by 2.

Manual Project Assignment: Locations that do not satisfy any case explicitly in the decision trees are not automatically assigned a project and are separately considered for manual project assignment.

Upgrade Signal Hardware: Includes projects such as pedestrian countdown timers, pedestrian push buttons, leading pedestrian intervals.

Figure 6-5. Urban Intersections – Vehicle Related Safety Project Decision Tree

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NOTES

Cross-Product: The product of the major entering traffic and minor entering traffic.

Entering Traffic:

- *Total Entering Traffic*. The sum of AADT on all approaches divided by 2.
- *Major or Minor Entering Traffic*. The sum of AADT for the Major or Minor approaches divided by 2. If a 5-leg intersection, the sum of three Major or Minor approaches is divided by 2.

Manual Project Assignment: Locations that do not satisfy any case explicitly in the decision trees are not automatically assigned a project and are separately considered for manual project assignment.

RRFB: Rectangular Rapid Flashing Beacon

Review and Revise Signal Timing and Operations: Includes recommendations to slow the walk phase to 3 ft/sec, eliminate flashing yellow on pedestrian push-button activation, etc.

Upgrade Signal Hardware: Includes projects such as pedestrian countdown timers, pedestrian push buttons, leading pedestrian intervals.

Figure 6-6. Urban Intersections – Pedestrian/Bike-Related Safety Project Decision Tree

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6.8 Recommended Safety Project Overview

The systemic risk assessment process identified at-risk locations that were considered priorities for safety project development and decision trees document the process that considered roadway features, traffic volumes, and the presence of prior crashes. This resulted in identification of a recommended safety project(s). An overview of the recommended projects is provided in the following paragraphs and summarized in Table 6-1. The full list of recommended projects can be found in Appendix F and the corresponding maps with project locations can be found in Appendix G.

- Rural Segments: 59 projects/$5,493,900
  - Buffer Between Opposing Lanes
  - Clear Zone Enhancements
  - 6" Wet Reflective Paint in Groove
  - Shoulder Paving and Safety Edge
  - Centerline Rumble Strip
  - Edgeline Rumble Strip
  - Shoulder Rumble Strip
  - Enhanced Edgeline
- Rural Curves: 36 projects/$1,240,000
  - Clear Zone Enhancements
  - High Friction Surface Treatment
  - Reconstruct TT to single T
  - Lighting
  - Curve Warning Sign
  - Speed Advisory Signs
  - Chevrons or Arrow Board
- Rural Intersections: 70 projects/$3,093,000
  - Roundabout
  - J-Turn
  - Reconstruct TT to single T
  - Left-turn lanes on major road (thru-traffic)
  - LED Stop Signs
  - Lighting
  - Upgrade Signs and Pavement Markings

  - Thru-stop to all way stop/yield
  - Review Signs and Markings
- Urban Segments: 24 projects/$5,008,800
  - Divided Roadway
  - Access Management
  - Roadway configuration (convert to 3-lane) / Road Diet
  - Vehicle Speed Feedback Sign
  - Sidewalk
- Urban Intersections (Vehicle Related): 77 projects/$18,548,000
  - Roundabout
  - Confirmation Lights
  - Signalized J-Turn
  - J-Turn
  - Upgrade Signal Hardware
  - Lighting
  - Thru-stop to all-way stop/yield
  - Upgrade Signs and Pavement Markings
- Urban Intersections (Pedestrian/Bike Related): 230 projects/$1,775,200
  - High-Intensity Activated Crosswalk Beacon (HAWK) or Pedestrian Hybrid Beacon (PHB)
  - Median Refuge Island
  - Curb Extensions
  - Pedestrian Countdown Timer
  - Leading Pedestrian Interval
  - Rectangular Rapid Flash Beacon (RRFB) w/Refuge Island
  - Rectangular Rapid Flash Beacon (RRFB)
  - Mini Roundabout
  - No right turn on red sign (static or blank out)
  - Upgrade Signal Hardware and review and revise signal timing and operations

Table 6-1. Summary of Washington County Recommended Safety Projects

Project Type Category	Number of Projects	Estimated Cost
Rural		
Segments	59	$5,493,900
Curves	36	$1,240,000
Intersections	70	$3,093,000
Total Rural	*165*	*$9,826,900*
Urban		
Segments	24	$5,008,800
Intersections (Vehicle)	77	$18,548,000
Intersections (Ped/Bike)	230	$1,775,200
Total Urban	*331*	*$25,332,000*
Total	***496***	***$35.1 Million***

One additional task that was completed as part of the overall safety project development process for Washington County was compiling project information in a single sheet in order to streamline the process for counties applying for HSIP funding. The HSIP submission form (Figure 6-7) includes; a description of the location, crash history, a summary of the systemic risk factors, a list of alternative strategies considered, identification of the recommended project, and estimated project cost. HSIP Submission forms for every recommended project can be found in Appendix H.

Rural Segment Project on CSAH 2

Roadway Information

Segment Start:	Lyons St NE
Segment End:	810 ft Northwest of Everton Ave N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	2
Facility Type:	2-Lane
Segment Length (mile):	0.42
Traffic Volume (vpd):	7600
Lane Width (ft):	12
Shoulder Type:	Paved
Shoulder Width (ft):	8



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	3	0	0	0
Density (per mile per yr):	1.42	0	0	0
Rate (per MVM):	0.51	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	7600	500 ≤ xx ≤ 2,000	-
ADT-RM (Rural Multi-veh) (vpd):	7600	xx ≥ 1,250	★
Curve Density (cur per mile):	2.36	xx ≥ 0.6	★
Access Density (access per mile):	11.79	7 ≤ xx ≤ 18	★
Outside Edge Risk:	1	2S or 3	-
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	1	$63,593.18
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Edgeline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	0	$0
				Total Estimated Project Cost	$63,593.18

Systemic Project	√

Project Page #: 15
Segment ID: 2.001
Date: 3/29/2023

Figure 6-7. Sample Highway Safety Improvement Program Submission Form

7.0 References

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COUNTY ROADWAY
Safety Plan
Toward ZERO Deaths

Appendix A – List of Analyzed Locations

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Rural Segment List for Washington County

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No	CRSP 2 ID	Route System	Route No.	Start Description	End Description	Length [Miles]	Context Zone	Edge Risk	ADT [vpd]	Lane Width [Feet]	Access Density [access per mile]	Total Lane Departure Crashes	Fatal Lane Departure Crashes	Total HO+SSO Crashes	Severe HO+SSO Crashes
1	2.001	CSAH	2	Lyons St NE	810 ft Northwest of Everton Ave N	0.42	Agriculture	1	7,600	12	11.8	0	0	0	0
2	3.001	CSAH	3	Square Lake Trail	170th St N	3.68	Agriculture	2C	920	12	13.0	4	0	0	0
3	3.002	CSAH	3	2250 ft South of 177th St N	170th St N	0.36	Agriculture	2C	2,550	12	19.6	2	1	1	1
4	3.003	CSAH	3	962 ft Southwest of 205th St N	2250 ft South of 177th St N	3.48	Agriculture	2C	2,550	12	21.2	1	0	0	0
5	3.005	CSAH	3	240th St	Olinda Ln N	2.49	Agriculture	2C	2,525	12	17.3	1	0	0	0
6	4.001	CSAH	4	Forest Blvd N	Manning Trail N	4.88	Agriculture	2C	3,725	12	15.8	8	0	0	0
7	4.002	CSAH	4	Intersection of Manning Trail N	Intersection of Olinda Trail N	2.72	Agriculture	1	2,900	12	7.3	0	0	0	0
8	4.003	CSAH	4	Olinda Trail	St Croix Trail	3.93	Agriculture	2C	737	11	15.5	11	0	1	0
9	5.003	CSAH	5	Dellwood Rd	Norell Ave N	0.85	Residential	1	5,500	12	15.3	1	0	0	0
10	5.004	CSAH	5	Otchipwe Ave N	Dellwood Rd	1.84	Agriculture	2C	3,200	12	24.5	6	0	1	0
11	6.002	CSAH	6	Ideal Ave N	34th St N	1.19	Residential	3	5,150	12	26.0	1	0	1	0
12	7.001	CSAH	7	Goodview Ave	Jody Ave N	4.06	Agriculture	2C	1,833	12	18.0	6	0	4	1
13	7.002	CSAH	7	Jody Ave N	Manning Trail N	1.77	Agriculture	2C	2,467	12	18.7	1	0	1	0
14	7.003	CSAH	7	Manning Trail N	Partridge Rd N	4.36	Agriculture	2C	1,648	12	19.0	1	0	0	0
15	7.004	CSAH	7	Partridge Rd N	Squarelake Trail N	0.51	Agriculture	2C	840	12	17.8	0	0	0	0
16	7.005	CSAH	7	Squarelake Trail N	St Croix Trail	3.11	Agriculture	2C	428	12	11.3	3	0	0	0
17	8.003	CSAH	8	Goodview Ave N	140th St N	1.72	Agriculture	2S	1,950	12	17.5	3	0	1	0
18	8.004	CSAH	8	Homestead Ave N	122nd St N	3.30	Agriculture	2S	870	11	14.5	2	0	2	0
19	9.001	CSAH	9	75th St	Ironwood Ave	3.49	Agriculture	2C	3,567	12	13.5	2	0	0	0
20	9.002	CSAH	9	122nd St N	Ironwood Ave N	2.53	Agriculture	3	1,150	12	13.4	1	0	0	0
21	10.003	CSAH	10	1620 ft East of Linwood Ave N	Lake Elmo Ave N	2.17	Recreational	3	6,600	12	13.8	5	0	2	1
22	10.004	CSAH	10	Lake Elmo Ave N	Stagecoach Trail N	4.25	Residential	2C	4,675	11	14.6	5	0	2	1
23	11.002	CSAH	11	120th St N	540 ft Southwest of Orwell Ave N	3.24	Agriculture	2C	1,175	12	19.1	3	0	0	0
24	11.003	CSAH	11	Square Lake Trail N	120th St N	1.55	Agriculture	2C	550	12	34.2	2	0	1	0
25	12.002	CSAH	12	Ideal Ave N	Jamaca Ave N	0.99	Campus	2C	9,000	12	12.1	2	0	0	0
26	12.003	CSAH	12	CSAH 12	945ft West of CSAH 12	2.83	Agriculture	1	4,850	12	9.9	4	0	2	0
27	12.004	CSAH	12	955 ft West of Manning Ave N	345 ft Northwest of Birchwood Dr	1.91	Residential	2C	6,750	12	14.1	4	0	2	0
28	13.003	CSAH	13	790 ft South of Hargis Pkwy	580 ft North of Washington Co Hwy 20	0.86	Agriculture	2C	9,500	12	19.8	2	0	0	0
29	13.009	CSAH	13	Stillwater Blvd N	15th St N	1.49	Residential	2C	7,700	12	18.1	0	0	0	0
30	14.001	CSAH	14	Geneva Ave N	1110 ft East of Jamaca Ave N	3.21	Agriculture	2C	14,833	12	5.6	8	0	2	0
31	14.002	CSAH	14	1110 ft East of Jamaca Ave N	494 ft West of Lake Elmo Ave N	1.76	Agriculture	2C	10,400	12	12.48	2	0	2	1
32	14.006	CSAH	14	Manning Ave N	47th St N	2.99	Agriculture	2C	3,650	12	19.4	2	0	1	0
33	14.007	CSAH	14	N Osgood Ave	Stagecoach Trail N	0.50	Agriculture	2C	5,000	12	19.9	0	0	0	0
34	15.001	CSAH	15	950 ft NorthEast 10th St N	490 ft South of MidWest Trail N	1.22	Agriculture	2C	13,550	12	9.8	4	0	2	0
35	15.002	CSAH	15	500 ft NorthEast of Intersection of Manning Trail N	950 ft NorthEast 10th St N	0.38	Agriculture	2C	11,600	12	15.8	0	0	0	0
36	15.003	CSAH	15	Intersection of 40th St N	500 ft NorthEast of Manning Trail N	2.62	Residential	1	13,900	12	14.9	7	1	4	1
37	15.006	CSAH	15	655 ft North of Dellwood Rd	1386 North of 75th St N	1.37	Residential	2C	12,500	12	17.5	6	0	2	0
38	15.007	CSAH	15	590 ft South of Mendel Rd N	655 ft North of Dellwood Rd	1.41	Agriculture	2C	7,000	12	12.0	2	1	1	1
39	15.008	CSAH	15	614 ft North of 110th St N	590 ft South of Mendel Rd N	0.43	Agriculture	2C	7,000	12	14.0	3	1	0	0
40	15.009	CSAH	15	Square Lake Trail N	614 ft North of 110th St N	1.91	Agriculture	2C	6,800	12	16.7	3	0	0	0
41	15.01	CSAH	15	Intersection of 170th St N	Intersection of Square Lake Trail N	4.51	Agriculture	1	5,200	12	12.2	10	0	2	0
42	15.011	CSAH	15	Intersection of Scandia Trail N	Intersection of 170th St N	4.11	Agriculture	2C	3,975	12	16.3	16	1	3	1
43	15.012	CSAH	15	240th St N	Scandia Trail N	3.02	Agriculture	2C	2,450	12	19.2	3	0	0	0
44	15.013	CSAH	15	290 ft North of 53rd St N	40th St N	1.31	Mixed Use	1	15,150	12	9.2	2	0	2	0
45	17.001	CSAH	17	590 ft South of 30th St N	10th St N	1.92	Agriculture	2C	3,650	11	19.8	1	0	1	0
46	17.005	CSAH	17	60th St N	Stillwater Blve N	2.41	Residential	2C	4,750	12	20.3	6	0	3	1
47	17.006	CSAH	17	75th St	200 ft South of 60th St N	1.52	Agriculture	2C	5,000	12	24.3	5	0	4	0
48	18.001	CSAH	18	Military Rd	2422 ft West of Woodlane Dr Rd	0.95	Residential	2C	12,000	12	30.4	2	0	0	0
49	18.006	CSAH	18	Manning Ave S	Oakgreen Ave S	1.96	Agriculture	2C	2,600	12	18.4	1	0	1	0
50	18.007	CSAH	18	Oakgreen Ave S	St Croix Trail S	2.28	Residential	3	1,550	12	26.3	5	0	1	0
51	18.008	CSAH	18	260 ft North of 7th St S	Stagecoach Trail S	2.48	Residential	2C	4,288	12	15.7	4	0	3	0
52	19.001	CSAH	19	80th St S	725 ft Southwest of E Point Douglas Rd S	2.08	Agriculture	2C	6,900	12	9.1	6	0	3	0
53	19.003	CSAH	19	1900 ft South of Bailey Rd	630 ft of Military Rd	1.73	Agriculture	1	7,300	12	17.9	4	0	1	0
54	20.002	CSAH	20	Bailey Rd	617 ft West of Radio Dr	2.62	Residential	2C	3,925	12	26.0	2	0	1	0
55	20.003	CSAH	20	632 ft Northwest of Radio Dr	710 ft Southwest of Radio Dr	0.25	Agriculture	3	5,200	12	7.9	2	0	0	0
56	20.004	CSAH	20	710 ft Southwest of Radio Dr	Intersection of Military and Jamaica Ave S	1.10	Agriculture	2C	5,200	12	12.7	1	0	0	0
57	21.001	CSAH	21	200 ft South of 90th St S	Point Douglas Dr S	5.08	Agriculture	2C	1,107	12	12.4	5	0	1	1
58	21.002	CSAH	21	1493 ft North of 87th St S	200 ft South of 90th St S	0.58	Agriculture	2C	1,400	12	15.6	1	0	0	0
59	21.003	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S	3.84	Agriculture	3	1,150	12	19.0	5	0	1	0
60	21.004	CSAH	21	170 ft North of 37th St	1320 ft Southwest of 45th St	1.40	Agriculture	3	1,350	12	8.6	5	1	0	0
61	21.006	CSAH	21	10th St N	St Croix Trail S	4.64	Agriculture	3	1,240	12	15.3	7	0	1	0
62	21.007	CSAH	21	47th St N	10th St N	3.81	Agriculture	1	4,500	12	11.0	9	0	3	0
63	22.005	CSAH	22	840 ft East of CSAH 19	Peller Ave S	5.38	Agriculture	1	1,752	12	12.8	1	0	0	0
64	24.001	CSAH	24	275 ft North of Valley View Park Rd	47th St N	0.86	Agriculture	2C	6,000	12	42.0	2	0	0	0
65	28.001	CSAH	28	TH 95 (Manning Ave S)	CSAH 21 (St Croix Scenic Bywy)	2.76	Agriculture	2C	975	12	10.9	2	0	0	0
66	29.001	CSAH	29	Stillwater Rd	Viking Dr	1.57	Residential	2C	10,250	12	12.1	3	0	2	0
67	50.001	CR	50	Forest Blvd N	Harrow Ave N	1.46	Agriculture	1	2,150	12	14.4	3	0	2	0
68	50.002	CR	50	Harrow Ave N	Manning Trail N	4.60	Agriculture	2S	640	12	18.9	3	0	0	0
69	51.001	CR	51	Square Lake Trail N	St Croix Trail N	2.98	Agriculture	2C	552	12	14.1	1	0	0	0
70	52.002	CR	52	365 ft Northwest of Ostrum Ave N	St Croix Trail	1.63	Agriculture	2C	395	12	13.5	1	0	1	0
71	55.001	CR	55	Square Lake Trail N	Dellwood Rd	4.32	Agriculture	2C	1,825	12	18.5	1	0	0	0
72	57.001	CR	57	170th St N	122nd St N	5.83	Agriculture	3	359	12	16.3	2	0	0	0
73	59.001	CR	59	Paul Ave N	St Croix Trail N	1.82	Agriculture	2C	325	12	14.3	0	0	0	0
74	61.001	CR	61	Manning Trail N	Norell Ave N	2.84	Agriculture	2C	510	12	13.0	0	0	0	0
75	64.001	CR	64	Manning Ave N	Neal Ave N	0.97	Residential	2C	1,700	12	22.8	0	0	0	0
76	71.001	CR	71	40th St S	70th St S	2.96	Agriculture	1	820	12	14.5	2	0	0	0
77	71.002	CR	71	10th St N	40th St S	5.12	Residential	3	1,400	10	19.7	5	0	1	0
78	74.001	CR	74	Hastings Ave	Hinton Ave S	2.20	Residential	3	2,300	12	17.7	0	0	0	0

Rural Segment List for Washington County

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No	CRSP 2 ID	Route System	Route No.	Start Description	End Description	Length [Miles]	Context Zone	Edge Risk	ADT [vpd]	Lane Width [Feet]	Access Density [access per mile]	Total Lane Departure Crashes	Fatal Lane Departure Crashes	Total HO+SSO Crashes	Severe HO+SSO Crashes
79	75.001	CR	75	14th Ave	105th St S	2.52	Agriculture	3	1,120	12	21.0	1	0	0	0
80	76.001	CR	76	Manning Ave S	St Croix Trail S	3.03	Agriculture	2S	348	12	14.2	0	0	0	0
81	91.001	CR	91	270 ft North of 239th St N	Scandia Trail N	3.00	Agriculture	2C	825	12	16.0	1	0	1	0
82	96.001	CSAH	96	280 ft West of Dellwood Ave	Jamaca Ave N	3.16	Agriculture	2C	4,050	12	11.4	11	0	2	0
83	96.002	CSAH	96	Jamaca Ave N	Manning Ave N	3.08	Agriculture	2C	3,700	12	16.9	2	1	0	0
84	96.003	CSAH	96	Manning Ave N	Norell Ave N	1.64	Agriculture	2C	7,600	12	12.2	4	0	3	0
85	96.004	CSAH	96	Norell Ave N	St Croix Trail	1.17	Agriculture	2C	3,050	12	11.1	1	0	0	0
86	244.002	CSAH	244	350 ft East of Ridge Way	Stillwater Rd	0.75	Cabins	2C	11,800	11	5.3	0	0	0	0
87	17B.001	CR	17	10th St N	513 ft South of Hudson Blvd	1.00	Residential	2C	3,400	12	15.0	2	0	1	1
88	19A.001	CR	19	US 10	Miller Rd	0.71	Agriculture	1	2,700	12	11.2	9	1	1	0
89	4A.001	CR	4	Elmcrest Ave N	Forest Blvd N	1.82	Agriculture	2C	1,800	12	20.3	0	0	0	0
					Total Length (Miles)	**210.57**						**277**	**8**	**80**	**11**

Curve List for Washington County

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.	CRSP 2 ID	Route System	Route No.	Start Description	End Description	Speed Limit [mph]	Radius [feet]	Area Type	ADT [vpd]	Lane Width [feet]	Shoulder Type	Outside Shoulder Width [feet]	Total Cross Section Width [feet]	Adjacent Intersection	Visual Trap	Lighting	Outside Edge Risk
1	2.001	CSAH	2	Lyons St NE	810 ft Northwest of Everton Ave N	55	985	Rural	7600	11	Paved	6	38	Intersection	None	None	2C
2	2.002	CSAH	2	420 ft SouthEast of Ethan Ct N	NW 4th St	40	785	Suburban	20200	10	None	0	40	Intersection	None	Present	3
3	3.001	CSAH	3	Square Lake Trail	170th St N	55	712	Rural	980	10	Gravel	3	30	Intersection	None	None	3
4	3.002	CSAH	3	Square Lake Trail	170th St N	50	1084	Rural	980	10	Gravel	3	30	None	None	None	3
5	3.003	CSAH	3	Square Lake Trail	170th St N	55	1631	Rural	980	10	Gravel	6	30	None	None	None	1
6	3.004	CSAH	3	Square Lake Trail	170th St N	55	1524	Rural	980	10	Gravel	3	30	None	None	None	3
7	3.005	CSAH	3	Square Lake Trail	170th St N	55	808	Rural	980	10	Gravel	6	30	None	None	None	2C
8	3.006	CSAH	3	Square Lake Trail	170th St N	50	2763	Rural	980	10	Gravel	3	30	Intersection	None	None	3
9	3.007	CR	3	Square Lake Trail	170th St N	55	726	Rural	860	10	Gravel	3	30	None	None	None	3
10	3.008	CR	3	Square Lake Trail	170th St N	55	394	Rural	860	10	Composite	6	30	None	None	None	2C
11	3.009	CSAH	3	Square Lake Trail	170th St N	50	1448	Rural	860	10	Paved	3	30	None	None	None	3
12	3.01	CSAH	3	2250 ft South of 177th St N	170th St N	55	640	Rural	2550	10	Paved	3	20	None	None	None	3
13	3.011	CSAH	3	2250 ft South of 177th St N	170th St N	55	2021	Rural	2550	10	Paved	9	20	None	None	None	2C
14	3.012	CSAH	3	962 ft Southwest of 205th St N	2250 ft South of 177th St N	55	920	Rural	2550	10	None	0	42	Intersection	None	None	3
15	3.013	CR	3	962 ft Southwest of 205th St N	2250 ft South of 177th St N	55	882	Rural	2700	10	Paved	6	42	Intersection	None	None	2C
16	3.014	CR	3	962 ft Southwest of 205th St N	2250 ft South of 177th St N	55	1240	Rural	2700	10	None	0	42	Intersection	None	None	3
17	3.02	CSAH	3	240th St	Olinda Ln N	55	1256	Rural	2950	10	Paved	9	40	None	None	None	1
18	3.021	CSAH	3	240th St	Olinda Ln N	55	1036	Rural	2950	10	None	0	40	Intersection	None	None	3
19	3.022	CSAH	3	240th St	Olinda Ln N	55	1493	Rural	2750	10	Paved	6	40	None	None	None	2C
20	3.023	CR	3	240th St	Olinda Ln N	55	764	Rural	2750	10	Paved	9	40	None	None	None	2C
21	3.024	CR	3	240th St	Olinda Ln N	55	1275	Rural	2750	10	Paved	6	40	None	None	None	2C
22	3.025	CR	3	240th St	Olinda Ln N	55	1565	Rural	2300	10	Paved	9	40	None	None	None	1
23	4.001	CSAH	4	Forest Blvd N	Manning Trail N	55	1112	Rural	2900	12	Paved	6	44	None	None	None	1
24	4.002	CSAH	4	Forest Blvd N	Manning Trail N	55	1319	Rural	2900	12	Paved	6	44	None	None	None	1
25	4.003	CSAH	4	Intersection of Manning Trail N	Intersection of Olinda Trail N	55	677	Rural	840	11	Paved	6	36	None	None	None	2C
26	4.004	CSAH	4	Intersection of Manning Trail N	Intersection of Olinda Trail N	55	1026	Rural	840	11	Composite	6	36	Intersection	None	None	2C
27	4.005	CSAH	4	Intersection of Manning Trail N	Intersection of Olinda Trail N	55	2888	Rural	840	11	Composite	6	36	None	None	None	2C
28	4.006	CSAH	4	Intersection of Manning Trail N	Intersection of Olinda Trail N	55	996	Rural	510	11	Composite	6	36	Intersection	None	None	2C
29	4.007	0	0	Olinda Trail	St Croix Trail	55	1230	Rural	510	12	Gravel	0	36	Intersection	Present	None	Unknown
30	4.008	CSAH	4	Olinda Trail	St Croix Trail	55	230	Rural	510	12	Gravel	0	36	Unknown	None	Unknown	Unknown
31	4.009	CSAH	4	Olinda Trail	St Croix Trail	55	140	Rural	510	12	Gravel	0	36	None	None	Unknown	Unknown
32	4.01	CSAH	4	Olinda Trail	St Croix Trail	55	201	Rural	510	12	Gravel	0	36	Intersection	Present	Unknown	Unknown
33	4.011	CSAH	4	Olinda Trail	St Croix Trail	55	710	Rural	510	12	Gravel	0	36	None	None	Unknown	Unknown
34	4.012	CSAH	4	Olinda Trail	St Croix Trail	55	1178	Rural	510	12	Composite	0	36	None	None	Unknown	Unknown
35	4.013	CSAH	4	Olinda Trail	St Croix Trail	55	1523	Rural	510	12	Composite	0	36	None	None	Unknown	Unknown
36	4.014	CSAH	4	Olinda Trail	St Croix Trail	55	931	Rural	860	12	Unknown	0	36	Intersection	None	Unknown	Unknown
37	5.003	CSAH	5	Owens St N	230 ft NorthEast of Autumn Way	30	694	Rural	5800	10	Paved	6	20	Intersection	None	None	2C
38	5.004	CSAH	5	Dellwood Rd	Norell Ave N	55	1040	Rural	5200	10	Paved	6	50	Intersection	None	None	2C
39	5.005	CSAH	5	Otchipwe Ave N	Dellwood Rd	55	1841	Rural	3200	10	Paved	3	24	None	None	None	3
40	5.006	CSAH	5	Otchipwe Ave N	Dellwood Rd	55	1627	Rural	3200	10	Paved	3	24	Intersection	None	None	3
41	6.001	CSAH	6	Century Ave	Helmo Ave	30	519	Suburban	4900	12	Paved	12	44	Intersection	None	Present	2C
42	6.002	CSAH	6	Century Ave	Helmo Ave	30	1126	Suburban	4900	12	Paved	9	44	Intersection	None	Present	2C
43	6.003	CSAH	6	Century Ave	Helmo Ave	30	810	Suburban	4900	12	Paved	9	44	None	None	Present	2C
44	6.004	CSAH	6	Century Ave	Helmo Ave	30	2508	Suburban	5400	12	Paved	9	44	None	None	Present	2C
45	6.005	CSAH	6	Century Ave	Helmo Ave	30	2025	Suburban	5400	12	Paved	9	44	Intersection	None	None	2C
46	6.006	CSAH	6	Century Ave	Helmo Ave	30	1710	Suburban	5500	12	Paved	9	44	Intersection	None	None	2C
47	6.007	CSAH	6	Ideal Ave N	34th St N	50	1300	Rural	4900	11	Paved	12	34	Intersection	None	None	2C
48	7.001	CSAH	7	Goodview Ave	Jody Ave N	55	776	Rural	1850	11	Paved	6	32	None	None	None	2C
49	7.002	CSAH	7	Goodview Ave	Jody Ave N	55	707	Rural	1850	11	Composite	3	32	None	None	None	3
50	7.003	CSAH	7	Goodview Ave	Jody Ave N	55	550	Rural	1850	11	Paved	3	32	Intersection	Present	None	3
51	7.004	CSAH	7	Goodview Ave	Jody Ave N	55	719	Rural	1250	11	Composite	3	32	Intersection	None	None	3
52	7.005	CSAH	7	Goodview Ave	Jody Ave N	55	1189	Rural	1250	11	Paved	3	32	Intersection	None	None	2S
53	7.006	CSAH	7	Goodview Ave	Jody Ave N	55	698	Rural	1250	11	Paved	3	32	Intersection	None	None	3
54	7.007	CSAH	7	Jody Ave N	Manning Trail N	55	1483	Rural	2700	12	Paved	9	44	None	None	None	2C
55	7.008	CSAH	7	Jody Ave N	Manning Trail N	55	1635	Rural	2700	12	Paved	9	44	None	None	None	1
56	7.009	CR	7	Manning Trail N	Partridge Rd N	55	862	Rural	1800	12	Paved	6	44	None	None	None	1
57	7.01	CSAH	7	Manning Trail N	Partridge Rd N	55	1609	Rural	1800	12	Paved	6	44	Intersection	None	None	1
58	7.011	CSAH	7	Manning Trail N	Partridge Rd N	55	1476	Rural	1600	12	Paved	12	44	None	None	None	1
59	7.012	CSAH	7	Manning Trail N	Partridge Rd N	55	1286	Rural	890	12	Paved	12	44	Intersection	None	None	2C
60	7.013	CR	7	Manning Trail N	Partridge Rd N	55	1278	Rural	890	12	Paved	12	44	Intersection	None	None	1
61	7.014	CR	7	Manning Trail N	Partridge Rd N	55	837	Rural	890	12	Paved	12	44	Intersection	None	None	2C
62	7.015	CR	7	Manning Trail N	Partridge Rd N	55	335	Rural	890	12	Paved	12	44	Intersection	None	None	2C
63	7.016	CSAH	7	Partridge Rd N	Squarelake Trail N	45	770	Rural	840	11	Gravel	6	42	None	None	None	1
64	7.017	CSAH	7	Squarelake Trail N	St Croix Trail	55	1127	Rural	455	11	Gravel	3	32	None	None	None	2S
65	7.018	CSAH	7	Squarelake Trail N	St Croix Trail	55	1328	Rural	455	11	Gravel	6	32	None	None	None	2C
66	7.019	CSAH	7	Squarelake Trail N	St Croix Trail	55	512	Rural	455	11	Gravel	3	32	None	None	None	2S
67	7.02	CSAH	7	Squarelake Trail N	St Croix Trail	50	509	Rural	455	11	Gravel	3	32	None	None	None	2S
68	7.021	CSAH	7	Squarelake Trail N	St Croix Trail	50	464	Rural	455	11	Gravel	6	32	None	None	None	2C
69	7.022	CSAH	7	Squarelake Trail N	St Croix Trail	50	1145	Rural	455	11	Gravel	3	32	None	None	None	2S
70	7.023	CSAH	7	Squarelake Trail N	St Croix Trail	55	538	Rural	400	12	Composite	0	34	None	None	None	2C
71	7.024	CSAH	7	Squarelake Trail N	St Croix Trail	40	565	Rural	400	12	Composite	0	34	None	None	None	1
72	7.025	CSAH	7	Squarelake Trail N	St Croix Trail	40	507	Rural	400	12	Composite	0	34	None	None	None	2C

Curve List for Washington County

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.	CRSP 2 ID	Route System	Route No.	Start Description	End Description	Speed Limit [mph]	Radius [feet]	Area Type	ADT [vpd]	Lane Width [feet]	Shoulder Type	Outside Shoulder Width [feet]	Total Cross Section Width [feet]	Adjacent Intersection	Visual Trap	Lighting	Outside Edge Risk
73	7.026	CSAH	7	Squarelake Trail N	St Croix Trail	40	278	Rural	400	12	Composite	0	34	None	None	None	1
74	7.027	CSAH	7	Squarelake Trail N	St Croix Trail	40	647	Rural	400	12	Composite	0	34	None	None	None	2C
75	7.028	CSAH	7	Squarelake Trail N	St Croix Trail	40	803	Rural	400	12	Composite	0	34	None	None	None	1
76	7.029	CSAH	7	Squarelake Trail N	St Croix Trail	40	619	Rural	400	12	Paved	0	34	Intersection	None	None	1
77	7.03	CSAH	7	Squarelake Trail N	St Croix Trail	35	844	Rural	400	12	Paved	0	34	None	None	None	2C
78	7.031	CSAH	7	Squarelake Trail N	St Croix Trail	35	787	Rural	400	12	Paved	0	34	None	None	None	2C
79	7.032	CSAH	7	Squarelake Trail N	St Croix Trail	35	504	Rural	400	12	Paved	0	34	None	None	None	2C
80	7.033	CSAH	7	Squarelake Trail N	St Croix Trail	35	583	Rural	400	12	Paved	0	34	None	None	None	2C
81	7.034	CSAH	7	Squarelake Trail N	St Croix Trail	35	263	Rural	400	12	Paved	0	34	None	Present	None	2C
82	7.035	CSAH	7	Squarelake Trail N	St Croix Trail	35	214	Rural	400	12	Paved	0	34	Intersection	None	None	2C
83	8.001	CR	8	Main St	Forest Blvd N	45	1366	Suburban	16600	11	Paved	6	68	None	None	Present	2C
84	8.002	CR	8	Main St	Forest Blvd N	30	566	Suburban	16600	11	Paved	6	68	None	None	Present	2C
85	8.003	CR	8	Forest Blvd N	Goodview Ave N	30	633	Suburban	2950	11	Paved	12	22	Intersection	None	None	2C
86	8.004	CSAH	8	Goodview Ave N	140th St N	55	670	Rural	1950	11	Gravel	3	30	None	None	None	3
87	8.005	CSAH	8	Goodview Ave N	140th St N	55	729	Rural	1950	11	Gravel	3	30	None	None	None	3
88	8.006	CSAH	8	Goodview Ave N	140th St N	55	562	Rural	1950	11	Gravel	3	30	None	None	None	2S
89	8.007	CSAH	8	Goodview Ave N	140th St N	55	611	Rural	1950	11	Gravel	3	30	Intersection	None	None	3
90	8.008	CSAH	8	Homestead Ave N	122nd St N	55	615	Rural	880	10	Gravel	3	28	Intersection	None	None	3
91	8.009	CSAH	8	Homestead Ave N	122nd St N	55	437	Rural	880	10	Gravel	3	28	Intersection	None	None	3
92	8.01	CSAH	8	Homestead Ave N	122nd St N	55	3606	Rural	880	10	Gravel	6	28	Intersection	None	None	2C
93	8.011	CSAH	8	Homestead Ave N	122nd St N	55	581	Rural	860	10	Gravel	3	28	None	None	None	2S
94	8.012	CSAH	8	Homestead Ave N	122nd St N	55	505	Rural	860	10	Gravel	3	28	Intersection	None	None	3
95	9.001	CSAH	9	75th St	Ironwood Ave	55	2582	Rural	3850	12	Paved	6	44	None	None	None	2C
96	9.002	CSAH	9	75th St	Ironwood Ave	55	1638	Rural	3850	12	Paved	9	44	Intersection	None	None	1
97	9.003	CSAH	9	75th St	Ironwood Ave	55	9086	Rural	3850	12	Paved	9	44	Intersection	None	None	1
98	9.004	CSAH	9	75th St	Ironwood Ave	55	733	Rural	1950	12	Gravel	9	44	None	None	None	2C
99	9.005	CSAH	9	75th St	Ironwood Ave	55	1147	Rural	1950	12	Gravel	9	44	None	None	None	2C
100	9.006	CSAH	9	75th St	Ironwood Ave	55	772	Rural	1950	12	Gravel	6	44	Intersection	None	None	2C
101	9.007	CSAH	9	122nd St N	Ironwood Ave N	50	663	Rural	1000	11	Composite	3	34	Intersection	Present	None	3
102	9.008	CSAH	9	122nd St N	Ironwood Ave N	50	570	Rural	1000	11	Gravel	3	34	None	Present	None	3
103	9.009	CSAH	9	122nd St N	Ironwood Ave N	50	607	Rural	1000	11	Gravel	3	34	None	None	None	3
104	9.01	CSAH	9	122nd St N	Ironwood Ave N	50	618	Rural	1000	11	Gravel	3	34	Intersection	None	None	3
105	10.001	CSAH	10	Lake Elmo Ave N	Stagecoach Trail N	65	4184	Rural	6100	12	Paved	12	42	None	None	None	2C
106	10.002	CR	10	Lake Elmo Ave N	Stagecoach Trail N	65	2269	Rural	5500	12	Paved	12	42	Intersection	None	None	2C
107	10.003	CR	10	Lake Elmo Ave N	Stagecoach Trail N	65	2433	Rural	5500	12	Paved	12	42	Intersection	None	None	2C
108	11.004	CSAH	11	120th St N	540 ft Southwest of Orwell Ave N	55	493	Rural	1150	12	Paved	3	36	None	None	None	3
109	11.005	CSAH	11	120th St N	540 ft Southwest of Orwell Ave N	55	492	Rural	1150	12	Composite	3	36	Intersection	None	None	3
110	11.006	CSAH	11	120th St N	540 ft Southwest of Orwell Ave N	55	300	Rural	1150	12	Composite	3	36	None	None	None	3
111	11.007	CSAH	11	120th St N	540 ft Southwest of Orwell Ave N	55	417	Rural	1150	12	Paved	6	36	None	None	None	2C
112	11.008	CSAH	11	120th St N	540 ft Southwest of Orwell Ave N	55	2445	Rural	1200	12	Composite	3	36	None	None	None	3
113	11.009	CSAH	11	120th St N	540 ft Southwest of Orwell Ave N	55	314	Rural	1200	12	Paved	3	36	Railroad	Present	None	3
114	11.01	CSAH	11	Square Lake Trail N	120th St N	50	671	Rural	550	11	Paved	3	30	None	None	None	3
115	11.011	CR	11	Square Lake Trail N	120th St N	55	1859	Rural	550	11	Paved	3	30	None	None	None	3
116	11.012	CR	11	Square Lake Trail N	120th St N	50	774	Rural	550	11	Paved	3	30	None	None	None	3
117	11.013	CR	11	Square Lake Trail N	120th St N	55	1610	Rural	550	11	Paved	3	30	None	None	None	3
118	11.014	CSAH	11	Square Lake Trail N	120th St N	55	3255	Rural	550	11	Paved	3	30	None	None	None	3
119	12.002	CSAH	12	955 ft West of Manning Ave N	345 ft Northwest of Birchwood Dr	55	4240	Rural	7600	10	Paved	9	58	Intersection	None	None	1
120	12.003	CSAH	12	955 ft West of Manning Ave N	345 ft Northwest of Birchwood Dr	55	13123	Rural	5900	10	Paved	9	58	Intersection	None	None	1
121	12.004	CSAH	12	955 ft West of Manning Ave N	345 ft Northwest of Birchwood Dr	30	4280	Rural	5900	10	Paved	9	58	Intersection	None	None	2C
122	12.005	CSAH	12	955 ft West of Manning Ave N	345 ft Northwest of Birchwood Dr	30	1307	Rural	5900	10	Paved	6	58	Intersection	None	None	2C
123	12.006	CSAH	12	345 ft Northwest of Birchwood Dr	Owens St S	30	1060	Suburban	5800	11	Paved	9	22	Intersection	None	None	2C
124	13.001	CSAH	13	580 ft North of CSAH 20	69th St S	30	2293	Suburban	6800	11	Paved	9	70	Intersection	None	None	1
125	13.002	CSAH	13	580 ft North of CSAH 20	69th St S	30	1725	Suburban	6800	11	Paved	9	70	Intersection	None	None	1
126	13.003	CSAH	13	CSAH 13	790 ft South of Hargis Pkwy	50	1739	Suburban	6500	12	Paved	12	72	Intersection	None	Present	1
127	13.004	CSAH	13	Hudson Rd	Pioneer Dr	50	2030	Suburban	19000	11	Paved	12	122	Intersection	None	Present	1
128	13.005	CSAH	13	Intersection of 50th St N	650 ft North of 36th St N	40	714	Suburban	2850	10	Composite	6	30	None	None	None	2C
129	13.006	CSAH	13	Intersection of 50th St N	650 ft North of 36th St N	30	490	Suburban	2850	10	Composite	6	30	None	None	None	2C
130	13.007	CSAH	13	Intersection of 50th St N	650 ft North of 36th St N	40	1090	Suburban	2850	10	Composite	6	30	None	None	None	2C
131	13.008	CSAH	13	Intersection of 50th St N	650 ft North of 36th St N	30	885	Suburban	2850	10	Paved	3	30	None	None	None	3
132	14.001	CSAH	14	Geneva Ave N	1110 ft East of Jamaca Ave N	55	5974	Rural	10400	12	Paved	6	154	Intersection	None	None	1
133	14.002	CSAH	14	1110 ft East of Jamaca Ave N	494 ft West of Lake Elmo Ave N	40	3794	Rural	10400	12	Paved	6	44	Intersection	None	None	2C
134	14.003	CSAH	14	1110 ft East of Jamaca Ave N	494 ft West of Lake Elmo Ave N	40	6272	Rural	10400	12	Paved	6	44	Intersection	None	None	2C
135	14.004	CSAH	14	39th St N	CSAH 15 (Manning Ave N)	55	1271	Rural	4850	12	Curb & Gutter	0	56	Intersection	None	None	1
136	14.005	CSAH	14	Manning Ave N	47th St N	55	1114	Rural	3950	11	Paved	6	38	Intersection	None	None	2C
137	14.006	CSAH	14	Manning Ave N	47th St N	30	2015	Rural	3350	11	Paved	9	38	Intersection	None	None	2C
138	14.007	CSAH	14	Manning Ave N	47th St N	30	1845	Rural	3350	11	Paved	9	38	Intersection	None	None	2C
139	14.008	CSAH	14	Manning Ave N	47th St N	55	951	Rural	3350	11	Paved	6	38	Intersection	None	None	2C
140	14.009	CSAH	14	N Osgood Ave	Stagecoach Trail N	45	881	Rural	5000	11	Paved	12	46	None	None	None	2C
141	15.001	CSAH	15	950 ft NorthEast 10th St N	490 ft South of MidWest Trail N	35	1889	Rural	11600	11	Paved	6	88	Intersection	None	None	1
142	15.002	CSAH	15	Intersection of 40th St N	500 ft NorthEast of Manning Trail N	30	1887	Rural	11600	11	Paved	12	42	Intersection	None	None	1
143	15.003	CSAH	15	Intersection of 40th St N	500 ft NorthEast of Manning Trail N	55	3399	Rural	11600	11	Paved	12	42	Intersection	None	None	1
144	15.004	CSAH	15	Intersection of 40th St N	500 ft NorthEast of Manning Trail N	55	2031	Rural	4850	11	Paved	6	42	Intersection	None	None	1

Curve List for Washington County

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.	CRSP 2 ID	Route System	Route No.	Start Description	End Description	Speed Limit [mph]	Radius [feet]	Area Type	ADT [vpd]	Lane Width [feet]	Shoulder Type	Outside Shoulder Width [feet]	Total Cross Section Width [feet]	Adjacent Intersection	Visual Trap	Lighting	Outside Edge Risk
145	15.005	CSAH	15	655 ft North of Dellwood Rd	1386 North of 75th St N	55	4234	Suburban	19900	11	Paved	3	74	Intersection	None	None	3
146	15.006	CSAH	15	655 ft North of Dellwood Rd	1386 North of 75th St N	30	19008	Suburban	15400	11	Paved	9	74	Intersection	None	None	1
147	15.007	CSAH	15	590 ft South of Mendel Rd N	655 ft North of Dellwood Rd	55	4692	Rural	15400	11	Paved	9	42	None	None	None	2C
148	15.008	CSAH	15	Square Lake Trail N	614 ft North of 110th St N	55	1243	Rural	7000	10	Paved	6	40	Intersection	None	None	2C
149	15.009	CSAH	15	Square Lake Trail N	614 ft North of 110th St N	30	1008	Rural	7000	10	Paved	9	40	Intersection	None	None	2C
150	15.01	CSAH	15	Intersection of 170th St N	Intersection of Square Lake Trail N	55	1191	Rural	6800	10	Paved	9	38	None	None	None	1
151	15.011	CSAH	15	Intersection of 170th St N	Intersection of Square Lake Trail N	55	999	Rural	6800	10	Paved	9	38	None	None	None	1
152	15.012	CSAH	15	Intersection of 170th St N	Intersection of Square Lake Trail N	55	763	Rural	6800	10	Paved	9	38	Intersection	None	None	2C
153	15.013	CSAH	15	Intersection of Scandia Trail N	Intersection of 170th St N	55	1077	Rural	5200	10	Paved	9	40	None	None	None	2C
154	15.014	CSAH	15	Intersection of Scandia Trail N	Intersection of 170th St N	55	1108	Rural	5200	10	Paved	9	40	None	None	None	2C
155	15.015	CSAH	15	Intersection of Scandia Trail N	Intersection of 170th St N	55	969	Rural	5200	10	Paved	9	40	None	None	None	2C
156	15.016	CSAH	15	Intersection of Scandia Trail N	Intersection of 170th St N	30	835	Rural	5200	10	Paved	9	40	None	None	None	1
157	15.017	CSAH	15	Intersection of Scandia Trail N	Intersection of 170th St N	55	1562	Rural	5200	10	Paved	9	40	None	None	None	2C
158	15.018	CSAH	15	Intersection of Scandia Trail N	Intersection of 170th St N	55	1774	Rural	5200	10	Paved	9	40	None	None	None	1
159	15.019	CSAH	15	Intersection of Scandia Trail N	Intersection of 170th St N	55	2627	Rural	5200	10	Paved	12	40	None	None	None	1
160	15.02	CSAH	15	Intersection of Scandia Trail N	Intersection of 170th St N	30	2411	Rural	5200	10	Paved	12	40	None	None	None	1
161	15.021	CR	15	240th St N	Scandia Trail N	55	1193	Rural	4000	11	Paved	9	40	Intersection	None	None	2C
162	15.022	CSAH	15	240th St N	Scandia Trail N	55	1021	Rural	4000	11	None	0	40	Intersection	None	None	2S
163	15.023	CSAH	15	240th St N	Scandia Trail N	30	938	Rural	4000	11	Paved	12	40	None	None	None	2C
164	15.024	CSAH	15	240th St N	Scandia Trail N	30	1458	Rural	3950	11	Paved	12	40	Intersection	None	None	2C
165	15.025	CSAH	15	240th St N	Scandia Trail N	30	1505	Rural	3950	11	Paved	12	40	None	None	None	1
166	15.026	CSAH	15	240th St N	Scandia Trail N	55	1667	Rural	2550	11	Paved	9	40	Intersection	None	None	1
167	15.027	CSAH	15	240th St N	Scandia Trail N	55	1989	Rural	2550	11	Paved	12	40	None	None	None	1
168	15.028	CSAH	15	240th St N	Scandia Trail N	55	3638	Rural	2550	11	Paved	12	40	None	None	None	2C
169	16.001	CSAH	16	Intersection of Century Ave S	Intersection of Woodbury Dr	40	1284	Suburban	12200	12	Paved	9	82	None	None	None	2C
170	16.002	CSAH	16	Intersection of Century Ave S	Intersection of Woodbury Dr	40	1245	Suburban	12400	12	Paved	12	82	Intersection	None	Present	2C
171	16.003	CSAH	16	Intersection of Century Ave S	Intersection of Woodbury Dr	40	3759	Suburban	24400	12	Paved	12	82	Intersection	None	Present	2C
172	16.004	CSAH	16	Intersection of Century Ave S	Intersection of Woodbury Dr	30	2771	Suburban	24400	12	Paved	12	82	Intersection	None	Present	1
173	16.005	CSAH	16	Intersection of Century Ave S	Intersection of Woodbury Dr	30	3415	Suburban	23400	12	Paved	12	82	Intersection	None	Present	1
174	17.001	CSAH	17	590 ft South of 30th St N	10th St N	55	965	Rural	3850	12	Paved	3	36	None	None	None	3
175	17.002	CSAH	17	590 ft South of 30th St N	10th St N	55	572	Rural	3850	12	Paved	6	36	None	None	None	2C
176	17.003	CSAH	17	590 ft South of 30th St N	10th St N	45	930	Rural	3450	12	Paved	6	36	None	None	None	2C
177	17.004	CSAH	17	590 ft South of 30th St N	10th St N	55	688	Rural	3450	12	Paved	12	36	None	None	None	2C
178	17.005	CSAH	17	590 ft South of 30th St N	10th St N	45	1311	Rural	3450	12	Paved	3	36	None	None	None	3
179	17.006	CSAH	17	Intersection of 32nd St N	590 ft South of 30th St N	30	417	Suburban	3450	10	Paved	6	20	None	None	None	2C
180	17.007	CSAH	17	Intersection of 32nd St N	590 ft South of 30th St N	30	498	Suburban	3450	10	Paved	6	20	Intersection	None	None	2C
181	17.008	CSAH	17	80 ft North of Intersection of 33rd St N	Intersection of 32nd St N	30	711	Suburban	3250	10	Paved	6	20	Railroad	None	Present	1
182	18.002	CSAH	18	Military Rd	2422 ft West of Woodlane Dr Rd	40	923	Rural	12000	11	Paved	12	42	None	None	None	2C
183	18.003	CSAH	18	Military Rd	2422 ft West of Woodlane Dr Rd	40	1784	Rural	12000	11	Paved	12	42	None	None	None	1
184	18.004	CSAH	18	850 ft East of and Pioneer Dr	1500 ft West of Woodbury Dr	55	1171	Suburban	11800	11	Paved	12	42	None	None	None	1
185	18.005	CSAH	18	850 ft East of and Pioneer Dr	1500 ft West of Woodbury Dr	55	1501	Suburban	11800	11	Paved	12	42	Intersection	None	None	1
186	18.006	CSAH	18	850 ft East of and Pioneer Dr	1500 ft West of Woodbury Dr	55	1681	Suburban	11800	11	Paved	12	42	None	None	None	1
187	18.007	CSAH	18	1500 ft West of Woodbury Dr	Intersection of 40th St S and Manning Ave S	30	1746	Suburban	9500	11	Paved	12	42	None	None	None	1
188	18.008	CSAH	18	1500 ft West of Woodbury Dr	Intersection of 40th St S and Manning Ave S	30	2379	Suburban	9500	11	Paved	9	42	Intersection	None	None	1
189	18.009	CSAH	18	1500 ft West of Woodbury Dr	Intersection of 40th St S and Manning Ave S	35	2338	Suburban	9500	11	Paved	9	42	None	None	None	1
190	18.01	CSAH	18	Oakgreen Ave S	St Croix Trail S	45	2707	Rural	2600	11	Paved	3	22	None	None	None	3
191	18.011	CSAH	18	Oakgreen Ave S	St Croix Trail S	30	465	Rural	2600	11	Paved	6	22	Intersection	None	None	2C
192	18.012	CSAH	18	260 ft North of 7th St S	Stagecoach Trail S	30	1534	Rural	1550	12	Paved	3	36	None	None	None	3
193	18.013	CSAH	18	US 12	268 ft North of Quentin Ave S	30	462	Rural	1550	11	Paved	6	52	None	None	None	1
194	18.014	CSAH	18	US 12	268 ft North of Quentin Ave S	30	955	Rural	1550	11	Paved	6	52	None	None	None	1
195	18.015	CSAH	18	US 12	268 ft North of Quentin Ave S	40	858	Rural	1550	11	Paved	6	52	None	None	None	2C
196	18.016	CSAH	18	US 12	268 ft North of Quentin Ave S	30	672	Rural	1550	11	Paved	3	52	Intersection	None	None	3
197	18.017	CSAH	18	TH 10	CSAH 20 (Military Rd)	30	7572	Rural	3300	11	Composite	6	26	None	None	None	1
198	18.018	CSAH	18	TH 10	CSAH 20 (Military Rd)	30	1551	Rural	3300	11	Composite	12	26	None	None	None	2C
199	18.019	CSAH	18	260 ft North of 7th St S	Stagecoach Trail S	50	2009	Rural	3800	12	Composite	0	16	Intersection	0	None	2C
200	18.02	CSAH	18	260 ft North of 7th St S	Stagecoach Trail S	50	2446	Rural	4350	12	Paved	0	16	Intersection	0	None	1
201	18.021	CSAH	18	US 12	268 ft North of Quentin Ave S	30	1802	Suburban	8300	11	Paved	12	52	None	None	None	1
202	19.001	CSAH	19	610 ft North of Military Rd	80th St S	30	2473	Rural	6900	11	Paved	9	38	None	None	None	2C
203	19.002	CSAH	19	10th St N	Hudson Blvd	30	4307	Suburban	23000	10	Paved	9	202	Intersection	None	None	2C
204	19.003	CSAH	19	10th St N	Hudson Blvd	30	3415	Suburban	23000	10	Paved	12	202	Intersection	None	None	1
205	20.001	CR	20	TH 10	CSAH 20 (Military Rd)	40	292	Suburban	14300	12	Paved	3	28	Intersection	None	Present	2S
206	20.005	CSAH	20	Bailey Rd	617 ft West of Radio Dr	55	2659	Rural	4450	11	Paved	6	38	None	None	None	2C
207	20.006	CSAH	20	Bailey Rd	617 ft West of Radio Dr	30	1884	Rural	4450	11	Paved	9	38	None	None	None	2C
208	20.007	CR	20	Bailey Rd	617 ft West of Radio Dr	30	760	Rural	4450	11	Paved	9	38	None	None	None	1
209	20.008	CR	20	Bailey Rd	617 ft West of Radio Dr	30	1164	Rural	4450	11	Paved	9	38	None	None	None	2C
210	20.009	CR	20	Bailey Rd	617 ft West of Radio Dr	55	749	Rural	4450	11	Paved	9	38	Intersection	None	None	2C
211	20.01	CSAH	20	Bailey Rd	617 ft West of Radio Dr	55	1223	Rural	3400	11	Paved	9	38	None	None	None	2C
212	20.011	CSAH	20	Bailey Rd	617 ft West of Radio Dr	55	2444	Rural	3400	11	Paved	9	38	None	None	None	2C
213	20.012	CSAH	20	Bailey Rd	617 ft West of Radio Dr	30	3962	Rural	3400	11	Paved	9	38	None	None	None	2C
214	20.013	CSAH	20	Bailey Rd	617 ft West of Radio Dr	30	2198	Rural	3400	11	Paved	9	38	None	None	None	2C
215	20.014	CSAH	20	632 ft Northwest of Radio Dr	710 ft Southwest of Radio Dr	30	557	Rural	5200	10	Paved	9	86	Intersection	None	None	2C
216	20.015	CSAH	20	Jamaica Ave S	CSAH 22 (70th S)	55	1090	Suburban	4350	12	Composite	0	74	Intersection	None	None	1

Curve List for Washington County

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217	21.001	CSAH	21	200 ft South of 90th St S	Point Douglas Dr S	55	131	Rural	870	10	Paved	6	30	Intersection	None	None	2C
218	21.002	CSAH	21	200 ft South of 90th St S	Point Douglas Dr S	55	288	Rural	870	10	Composite	3	30	None	None	None	3
219	21.003	CSAH	21	200 ft South of 90th St S	Point Douglas Dr S	55	228	Rural	870	10	Paved	3	30	None	None	None	3
220	21.004	CSAH	21	200 ft South of 90th St S	Point Douglas Dr S	55	326	Rural	870	10	Composite	3	30	None	None	None	3
221	21.005	CSAH	21	200 ft South of 90th St S	Point Douglas Dr S	55	181	Rural	870	10	Composite	6	30	None	None	None	2C
222	21.006	CSAH	21	200 ft South of 90th St S	Point Douglas Dr S	55	211	Rural	870	10	Composite	6	30	None	Present	None	1
223	21.007	CSAH	21	200 ft South of 90th St S	Point Douglas Dr S	55	1323	Rural	870	10	Composite	6	30	Intersection	None	None	1
224	21.008	CSAH	21	200 ft South of 90th St S	Point Douglas Dr S	55	1308	Rural	1050	10	Composite	6	30	Intersection	None	None	2C
225	21.009	CSAH	21	200 ft South of 90th St S	Point Douglas Dr S	55	1478	Rural	1400	10	Composite	6	30	None	None	None	2C
226	21.01	CSAH	21	200 ft South of 90th St S	Point Douglas Dr S	55	3197	Rural	1400	10	Composite	6	30	None	None	None	2C
227	21.011	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S	55	1740	Rural	1250	10	Composite	3	26	None	None	None	3
228	21.012	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S	55	664	Rural	1250	10	Composite	3	26	None	None	None	3
229	21.013	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S	40	967	Rural	1250	10	Composite	9	26	None	None	None	2C
230	21.014	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S	55	1953	Rural	1250	10	Gravel	3	26	None	None	None	3
231	21.015	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S	40	1438	Rural	1250	10	Gravel	3	26	None	None	None	2S
232	21.016	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S	40	1444	Rural	1050	10	Gravel	3	26	None	None	None	2S
233	21.017	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S	40	498	Rural	1050	10	Composite	3	26	None	None	None	3
234	21.018	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S	55	487	Rural	1050	10	Gravel	9	26	None	None	None	2C
235	21.019	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S	40	1025	Rural	1050	10	Paved	6	26	None	None	None	2C
236	21.02	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S	40	1517	Rural	1050	10	Paved	3	26	None	None	None	3
237	21.021	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S	40	2325	Rural	1050	10	Gravel	3	26	None	None	None	3
238	21.022	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S	40	1567	Rural	1050	10	Gravel	3	26	None	None	None	3
239	21.023	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S	55	744	Rural	1350	10	Gravel	3	26	None	None	None	3
240	21.024	CSAH	21	170 ft North of 37th St	1320 ft Southwest of 45th St	30	380	Rural	1350	11	Paved	6	22	None	None	None	2C
241	21.025	CSAH	21	170 ft North of 37th St	1320 ft Southwest of 45th St	30	446	Rural	1350	11	Paved	6	22	None	None	None	2C
242	21.026	CSAH	21	170 ft North of 37th St	1320 ft Southwest of 45th St	30	295	Rural	1350	11	Paved	6	22	None	None	None	2C
243	21.027	CSAH	21	170 ft North of 37th St	1320 ft Southwest of 45th St	30	1378	Rural	1350	11	Paved	6	22	None	None	None	2C
244	21.028	CSAH	21	170 ft North of 37th St	1320 ft Southwest of 45th St	30	560	Rural	1350	11	Paved	6	22	None	None	None	2C
245	21.029	CSAH	21	170 ft North of 37th St	1320 ft Southwest of 45th St	30	797	Rural	1350	11	Paved	6	22	None	None	None	2C
246	21.03	CSAH	21	170 ft North of 37th St	1320 ft Southwest of 45th St	30	452	Rural	1350	11	Paved	6	22	None	None	None	2C
247	21.031	CSAH	21	170 ft North of 37th St	1320 ft Southwest of 45th St	30	356	Rural	1350	11	Paved	6	22	None	None	None	2C
248	21.032	CSAH	21	170 ft North of 37th St	1320 ft Southwest of 45th St	30	761	Rural	1350	11	Paved	6	22	None	None	None	2C
249	21.033	CSAH	21	170 ft North of 37th St	1320 ft Southwest of 45th St	30	494	Rural	1350	11	Paved	3	22	Intersection	None	None	3
250	21.034	CSAH	21	10th St N	St Croix Trail S	45	1751	Rural	720	9	None	0	18	Intersection	None	None	3
251	21.035	CSAH	21	10th St N	St Croix Trail S	30	1199	Rural	640	9	None	0	18	None	None	None	3
252	21.036	CSAH	21	10th St N	St Croix Trail S	45	567	Rural	640	9	Paved	1	18	None	None	None	3
253	21.037	CSAH	21	10th St N	St Croix Trail S	45	298	Rural	640	9	None	0	18	None	None	None	3
254	21.038	CSAH	21	10th St N	St Croix Trail S	45	984	Rural	640	9	Paved	1	18	None	None	None	3
255	21.039	CSAH	21	10th St N	St Croix Trail S	45	443	Rural	640	9	Paved	1	18	None	None	None	3
256	21.04	CSAH	21	10th St N	St Croix Trail S	45	797	Rural	640	9	Gravel	3	18	Intersection	None	None	3
257	21.041	CSAH	21	10th St N	St Croix Trail S	30	1964	Rural	640	9	Gravel	3	18	Intersection	None	None	3
258	21.042	CSAH	21	10th St N	St Croix Trail S	30	799	Rural	640	9	Gravel	3	18	None	None	None	3
259	21.043	CSAH	21	10th St N	St Croix Trail S	45	1947	Rural	640	9	Gravel	3	18	Intersection	None	None	3
260	21.044	CSAH	21	10th St N	St Croix Trail S	30	561	Rural	640	9	Gravel	3	18	None	None	None	3
261	21.045	CSAH	21	10th St N	St Croix Trail S	45	489	Rural	640	9	Gravel	3	18	None	None	None	3
262	21.046	CSAH	21	10th St N	St Croix Trail S	30	922	Rural	640	9	Paved	1	18	None	None	None	2S
263	21.047	CSAH	21	47th St N	10th St N	55	2903	Rural	3500	11	Paved	6	42	None	None	None	1
264	21.048	CSAH	21	47th St N	10th St N	55	5124	Rural	3500	11	Paved	6	42	Intersection	None	None	1
265	21.049	CSAH	21	47th St N	10th St N	55	8051	Rural	3500	11	Paved	6	42	Intersection	None	None	2C
266	21.05	CSAH	21	47th St N	10th St N	55	12861	Rural	5500	11	Paved	6	42	Intersection	None	None	1
267	21.051	CSAH	21	47th St N	10th St N	55	4347	Rural	5500	11	Paved	9	42	None	None	None	1
268	21.052	CSAH	21	CSAH 14 (47th St N)	CSAH 21 (56th St N)	35	556	Rural	3000	10	Paved	6	38	None	None	None	2C
269	21.053	CSAH	21	CSAH 14 (47th St N)	CSAH 21 (56th St N)	55	367	Rural	2300	10	Paved	9	38	None	None	None	2C
270	21.054	CSAH	21	CSAH 14 (47th St N)	CSAH 21 (56th St N)	35	453	Rural	2300	10	Paved	9	38	None	None	None	2C
271	21.056	CSAH	21	Stagecoach Trail N	TH 95 (St Croix Scenic Bywy)	30	372	Suburban	2100	11	Paved	6	36	Intersection	None	None	2C
272	22.002	CSAH	22	Intersection of Broadway Ave	1075 ft West of Goodview Ave S	35	1509	Suburban	10100	11	Paved	3	42	None	None	None	3
273	22.003	CSAH	22	1075 ft West of Goodview Ave S	1065 ft East of Hardwood Ave S	50	1725	Suburban	10100	11	Paved	6	22	None	None	None	2C
274	22.004	CSAH	22	1075 ft West of Goodview Ave S	1065 ft East of Hardwood Ave S	50	3309	Suburban	7300	11	Paved	6	22	None	None	None	1
275	22.006	CSAH	22	1065 ft East of Hardwood Ave S	875 ft East of Isleton Ave S	50	3161	Suburban	7300	11	Paved	12	22	Intersection	None	None	2C
276	22.007	CSAH	22	875 ft East of Isleton Ave S	845 ft East of Washington Co Hwy 19	55	1015	Suburban	3750	11	Paved	12	42	Intersection	None	Present	1
277	22.008	CSAH	22	840 ft East of CSAH 19	Peller Ave S	55	1003	Suburban	3750	11	Paved	12	38	None	None	None	1
278	22.009	CSAH	22	840 ft East of CSAH 19	Peller Ave S	55	2924	Suburban	3750	11	Paved	12	38	Intersection	None	None	2C
279	22.01	CSAH	22	840 ft East of CSAH 19	Peller Ave S	30	2799	Suburban	3750	11	Paved	6	38	Intersection	None	None	2C
280	22.011	CSAH	22	840 ft East of CSAH 19	Peller Ave S	55	2504	Suburban	3750	11	Paved	6	38	Intersection	None	None	2C
281	23.001	CSAH	23	CSAH 21 (56th St N)	TH 95 (Main St S)	30	215	Suburban	1150	9	Paved	3	42	Intersection	None	None	3
282	23.002	CSAH	23	CSAH 21 (56th St N)	TH 95 (Main St S)	30	568	Suburban	1150	9	Paved	3	42	Intersection	None	None	3
283	23.003	CSAH	23	CSAH 21 (56th St N)	TH 95 (Main St S)	30	505	Suburban	1150	9	Paved	3	42	Intersection	None	None	3
284	23.004	CSAH	23	CSAH 21 (56th St N)	TH 95 (Main St S)	30	448	Suburban	1950	9	Gravel	3	42	Intersection	None	Present	3
285	25.001	CR	25	Lake Rd	Carver Ave	35	603	Suburban	1500	11	Gravel	3	22	None	Present	None	3
286	25.002	CR	25	Lake Rd	Carver Ave	35	429	Suburban	1500	11	Gravel	3	22	None	None	None	3
287	25.003	CR	25	Lake Rd	Carver Ave	35	615	Suburban	1500	11	Gravel	3	22	None	None	None	3
288	25.004	CSAH	25	Lake Rd	Carver Ave	35	758	Suburban	1500	11	Gravel	3	22	None	None	None	3

Curve List for Washington County

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.	CRSP 2 ID	Route System	Route No.	Start Description	End Description	Speed Limit [mph]	Radius [feet]	Area Type	ADT [vpd]	Lane Width [feet]	Shoulder Type	Outside Shoulder Width [feet]	Total Cross Section Width [feet]	Adjacent Intersection	Visual Trap	Lighting	Outside Edge Risk
289	25.005	CSAH	25	Lake Rd	Carver Ave	30	415	Suburban	5300	11	Paved	6	22	Intersection	None	None	2C
290	26.002	CSAH	26	N Osgood Ave	Beach Rd	30	1940	Suburban	890	11	Paved	3	22	None	None	None	3
291	29.001	CSAH	29	Stillwater Rd	Viking Dr	50	2008	Rural	10400	11	Paved	12	44	Intersection	None	None	2C
292	29.002	CSAH	29	Stillwater Rd	Viking Dr	50	3099	Rural	10400	11	Paved	12	44	Intersection	None	None	2C
293	29.003	CSAH	29	Stillwater Rd	Viking Dr	30	2046	Rural	10400	11	Paved	12	44	Intersection	None	None	2C
294	29.004	CSAH	29	Stillwater Rd	Viking Dr	50	2953	Rural	10400	11	Paved	9	44	Intersection	None	Present	2C
295	33.001	CSAH	33	W Broadway Ave	220th St N	40	664	Suburban	4050	10	Gravel	3	20	None	None	None	3
296	33.002	CSAH	33	W Broadway Ave	220th St N	40	747	Suburban	4050	10	Gravel	3	20	None	None	None	3
297	33.003	CSAH	33	W Broadway Ave	220th St N	30	245	Suburban	4650	10	None	0	20	Intersection	None	None	3
298	35.001	CSAH	35	MN 36	Helmo Ave N	45	818	Suburban	8000	11	Paved	9	30	None	None	Present	2C
299	35.002	CSAH	35	MN 36	Helmo Ave N	45	1305	Suburban	8000	11	Paved	9	30	Intersection	None	Present	2C
300	38.001	CSAH	38	1340 ft Northwest of 5th St	70th St S	30	394	Suburban	3150	11	Paved	9	22	Intersection	None	None	2C
301	38.002	CSAH	38	1340 ft Northwest of 5th St	70th St S	45	1733	Suburban	1700	11	Paved	6	22	Intersection	None	None	2C
302	38.003	CSAH	38	1340 ft Northwest of 5th St	70th St S	30	1353	Suburban	1700	11	Paved	6	22	None	None	None	2C
303	38.004	CSAH	38	Intersection of Glen Rd	1340 ft Northwest of 65th St	40	1987	Suburban	1700	11	Paved	6	22	None	None	None	2C
304	38.005	CSAH	38	Intersection of Glen Rd	1340 ft Northwest of 65th St	40	1590	Suburban	1700	11	Paved	6	22	None	None	None	2C
305	38.006	CSAH	38	Intersection of Glen Rd	1340 ft Northwest of 65th St	40	1440	Suburban	1700	11	Paved	3	22	None	None	Present	3
306	38.007	CSAH	38	Intersection of Glen Rd	1340 ft Northwest of 65th St	30	4572	Suburban	1700	11	Paved	3	22	Intersection	None	Present	3
307	38.008	CSAH	38	Intersection of 7th Ave	240 ft Southwest of 10th Ave	30	368	Suburban	7300	11	Paved	9	42	Intersection	None	None	2C
308	38.009	CSAH	38	Intersection of 7th Ave	240 ft Southwest of 10th Ave	30	312	Suburban	3850	11	Paved	9	42	Intersection	None	None	2C
309	39.001	CSAH	39	80th St	Summit Ave	30	1259	Suburban	5200	12	Paved	9	24	Intersection	None	Present	2C
310	39.002	CSAH	39	80th St	Summit Ave	30	2227	Suburban	2500	12	Paved	9	24	Intersection	None	Present	2C
311	39.003	CSAH	39	80th St	Summit Ave	30	344	Suburban	3650	12	Paved	9	24	Intersection	None	Present	2C
312	50.001	CR	50	Forest Blvd N	Harrow Ave N	55	304	Rural	2150	11	Gravel	6	32	None	Present	None	2C
313	50.002	CR	50	Forest Blvd N	Harrow Ave N	55	333	Rural	2150	11	Gravel	12	32	None	None	None	1
314	50.003	CR	50	Harrow Ave N	Manning Trail N	55	296	Rural	750	11	Gravel	6	22	Intersection	None	None	1
315	50.004	CSAH	50	Harrow Ave N	Manning Trail N	55	452	Rural	570	11	None	0	22	Intersection	None	None	2S
316	50.005	CSAH	50	Harrow Ave N	Manning Trail N	55	341	Rural	570	11	Gravel	3	22	None	None	None	3
317	50.006	CSAH	50	Harrow Ave N	Manning Trail N	55	314	Rural	570	11	Gravel	3	22	None	None	None	3
318	51.001	CSAH	51	Square Lake Trail N	St Croix Trail N	55	1204	Rural	720	11	Paved	3	40	None	None	None	3
319	51.002	CSAH	51	Square Lake Trail N	St Croix Trail N	55	2208	Rural	720	11	Paved	9	40	None	None	None	1
320	51.003	CSAH	51	Square Lake Trail N	St Croix Trail N	55	1626	Rural	385	11	Paved	6	40	None	None	None	2C
321	52.004	CSAH	52	365 ft Northwest of Ostrum Ave N	St Croix Trail	55	6683	Rural	395	12	Gravel	3	34	Intersection	None	None	2S
322	55.001	CSAH	55	Square Lake Trail N	Dellwood Rd	55	1398	Rural	2350	12	Paved	6	36	None	None	None	2C
323	55.002	CR	55	Square Lake Trail N	Dellwood Rd	55	857	Rural	1300	12	Gravel	6	36	None	None	None	2C
324	55.003	CR	55	Square Lake Trail N	Dellwood Rd	55	1962	Rural	1300	12	Gravel	6	36	Intersection	None	None	1
325	55.004	CSAH	55	Square Lake Trail N	Dellwood Rd	55	1151	Rural	1300	12	Gravel	9	36	Intersection	None	None	1
326	55.005	CSAH	55	Square Lake Trail N	Dellwood Rd	55	812	Rural	1300	12	Gravel	9	36	None	None	None	1
327	55.006	CSAH	55	Square Lake Trail N	Dellwood Rd	55	610	Rural	1300	12	Gravel	9	36	Intersection	None	None	2C
328	57.001	CR	57	170th St N	122nd St N	55	709	Rural	530	11	Gravel	3	22	None	None	None	3
329	57.002	CR	57	170th St N	122nd St N	55	1451	Rural	530	11	Gravel	3	22	None	None	None	3
330	57.003	CR	57	170th St N	122nd St N	55	624	Rural	530	11	Gravel	3	22	Intersection	None	None	3
331	57.004	CR	57	170th St N	122nd St N	55	8301	Rural	255	11	None	0	22	None	None	None	3
332	57.005	CR	57	170th St N	122nd St N	55	963	Rural	255	11	Gravel	3	22	None	None	None	2S
333	57.006	CR	57	170th St N	122nd St N	55	389	Rural	255	11	Gravel	3	22	None	None	None	2S
334	57.007	CR	57	170th St N	122nd St N	55	860	Rural	255	11	Gravel	3	22	None	None	None	3
335	57.008	CSAH	57	170th St N	122nd St N	55	693	Rural	255	11	Gravel	3	22	None	None	None	3
336	57.009	CSAH	57	170th St N	122nd St N	55	613	Rural	255	11	Gravel	3	22	None	None	None	2S
337	57.01	CR	57	170th St N	122nd St N	55	868	Rural	255	11	Gravel	3	22	None	None	None	2S
338	57.011	CSAH	57	170th St N	122nd St N	55	2920	Rural	255	11	Gravel	3	22	None	None	None	3
339	59.001	CR	59	Paul Ave N	St Croix Trail N	55	1162	Rural	325	11	Paved	9	40	None	None	None	1
340	59.002	CSAH	59	Paul Ave N	St Croix Trail N	55	5475	Rural	325	11	Paved	9	40	None	None	None	1
341	59.003	CSAH	59	Paul Ave N	St Croix Trail N	55	4051	Rural	325	11	Paved	9	40	None	None	None	2C
342	61.001	CR	61	Manning Trail N	Norell Ave N	55	3673	Rural	530	11	Gravel	6	32	Intersection	None	None	1
343	61.002	CR	61	Manning Trail N	Norell Ave N	55	9796	Rural	530	11	Gravel	6	32	None	None	None	1
344	61.003	CR	61	Manning Trail N	Norell Ave N	55	1857	Rural	530	11	Gravel	6	32	Intersection	None	None	1
345	61.004	CSAH	61	Manning Trail N	Norell Ave N	55	515	Rural	530	11	Gravel	6	32	None	None	None	1
346	74.001	CSAH	74	Hastings Ave	Hinton Ave S	50	222	Rural	2300	11	Paved	3	22	Intersection	None	None	2S
347	74.002	CSAH	74	Hastings Ave	Hinton Ave S	50	519	Rural	2300	11	Paved	3	22	None	None	None	3
348	74.003	CR	74	Hastings Ave	Hinton Ave S	50	2124	Rural	2300	11	Paved	6	22	None	None	None	2C
349	74.004	CR	74	Hastings Ave	Hinton Ave S	55	786	Rural	2300	11	None	0	22	None	None	None	3
350	74.005	CSAH	74	Hastings Ave	Hinton Ave S	50	1321	Rural	2300	11	Paved	6	22	Intersection	None	None	1
351	75.001	CR	75	14th Ave	105th St S	40	892	Rural	1550	11	Gravel	3	30	None	None	None	3
352	75.002	CSAH	75	14th Ave	105th St S	55	222	Rural	1550	11	Gravel	3	30	None	None	None	3
353	75.003	CSAH	75	14th Ave	105th St S	55	261	Rural	1550	11	Gravel	3	30	None	None	None	3
354	75.004	CR	75	14th Ave	105th St S	55	281	Rural	1550	11	None	0	30	Intersection	Present	None	3
355	91.001	CR	91	270 ft North of 239th St N	Scandia Trail N	55	1804	Rural	880	12	Paved	6	38	None	None	None	2C
356	91.002	CR	91	270 ft North of 239th St N	Scandia Trail N	55	3966	Rural	880	12	Paved	6	38	Intersection	None	None	2C
357	91.003	CR	91	270 ft North of 239th St N	Scandia Trail N	55	1353	Rural	825	12	Paved	6	38	None	None	None	2C
358	91.004	CR	91	270 ft North of 239th St N	Scandia Trail N	55	1688	Rural	825	12	Paved	6	38	None	None	None	1
359	91.005	CR	91	270 ft North of 239th St N	Scandia Trail N	55	2180	Rural	880	12	Paved	6	38	None	None	None	2C
360	91.006	CR	91	270 ft North of 239th St N	Scandia Trail N	55	1439	Rural	880	12	Paved	6	38	None	None	None	2C

Curve List for Washington County

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.	CRSP 2 ID	Route System	Route No.	Start Description	End Description	Speed Limit [mph]	Radius [feet]	Area Type	ADT [vpd]	Lane Width [feet]	Shoulder Type	Outside Shoulder Width [feet]	Total Cross Section Width [feet]	Adjacent Intersection	Visual Trap	Lighting	Outside Edge Risk
361	91.007	CR	91	270 ft North of 239th St N	Scandia Trail N	55	4279	Rural	770	12	Paved	6	38	None	None	None	2C
362	91.008	CR	91	270 ft North of 239th St N	Scandia Trail N	55	2214	Rural	770	12	Paved	6	38	None	None	None	2C
363	91.009	CR	91	270 ft North of 239th St N	Scandia Trail N	55	1342	Rural	770	12	Gravel	6	38	Intersection	None	None	2C
364	96.001	CR	96	280 ft West of Dellwood Ave	Jamaca Ave N	55	3996	Rural	6000	11	Composite	6	26	Intersection	None	None	2C
365	96.002	CR	96	280 ft West of Dellwood Ave	Jamaca Ave N	45	3411	Rural	6000	11	Paved	3	26	Intersection	None	None	3
366	96.003	CSAH	96	280 ft West of Dellwood Ave	Jamaca Ave N	45	2345	Rural	6000	11	Paved	3	26	None	None	None	3
367	96.004	CR	96	280 ft West of Dellwood Ave	Jamaca Ave N	45	1207	Rural	4050	11	Paved	3	26	Intersection	None	None	3
368	96.005	CR	96	280 ft West of Dellwood Ave	Jamaca Ave N	55	1464	Rural	4050	11	Paved	3	26	Intersection	None	None	3
369	96.006	CR	96	280 ft West of Dellwood Ave	Jamaca Ave N	55	2862	Rural	4050	11	Paved	3	26	Intersection	None	None	3
370	96.007	CR	96	280 ft West of Dellwood Ave	Jamaca Ave N	55	2935	Rural	4050	11	Paved	3	26	None	None	None	3
371	96.008	CR	96	280 ft West of Dellwood Ave	Jamaca Ave N	45	1214	Rural	4050	11	Paved	3	26	Intersection	None	None	3
372	96.009	CR	96	Jamaca Ave N	Manning Ave N	55	6476	Rural	3700	11	Paved	3	32	Intersection	None	None	3
373	96.01	CR	96	Jamaca Ave N	Manning Ave N	55	2180	Rural	3700	11	Paved	3	32	Intersection	None	None	3
374	96.012	CR	96	Manning Ave N	Norell Ave N	55	7457	Rural	7600	11	Paved	6	32	Intersection	None	None	2C
375	96.013	CR	96	Manning Ave N	Norell Ave N	55	2861	Rural	7600	11	Paved	6	32	Intersection	None	None	2C
376	96.014	CR	96	Norell Ave N	St Croix Trail	55	2498	Rural	3050	11	Paved	6	32	Intersection	None	None	2C
377	96.015	CR	96	Norell Ave N	St Croix Trail	55	2837	Rural	3050	11	Paved	6	32	Intersection	None	None	2C
378	96.016	CR	96	Norell Ave N	St Croix Trail	55	2291	Rural	7200	11	Paved	6	32	Intersection	None	None	2C
379	244.001	CSAH	244	350 ft East of Ridge Way	Stillwater Rd	45	2315	Rural	12600	10	Paved	3	34	Intersection	None	None	3
380	244.002	CSAH	244	350 ft East of Ridge Way	Stillwater Rd	45	1448	Rural	11800	10	Paved	6	34	Intersection	None	Present	2C
381	19A.001	CSAH	0	US 10	Miller Rd	55	627	Rural	2700	12	Gravel	12	44	Intersection	None	None	1

Rural Intersection List for Washington County

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.2	CRSP 2 ID	Route System	Route No.	Major Approach	Minor Approach	Area Type	Context Zone	Total Entering ADT [vpd]	Volume Cross Product [vpd^2]	Leg Configuration	Alignment Skew [Degrees]	Adjacent RR Crossing	Adjacent Curve	Adjacent Development	Previous STOP (>5 mi)	Major Approach Speed Limit	Major Approach Turn Lane Configuration	K	A	B	C	PDO	Crash Cost
1	10.010	CSAH	10	CSAH 10 (10th ST N)	CSAH 19 (Keats Ave N)	Rural	Residential	12145	33350250	X	0	None	None	None	<5	55	TR	0	0	0	0	0	$0
2	10.011	CSAH	10	CSAH 10 (10th ST N)	CSAH 17 (Lake Elmo Ave N)	Rural	Residential	9150	20028125	X	0	None	None	None	<5	55	TR	0	1	1	0	5	$1,045,000
3	10.012	CSAH	10	CSAH 15 (Manning Ave N)	CSAH 10 (10th St N)	Rural	Campus	18825	71476250	X	20	None	Horizontal	None	<5	55	LTTR	0	1	1	2	7	$1,311,000
4	10.013	CSAH	10	CSAH 10 (10th ST N)	CR 71 (Neal Ave N)	Rural	Residential	6520	4176000	X	0	None	Horizontal	None	<5	55	TR	0	0	1	0	2	$256,000
5	10.014	CSAH	10	CSAH 10 (10th ST N)	CR 65 (Oakgreen Ave N)	Rural	Residential	5100	4176875	T	0	None	None	None	<5	55	TB	0	0	0	0	2	$26,000
6	10.015	CSAH	10	CSAH 21 (Stagecoach Tr N)	CSAH 10 (10th St N)	Rural	Cabins	4375	4041250	T	0	None	None	None	<5	55	TR	0	0	0	0	1	$13,000
7	11.001	CSAH	11	MN 96 (Dellwood Rd N)	CSAH 11 (Boom Rd)	Rural	Agriculture	3470	1281000	T	0	None	None	None	<5	55	T	0	0	0	0	0	$0
8	12.007	CSAH	12	CSAH 12 (75th St N)	CSAH 17 (Lake Elmo Ave N)	Rural	Agriculture	8770	15842625	X	0	None	None	None	<5	55	LTR	0	0	0	0	0	$0
9	12.008	CSAH	12	CSAH 15 (Manning AVE N)	CSAH 12 (75th St N)	Rural	Mixed Use	24400	119137500	X	10	None	Horizontal	None	<5	55	LTTR	0	0	1	3	3	$629,000
10	12.011	CSAH	12	CSAH 12 (75th St N)	M 211 (Northland Ave)	Rural	Residential	6545	3805500	X	0	None	Horizontal	None	<5	50	LTR	0	0	0	1	1	$133,000
11	12.012	CSAH	12	CSAH 12 (75th ST N)	MSAS 122 (Boutwell Rd N)	Rural	Residential	6500	3540000	T	10	None	Horizontal	None	<5	30	TR	0	0	0	0	0	$0
12	13.004	CSAH	13	CSAH 13 (Radio DR)	CSAH 20 (Military RD)	Rural	Residential	12450	35045000	X	15	None	Horizontal	None	<5	55	T	0	0	0	0	0	$0
13	13.005	CSAH	13	CSAH 13 (Radio DR)	MSAS 119 (Dale Rd)	Rural	Agriculture	10525	9737500	T	0	None	Horizontal	None	<5	55	TB	0	0	0	2	2	$266,000
14	13.031	CSAH	13	CSAH 13 (Inwood AVE N)	MSAS 110 (15th St N)	Rural	Agriculture	9520	11833500	X	0	None	None	None	<5	55	LTR	0	0	0	2	0	$240,000
15	13.032	CSAH	13	CSAH 14 (34th St N)	CSAH 13 (Ideal AVE N)	Rural	Commercial	17225	59062500	X	0	None	None	None	<5	55	LLTTR	0	0	1	2	9	$587,000
16	14.001	CSAH	14	MN 120 (Century Ave N)	CSAH 14 (34th St N)	Rural	Campus	18345	74969000	X	5	None	None	None	<5	40	LTR	0	0	1	4	7	$801,000
17	14.002	CSAH	14	CSAH 14 (34th St N)	MSAS 234 (Granada Ave N)	Rural	Residential	13820	19764000	X	0	None	None	None	<5	55	LTTR	0	0	0	0	4	$52,000
18	14.003	CSAH	14	CSAH 14 (34th St N)	MSAS 121 (Hadley Ave N)	Rural	Commercial	24350	140530000	X	0	None	None	Present	<5	55	LTTR	0	0	2	2	13	$869,000
19	14.005	CSAH	14	CSAH 14 (Stillwater Blvd N)	CSAH 17 (Lake Elmo Ave N)	Rural	Mixed Use	12775	24700000	T	35	None	None	None	<5	55	TR	0	0	0	0	3	$39,000
20	14.011	CSAH	14	CSAH 14 (40th St N)	T 212 (Northbrook Blvd N)	Rural	Residential	4900	3752500	T	0	None	None	None	<5	55	T	0	0	0	0	1	$13,000
21	14.012	CSAH	14	CSAH 14 (40th St N)	CR 65 (Oakgreen Ave N)	Rural	Natural	5100	5292500	T	15	None	Horizontal	None	<5	55	TR	0	0	0	0	0	$0
22	14.013	CSAH	14	CSAH 14 (Osgood Ave N)	CSAH 24 (Osgood Ave N)	Rural	Recreational	7175	12525000	T	20	Present	None	None	<5	45	TR	0	0	0	0	1	$13,000
23	14.014	CSAH	14	CSAH 21 (Stagecoach Tr N)	CSAH 14 (47th St N)	Rural	Residential	3575	2451250	T	0	None	None	None	<5	40	LTR	0	0	3	0	0	$690,000
24	14.017	CSAH	14	CSAH 14 (Stillwater BLVD)	CSAH 15 (Manning AVE N)	Rural	Mixed Use	17750	58740000	X	0	None	None	None	<5	55	LTTR	0	0	1	0	4	$282,000
25	15.001	CSAH	15	CSAH 15 (Manning Ave N)	I 94 (Ramp)	Rural	Agriculture	7750	49125000	X	0	None	None	None	NA	65	TTR	0	0	1	6	13	$1,119,000
26	15.002	CSAH	15	CSAH 15 (Manning Ave N)	MSAS 120 (Hudson Blvd)	Rural	Agriculture	15990	7595000	T	0	None	Horizontal	None	<5	55	LTT	0	0	1	0	3	$269,000
27	15.003	CSAH	15	CSAH 15 (Manning Ave N)	MSAS 115 (Manning Tr N)	Rural	Residential	11995	4582000	X	0	None	Horizontal	None	<5	55	TR	0	2	0	1	0	$1,620,000
28	15.004	CSAH	15	CSAH 15 (Manning Ave N)	MSAS 108 (30th St N)	Rural	Agriculture	13645	11411250	X	0	None	None	None	<5	55	LTR	0	0	1	1	1	$363,000
29	15.005	CSAH	15	CSAH 15 (Stillwater Blvd N)	MSAS 111 (50th St N)	Rural	Recreational	17965	8137500	T	0	None	None	Present	<5	50	TR	0	0	0	1	1	$133,000
30	15.011	CSAH	15	CSAH 15 (Manning AVE N)	MSAS 122 (80th St N)	Rural	Residential	16220	12628000	X	0	None	None	None	<5	55	LTR	0	0	0	0	2	$26,000
31	15.012	CSAH	15	CSAH 15 (Manning AVE N)	CR 64 (Mckusick Rd N)	Rural	Residential	15170	17019000	X	0	None	None	None	<5	55	LTR	0	0	0	0	4	$52,000
32	15.013	CSAH	15	MN 96 (Dellwood RD N)	CSAH 15 (Manning AVE N)	Rural	Natural	15400	55087500	X	0	None	None	None	>5	55	T	0	0	0	0	0	$0
33	15.016	CSAH	15	CSAH 15 (Manning TRL N)	CR 61 (120th St N)	Rural	Agriculture	7045	1666000	T	45	None	None	None	<5	55	TT	0	0	1	0	1	$243,000
34	15.017	CSAH	15	CSAH 15 (Manning TRL N)	CR 50 (192nd St N)	Rural	Agriculture	4275	1192500	T	0	None	None	None	<5	55	TR	0	0	0	0	1	$13,000
35	15.018	CSAH	15	MN 97 (Scandia Tr N)	CSAH 15 (Manning TRL N)	Rural	Agriculture	11950	28810000	X	0	None	None	None	<5	55	TR	0	0	0	0	2	$26,000
36	16.006	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 106 (Bielenberg RD)	Small Town	Mixed Use	29145	125355500	X	30	None	Horizontal	Present	<5	40	LTTR	0	0	3	5	18	$1,524,000
37	17.001	CSAH	17	CSAH 17 (Lake Elmo Ave N)	MSAS 107 (20th St N)	Rural	Residential	4005	1295750	T	0	None	Vertical	None	<5	45	T	0	0	0	0	0	$0
38	17.002	CR	17	MSAS 120 (Hudson Blvd)	CR 17B (Lake Elmo Ave N)	Rural	Agriculture	4965	5321000	X	0	None	Horizontal	None	<5	55	TR	0	1	2	2	3	$1,489,000
39	17.004	CSAH	17	CSAH 17 (Lake Elmo Ave N)	MSAS 114 (39th St N)	Rural	Agriculture	5300	2612500	T	0	None	None	None	<5	55	LTR	0	0	0	0	0	$0
40	17.005	CSAH	17	CSAH 17 (Lake Elmo Ave N)	MSAS 104 (43rd St N)	Rural	Residential	5200	2137500	T	0	None	None	None	<5	55	TT	0	0	0	1	0	$120,000
41	17.006	CSAH	17	CSAH 17 (Lake Elmo Ave N)	MSAS 111 (50th St N)	Rural	Agriculture	5470	3420000	X	0	None	None	None	<5	55	TR	0	0	0	0	1	$13,000
42	17.007	CSAH	17	MN 36	CSAH 17 (Lake Elmo Ave N)	Rural	Commercial	43375	187687500	X	0	None	None	None	>5	65	LLTTR	1	0	11	20	56	$19,258,000
43	17.008	CSAH	17	CSAH 17 (Lake Elmo Ave N)	M 1 (69th St N)	Rural	Residential	5045	225000	T	0	None	None	None	<5	55	TR	0	0	0	0	1	$13,000
44	18.001	CSAH	18	CSAH 18 (Bailey RD)	CSAH 20 (Military RD)	Rural	Commercial	15275	29036250	T	15	None	Horizontal	None	<5	40	LTR	0	0	0	1	2	$146,000
45	18.006	CSAH	18	MN 95 (Manning Ave S)	CSAH 18 (Bailey RD)	Rural	Agriculture	13250	43560000	X	0	None	None	None	<5	55	TR	0	0	2	0	3	$499,000
46	18.007	CSAH	18	CSAH 18 (40th ST S)	CR 71 (Neal Ave S)	Rural	Agriculture	3685	2821000	X	0	None	None	None	<5	55	LTR	0	1	4	0	2	$1,696,000
47	18.009	CSAH	18	CSAH 21 (St. Croix TRL S)	CSAH 18 (Afton Blvd S)	Rural	Residential	3170	1927000	X	0	None	None	None	<5	45	LT	0	0	0	0	0	$0
48	18.010	CSAH	18	CSAH 18 (St. Croix TRL S)	M 121 (30th ST S)	Rural	Residential	3185	1017000	T	0	None	None	None	<5	50	T	0	0	0	0	0	$0
49	19.001	CSAH	19	CSAH 19 (Innovation RD S)	MSAS 112 (Point Douglas RD S)	Rural	Agriculture	12350	25067700	X	0	None	None	None	<5	45	TT	0	0	0	0	0	$0
50	19.002	CSAH	19	CSAH 19 (Innovation RD S)	MSAS 120 (Ravine Pkwy)	Rural	Agriculture	7725	7962500	X	25	None	Horizontal	None	<5	55	LTR	0	0	0	0	1	$13,000
51	19.003	CSAH	19	CSAH 19 (Keats Ave S)	MSAS 116 (85th ST)	Rural	Agriculture	6395	1799500	X	0	None	None	None	<5	55	LTR	0	0	1	0	3	$269,000
52	19.004	CSAH	19	CSAH 19 (Keats Ave S)	MSAS 102 (80th ST S)	Rural	Residential	8700	15860000	X	0	None	None	None	<5	45	TR	0	0	0	2	2	$266,000
53	19.008	CSAH	19	CSAH 19 (Woodbury Dr)	MSAS 119 (Dale Rd)	Rural	Agriculture	8230	7416000	X	0	None	None	None	<5	55	TR	0	1	0	1	5	$935,000
54	19A.001	CSAH	0	CR 19A (Innovation Rd)	US 61 (Ramp)	Rural	Agriculture	11575	32520000	X	0	None	Both	None	<5	65	T	0	0	2	2	6	$778,000
55	2.001	CSAH	2	CSAH 2 (Broadway Ave)	MSAS 136 (232nd St N)	Rural	Agriculture	7758	1200800	T	0	None	Horizontal	None	<5	55	T	0	0	1	0	0	$230,000
56	20.004	CSAH	20	CSAH 20 (Military RD)	MSAS 109 (Woodlane DR)	Rural	Residential	6900	11676875	X	10	None	Both	None	<5	55	TR	0	0	0	0	2	$26,000
57	20.005	CSAH	20	CSAH 20 (Military RD)	M 502 (Jamaica Ave S)	Rural	Agriculture	5750	7775625	T	0	None	None	Present	<5	55	TR	0	0	0	0	0	$0
58	21.001	CSAH	21	US 10 (Point Douglas RD S)	CSAH 21 (St. Croix TRL S)	Rural	Agriculture	16635	7047000	T	0	None	Both	None	>5	55	LT	0	0	0	0	1	$13,000
59	21.002	CSAH	21	CSAH 21 (St. Croix TRL S)	CR 78 (110th St S)	Rural	Agriculture	1670	545125	X	0	None	Vertical	None	<5	55	T	0	0	1	0	0	$230,000
60	21.003	CSAH	21	CSAH 21 (St. Croix TRL S)	CR 76 (90th St S)	Rural	Agriculture	1458	174900	T	10	None	Vertical	None	<5	55	TR	0	0	0	0	2	$26,000
61	21.004	CSAH	21	CSAH 21 (St. Croix TRL S)	CSAH 22 (70th ST S)	Rural	Agriculture	2080	1069500	X	0	None	None	None	<5	55	TR	0	0	0	0	0	$0
62	21.005	CSAH	21	CSAH 21 (St. Croix TRL S)	M 65 (50th St S)	Rural	Residential	1290	108000	X	0	None	Horizontal	None	<5	55	T	0	0	0	0	0	$0
63	21.006	CSAH	21	CSAH 21 (Stagecoach Tr S)	M 53 (Valley Creek Tr S)	Rural	Natural	685	28800	T	25	None	Horizontal	None	<5	30	T	0	0	0	0	0	$0
64	21.007	CSAH	21	CSAH 21 (Stagecoach Tr N)	T 1166 (Hudson Rd S)	Rural	Agriculture	1890	162000	X	0	None	Horizontal	None	>5	55	TR	0	0	0	0	0	$0
65	21.008	CSAH	21	CSAH 21 (Stagecoach Tr N)	T 1320 (Hudson BLVD N)	Rural	Agriculture	2690	234000	X	0	None	Horizontal	None	<5	55	TR	0	0	0	0	0	$0
66	21.009	CSAH	21	CSAH 21 (Stagecoach Tr N)	T 151 (22nd St N)	Rural	Residential	3590	315000	X	0	None	Horizontal	None	<5	55	TR	0	0	1	0	1	$243,000
67	21.010	CSAH	21	CSAH 21 (Stagecoach Tr N)	M 65 (Inspiration PKWY S)	Rural	Residential	5590	495000	X	0	None	Horizontal	None	<5	55	LTR	0	0	1	0	3	$269,000
68	22.011	CSAH	22	CSAH 22 (70th ST S)	CR 71 (Neal Ave S)	Rural	Agriculture	2155	773500	X	0	None	None	None	<5	55	TR	0	0	0	0	0	$0
69	244.001	CSAH	244	CR 12 (Wildwood Rd)	MSAS 110 (Old Wildwood Rd)	Rural	Residential	12550	4270000	T	30	None	Horizontal	None	<5	45	TR	0	0	0	0	0	$0
70	244.002	CSAH	244	CR 12 (Wildwood Beach Rd)	MSAS 100 (Lincolntown Ave)	Rural	Cabins	12650	10030000	T	0	None	Horizontal	None	<5	45	TR	0	0	0	0	0	$0
71	28.001	0	0	MN 95 (Manning Ave S)	CR 78 (110th St S)	Rural	Cabins	3650	1768125	X	0	None	None	None	<5	55	T	0	0	1	1	3	$389,000
72	29.001	CSAH	29	CSAH 29 (Hilton TRL N)	M 2 (Viking Dr)	Rural	Residential	7525	54080000	X	90	None	Both	None	<5	55	T	0	0	0	0	0	$0
73	29.002	CSAH	29	CSAH 29 (Hilton TRL N)	MN 36 (Ramp)	Rural	Residential	5570	54080000	T	45	None	Both	None	<5	55	T	0	0	0	0	2	$26,000
74	29.003	CSAH	29	CSAH 29 (Hilton TRL N)	MSAS 106 (72nd St N)	Rural	Residential	16195	40620750	X	0	None	None	None	<5	50	LTR	0	0	0	0	1	$13,000
75	3.001	CSAH	3	CSAH 7 (Square Lake Tr N)	CSAH 3 (Norell Ave N)	Rural	Agriculture	2440	955500	T	0	None	Horizontal	None	<5	55	TB	0	0	0	0	1	$13,000
76	3.002	CSAH	3	CSAH 4 (170th St N)	CSAH 3 (Norell Ave N)	Rural	Agriculture	3330	1247000	T	0	None	None	None	<5	55	T	0	0	0	0	0	$0
77	3.003	CSAH	3	CSAH 3 (Olinda Tr N)	CSAH 3 (Olinda Tr N)	Rural	Agriculture	3145	2384250	T	0	None	None	None	<5	55	T	0	0	0	0	1	$13,000
78	4.001	CSAH	4	US 61 (Forest BLVD)	CSAH 4 (170th St N)	Rural	Agriculture	13100	30300000	X	30	None	None	None	<5	55	T	0	0	0	2	14	$422,000

Rural Intersection List for Washington County

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.2	CRSP 2 ID	Route System	Route No.	Major Approach	Minor Approach	Area Type	Context Zone	Total Entering ADT [vpd]	Volume Cross Product [vpd^2]	Leg Configuration	Alignment Skew [Degrees]	Adjacent RR Crossing	Adjacent Curve	Adjacent Development	Previous STOP (>5 mi)	Major Approach Speed Limit	Major Approach Turn Lane Configuration	K	A	B	C	PDO	Crash Cost
79	4.001	CR	4	US 61 (Forest Blvd N)	CR 4A (170th St N)	Rural	Agriculture	5700	1100000	X	30	None	None	None	<5	55	T	0	0	0	0	0	$0
80	4.002	CSAH	4	CSAH 4 (170th St N)	MSAS 106 (Ingersoll Ave N)	Rural	Agriculture	3435	601250	X	0	None	None	None	<5	55	TR	0	0	0	0	0	$0
81	4.003	CSAH	4	CSAH 4 (170th St N)	CR 57 (Jeffrey Ave N)	Rural	Agriculture	3448	643500	T	0	None	None	None	>5	55	TR	1	0	0	0	0	$13,600,000
82	4.004	CSAH	4	CSAH 4 (170th St N)	CSAH 15 (Manning TRL N)	Rural	Agriculture	7675	14145000	X	15	None	None	None	>5	55	TR	1	0	0	0	3	$13,639,000
83	4.005	0	0	CSAH 4 (Ostrium Trl N)	Quant Ave N	Rural	Natural	555	22950	T	25	None	Horizontal	None	<5	55	T	0	0	0	0	0	$0
84	4.006	0	0	MN 95 (Saint Croix Tr N)	CSAH 4 (Maple St)	Small Town	Residential	4230	1634000	X	20	None	None	None	<5	55	LT	0	0	0	0	2	$26,000
85	5.010	CSAH	5	MN 96 (Dellwood Rd N)	CSAH 5 (Stone Bridge Tr N)	Rural	Agriculture	9100	20101875	X	50	None	None	None	<5	55	T	0	0	0	1	2	$146,000
86	5.011	CSAH	5	MN 96 (Dellwood Rd N)	CSAH 5 (Stone Bridge Tr N)	Rural	Agriculture	4695	5017250	X	0	None	None	None	<5	55	T	0	0	2	0	3	$499,000
87	5.012	CSAH	5	CSAH 5 (Stone Bridge Tr N)	CSAH 11 (Otchipwe Ave N)	Rural	Agriculture	2820	1932875	X	45	None	None	None	<5	45	T	0	0	0	0	2	$26,000
88	50.001	CR	50	US 61 (Forest Blvd N)	MSAS 113 (202nd St N)	Rural	Agriculture	13000	24610000	X	0	None	None	None	<5	55	LTR	0	0	5	1	9	$1,387,000
89	50.002	CR	50	CR 50 (202nd St N)	MSAS 127 (Goodview Ave N)	Rural	Residential	2620	1010500	T	0	None	None	None	<5	55	T	0	0	0	0	2	$26,000
90	50.003	CR	50	CR 50 (202nd St N)	MSAS 111 (Harrow Ave N)	Rural	Agriculture	1640	275500	X	0	None	None	None	<5	55	T	0	0	0	0	0	$0
91	50.004	CR	50	CR 50 (Ingersoll Ave N)	CR 50 (202nd St N)	Rural	Agriculture	845	71250	T	0	None	None	None	<5	55	T	0	0	0	0	0	$0
92	50.005	CR	50	CR 50 (202nd St N)	MSAS 124 (July Ave N)	Rural	Residential	1050	257400	T	0	None	None	None	<5	55	T	0	1	0	0	0	$750,000
93	51.001	CR	51	MN 95 (Saint Croix Tr N)	CR 51 (Partridge Rd N)	Rural	Agriculture	5035	1683000	T	0	None	Horizontal	None	<5	55	TR	0	0	0	1	0	$120,000
94	52.002	CR	52	MN 95 (Saint Croix Tr N)	CR 52 (Oakhill Rd N)	Rural	Residential	3698	693000	T	0	None	Horizontal	None	<5	55	TR	0	0	1	0	0	$230,000
95	55.001	CR	55	CR 55 (Norell Ave N)	CR 61 (Myeron Rd N)	Rural	Residential	2090	483625	T	0	None	None	None	<5	55	TR	0	0	0	0	0	$0
96	59.001	CR	59	MN 95 (Saint Croix Tr N)	CR 59 (Square Lake Tr N)	Rural	Residential	4438	692550	T	0	None	Horizontal	None	<5	55	TR	0	0	0	0	0	$0
97	6.006	CSAH	6	CSAH 6 (Stillwater Blvd N)	CSAH 13 (Inwood AVE N)	Rural	Residential	9045	20059250	X	0	None	None	None	<5	40	TR	0	0	0	0	3	$39,000
98	6.007	CSAH	6	CSAH 6 (Stillwater Blvd N)	CSAH 14 (34th Rabt N)	Rural	Residential	13825	35620000	X	10	None	Horizontal	None	<5	55	T	0	0	0	0	0	$0
99	61.001	CR	61	CR 61 (120th St N)	T 122 (120th St N)	Rural	Agriculture	555	76850	T	0	None	None	None	<5	55	T	0	0	0	0	0	$0
100	7.001	CSAH	7	CSAH 7 (Illies Ave N)	MSAS 102 (125th St N)	Rural	Agriculture	1870	496000	T	15	None	Horizontal	None	<5	55	T	0	0	0	1	0	$120,000
101	7.002	CSAH	7	CSAH 7 (122nd ST N)	CSAH 8 (Jody AVE N)	Rural	Agriculture	2130	731000	T	0	None	Horizontal	None	>5	50	T	0	0	0	0	0	$0
102	7.003	CSAH	7	CSAH 7 (122nd ST N)	CR 57 (Keller Ave N)	Rural	Agriculture	2615	622750	T	0	None	None	None	<5	50	T	0	0	0	0	1	$13,000
103	7.004	CSAH	7	CSAH 7 (122nd ST N)	CSAH 9 (Keystone Ave N)	Rural	Agriculture	3250	1640625	T	0	None	None	None	<5	50	TR	0	0	0	0	0	$0
104	7.005	CSAH	7	CSAH 15 (Manning TRL N)	CSAH 7 (122nd St N)	Rural	Agriculture	8150	9180000	T	10	None	Horizontal	None	>5	55	TR	0	0	0	0	0	$0
105	7.006	CSAH	7	CSAH 15 (Manning TRL N)	CSAH 7 (Square Lake Tr N)	Rural	Agriculture	7700	6120000	T	45	Present	None	None	<5	55	TR	0	0	0	1	2	$146,000
106	7.007	CSAH	7	CSAH 7 (Square Lake Tr N)	CR 55 (Norell Ave N)	Rural	Agriculture	2745	1424750	X	0	None	Horizontal	None	<5	55	TR	0	0	0	0	0	$0
107	7.008	CSAH	7	CSAH 7 (Square Lake Tr N)	CSAH 11 (Otchipwe Ave N)	Rural	Agriculture	1520	342375	T	15	None	Horizontal	None	<5	55	TR	0	0	0	0	0	$0
108	7.009	CSAH	7	CSAH 7 (Square Lake Tr N)	CR 51 (Partridge Rd N)	Rural	Cabins	1058	166080	T	20	None	Horizontal	None	<5	45	TR	0	0	0	0	0	$0
109	7.010	CSAH	7	CSAH 59 (Square Lake Tr N)	CR 7 (Square Lake Tr N)	Rural	Agriculture	810	163800	T	35	None	Horizontal	None	<5	50	T	0	0	0	0	0	$0
110	7.011	CSAH	7	CSAH 7 (Paul Avenue CT)	T 920 (Nason Hill Rd N)	Rural	Agriculture	518	66640	X	0	None	Horizontal	None	<5	50	T	0	0	0	0	0	$0
111	7.012	0	0	MN 95 (Saint Croix Tr N)	CSAH 7 (Nason Hill Rd)	Rural	Cabins	3850	730000	X	15	None	Horizontal	None	<5	55	LTR	0	0	0	0	1	$13,000
112	71.001	CR	71	CR 71 (Neal Ave S)	M 38 (60th St S)	Rural	Agriculture	910	73800	X	0	None	None	None	<5	55	T	0	0	0	0	0	$0
113	71.002	CR	71	CR 71 (Neal Ave S)	M 65 (50th St S)	Rural	Agriculture	910	73800	X	0	None	None	None	<5	55	T	0	0	0	0	0	$0
114	71.003	CR	71	CR 71 (Neal Ave S)	M 61 (30th St S)	Rural	Residential	1265	105750	X	0	None	None	None	<5	55	T	0	0	0	0	1	$13,000
115	71.004	CR	71	CR 71 (Neal Ave S)	M 53 (Valley Creek Tr S)	Rural	Agriculture	1045	45000	T	0	None	Vertical	None	<5	55	T	0	0	0	0	0	$0
116	71.005	CR	71	CR 71 (Neal Ave S)	M 51 (22nd St S)	Rural	Agriculture	1045	45000	T	0	None	None	None	<5	55	T	0	0	0	0	0	$0
117	71.006	CR	71	CR 71 (Neal Ave S)	M 47 (15th St S)	Rural	Agriculture	1470	221000	X	0	None	None	None	<5	55	T	0	0	0	0	0	$0
118	71.007	CR	71	CR 71 (Neal Ave S)	M 45 (10th St S)	Rural	Agriculture	1690	144000	X	0	None	None	None	<5	55	T	0	0	0	0	0	$0
119	71.008	CR	71	CR 71 (Neal Ave S)	M 90 (Hudson Rd S)	Rural	Agriculture	1740	148500	X	0	None	Horizontal	None	<5	50	TR	0	1	0	1	3	$909,000
120	71.009	CR	71	CR 71 (Neal Ave S)	T 1315 (Hudson Blvd)	Rural	Residential	1615	137250	X	0	None	Horizontal	None	<5	50	TR	0	0	0	0	0	$0
121	74.001	CR	74	CR 74 (65th St S)	M 11 (Geneva Ave S)	Rural	Natural	2390	207000	X	20	None	None	None	<5	50	T	0	0	0	0	2	$26,000
122	74.002	CR	74	CR 74 (65th St S)	M 28 (Hadley AVE S)	Rural	Residential	2390	207000	X	0	None	Vertical	None	<5	50	TR	0	0	0	0	0	$0
123	75.001	CR	75	CR 75 (Grey Cloud Island Dr)	T 322 (Grey Cloud Tr)	Rural	Residential	1165	50400	Y	65	None	Horizontal	None	<5	55	T	0	0	0	0	0	$0
124	76.001	CR	76	MN 95 (Manning Ave S)	CR 76 (90th St S)	Rural	Agriculture	4865	999750	T	0	None	None	None	<5	55	T	0	0	0	0	4	$52,000
125	8.007	CSAH	8	CSAH 8 (Jody AVE N)	MSAS 123 (Homestead Ave N)	Rural	Residential	2025	146250	T	5	None	Horizontal	None	<5	55	T	0	0	0	0	0	$0
126	8.008	CSAH	8	CSAH 8 (Jody AVE N)	MSAS 109 (132nd St N)	Rural	Agriculture	950	61600	T	0	None	None	None	<5	55	T	0	0	0	0	0	$0
127	9.001	CSAH	9	CSAH 12 (75th St N)	CSAH 19 (Jamaca Ave N)	Rural	Residential	9420	17277875	X	0	None	None	None	<5	55	LTR	0	0	0	0	3	$39,000
128	9.002	CSAH	9	MN 96 (Dellwood Rd N)	CSAH 9 (Jamaca Ave N)	Rural	Agriculture	7075	12107500	X	10	None	None	None	<5	55	T	0	0	2	0	2	$486,000
129	91.001	CR	91	MN 97 (Scandia Tr N)	CR 91 (Lofton Ave N)	Rural	Agriculture	6971	3145710	X	25	None	Horizontal	None	>5	55	LTR	0	0	1	1	3	$389,000
130	96.001	CR	96	MN 96 (Dellwood Rd)	MN 244 (Dellwood Ave)	Rural	Recreational	10150	16300000	T	0	None	Horizontal	None	<5	45	TR	0	0	0	0	2	$26,000
131	96.002	CR	96	MN 95 (Main St)	MN 96 (Dellwood Rd N)	Rural	Mixed Use	8420	10754500	X	0	None	Horizontal	None	<5	45	LTR	0	0	1	1	0	$350,000
																	Crash Summary	**3**	**9**	**58**	**72**	**277**	**$73,131,000**

Urban Segment List for Washington County

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.2	CRSP 2 ID	Route System	Route No.	Segment Start Description	Segment End Description	Length [miles]	ADT [vpd]	Context Zone	Cross Section	Design	Speed Limit [mph]	Sidewalk	Access Density [access per mile]	Total Crashes	Severe Crashes	Total HO+SSO Crashes	Severe HO+SSO Crashes
1	2.002	CSAH	2	420 ft SouthEast of Ethan Ct N	NW 4th St	1.29	21750	Mixed Use	4-Lane	Divided	40	Both Sides	37.27	173	3	26	0
2	2.003	CSAH	2	4th St SW	Lake St N	0.17	14200	Commercial	5-Lane	Divided	35	One Side	88.53	25	0	0	0
3	3.004	CSAH	3	Olinda Ln N	962 ft Southwest of 205th St N	1.19	2833	Mixed Use	2-Lane	Undivided	40	One Side	35.35	4	0	1	0
4	5.001	CSAH	5	MN 36	230 ft NorthEast of Autumn Way	0.99	20100	Mixed Use	4-Lane	Divided	45	Both Sides	20.22	28	0	3	0
5	5.002	CSAH	5	Owens St N	230 ft NorthEast of Autumn Way	1.87	8667	Residential	2-Lane	Undivided	30	Both Sides	79.21	38	1	6	1
6	6.001	CSAH	6	Century Ave	Helmo Ave	2.39	5267	Residential	2-Lane	Undivided	30	One Side	39.72	49	3	9	0
7	8.001	CSAH	8	Main St	Forest Blvd N	1.41	16600	Mixed Use	4-Lane	Divided	45	None	12.77	38	1	3	1
8	8.002	CSAH	8	Forest Blvd N	Goodview Ave N	0.91	3575	Residential	2-Lane	Undivided	35	One Side	63.73	17	0	4	0
9	10.001	CSAH	10	Geneva Ave N	330 ft East of Greystone Ave N	0.86	13500	Mixed Use	3-Lane	Undivided	40	One Side	59.49	62	1	6	0
10	10.002	CSAH	10	330 ft East of Greystone Ave N	1620 ft East of Linwood Ave N	1.96	16080	Mixed Use	4-Lane	Divided	40	One Side	13.27	90	3	9	0
11	11.001	CSAH	11	540 ft SouthEast of Orwell Ave N	Dellwood Rd	0.40	840	Residential	2-Lane	Undivided	35	None	29.67	2	0	0	0
12	12.001	CSAH	12	Wildwood Rd	Ideal Ave N	0.81	8600	Mixed Use	2-Lane	Undivided	35	One Side	53.22	36	0	4	0
13	12.005	CSAH	12	345 ft Northwest of Birchwood Dr	Owens St S	0.40	5800	Residential	2-Lane	Undivided	30	Both Sides	83.16	9	0	2	0
14	13.001	CSAH	13	69th St S	70th St S	0.14	6000	Mixed Use	5-Lane	Undivided	30	Both Sides	28.65	9	0	0	0
15	13.002	CSAH	13	580 ft North of CSAH 20	69th St S	1.61	6400	Residential	4-Lane	Divided	55	Both Sides	11.16	13	0	0	0
16	13.004	CSAH	13	CSAH 13	790 ft South of Hargis Pkwy	2.18	11767	Mixed Use	4-Lane	Divided	50	Both Sides	11.01	55	0	7	0
17	13.005	CSAH	13	Hudson Rd	Pioneer Dr	1.86	24500	Mixed Use	5-Lane	Divided	50	One Side	12.87	85	1	8	0
18	13.006	CSAH	13	197 ft South of Inwood Ave N	Hudson Rd	0.59	36500	Commercial	6-Lane	Divided	45	Both Sides	10.20	49	0	2	0
19	13.007	CSAH	13	1060 ft North of 10th St N	197 ft South of Inwood Ave N	1.12	17350	Commercial	6-Lane	Divided	55	One Side	9.85	26	0	3	0
20	13.008	CSAH	13	Intersection of 15th St N	1060 ft North of 10th St N	0.30	8400	Agriculture	2-Lane	Undivided	55	None	6.60	0	0	0	0
21	13.01	CSAH	13	Intersection of Stillwater Blvd N	Intersection of 34th St N	0.45	5200	Mixed Use	3-Lane	Divided	40	One Side	22.35	11	0	1	0
22	13.011	CSAH	13	650 ft North of Intersection of 36th St N	Intersection of 34th St N	0.38	4250	Agriculture	4-Lane	Divided	40	Both Sides	7.92	2	0	0	0
23	13.012	CSAH	13	Intersection of 50th St N	650 ft North of 36th St N	1.32	2850	Residential	2-Lane	Undivided	40	One Side	41.77	10	0	0	0
24	13.013	CSAH	13	MN 36	Helmo Ave N	1.19	7150	Residential	2-Lane	Undivided	55	None	0.00	30	0	1	0
25	14.003	CSAH	14	494 ft West of Intersection of Lake Elmo Ave N	Intersection of 39th St N	0.63	4850	Commercial	3-Lane	Undivided	50	None	34.81	13	0	2	0
26	14.008	CSAH	14	Intersection of Stagecoach Trail N	100 ft East of 9th St N	0.36	1850	Residential	2-Lane	Undivided	30	One Side	22.14	2	0	0	0
27	14.009	CSAH	14	100 ft East of Intersection of 9th St N	Intersection of St Croix Trail	0.32	1850	Mixed Use	2-Lane	Undivided	30	One Side	68.34	7	1	0	0
28	14.01	CSAH	14	39th St N	CSAH 15 (Manning Ave N)	0.59	4850	Residential	2-Lane	Divided	55	Both Sides	16.92	3	0	0	0
29	15.004	CSAH	15	MN 36 Westbound ramp	290 ft North of 53rd St N	1.01	23100	Mixed Use	4-Lane	Divided	45	None	12.81	36	0	3	0
30	15.005	CSAH	15	1386 North of 75th St N	MN 36	1.79	17650	Residential	4-Lane	Divided	55	One Side	17.33	27	0	2	0
31	16.001	CSAH	16	Intersection of Century Ave S	Intersection of Woodbury Dr	4.09	21233	Mixed Use	4-Lane	Divided	40	Both Sides	11.24	135	1	9	0
32	16.002	CSAH	16	CSAH 19 (Radio Dr)	TH 95 (Manning Ave S)	1.99	8267	Residential	4-Lane	Divided	50	One Side	19.09	43	0	1	0
33	17.002	CSAH	17	Intersection of 32nd St N	590 ft South of 30th St N	0.34	3250	Residential	2-Lane	Undivided	30	One Side	132.67	2	0	0	0
34	17.003	CSAH	17	80 ft North of Intersection of 33rd St N	Intersection of 32nd St N	0.20	3250	Residential	2-Lane	Undivided	30	One Side	91.39	1	0	0	0
35	17.004	CSAH	17	Stillwater Blve N	80 ft North of 33rd St N	0.25	4500	Mixed Use	2-Lane	Undivided	30	Both Sides	83.82	3	1	1	1
36	18.002	CSAH	18	2422 ft West of Woodlane Dr Rd	166 ft East of Hill Rd	1.29	12800	Residential	3-Lane	Divided	55	One Side	15.47	35	0	4	0
37	18.003	CSAH	18	166 ft East of Hill Rd	850 ft East of Pioneer Dr	1.07	13000	Residential	2-Lane	Divided	55	One Side	7.51	41	0	0	0
38	18.004	CSAH	18	850 ft East of and Pioneer Dr	1500 ft West of Woodbury Dr	0.81	11800	Residential	2-Lane	Undivided	55	One Side	9.89	12	1	1	0
39	18.005	CSAH	18	1500 ft West of Woodbury Dr	Intersection of 40th St S and Manning Ave S	2.30	10650	Residential	2-Lane	Undivided	35	One Side	11.73	26	1	1	0
40	18.009	CSAH	18	US 12	268 ft North of Quentin Ave S	1.51	8833	Mixed Use	2-Lane	Divided	40	One Side	26.54	8	1	0	0
41	18.01	CSAH	20	TH 10	CSAH 20 (Military Rd)	0.82	14200	Industrial	4-Lane	Undivided	55	None	17.01	43	1	3	0
42	19.002	CSAH	19	610 ft North of Military Rd	80th St S	1.24	7000	Residential	2-Lane	Undivided	55	One Side	10.47	20	0	0	0
43	19.004	CSAH	19	Intersection of Park Crossing	1900 ft South of Bailey Rd	1.72	8400	Residential	4-Lane	Divided	55	Both Sides	11.05	23	1	1	0
44	19.005	CSAH	19	Hudson Rd	Park Crossing	2.04	21500	Residential	4-Lane	Divided	55	None	7.34	83	1	11	0
45	19.006	CSAH	19	Hudson Blvd	Hudson Rd	0.45	23950	Commercial	6-Lane	Divided	50	One Side	13.20	51	1	5	1
46	19.007	CSAH	19	10th St N	Hudson Blvd	0.83	8300	Residential	4-Lane	Divided	50	One Side	11.99	6	0	0	0
47	19.008	CSAH	19	Park Crossing	1900 ft South of Bailey Rd	0.99	8400	Residential	4-Lane	Divided	55	Both Sides	19.22	7	0	0	0
48	20.005	CSAH	20	Jamaica Ave S	CSAH 22 (70th S)	0.92	4350	Agriculture	2-Lane	Divided	55	None	21.79	4	1	0	0
49	21.005	CSAH	21	Intersection of Stagecoach Trail S	170 ft North of 37th St	0.64	2350	Mixed Use	2-Lane	Undivided	30	Both Sides	31.36	1	0	0	0
50	21.01	CSAH	21	CSAH 14 (47th St N)	CSAH 21 (56th St N)	0.94	2650	Residential	2-Lane	Undivided	40	None	22.24	3	0	0	0
51	21.011	CSAH	21	Stagecoach Trail N	TH 95 (St Croix Scenic Bywy)	0.24	2100	Industrial	2-Lane	Undivided	35	One Side	28.78	2	0	0	0
52	21.012	CSAH	23	CSAH 21 (56th St N)	TH 95 (Main St S)	2.45	2375	Mixed Use	2-Lane	Undivided	30	Both Sides	57.62	5	0	0	0
53	22.001	CSAH	22	Intersection of Broadway Ave	1075 ft West of Goodview Ave S	0.69	13650	Residential	4-Lane	Divided	35	One Side	18.79	46	1	3	0
54	22.002	CSAH	22	1075 ft West of Goodview Ave S	1065 ft East of Hardwood Ave S	1.30	10100	Residential	3-Lane	Undivided	50	Both Sides	14.60	26	0	4	0
55	22.003	CSAH	22	1065 ft East of Hardwood Ave S	875 ft East of Isleton Ave S	1.42	7600	Residential	3-Lane	Undivided	50	One Side	9.18	37	1	5	0
56	22.004	CSAH	22	875 ft East of Isleton Ave S	845 ft East of Washington Co Hwy 19	1.30	5217	Mixed Use	2-Lane	Undivided	55	One Side	11.58	12	1	0	0
57	23.002	CSAH	23	Willard St W	4th Ave S	0.81	1750	Residential	2-Lane	Undivided	20	Both Sides	86.57	3	0	1	0
58	23.003	CSAH	23	Willard St W	Chestnut St E	0.37	4100	Mixed Use	2-Lane	Undivided	30	Both Sides	53.71	7	0	0	0
59	23.004	CSAH	23	3rd St S	St Croix Trail	0.14	1750	Mixed Use	2-Lane	Undivided	30	Both Sides	80.42	7	0	3	0
60	24.002	CSAH	24	Upper 56th SW	275 ft North of Valley View Park Rd	0.20	6000	Residential	3-Lane	Undivided	35	One Side	60.96	9	0	1	0
61	24.003	CSAH	24	CSAH24/Upper 56th St	740 ft North of State Route 36	0.47	12050	Commercial	4-Lane	Divided	30	One Side	40.45	45	0	3	0
62	24.004	CSAH	24	Intersection of Orleans St W	440 ft South of 62nd St N	0.34	12900	Residential	2-Lane	Undivided	35	One Side	44.35	1	0	0	0
63	24.005	CSAH	24	4th St	3rd St S	0.07	12900	Residential	2-Lane	Undivided	35	One Side	91.65	0	0	0	0
64	25.001	CSAH	25	Lake Rd	Carver Ave	1.29	4033	Mixed Use	2-Lane	Undivided	35	None	40.40	18	1	0	0
65	25.002	CSAH	25	Brookview Dr E	Lake Rd	1.88	13367	Mixed Use	4-Lane	Divided	45	Both Sides	21.32	73	1	11	0
66	26.001	CSAH	26	N Osgood Ave	Beach Rd	0.57	890	Mixed Use	2-Lane	Undivided	30	One Side	19.26	3	0	1	0
67	27.001	CSAH	27	Wildwood Rd	Cedar Ave	1.04	5850	Mixed Use	3-Lane	Undivided	30	Both Sides	22.16	48	2	6	0
68	32.001	CSAH	32	Everton Ave N	Forest Blvd N	1.37	8125	Mixed Use	2-Lane	Undivided	40	None	39.49	45	0	4	0
69	33.001	CSAH	33	W Broadway Ave	220th St N	0.81	4350	Commercial	2-Lane	Undivided	40	None	24.66	19	2	2	1
70	35.002	CSAH	35	220 ft East of Heather Ridge Rd N	Ideal Ave N	0.22	3250	Residential	2-Lane	Undivided	30	None	41.37	0	0	0	0
71	38.001	CSAH	38	1340 ft Northwest of 5th St	70th St S	0.57	3150	Residential	2-Lane	Undivided	45	One Side	7.04	5	0	1	0
72	38.002	CSAH	38	Intersection of Glen Rd	1340 ft Northwest of 65th St	1.14	1800	Mixed Use	3-Lane	Undivided	40	One Side	15.72	3	0	0	0
73	38.003	CSAH	38	240 ft Southwest of CSAH 38	Hastings Ave	0.14	4300	Mixed Use	2-Lane	Undivided	40	Both Sides	76.54	1	0	0	0
74	38.004	CSAH	38	Intersection of 7th Ave	240 ft Southwest of 10th Ave	0.47	5575	Mixed Use	4-Lane	Divided	30	Both Sides	6.40	9	0	0	0
75	38.005	CSAH	38	I-494	Glen Rd	0.95	3350	Commercial	3-Lane	Divided	40	One Side	25.16	13	0	1	0
76	38.006	CSAH	38	Baily Rd	I-494	0.55	10900	Commercial	5-Lane	Divided	40	One Side	12.81	19	1	1	0
77	39.001	CSAH	39	Intersection of Hadley Ave S	1300 ft West of Hardwood Ave S	0.22	17200	Commercial	5-Lane	Divided	30	None	18.51	39	1	3	0
78	39.002	CSAH	39	80th St	Summit Ave	1.68	3783	Residential	2-Lane	Undivided	30	None	50.69	32	1	5	0

Urban Segment List for Washington County

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.2	CRSP 2 ID	Route System	Route No.	Segment Start Description	Segment End Description	Length [miles]	ADT [vpd]	Context Zone	Cross Section	Design	Speed Limit [mph]	Sidewalk	Access Density [access per mile]	Total Crashes	Severe Crashes	Total HO+SSO Crashes	Severe HO+SSO Crashes
79	52.001	CR	52	Scandia Trail N	380 ft Northwest of Ostrum Ave N	0.82	700	Mixed Use	2-Lane	Undivided	30	One Side	45.25	1	0	0	0
80	62.001	CR	62	CSAH 24 (N Osgood Ave)	Panama Ave N	0.25	3192	Campus	4-Lane	Undivided	30	One Side	60.26	4	0	0	0
81	63.001	CR	63	60th St N	CR 62 (62nd St N)	0.20	1743	Campus	2-Lane	Undivided	30	One Side	35.77	3	0	1	0
82	64.002	CR	64	Neal Ave N	Owens St N	1.62	1750	Mixed Use	2-Lane	Undivided	40	One Side	15.42	3	1	0	0
83	65.001	CR	65	442 ft West of 10th St N	Olinda Blvd N	3.03	2475	Residential	2-Lane	Undivided	50	None	29.99	5	0	0	0
84	66.001	CR	66	Curve Crest Blvd	60th St N	0.49	11800	Commercial	3-Lane	Undivided	30	One Side	34.65	6	0	1	0
85	244.001	CSAH	244	Intersection of E County Line Rd N	350 ft East of Ridge Way	0.56	12600	Mixed Use	3-Lane	Undivided	45	Both Sides	37.67	22	0	3	0
					Total Length (Miles)	84.57								2067	37	199	5

Urban Intersection List for Washington County

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.2	CRSP 2 ID	Route System	Route No.	Major Approach	Minor Approach	Area Type	Context Zone	Traffic Control Device	Total Entering ADT [vpd]	Volume Cross Product [vpd^2]	Leg Configuration	Major Division Type	Alignment Skew (degrees)	Adjacent Development	Major Approach Speed Limit [mph]	Minor Approach Speed Limit [mph]	Major Approach Left Turn Phasing	Major Approach Turn Lane Configuration	Max Number of Lanes Crossed	Presence of Sidewalk	Pedestrian Crossing Type	K	A	B	C	PDO	Crash Cost
1	10.001	CSAH	10	MN 120 (Century Ave N)	CSAH 34 (Minnehaha Ave E)	Suburban	Commercial	Signal	23800	138720000	X	Undivided	0	Present	40	40	Permitted/Protected	LTR	4	Some	Marking	0	0	1	3	34	$1,032,000
2	10.002	CSAH	10	CSAH 10 (10th ST N)	MSAS 236 (Greenway Ave)	Suburban	Residential	Signal	15375	25312500	T	Painted	0	None	40	30	Permitted/Protected	TR	3	Some	Marking	0	0	0	2	5	$305,000
3	10.003	CSAH	10	CSAH 10 (10th ST N)	MSAS 121 (Hadley Ave N)	Suburban	Commercial	Signal	30000	204750000	X	Curb	0	Present	40	35	Permitted/Protected	LTTR	6	Some	Marking	0	0	8	9	36	$3,388,000
4	10.005	CSAH	10	CSAH 10 (10th ST N)	SB I-694 (Ramp)	Suburban	Commercial	Signal	29425	100087500	X	Curb	0	Present	45	45	Permitted/Protected	TTR	4	Some	Marking	1	0	7	7	32	$16,466,000
5	10.006	CSAH	10	CSAH 10 (10th ST N)	I 494 (Ramp)	Suburban	Commercial	Uncontrolled	26350	21675000	T	Undivided	0	None	65	40	NA	LTTR	0	NA	NA	0	4	7	10	27	$6,161,000
6	10.007	CSAH	10	CSAH 10 (10th ST N)	MSAS 237 (Helmo AVE N)	Suburban	Commercial	Signal	22700	106732500	X	Curb	0	Present	45	35	Permitted/Protected	LLTTR	7	Some	Marking	0	0	3	3	11	$1,193,000
7	10.008	CSAH	10	CSAH 10 (10th ST N)	M 457 (Heron Ave N)	Suburban	Residential	Signal	11390	1017000	X	Curb	0	None	55	30	Protected	LTTR	6	Some	Marking	0	0	2	1	1	$593,000
8	10.009	CSAH	10	CSAH 13 (Inwood Ave N)	CSAH 10 (10th ST N)	Suburban	Residential	Signal	21600	116390000	X	Curb	0	None	55	55	Protected	LTTR	6	Some	Marking	0	0	2	1	3	$619,000
9	12.001	CSAH	12	MN 244 (Wildwood Rd)	CSAH 12 (Stillwater Rd)	Suburban	Mixed Use	Thru-Stop	13900	40180000	T	Undivided	65	None	30	30	NA	TR	3	Some	None	0	0	0	0	1	$13,000
10	12.002	CSAH	12	CSAH 12 (Stillwater Rd)	M 197 (Warner Ave N)	Suburban	Mixed Use	Thru-Stop	8290	738000	X	Undivided	0	None	35	30	NA	T	2	Some	Marking	0	0	1	0	7	$321,000
11	12.003	CSAH	12	CSAH 12 (Stillwater Rd)	MSAS 105 (Hallam Ave)	Suburban	Mixed Use	Thru-Stop	10100	15580000	X	Depressed	0	None	35	30	NA	LT	3	Some	Marking	0	0	2	0	7	$551,000
12	12.004	CSAH	12	CSAH 12 (Stillwater Rd)	CSAH 29 (Hilton TRL N)	Suburban	Commercial	Signal	13696	29214200	X	Depressed	0	None	50	45	Permitted/Protected	LTR	4	Some	Marking	0	0	0	1	3	$159,000
13	12.005	CSAH	12	CSAH 12 (75th St N)	M 3 (Keats Ave N)	Suburban	Agriculture	Thru-Stop	4895	218250	T	Undivided	0	None	55	55	NA	TR	3	Some	None	0	0	0	0	0	$0
14	12.006	CSAH	12	CSAH 12 (75th St N)	M 32 (Kimbro Ave N)	Suburban	Residential	Thru-Stop	5225	1818750	T	Undivided	0	None	55	45	NA	TR	3	None	None	0	0	0	0	0	$0
15	12.013	CSAH	12	CSAH 12 (75th ST N)	MSAS 123 (Brick St)	Suburban	Residential	Thru-Stop	7095	7283250	X	Undivided	40	None	50	30	NA	TR	3	Some	None	0	0	0	0	2	$26,000
16	13.001	CSAH	13	CSAH 22 (70th St S)	CSAH 13 (Hinton AVE S)	Suburban	Mixed Use	Yield	14000	48640000	X	Undivided	0	Present	50	45	NA	TR	5	Some	Marking	0	1	0	3	19	$1,357,000
17	13.002	CSAH	13	CSAH 13 (Hinton AVE S)	MSAS 123 (65th ST S)	Suburban	Residential	All-Way Stop	8100	10880000	X	Curb	0	None	55	40	NA	LTTR	6	Some	Marking	0	0	0	0	2	$26,000
18	13.003	CSAH	13	CSAH 13 (Hinton AVE S)	MSAS 118 (Glen Rd)	Suburban	Residential	Thru-Stop	7370	3876000	X	Curb	0	None	55	40	NA	LTTR	6	Some	None	0	0	2	0	0	$460,000
19	13.006	CSAH	13	CSAH 13 (Radio DR)	MSAS 141 (Hingis PKWY)	Suburban	Campus	Signal	13400	37050000	X	Depressed	0	None	55	30	Permitted/Protected	LLTTR	7	Some	Marking	0	0	2	3	11	$963,000
20	13.007	CSAH	13	CSAH 18 (Bailey RD)	CSAH 13 (Radio Dr)	Suburban	Residential	Yield	24300	147060000	X	Curb	0	None	55	50	NA	TR	2	Some	None	0	0	3	1	18	$1,044,000
21	13.008	CSAH	13	CSAH 13 (Radio DR)	M 645 (Commonwealth Ave)	Suburban	Residential	Signal	11490	1026000	X	Divided	0	None	50	20	Permitted/Protected	LTTR	6	Some	Marking	0	0	1	0	1	$243,000
22	13.009	CSAH	13	CSAH 13 (Radio DR)	MSAS 108 (Lake RD)	Suburban	Residential	Signal	21800	114810000	X	Curb	25	None	50	40	Protected	LLTTR	7	Some	Marking	0	0	0	2	4	$292,000
23	13.010	CSAH	13	CSAH 13 (Radio Dr)	MSAS 108 (Lake Rd)	Suburban	Residential	Signal	0	0	X	Curb	25	None	50	40	Protected	LLTTR	7	Some	Marking	0	0	0	0	0	$0
24	13.011	CSAH	13	CSAH 13 (Radio DR)	MSAS 105 (Tower Dr)	Suburban	Residential	Thru-Stop	15970	22608000	X	Depressed	0	None	50	20	NA	LTTR	6	Some	None	0	0	0	0	1	$13,000
25	13.012	CSAH	13	CSAH 13 (Radio DR)	MSAS 107 (Pioneer DR)	Suburban	Residential	Signal	21350	77655000	X	Curb	0	None	50	45	Protected	LTTR	6	Some	None	0	0	1	1	3	$389,000
26	13.013	CSAH	13	CSAH 13 (Radio DR)	CSAH 16 (Valley Creek Rd)	Suburban	Commercial	Signal	45700	521762500	X	Curb	0	Present	50	30	Permitted/Protected	LLTTR	7	All	Marking	0	0	1	9	21	$1,583,000
27	13.014	CSAH	13	CSAH 13 (Radio DR)	MSAS 126 (City Centre DR)	Suburban	Commercial	Signal	27895	61072500	X	Depressed	0	Present	50	30	Protected	LTTR	6	Some	Marking	0	0	2	3	7	$911,000
28	13.016	CSAH	13	CSAH 13 (Radio DR)	MSAS 132 (Donegal Dr)	Suburban	Residential	Thru-Stop	27895	61072500	X	Depressed	0	None	50	30	NA	LTTR	6	Some	None	0	0	3	1	2	$836,000
29	13.017	CSAH	13	CSAH 13 (Radio DR)	MSAS 139 (Seasons Pkwy)	Suburban	Mixed Use	Signal	28345	72547500	X	Depressed	0	None	45	30	Permitted/Protected	LTTR	6	Some	Marking	0	1	2	6	11	$2,073,000
30	13.018	CSAH	13	CSAH 13 (Radio Dr)	MSAS 139 (Seasons Pkwy)	Suburban	Mixed Use	Signal	0	0	X	Depressed	0	None	45	30	Permitted/Protected	LTTR	6	Some	Marking	0	0	0	0	0	$0
31	13.019	CSAH	13	CSAH 13 (Radio DR)	MSAS 102 (Tamarack Rd)	Suburban	Commercial	Signal	42100	404662500	X	Depressed	0	Present	45	35	Protected	LTTR	7	Some	Marking	0	0	4	6	12	$1,796,000
32	13.021	CSAH	13	CSAH 13 (Radio DR)	MSAS 117 (Hudson RD)	Suburban	Commercial	Signal	39645	225811250	X	Depressed	0	Present	45	45	Protected	LLTTTR	9	Some	Marking	0	0	3	4	11	$1,313,000
33	13.022	CSAH	13	CSAH 13 (Radio Dr)	MSAS 117 (Hudson Rd)	Suburban	Commercial	Signal	0	0	X	Depressed	0	Present	45	45	Protected	LLTTTR	9	Some	Marking	0	0	0	0	0	$0
34	13.023	CSAH	13	CSAH 13 (Radio DR)	MSAS 117 (Hudson Ave)	Suburban	Commercial	Signal	43345	249842500	X	Curb	0	Present	45	35	Protected	LLTTTR	9	Some	Marking	0	0	0	6	9	$837,000
35	13.025	CSAH	13	CSAH 13 (Radio DR)	MSAS 142 (Woodbury Lakes RD)	Suburban	Commercial	Signal	40195	134867500	X	Depressed	15	Present	45	30	Protected	TTTR	6	Some	Marking	0	0	6	9	31	$2,863,000
36	13.027	CSAH	13	CSAH 13 (Inwood Ave N)	I 94 (Ramp)	Suburban	Commercial	Signal	0	132525000	X	Divided	0	None	65	45	Permitted/Protected	LTTR	2	One Side	Signs & Markings	0	0	0	0	0	$0
37	13.028	CSAH	13	CSAH 13 (Inwood AVE N)	MSAS 239 (4th St N)	Suburban	Commercial	Signal	13700	59857500	X	Depressed	0	Present	55	40	Protected	LTTR	7	Some	Marking	0	0	3	2	6	$1,008,000
38	13.030	CSAH	13	CSAH 13 (Inwood AVE N)	MSAS 112 (Eagle Point Blvd)	Suburban	Commercial	Thru-Stop	15195	14129000	X	Curb	0	Present	55	35	NA	LTTR	6	Some	None	0	0	2	0	3	$499,000
39	13.033	CSAH	13	CSAH 13 (Ideal AVE N)	M 27 (39th St N)	Suburban	Agriculture	Thru-Stop	4295	191250	X	Undivided	0	None	55	35	NA	T	6	Some	None	0	0	0	1	1	$133,000
40	13.034	CSAH	13	CSAH 13 (Ideal AVE N)	MSAS 232 (40th St N)	Suburban	Residential	Thru-Stop	3345	1410750	T	Undivided	0	None	50	35	NA	T	2	None	None	0	0	0	0	2	$26,000
41	13.035	CSAH	13	CSAH 13 (Olson Lake TRL N)	MSAS 119 (50th St N)	Suburban	Residential	Thru-Stop	3875	2516250	T	Undivided	20	None	30	30	NA	TR	3	None	None	0	0	0	0	0	$0
42	13.036	CSAH	13	CSAH 13 (Ironwood Ave N)	5th St N	Suburban	Recreational	Signal	14750	7810000	T	Curb	0	Present	65	40	Permitted/Protected	LTT	5	Both Sides	Marking	0	0	0	0	0	$0
43	14.006	CSAH	14	CSAH 14 (Stillwater Blvd N)	CSAH 17 (Lake Elmo Ave N)	Suburban	Commercial	Signal	9875	17156250	T	Undivided	35	None	50	30	Permitted/Protected	LTR	4	Some	Marking	0	1	0	0	4	$802,000
44	14.007	CSAH	14	CSAH 14 (Stillwater Blvd N)	MSAS 106 (Laverne Ave N)	Suburban	Commercial	Thru-Stop	5700	4122500	X	Undivided	35	None	50	30	NA	LT	4	Some	None	0	0	0	0	2	$26,000
45	14.008	CSAH	14	CSAH 14 (Stillwater Blvd N)	MSAS 114 (39th St N)	Suburban	Commercial	Thru-Stop	5400	2667500	T	Undivided	0	None	50	30	NA	LTR	4	Some	None	0	0	0	0	1	$13,000
46	14.015	CSAH	14	CSAH 21 (Stagecoach Tr N)	CSAH 14 (5th Ave N)	Suburban	Natural	Thru-Stop	3575	2451250	T	Undivided	35	None	40	30	NA	TB	4	None	None	0	0	0	0	0	$0
47	14.016	CSAH	14	MN 95 (3rd St N)	CSAH 14 (5th Ave N)	Suburban	Mixed Use	Thru-Stop	13820	12464500	X	Undivided	0	None	30	30	NA	LT	3	Some	Marking	1	0	1	0	2	$13,856,000
48	15.006	CSAH	15	CSAH 15 (Stillwater Blvd N)	MN 36 (Ramp)	Suburban	Commercial	Signal	0	106675800	X	Divided	0	None	65	40	Permitted/Protected	TTR	2	One Side	Signs & Markings	0	0	0	1	1	$133,000
49	15.007	CSAH	15	MN 36	CSAH 15 (Manning AVE N)	Suburban	Agriculture	Signal	42950	328350000	X	Depressed	0	None	60	55	Protected	LLTTR	7	Some	Marking	0	0	3	7	32	$1,946,000
50	15.008	CSAH	15	CSAH 15 (Manning AVE N)	MSAS 121 (62nd ST N)	Suburban	Residential	Thru-Stop	22050	42785000	X	Curb	0	None	60	55	NA	LTTR	6	Some	Marking	0	0	2	1	1	$593,000
51	15.009	CSAH	15	CSAH 15 (Manning AVE N)	M 374 (Liberty Ave)	Suburban	Residential	Signal	19990	1791000	T	Depressed	0	None	50	30	Permitted/Protected	LTTR	6	Some	Marking	0	0	0	2	1	$253,000
52	15.010	CSAH	15	CSAH 15 (Manning AVE N)	M 415 (Settlers Way)	Suburban	Residential	Signal	19945	895500	T	Depressed	5	None	50	30	Permitted/Protected	LTT	5	Some	Marking	0	0	0	1	3	$159,000
53	16.001	CSAH	16	CSAH 16 (Valley Creek Rd)	CSAH 25 (Century Ave)	Suburban	Residential	Signal	20200	100320000	X	Curb	45	None	50	50	Protected	LTTR	6	Some	Marking	0	0	9	9	11	$3,293,000
54	16.002	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 101 (Weir Dr)	Suburban	Commercial	Signal	25200	145070000	X	Curb	0	Present	40	30	Permitted/Protected	LTTR	6	Some	Marking	0	1	1	7	11	$1,963,000
55	16.003	CSAH	16	CSAH 16 (Valley Creek Rd)	I 494 (Ramp)	Suburban	Commercial	Signal	20200	176055000	X	Divided	15	None	65	45	Permitted	LLTTT	2	One Side	Signs & Markings	0	1	2	7	28	$2,414,000
56	16.004	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 109 (Woodlane DR)	Suburban	Commercial	Signal	41850	332280000	X	Curb	5	Present	40	30	Protected	LLTTTR	8	Some	Marking	0	0	4	10	19	$2,367,000
57	16.005	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 122 (Queens Dr)	Suburban	Commercial	Signal	27595	77958000	X	Depressed	0	Present	40	30	Protected	LLTTR	7	Some	Marking	0	0	1	3	13	$759,000
58	16.007	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 105 (Tower Dr)	Suburban	Residential	Signal	26545	73593000	X	Depressed	20	Present	50	40	Permitted/Protected	LTTR	6	Some	Marking	0	0	0	3	7	$451,000
59	16.008	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 126 (City Centre DR)	Suburban	Commercial	Thru-Stop	25795	56043000	X	Depressed	0	Present	50	30	NA	LTTR	6	None	None	0	0	2	5	8	$1,164,000
60	16.009	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 132 (Donegal Dr)	Suburban	Commercial	Signal	25895	56282500	X	Curb	0	None	50	50	Permitted/Protected	LTTR	6	Some	Marking	0	0	0	8	10	$1,090,000
61	16.010	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 120 (Interlachen PKWY)	Suburban	Residential	Signal	24825	63106250	X	Curb	0	None	50	30	Permitted/Protected	LTTR	6	Some	Marking	0	0	3	2	3	$969,000
62	16.011	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 133 (Colby Lake Dr)	Suburban	Residential	Signal	19245	13782500	X	Curb	45	None	50	50	Protected	LTTR	6	Some	Marking	0	0	1	5	7	$921,000
63	16.012	CSAH	16	CSAH 16 (Valley Creek Rd)	CSAH 19 (Woodbury Dr)	Suburban	Residential	Signal	37800	350450000	X	Curb	0	None	55	50	Permitted/Protected	LTTR	6	Some	Marking	0	1	4	8	17	$2,851,000
64	17.002	CSAH	17	CSAH 17 (Lake Elmo Ave N)	MSAS 108 (30th St N)	Suburban	Residential	Thru-Stop	4025	2261250	T	Undivided	25	None	30	30	NA	T	2	None	None	0	0	1	0	1	$243,000
65	17.003	CSAH	17	CSAH 17 (Lake Elmo Ave N)	MSAS 106 (Upper 33rd St N)	Suburban	Mixed Use	Thru-Stop	4220	1336875	X	Undivided	15	None	30	10	NA	T	2	Some	None	0	0	1	0	0	$230,000
66	18.002	CSAH	18	CSAH 18 (Bailey RD)	MSAS 109 (Woodlane DR)	Suburban	Residential	Signal	17100	58280000	X	Undivided	20	None	55	40	Permitted/Protected	LTR	5	Some	Marking	0	0	1	6	9	$1,067,000
67	18.003	CSAH	18	CSAH 18 (Bailey RD)	MSAS 107 (Pioneer DR)	Suburban	Residential	Signal	16850	55180000	X	Undivided	0	None	55	40	Permitted/Protected	LTR	5	Some	Marking	0	0	1	3	9	$707,000
68	18.004	CSAH	18	CSAH 18 (Bailey RD)	CSAH 19 (Woodbury DR)	Suburban	Residential	Yield	19050	89460000	X	Curb	0	None	55	55	NA	T	2	Some	RRFB	0	0	1	3	12	$746,000
69	18.005	CSAH	18	CSAH 18 (Bailey RD)	MSAS 116 (Cottage Grove Dr)	Suburban	Residential	Thru-Stop	12075	24462500	X	Undivided	10	None	55	40	NA	LTR	4	Some	None	0	1	3	3	8	$1,904,000
70	18.011	CSAH	18	CSAH 18 (St. Croix TRL S)	M 33 (5th St S)	Suburban	Mixed Use	Yield	5790	513000	X	Curb	10	None	50	50	NA	T	1	Some	RRFB	1	0	0	1	0	$13,720,000
71	18.012	CSAH	18	CSAH 18 (St. Croix TRL S)	M 70 (Division St N)	Suburban	Mixed Use	Yield	7990	711000	X	Curb	10	None	50	50	NA	T	1	Some	RRFB	0	0	0	1	0	$120,000
72	18.013	CSAH	18	CSAH 18 (St. Croix TRL N)	M 21 (5th St N)	Suburban	Residential	Yield	8390	747000	X	Curb	10	None	50	50	NA	T	1	Some	RRFB	0	0	0	1	0	$120,000
73	18.014	CSAH	18	CSAH 18 (St. Croix TRL N)	M 13 (8th St N)	Suburban	Residential	Thru-Stop	9390	837000	X	Depressed	0	None	40	50	NA	LTTR	6	None	None	0	0	0	0	4	$52,000
74	19.005	CSAH	19	CSAH 19 (Keats Ave S)	MSAS 125 (Indian Blvd S)	Suburban	Residential	Thru-Stop	7025	5642500	T	Undivided	0	None	55	30	NA	TR	3	Some	None	0	0	0	1	2	$146,000
75	19.006	CSAH	19	CSAH 19 (Keats AVE S)	CSAH 22 (70th ST S)	Suburban	Residential	Yield	11525	31675000	X	Curb	0	None	55	55	NA	T	1	Some	RRFB	0	1	0	1	6	$948,000
76	19.007	CSAH	19	CSAH 19 (Keats AVE S)	M 528 (Military RD)	Suburban	Residential	Thru-Stop	7690	684000	T	Painted	15	None	55	55	NA	LT	3	None	None	0	0	0	0	0	$0
77	19.009	CSAH	19	CSAH 19 (Woodbury DR)	MSAS 108 (Lake RD)	Suburban	Residential	Yield	18150	81965000	X	Depressed	0	None	55	40	NA	TT	2	Some	RRFB	0	0	2	1	16	$788,000
78	19.010	CSAH	19	CSAH 19 (Woodbury Dr)	MSAS 137 (Eagle Valley Rd)	Suburban	Residential	Signal	17595	40763250	X	Depressed	0	None	55	30	Permitted/Protected	LTTR	6	Some	Marking	0	1	4	5	8	$2,374,000
79	19.011	CSAH	19	CSAH 19 (Woodbury Dr)	CSAH 16 (Valley Creek Rd)	Suburban	Residential	Signal	37800	350450000	X	Depressed	0	None	55	50	Permitted/Protected	LTTR	6	Some	Marking	0	0	0	0	0	$0
80	19.012	CSAH	19	CSAH 19 (Woodbury Dr)	Fox Run Rd	Suburban	Residential	Signal	25220	51060000	X	Depressed	0	None	55	50	Permitted/Protected	LTTR	6	Some	Marking	0	0	1	0	3	$269,000
81	19.013	CSAH	19	CSAH 19 (Woodbury Dr)	MSAS 102 (Tamarack Rd)	Suburban	Mixed Use	Signal	27195	96485000	X	Curb	5	Present	55	45	Permitted/Protected	LLTTR	6	Some	Marking	0	1	8	9	23	$3,969,000
82	19.014	CSAH	19	CSAH 19 (Woodbury Dr)	MSAS 117 (Hudson RD)	Suburban	Commercial	Signal	47300	522112500	X	Depressed	0	Present	55	50	Protected	LLTTTR	7	Some	Marking	0	1	6	18	30	$4,680,000
83	19.015	CSAH	19	CSAH 19 (Keats Ave N)	I 94 (Ramp)	Suburban	Commercial	Signal	36500	146693750	X	Divided	0	None	65	45	Permitted	LLTT	2	One Side	Signs & Markings	0	0	4	9	34	$2,442,000
84	19.016	CSAH	19	CSAH 19 (Keats Ave N)	MSAS 120 (Hudson Blvd)	Suburban	Residential	Signal	13975	40631250	X	Depressed	0	None	55	50	Permitted/Protected	LTTR	6	Some	None	0	0	4	3	6	$1,358,000
85	2.002	CSAH	2	CSAH 2 (Broadway Ave)	MSAS 137 (Everton Ave N)	Suburban	Commercial	Signal	14750	11815000	T	Curb	0	Present	40	30	Protected	LTT	5	Some	Marking	0	0	2	1	4	$632,000
86	2.003	CSAH	2	CSAH 2 (W Broadway Ave)	CSAH 33 (Everton Ave N)	Suburban	Commercial	Signal	22480	46056000	T	Curb	0	Present	40	40	Permitted/Protected	TTR	5	Some	Marking	0	0	0	0	0	$0
87	2.004	CSAH	2	CSAH 2 (Broadway Ave W)	MSAS 142 (19th St SW)	Suburban	Commercial	Signal	22420	44844000	X	Curb	0	Present	40	30	Permitted/Protected	LTTR	6	Some	Marking	0	0	0	4	2	$506,000
88	2.005	CSAH	2	CSAH 2 (Broadway Ave)	I 35 (Ramp)	Suburban	Industrial	Signal	67733	122887500	X	Divided	0	None	60	50	Permitted/Protected	LLTTR	2	Both Sides	Signs & Markings	0	0	6	3	31	$2,143,000
89	2.006	CSAH	2	CSAH 2 (Broadway Ave)	MSAS 102 (12th St SW)	Suburban	Commercial	Signal	38300	349500000	X	Curb	0	Present	35	30	Permitted/Protected	LTTR	6	Some	Marking	0	1	6	5	23	$3,029,000
90	2.007	CSAH	2	CSAH 2 (Broadway Ave)	MSAS 104 (4th St SW)	Urban	Mixed Use	Signal	22450	69375000	X	Curb	0	None	35	30	Permitted/Protected	LTT	5	Some	Marking	0	0	0	1	5	$185,000
91	2.009	CSAH	2	US 61 (Lake Rabt)	CSAH 2 (Broadway Ave)	Urban	Mixed Use	Yield	22745	111462000	X	Curb	0	Present	15	15	NA	TR	2	All	RRFB	0	0	0	0	0	$0
92	20.001	CSAH	20	M 2168 (Maxwell AVE)	US 61 (Ramp)	Suburban	Industrial	Signal	25590	30567600	X	Undivided	0	None	55	40	Permitted/Protected	LTT	2	One Side	Signs & Markings	0	0	1	2	12	$626,000
93	20.002	CSAH	20	CSAH 20 (Bailey RD)	I 494 (Ramp)	Suburban	Residential	Signal	15050	12070000	T	Undivided	0	None	40	60	NA	LTT	6	None	None	0	0	2	4	11	$1,083,000
94	20.003	CSAH	20	CSAH 20 (Bailey RD)	M 8 (Hastings Ave)	Suburban	Residential	Signal	27250	185310000	X	Undivided	0	None	40	60	Protected	LTTR	6	Some	Marking	0	0	1	0	10	$360,000
95	21.011	CSAH	21	CSAH 21 (Stagecoach Tr N)	CSAH 23 (Stage Coach TRL N)	Suburban	Residential	Thru-Stop	3425	2695000	T	Undivided	0	None	35	30	NA	LT	3	One Side	None	0	0	0	0	1	$13,000
96	21.012	CSAH	21	MN 95 (Saint Croix Tr N)	CSAH 21 (56th ST N)	Suburban	Industrial	Signal	12395	12373500	X	Curb	0	None	55	35	Permitted/Protected	LTTR	6	Some	Marking	0	0	0	1	2	$146,000
97	22.001	CSAH	22	CSAH 22 (Summit AVE)	CSAH 39 (Broadway AVE)	Suburban	Mixed Use	All-Way Stop	14100	40400000	X	Undivided	0	None	30	30	NA	TR	3	Some	Marking	0	0	0	1	10	$250,000
98	22.002	CSAH	22	CSAH 22 (Summit AVE)	MSAS 108 (St Paul Park Rd)	Suburban	Mixed Use	Thru-Stop	17650	26400000	T	Undivided	0	None	30	30	NA	TTR	5	Some	None	0	1	0	1	5	$935,000
99	22.004	CSAH	22	CSAH 22 (70th ST S)	CSAH 38 (65th St S)	Suburban	Residential	Signal	12275	16852500	T	Curb	0	None	50	45	Permitted/Protected	LTT	5	Some	Marking	0	0	0	0	3	$39,000
100	22.005	CSAH	22	CSAH 22 (70th ST S)	M 880 (Meadow Grass Ave)	Suburban	Residential	Signal	7390	657000	X	Undivided	0	None	50	30	Permitted/Protected	LTR	4	Some	Marking	0	0	1	0	3	$269,000
101	22.006	CSAH	22	CSAH 22 (70th ST S)	MSAS 112 (Hardwood AVE S)	Suburban	Residential	Signal	9445	15658500	X	Undivided	0	None	50	40	Permitted/Protected	LTR	4	Some	Marking	0	0	1	1	8	$454,000
102	22.007	CSAH	22	CSAH 22 (70th ST S)	MSAS 122 (Inwood AVE S)	Suburban	Residential	Thru-Stop	7730	3480000	T	Undivided	0	None	40	40	NA	T	3	Some	None	0	0	0	0	0	$0
103	22.008	CSAH	22	CSAH 20 (Jamaica AVE S)	CSAH 22 (70th ST S)	Suburban	Residential	Yield	11325	31981250	X	Curb	0	None	50	45	NA	TT	2	Some	RRFB	0	0	1	0	8	$334,000
104	22.009	CSAH	22	CSAH 22 (70th ST S)	MSAS 103 (Kimbro AVE S)	Suburban	Residential	Thru-Stop	3705	1113750	T	Undivided	0	None	55	30	NA	T	2	None	None	0	0	0	0	1	$13,000
105	22.010	CSAH	22	MN 95 (Manning Ave S)	CSAH 22 (70th ST S)	Suburban	Agriculture	All-Way Stop	7900	13711875	X	Undivided	0	None	55	55	NA	TR	3	None	None	0	0	0	2	5	$305,000
106	23.001	CSAH	23	CSAH 23 (60th ST N)	CSAH 26 (Frontage RD)	Suburban	Residential	Thru-Stop	1595	511750	T	Undivided	20	None	40	40	NA	T	2	Some	None	0	0	0	0	0	$0
107	23.003	CSAH	23	MSAS 120 (4th Ave S)	CSAH 23 (65th St N)	Suburban	Resid

Urban Intersection List for Washington County

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.2	CRSP 2 ID	Route System	Route No.	Major Approach	Minor Approach	Area Type	Context Zone	Traffic Control Device	Total Entering ADT [vpd]	Volume Cross Product [vpd^2]	Leg Configuration	Major Division Type	Alignment Skew (degrees)	Adjacent Development	Major Approach Speed Limit [mph]	Minor Approach Speed Limit [mph]	Major Approach Left Turn Phasing	Major Approach Turn Lane Configuration	Max Number of Lanes Crossed	Presence of Sidewalk	Pedestrian Crossing Type	K	A	B	C	PDO	Crash Cost
108	23.004	CSAH	23	CSAH 23 (65th ST N)	MSAS 101 (6th Ave S)	Suburban	Residential	Thru-Stop	2290	814000	X	Undivided	0	None	30	30	NA	T	2	Some	None	0	0	1	0	0	$230,000
109	23.005	CSAH	23	CSAH 23 (Orleans ST E)	CSAH 24 (3rd St S)	Suburban	Residential	Thru-Stop	8245	6416250	X	Undivided	0	None	35	35	NA	T	2	Some	RRFB	0	0	1	0	0	$230,000
110	23.006	CSAH	23	CSAH 23 (3rd ST S)	MSAS 111 (Churchill St)	Suburban	Residential	All-Way Stop	3450	2970000	X	Undivided	0	None	30	30	NA	T	2	All	Signs & Markings	0	0	0	0	0	$0
111	23.007	CSAH	23	CSAH 23 (3rd ST S)	MSAS 102 (Pine St)	Suburban	Residential	Thru-Stop	6325	9122500	X	Undivided	0	None	30	30	NA	T	2	All	None	0	0	1	0	0	$230,000
112	23.008	CSAH	23	CSAH 23 (Chestnut ST E)	MSAS 106 (2nd St)	Suburban	Commercial	Thru-Stop	2920	2047500	X	Undivided	0	None	30	30	NA	T	2	Both Sides	Marking	0	0	0	1	2	$146,000
113	23.009	CSAH	23	MN 95 (Main St)	CSAH 23 (Chestnut ST E)	Suburban	Commercial	Signal	18525	85767500	X	Undivided	0	None	30	30	Both	T	3	Both Sides	Marking	0	0	0	0	5	$65,000
114	24.001	CSAH	24	CSAH 24 (Osgood Ave N)	M 57 (58th St N)	Suburban	Mixed Use	Thru-Stop	11290	1008000	X	Undivided	0	Present	50	30	NA	LTR	4	None	RRFB	0	0	0	0	1	$13,000
115	24.003	CSAH	24	MN 36	CSAH 24 (Osgood Ave N)	Suburban	Commercial	Signal	41265	352040750	X	Curb	0	Present	50	35	Permitted/Protected	LLTTR	7	Some	Marking	0	0	7	8	52	$3,246,000
116	24.004	CSAH	24	CSAH 23 (W Orleans St)	MSAS 103 (4th St)	Suburban	Residential	All-Way Stop	15545	58779750	X	Undivided	0	None	35	30	NA	T	3	Some	RRFB	0	0	0	0	0	$0
117	24.005	CSAH	24	CSAH 24 (Osgood Ave N)	CSAH 26 (60th ST N)	Suburban	Commercial	Thru-Stop	12090	9968000	X	Curb	0	None	35	30	Permitted	LTTR	6	One Side	None	0	0	1	2	1	$483,000
118	24.006	CSAH	24	CSAH 24 (Osgood Ave N)	M 51 (62nd St N)	Suburban	Mixed Use	Signal	12990	1161000	X	Undivided	0	None	35	35	Protected	LTR	4	Both Sides	Marking	0	0	0	0	1	$13,000
119	25.001	CSAH	25	CSAH 25 (Century Ave S)	MSAS 121 (Courtly Rd)	Suburban	Residential	Thru-Stop	2600	1650000	T	Undivided	0	None	30	30	NA	T	2	Some	None	0	0	0	0	0	$0
120	25.002	CSAH	25	CSAH 72 (Century Ave S)	CSAH 25 (Highwood Ave E)	Suburban	Mixed Use	Thru-Stop	4800	4760000	T	Undivided	0	None	35	30	NA	T	2	None	None	0	0	0	0	3	$39,000
121	25.003	CSAH	25	CSAH 25 (Century Ave S)	MSAS 127 (Linwood Ave E)	Suburban	Mixed Use	Thru-Stop	6175	4637500	T	Undivided	15	None	35	10	NA	TR	4	Some	None	0	0	0	1	0	$120,000
122	25.004	CSAH	25	CSAH 25 (Century Ave)	Century Ave S	Suburban	Commercial	Signal	14100	30342500	X	Curb	0	None	40	35	Permitted/Protected	LTTR	6	Some	Marking	0	0	0	3	6	$438,000
123	25.005	CSAH	25	CSAH 25 (Century Ave)	MSAS 129 (Pouliot Pkwy)	Suburban	Residential	Thru-Stop	11720	3648000	T	Curb	0	None	40	30	NA	LTT	5	Some	None	0	0	1	1	0	$350,000
124	25.006	CSAH	25	CSAH 72 (Century Ave)	MSAS 114 (Upper Afton Rd)	Suburban	Mixed Use	Signal	18150	54530000	X	Undivided	25	None	45	30	Permitted/Protected	LTT	5	Some	Marking	0	0	3	8	13	$1,819,000
125	25.007	CSAH	25	MN 120 (Century Ave N)	CSAH 72 (Century Ave)	Suburban	Commercial	Thru-Stop	17450	6820000	X	Mixed	10	None	45	30	NA	LTT	5	Some	None	0	1	0	3	8	$1,214,000
126	27.001	CSAH	27	MN 120 (Century Ave)	CSAH 15 (County Rd E)	Urban	Commercial	Signal	21300	113422500	X	Undivided	0	Present	45	35	Permitted/Protected	LTR	5	All	Marking	0	1	4	13	42	$3,776,000
127	27.002	CSAH	27	CSAH 27 (Century Ave)	CSAH 72 (Cedar Ave)	Suburban	Residential	Thru-Stop	6575	4241250	T	Undivided	0	None	35	30	NA	T	3	Some	None	0	0	1	0	1	$243,000
128	3.004	CSAH	3	CSAH 3 (Olinda Tr N)	CR 52 (Oakhill Rd N)	Urban	Mixed Use	All-Way Stop	3475	1942500	X	Undivided	0	None	30	30	NA	TT	2	None	Marking	0	0	0	0	0	$0
129	3.005	CSAH	3	MN 97 (Scandia Trl N)	CSAH 3 (Olinda Tr N)	Urban	Mixed Use	All-Way Stop	8136	15184400	X	Undivided	0	None	50	30	NA	TR	4	Some	None	0	0	1	1	1	$363,000
130	32.001	CSAH	32	CSAH 32 (220th St N)	CSAH 33 (Everton Ave N)	Suburban	Commercial	Thru-Stop	4970	16820000	T	Painted	30	None	50	40	NA	LT	3	None	None	0	2	0	1	4	$1,672,000
131	32.003	CSAH	32	CSAH 32 (220th St N)	MSAS 101 (15th St SW)	Suburban	Commercial	Thru-Stop	6550	4845000	T	Painted	0	None	40	30	NA	LT	3	Some	None	0	0	1	0	1	$243,000
132	32.004	CSAH	32	CSAH 32 (11th Ave SW)	MSAS 102 (12th St SW)	Suburban	Commercial	Signal	12595	36226750	X	Undivided	0	None	40	30	0	LT	1	One Side	Marking	0	0	1	1	4	$402,000
133	32.005	CSAH	32	CSAH 32 (11th Ave SW)	MSAS 104 (4th St SW)	Suburban	Commercial	Thru-Stop	11625	11812500	T	Undivided	0	None	40	30	NA	T	3	None	None	0	0	1	0	7	$321,000
134	32.006	CSAH	32	CSAH 32 (11th Ave SW)	MSAS 106 (Centennial St SW)	Suburban	Commercial	Thru-Stop	11450	10920000	T	Undivided	0	None	40	30	NA	T	2	None	None	0	0	1	1	5	$415,000
135	32.007	CSAH	32	CSAH 32 (11th Ave SW)	MSAS 106 (Centennial St SW)	Suburban	Commercial	Thru-Stop	11500	11440000	T	Undivided	0	None	40	30	NA	T	2	Some	None	0	0	0	0	0	$0
136	32.008	CSAH	32	US 61 (Forest Blvd N)	CSAH 32 (11th Ave SW)	Suburban	Commercial	Signal	25200	135237500	X	Depressed	0	None	50	40	Permitted	LTTR	6	Some	Marking	0	0	1	3	8	$694,000
137	33.001	CSAH	33	CSAH 33 (Everton Ave N)	MSAS 142 (19th ST SW)	Suburban	Commercial	Thru-Stop	6570	9657000	X	Undivided	0	None	40	30	NA	LT	3	None	None	0	0	1	1	6	$428,000
138	35.001	CSAH	35	CSAH 13 (Hadley AVE N)	MSAS 241 (Hadley AVE N)	Suburban	Mixed Use	Yield	180	8100	X	Curb	0	None	35	35	NA	T	2	Both Sides	Marking	0	0	0	1	0	$120,000
139	35.002	CSAH	35	CSAH 13 (50th St N)	MSAS 233 (50th St N)	Suburban	Mixed Use	Thru-Stop	9150	9200000	T	Undivided	0	None	45	30	NA	TR	3	Some	None	0	0	0	1	0	$120,000
140	35.003	CSAH	35	CSAH 13 (50th St N)	MSAS 121 (Hadley Ave N)	Suburban	Residential	Thru-Stop	8975	13048750	T	Undivided	0	None	45	35	NA	TR	3	Some	None	0	0	0	0	4	$52,000
141	35.004	CSAH	0	CSAH 35 (Hadley Ave N)	55th St N	Urban	Mixed Use	Yield	0	28800000	X	Divided	0	None	40	55	NA	T	0	None	None	0	0	0	0	0	$0
142	38.001	CSAH	38	CSAH 38 (65th St S)	CR 74 (65th St S)	Suburban	Industrial	Thru-Stop	3575	2788750	T	Mixed	10	None	45	30	NA	LT	3	Some	None	0	0	0	0	0	$0
143	38.002	CSAH	38	US 61	CSAH 38 (Glen Rd)	Suburban	Residential	Signal	0	0	X	Curb	0	None	30	55	Protected	LTTR	6	None	Marking	0	0	0	0	0	$0
144	38.003	CSAH	38	CSAH 38 (Glen Rd)	US 61 (Ramp)	Suburban	Residential	Signal	6274	9332400	X	Curb	0	None	30	55	Protected	LTTR	6	None	Marking	0	0	2	3	17	$1,041,000
145	38.004	CSAH	38	CSAH 38 (Maxwell Ave)	I-494 (Ramp)	Suburban	Commercial	Thru-Stop	6325	7788750	T	Painted	0	None	55	40	NA	T	4	Some	None	0	0	0	1	3	$159,000
146	38.005	CSAH	38	CR 38A (Maxwell Ave)	I 494 (Ramp)	Suburban	Industrial	Thru-Stop	13550	28885000	T	Painted	0	None	55	40	NA	TR	4	Some	None	0	0	1	0	3	$269,000
147	38.006	CSAH	38	CR 38A (Maxwell Ave)	M 102 (Red Rock Rd)	Suburban	Commercial	Thru-Stop	10945	490500	T	Undivided	0	None	40	40	NA	LTTR	5	Some	None	0	0	1	0	5	$295,000
148	39.001	CSAH	39	CSAH 39 (80th ST S)	US 61 (Ramp)	Suburban	Commercial	Signal	18870	28724000	X	Mixed	30	Present	55	35	Permitted/Protected	TTR	6	Some	Signs & Markings	0	0	2	4	13	$1,109,000
149	39.002	CSAH	39	MSAS 102 (80th St S)	US 61 (Ramp)	Suburban	Commercial	Signal	26225	115123750	X	Mixed	30	Present	55	35	Permitted/Protected	LTT	6	Some	Signs & Markings	0	1	4	3	3	$2,069,000
150	39.003	CSAH	39	CSAH 39 (80th ST S)	MSAS 107 (Hadley AVE S)	Suburban	Commercial	Signal	16725	63867500	X	Curb	0	Present	30	30	Permitted/Protected	LTR	5	Some	Marking	0	0	0	2	16	$448,000
151	39.004	CSAH	39	CSAH 39 (Hadley AVE S)	MSAS 115 (77th St S)	Suburban	Residential	Thru-Stop	5300	5582500	T	Undivided	0	None	30	30	NA	T	2	None	None	0	0	0	0	0	$0
152	39.005	CSAH	39	CSAH 39 (Hastings AVE)	MSAS 111 (Selby Ave)	Suburban	Residential	Thru-Stop	2725	562500	T	Undivided	0	None	30	30	NA	T	2	None	None	0	0	0	0	0	$0
153	39.006	CSAH	39	CSAH 39 (Hastings AVE)	MSAS 103 (Lincoln Ave)	Suburban	Residential	Thru-Stop	2825	812500	T	Undivided	0	None	30	30	NA	T	2	None	None	0	0	0	0	0	$0
154	5.001	CSAH	5	CSAH 5 (Stillwater Blvd N)	Westbound TH 36 (Ramp)	Suburban	Commercial	Signal	24144	54950400	X	Barrier	10	Present	45	60	Permitted/Protected	TTR	5	Some	Marking	0	0	4	2	4	$1,212,000
155	5.002	CSAH	5	CSAH 5 (Stillwater Blvd N)	MSAS 112 (Curve Crest Blvd)	Suburban	Commercial	Signal	23850	112775000	X	Curb	0	Present	45	30	Permitted/Protected	LTTR	6	Some	Marking	0	0	1	7	6	$1,148,000
156	5.003	CSAH	5	CSAH 5 (Stillwater Blvd N)	MSAS 119 (Orleans St)	Suburban	Mixed Use	Signal	18195	52487000	X	Curb	0	None	45	30	Permitted/Protected	LTTR	6	Some	Marking	0	1	2	3	4	$1,622,000
157	5.004	CSAH	5	CSAH 5 (Stillwater Blvd N)	MSAS 102 (Pine St)	Suburban	Residential	Signal	11950	14310000	T	Undivided	30	None	30	30	NA	T	3	Some	RRFB	0	0	0	0	5	$65,000
158	5.005	CSAH	5	CSAH 5 (Olive St)	MSAS 123 (Brick St)	Suburban	Residential	Thru-Stop	7845	8217000	X	Undivided	0	None	30	30	NA	T	2	None	None	0	0	0	0	1	$13,000
159	5.006	CSAH	5	CSAH 12 (Myrtle St)	CSAH 5 (Owens St)	Suburban	Mixed Use	Thru-Stop	16150	65130000	X	Undivided	0	None	30	30	NA	T	2	All	Marking	0	0	1	1	4	$402,000
160	5.007	CSAH	5	CSAH 5 (Owens St)	MSAS 105 (Mulberry St)	Suburban	Residential	Thru-Stop	9100	2640000	X	Undivided	0	None	30	30	NA	T	2	Some	None	0	0	0	0	1	$13,000
161	5.008	CSAH	5	CSAH 5 (Owens St)	MSAS 116 (Mckusick Rd)	Suburban	Residential	Thru-Stop	9380	10368000	X	Undivided	15	None	30	30	NA	T	2	Some	None	0	0	1	0	1	$763,000
162	5.009	CSAH	5	CSAH 5 (Owens St)	MSAS 110 (Wilkins St)	Suburban	Residential	Thru-Stop	7900	5992500	T	Undivided	5	None	30	30	NA	T	2	Some	None	0	0	0	0	0	$0
163	6.001	CSAH	6	MN 120 (Century Ave N)	MN 5 (Stillwater Rd)	Suburban	Commercial	Signal	18850	73815000	X	Undivided	35	Present	40	40	Permitted/Protected	LTR	4	Some	Marking	0	0	3	2	22	$1,216,000
164	6.002	CSAH	6	CSAH 6 (Stillwater Blvd N)	MSAS 234 (Granada Ave N)	Suburban	Residential	All-Way Stop	7550	12360000	X	Undivided	30	None	40	35	NA	T	3	Some	Marking	0	0	1	2	3	$509,000
165	6.003	CSAH	6	CSAH 6 (Stillwater Blvd N)	MSAS 121 (Hadley Ave N)	Suburban	Residential	All-Way Stop	12400	37877500	X	Undivided	35	None	45	35	NA	TR	3	Some	Marking	0	0	3	3	9	$1,167,000
166	6.005	CSAH	6	CSAH 6 (Stillwater Blvd N)	CSAH 13 (Ideal AVE N)	Suburban	Residential	All-Way Stop	9525	22208750	X	Undivided	5	None	50	40	NA	TR	3	Some	Marking	0	1	0	0	6	$828,000
167	8.001	CSAH	8	CSAH 8 (Frenchman Rd N)	MSAS 116 (Victor Hugo Blvd)	Suburban	Commercial	Signal	16690	1494000	X	Depressed	0	Present	50	30	Protected	LLTTR	7	Some	Marking	0	1	1	1	9	$1,217,000
168	8.002	CSAH	8	CSAH 8 (Frenchman Rd N)	MSAS 117 (Everton AVE N)	Suburban	Mixed Use	Thru-Stop	17720	18592000	X	Depressed	0	None	45	10	NA	LTTR	6	Some	Marking	0	0	0	2	3	$279,000
169	8.003	CSAH	8	CSAH 8 (Frenchman Rd N)	MSAS 111 (Oneka PKWY N)	Suburban	Agriculture	Thru-Stop	17995	23157000	X	Depressed	0	None	45	30	NA	LTTR	6	Some	Marking	0	0	0	0	4	$52,000
170	8.004	CSAH	8	US 61	CSAH 8 (Frenchman Rd N)	Suburban	Residential	Signal	24545	135189000	X	Depressed	0	None	45	35	Permitted/Protected	LTR	5	Some	Marking	0	1	3	2	24	$1,992,000
171	8.005	CSAH	8	US 61 (Forest Blvd)	CSAH 8 (Jody AVE N)	Suburban	Mixed Use	Signal	19575	56576250	X	Undivided	15	None	45	35	Permitted/Protected	LTR	4	Some	Marking	0	0	0	4	10	$610,000
172	8.006	CSAH	8	CSAH 8 (Jody AVE N)	MSAS 103 (Goodview Ave N)	Suburban	Agriculture	Thru-Stop	3750	3185000	X	Undivided	30	None	45	40	NA	TR	3	Some	None	0	0	0	0	4	$52,000
173	19A.001	CR	19A	CR 19A (Innovation Rd)	100th St S	Suburban	Industrial	Thru-Stop	6645	7323750	Y	Undivided	45	None	55	30	Permitted	T	3	None	None	0	0	0	0	1	$13,000
174	52.001	CR	52	MN 97 (Scandia Tr N)	CR 52 (Oakhill Rd N)	Urban	Residential	Thru-Stop	5737	1960780	X	Undivided	40	None	55	55	NA	TR	3	None	RRFB	0	0	0	0	1	$13,000
175	62.001	CR	62	M 51 (62nd St N)	M 131 (Oxboro Ave N)	Urban	Mixed Use	Thru-Stop	180	8100	X	Undivided	0	None	30	30	Permitted	TR	3	Both Sides	None	0	0	0	1	3	$159,000
176	64.001	CR	64	MSAS 116 (Mckusick Rd)	MSAS 117 (Neal Ave N)	Suburban	Residential	Thru-Stop	2850	2025000	X	Undivided	0	None	50	30	NA	TR	3	Some	None	0	0	0	0	0	$0
177	65.001	CR	65	CR 65 (Oakgreen Ave N)	T 150 (30th St N)	Suburban	Residential	Thru-Stop	3215	1831500	X	Undivided	0	None	50	40	NA	TR	3	None	None	0	0	2	0	1	$473,000
178	66.001	CR	66	MN 36	CR 66 (Greeley ST)	Suburban	Mixed Use	Signal	40062	269427600	X	Curb	0	None	55	30	Permitted/Protected	LLTTR	7	All	Marking	0	0	5	1	14	$1,452,000
179	66.002	CR	66	MSAS 108 (Greeley St)	MSAS 112 (Curve Crest Blvd)	Suburban	Mixed Use	Signal	17050	57270000	T	Undivided	5	None	30	30	Permitted/Protected	TR	4	Some	None	0	0	0	0	3	$39,000
																					Crash Summary	**3**	**27**	**222**	**358**	**1219**	**$203,664,000**

COUNTY ROADWAY Safety Plan Toward ZERO Deaths

Appendix B – Meeting Minutes/Summaries

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MEETING SUMMARY

County Road Safety Plan Updates

Phase 2 Kickoff Meeting

PREPARED BY: Renae Kuehl/SRF

COUNTY: All

MEETING DATE: April 12, 2018

MEETING TIME: 11:00 AM – 2:00 PM

LOCATION: St. Cloud Training Center, Lewis North Conference Room – 3725 12th St. N St. Cloud, MN 56303

ATTENDEES:

Ryan Thilges, Blue Earth County
Dan McCormick, Carver
David Overbo, Clay County
Guy Kohlnhofer, Dodge County
Karin Grandia, Itasca County
Jeremy Pfeifer, Kandiyohi County
Sam Muntean, Lac qui Parle County
Aaron Vanmoer, Lyon County
Rich Sanders, Polk County
Keith Berndt, Redwood County
Dennis Luebbe, Rice County
Brian Ketring, Roseau County
Daryle Dahl, Roseau County
Craig Jenson, Scott County
Andrew Witter, Sherburne County
Dan Knapek, Sherburne County
Ryan Odden, Wadena County
Joe Gustafson, Washington County

Mark Vizecky, MnDOT
Derek Leuer, MnDOT
Howard Preston, Jacobs
Cheri Marti, Jacobs
Renae Kuehl, SRF

County Follow-up Action Items

- Review segmented maps and provide feedback – Due Thursday, April 26th.
    - See PPT slides 39, 40, and 41 for requested confirmation for segments, intersections and curves.
- Consider county-specific safety workshop goals/needs and plan to participate in up-coming All-Counties Webinar on alternative safety workshop formats and audiences. *Note: One-hour webinar dates are Tues., May 8 from 2-3 pm and Thurs., May 10th from 1-2 pm.*
- Begin planning for county safety workshop date and location. (T, W, or Th during Sept/Oct/early Nov)
- Provide feedback on preferred crash data set to use for crash analysis to Mark Vizecky @ mark.vizecky@state.mn.us or Derek Leuer @ derek.leuer@state.mn.us. Phase 2 counties will need to determine this as a whole.
- Provide contact information for county staff to be involved to Renae Kuehl at rkuehl@srfconsulting.com

Discussion Items

- First phase – Many projects had suggested 2-foot shoulder paving, but there is no room for it. We shouldn't suggest projects that are not possible. A lot of high priority projects were

completed. Required to justify why the county was asking for lower priority project funding that were lower on the priority list.

- Sometimes the countermeasure might seem like a quick fix, but there is additional work that is needed to install the strategy (i.e. grading to pave shoulders)
- Do any of the Phase 1 agencies have policies that we are developing? Response: No, county policy development are not part of the project.
- Is there data on how to maintain the buffer lane with the plastic bollards? Response: The state maintenance staff thought it would be challenging, but it wasn't as bad as they anticipated. They plowed the lanes' right of way and used a skid steer to clean out around the bollards on the weekend. Also, note that bollards are NOT required.
- The phase 1 counties reviewed the list of strategies and most included the majority of the strategies in their Big Book of Ideas. However, some were removed due to specific strategies that won't work for their agency.
- Would like to see emphasis on corridor projects rather than individual locations because it's easier to plan for and build a corridor project rather than spot location projects. Response: CRSP update will recommend projects at locations, but the county is certainly free to coordinate locations to create a corridor project.
- Community members want to see reductions in fatal/crashes to justify the effort. Would like something that shows:
    - This is what our county has done.
    - This is what has been done statewide.
    - This is the impact its had.

  Response: CRSP update provides results of Phase 1 & 2 county-implemented projects for segments, intersections and curves including known crash reduction factors and the pool of applicable severe crashes by county, District and Greater MN Crashes.

- Everyone's board/community will have different needs and questions to answer.
    - Example: One county had a project canceled at the last minute after HSIP funding was secured because local farmers were not on board with the change. They ended up canceling the project and losing HSIP funds. It would have been helpful to educate the board members to help support the engineer's decisions.
- How much out-of-the-box thinking will we be doing? Is there new technology that we can implement? Response: New strategies have been implemented since the original CRSP. We will welcome any ideas. MN is a leader in safety and has done a lot of the proven strategies, we need to consider what can be done in addition to what has already been done.
- Will the plans be addressing ped/bike crashes? Response: Yes, if there is a concern in the county.
- Coordinate better to get more buy-in from MnDOT district staff for their recommendations and projects in the plan. Response: MnDOT District Staff is encouraged to participate in the Safety Workshop.
- SA design needs and integrating funding sources so that HSIP funds can be used on state aid projects. MnDOT Metro only allowed a 2-foot shoulder and rumbles.

- An active TZD group in Sherburne county, would like to see this group integrated into the plan development as well. Response: Depending on County workshop goals/objectives, Phase 2 counties are encouraged to invite TZD stakeholder groups to the county safety workshop. A number of Phase 1 CRSP Update counties invited their TZD coalitions.

Research Syntheses one pagers – Potential topics

- Access management
- Lighting rural intersections
- How to address requests for dynamic speed signs. What is a good system wide approach for deploying dynamic speed signs? Speed control? Curve warning?
- Intersection safety – treatment options to improve intersections. What is the biggest bang for your buck between options such as lighting, RICWS, etc.

2016-2017 crash data

- CRSP Update Phase 1 counties used 2011-2015 crash data. The 2016-2017 data set has only been available for three weeks. MnDOT is still working on trying to understand the data.
- The group needs to decide what crash data set to use as a whole. Either use 2011-2015 crash data or incorporate the 2016-2017 data set.
- Counties are to share feedback on what to want to move forward with, with Mark V and/or Derek at mark.vizecky@state.mn.us or Derek Leuer @ derek.leuer@state.mn.us.

Crash Data Overview

- Why is FHWA so slow to go to the systemic/data driven approach?
- Project implementation at the local level is not easy, challenging for other states and at the national level. MN has a large state aid staff and each county has an engineer and supporting staff. Many other states do not have this.
- Stronger data is needed to prove that a traffic signal is not a safety device. Refer to pages A-18, 19, 20 & 21 in the Traffic Safety Fundamentals Handbook.
- Do we have data on pedestrian crashes at roundabouts? Response: There are not enough crashes to document anything. The features in roundabouts are often the same characteristics of strategies used for pedestrian safety (one-way roads, median islands, lower speeds, etc). MnDOT looked at 140 roundabouts before/after study, which showed 3-4 crashes before and the same after, and all were at the same location.
- If an intersection with a signal isn't working, would you convert to a roundabout? Response: Yes, it would be a good option.
- The existing crash data system is not good at locating crashes at roundabouts due to issues with mapping the location of the crashes.

Roadway Network Assessment

- We are not reviewing crashes on gravel roads because Minnesota data shows that 95% of severe crashes along the county stem occur on paved roads – safety investments along paved roads represent the greatest opportunity for crash reduction. NACE has an initiative right now to review crashes and safety on gravel roads. There is a safety committee that is focusing on

gravel and paved road safety. Good geometry is the number one characteristic of safer gravel roads.

- Simple and spiral curves with different superelevations. Does that matter? Do we need to know where they are? If you know, let us know.

CRSP Phase 2 – Individual County Meeting #1

COUNTY:	Washington County
MEETING DATE:	July 9, 2018
MEETING TIME:	9:00 am – 11:00 pm CST
LOCATION:	Washington County Offices
PARTICIPANTS:	Wayne Sandberg, County Engineer; Cory Slagle, Asst. County Engineer; Joe Gustafson, Traffic Engineer
	Mark Vizecky, MnDOT and Howard Preston and Cheri Marti, Jacobs

Summary of County Action Items:

Please submit all action items listed below to Renae Kuehl, SRF Consulting @ rkuehl@srfconsulting.com If questions, contact either Renae Kuehl or Cheri Marti, Jacobs @ cheri.f.marti@gmail.com

- ☑ **Confirm roadway network maps are final. (Target: ASAP for County data analysis to begin.)**
- ☑ **Confirm county safety workshop location. (Target: ASAP)**
- ☑ **Confirm preferred workshop format: A) featured safety strategies presentation only, B) site discussion only, C) featured safety strategies + site discussion, D) Board presentation only, or E) Board + abbreviated stakeholder workshop) and key audience(s). (Target: August 15th)**
- ☑ **From the Master Big Book of Ideas, select all safety strategies to be considered for County's CRSP Update project list (Target Date: August 15, 2015).**
- ☑ **To direct featured strategy discussion during the workshop, from the Master Big Book of Ideas, select a more limited set of featured safety strategies to present/discuss with participants. (Target Date: 4 weeks prior to County Safety Workshop, or earlier, if preferred).**
- ☑ **Review current list of CRSP Research Syntheses one-pagers and MnDOT District topic summaries and submit input for up to two potential new research syntheses topics. (Target: August 15, 2018)**

Summary of CRSP Team Actions:

- ☑ **Provide crash tree breakdown of Washington County's Municipal crashes.**
- ☑ **For the Washington County Workshop, the county requested CRSP to Incorporate a PowerPoint slide of a listing of checked-off strategies that the county has implemented; plus, a list of untapped strategies to consider.**

Meeting Discussion Highlights

1. CRSP Update Project Progress: Phase 2 Schedule and Outreach Calendar
    - No further Comments.
2. County Roadway Network Assessment
    - Updated network maps distributed which incorporated county comments/edits.

    County Action: County to confirm network maps are final. (Target: ASAP for County data analysis to begin.)
3. County Highway Safety Improvement Program (HSIP) Project Implementation
    - CRSP staff explained that to summarize the impact of HSIP projects from the original CRSP, it is necessary to examine the collective impact of HSIP investments for all counties statewide versus each individual county. Each county has so few severe crashes; therefore, a larger sample size including hundreds of crashes is needed for credible or statistically relevant evaluation results.
    - Washington County communicated the need to customize the County's message about the use of HSIP funds. Washington County hasn't focused on HSIP funds, but instead, has incorporated safety features as part of the County's reconstruction program.
    - MnDOT emphasized that HSIP funds provides an opportunity to leverage federal funds. HSIP is flexible in applying funds for systemic improvements.
    - In addition to a summary of HSIP investments statewide, each County will have an opportunity to highlight safety projects and the county's safety approach during its Safety Workshop.
4. County Crash History (2011-2015): CRSP staff provided an brief overview of county crash trees and safety focus areas to help guide the selection of safety strategies and projects for the updated CRSP.
    - Washington County interested in a crash tree breakdown of Municipal crashes (53%).

    CRSP Team Action: Provide crash tree breakdown of Washington County's Municipal crashes.
5. CRSP Updated Plans: Similarly to the original CRSP, updated CRSP will include the following:
    a) Inventory of all county road segments, rural paved horizontal curves, and major intersections
    b) Crash Facts: Data-driven review of crashes on county roads over the last five years and summary of safety focus areas and crash types (e.g., lane departure)
    c) List of recommended high priority safety strategies
    d) Prioritized list of locations that are most at risk for severe crashes
    e) Prioritized list of location-specific safety strategies to consider for county implementation

Note: Although the CRSP focus is infrastructure safety strategies and projects, the plan will describe the role of driver behavior in crashes and Minnesota's TZD regional safety implementation approach to help local communities to address high-risk driver behaviors.

6. What do you hope happens/doesn't happen as part of your CRSP Update?
    - CRSP staff mentioned that the workshop is a good opportunity to debunk safety myths. For example, traffic signals are not safety devices; Lowering speeds -- people drive to the road environment and not a posted speed limit; Installing crosswalks alone are not sufficient for pedestrian safety.
7. County Safety Workshop:
    - Washington County Workshop Date: Thursday, October 18, 2018.
    - Goals/Workshop Needs: Educate board members and the safety stakeholder community on safety strategies both employed in the county and ones yet to implement.
    - Expected audience: Diverse safety stakeholders and board members.
    - Format preference: Featured Strategies' Discussion
        - Discuss safety strategies the County is already doing as part of reconstruction program; however, can't do it everywhere (there are tradeoffs). There are a number of strategies we haven't been doing (e.g., Street lights, rumble strips/mumble strips) that would be worth discussing to continue reducing severe crashes on Washington County roads.
        - Although not an emphasis, Washington County Workshop may include some location sites for discussion. However, a preferred alternative seems to be to be prepared to discuss applicable sites as examples during safety strategy discussion to help engage participants.
    - Possible site location for discussion:
        - Corridor CR 15 and Manning Avenue, north of Hwy. 56.
    - Potential topics:
        - Use of School Speed Zones is a pressure point with the board (no walkers but county board feels they need to do something). Mark mentioned the potential for Safe Routes to Schools application; incorporate Dynamic Speed Feedback Signs.
        - Speeds
        - Mumble strips and the benefits of rumbles/mumbles
        - Clear zone maintenance (clear of trees, Board going in opposite direction)

    County Actions:

    - **Confirm county safety workshop location. (Target: ASAP)**

- **Confirm preferred workshop format: A) featured safety strategies presentation only, B) site discussion only, C) featured safety strategies + site discussion, D) Board presentation only, or E) Board + abbreviated stakeholder workshop) and key audience(s). (Target: August 15th)**

8. Big Book of Ideas

   - CRSP staff explained the opportunity to tailor strategies listed in the Master Big Book of Ideas to reflect strategies: a) to be considered for CRSP Update and b) to be featured during the Safety Workshop.

     Washington County's initial strategies of interest:

     - For the workshop, highlight from Master Book of Ideas what Washington County has done and what is yet to do.
     - LED stop signs
     - Mumbles/rumbles
     - Lighting

   County Actions:

   - **From the Master Big Book of Ideas, select all safety strategies to be considered for County's CRSP Update project list (Target Date: August 15th).**
   - **To direct featured strategy discussion during the workshop, from the Master Big Book of Ideas, select a more limited set of featured safety strategies to present/discuss with participants. (Target Date: 4 weeks prior to County Safety Workshop, or earlier, if preferred).**

   CRSP Team Action:

   - **During the Washington County Workshop, the county requested CRSP to Incorporate a PowerPoint slide of a listing of checked-off strategies that the county has implemented; plus, a list of untapped strategies to consider.**

9. Research Synthesis Topic

   - Interested in access management.

   County Action: Review current list of CRSP Research Syntheses one-pagers and MnDOT District topic summaries and submit input for up to two potential new research syntheses topics. (Target: August 15, 2018)

Phase 2: MN County Road Safety Plan Updates

KICK-OFF WEBINAR MEETING

MARCH 9, 2018



Agenda

- Welcome & Introductions
- CRSP Update Goals
- Phase 1 & Phase 2 Counties
- MnDOT and Consultant Team
- What is different from original CRSP?
- CRSP Phase 2 - Process Schedule/Overview
- Roadway Network Development
- Questions?
- Next Steps

Questions? Please ask at any time.

Introductions

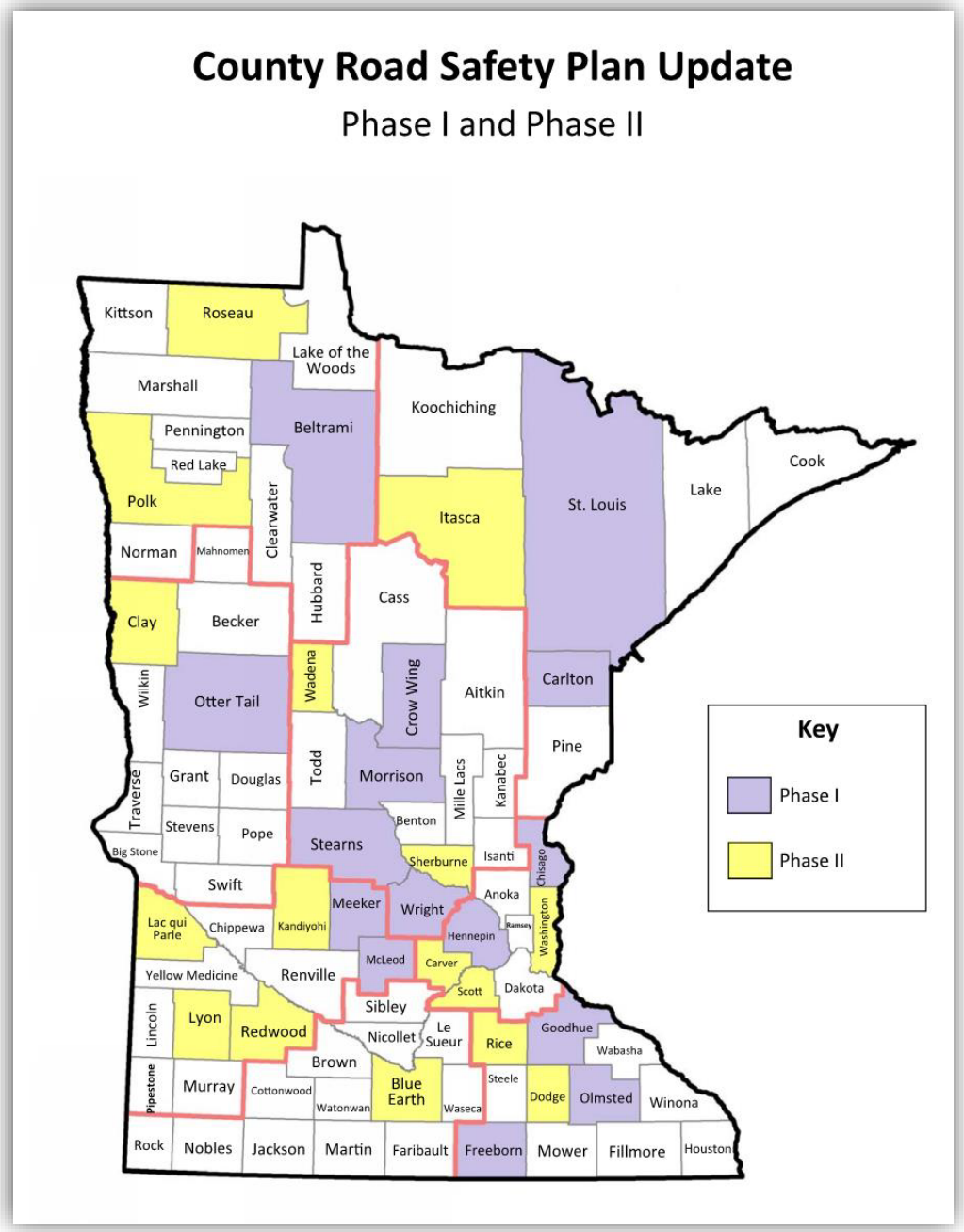
- MnDOT
- Counties – Phase 2
  - Blue Earth
  - Carver
  - Clay
  - Dodge
  - Itasca
  - Kandiyohi
  - Lac Qui Parle
  - Lyon
  - Polk
  - Redwood
  - Rice
  - Roseau
  - Scott
  - Sherburne
  - Wadena
  - Washington
- CH2M Team

CRSP Update Goals

- Produce Updated County Road Safety Plans:
  - Customized approach
  - Updated crash data
  - Individual outreach and engagement plans
  - Additional safety practices
- Provide technical support for county implementation of HSIP-funded safety projects
- Focus on reducing Fatal and Incapacitating Injury crashes – build on prior results and continue to bend the trendline

Counties included in Phase 2

Blue Earth – Ryan Thilges
Carver- Lyndon Robjent/Dan McCormick
Clay- David Overbo
Dodge- Guy Kohlnhofer
Itasca- Karin Grandia
Kandiyohi- Mel Odens
Lac qui Parle- Sam Muntean
Lyon- Aaron Vanmoer
Polk- Rich Sanders
Redwood- Keith Berndt
Rice- Dennis Luebbe
Roseau- Brian Ketring
Scott- Tony Winiecki/Craig Jenson
Sherburne- Andrew Witter
Wadena- Ryan Odden
Washington- Wayne Sandberg/Joe Gustafson

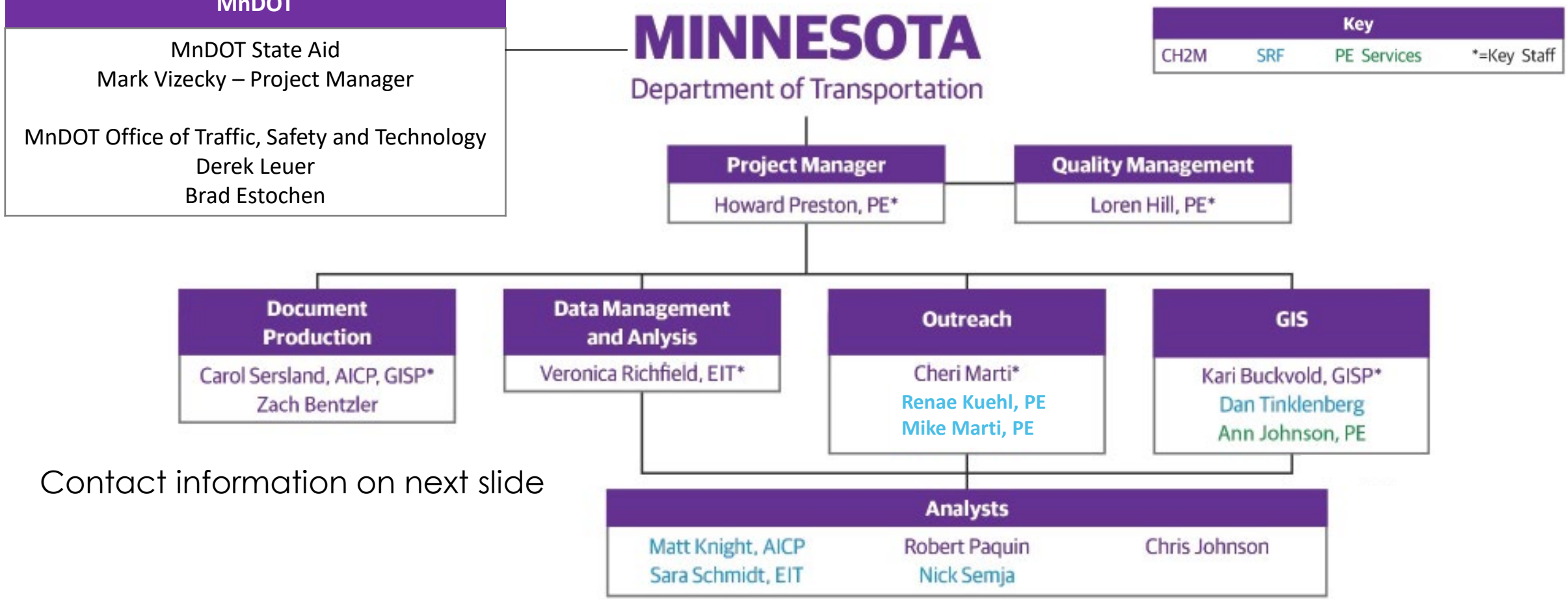


The Team

MnDOT

MnDOT State Aid
Mark Vizecky – Project Manager

MnDOT Office of Traffic, Safety and Technology
Derek Leuer
Brad Estochen



Contact information on next slide

CH2M Team Contact Information

Role	Name	Phone	Email
Project Manager	Howard Preston	(651) 365-8514	howard.preston@ch2m.com
Outreach	Cheri Marti	(612) 616-4280	cheri.f.marti@gmail.com
	Renae Kuehl	(763) 249-6783	rkuehl@srfconsulting.com
Data Collection	Ann Johnson	(612) 275-8190	ann.johnson@peservicesmn.com
Data Management & Analysis	Veronica Richfield	(651) 365-8523	veronica.richfield@ch2m.com
	Robert Paquin	(651) 365-8542	robert.paquin@ch2m.com
	Matt Knight	(763) 452-4729	mknight@srfconsulting.com
Document Production	Carol Sersland	(651) 365-8545	carol.sersland@ch2m.com
GIS	Kari Buckvold	(773) 458-2895	kariann.buckvold@ch2m.com
	Dan Tinklenberg	(763) 452-4749	dtinklenberg@srfconsulting.com

What is different from the original CRSP?

- Customized plans based on County's needs
- Individual outreach/engagement plans: individual meetings, group meetings, county specific workshop
- Expanded list of safety strategies: additional strategies, medium and higher cost countermeasures, maintain focus on effectiveness (crash reduction)
- Added emphasis on electronic deliverables: map showing all K + A crashes in each county (all systems), .kmz maps of all suggested safety projects
- Long timeframe for each Phase (18 months versus 9 months in original effort)
- Comprehensive analytical approach: High Crash + High Risk (Systemic)
- Preparation of a comprehensive database
- Research One-Pagers

Safety Countermeasures: Big Book of Ideas

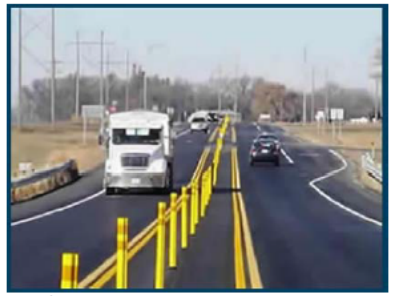
Rural Segments

Strategy	Crash Reduction Factor*	Typical Installation Costs
Centerline Rumble Strip	40% head-on/sideswipe crashes	$3,600 per mile
Buffers Between Opposing Lanes	50% for all crashes & 100% for head-on crashes [based on TH 5 in Lake Elmo, MN]	$150,000 to $500,000 per mile
Shoulder/Edgeline Rumble Strip	20% run off road crashes	$5,850 per mile
Safety Edge	5% to 10%§; 8% to 16%**	
Enhanced Edgeline (6" & 8")	10% to 45% all rural serious crashes (6")	$1,980 per mile
Shoulder Paving (2', 4', 6')	20% to 30% run-off-the-road crashes (with shoulder rumble) (2' only)	$54,000 per mile +$5,850 per mile (for Edge Rumble)
Clear Zone Maintenance/Enhancements		
Ditch/Embankment Improvements		$500,000 to $1M per mile

Notes:
* - Crash reduction factors based on review of CMF Clearinghouse and other published research
§ - For all crashes
** - ISU – SPR RBI 3-014, August 2016



Centerline Rumble Strips
Source: Mitigation Strategies for Design Exceptions (FHWA, FHWA-SA-07-011)



Buffers Between Opposing Lanes
TH 14 in District 7
Source: MnDOT Presentation @ 2014 TZD Conference

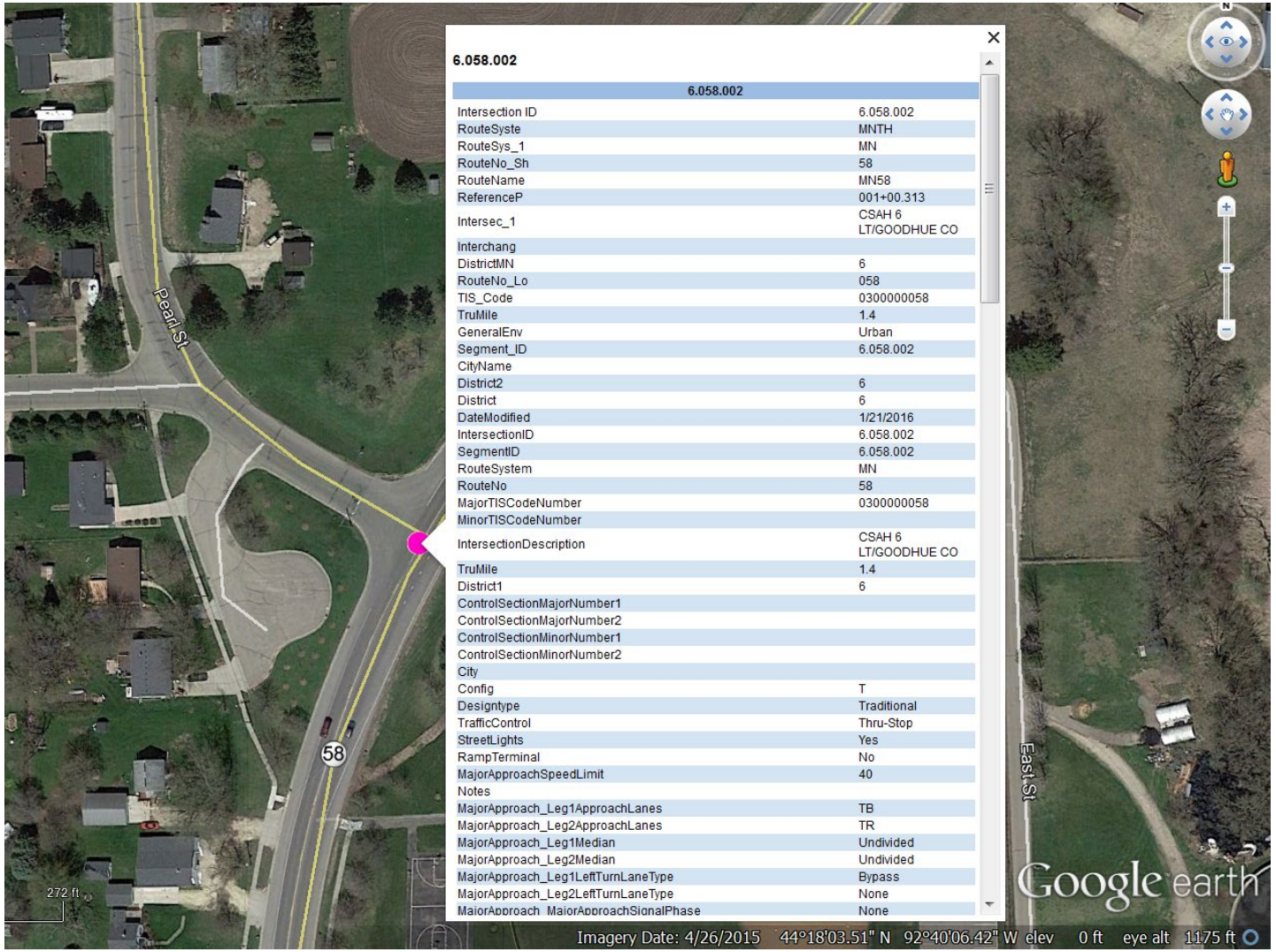
Urban Intersections

Strategy	Crash Reduction Factor*	Typical Installation Costs
Echelon		
Continuous Flow Intersection (CFI)		
Signalized RCUT		
Confirmation Lights	25% to 84% reduction in violations	$1,200 per two approaches
Traffic Enforcement Cameras (D3 Example)		
Pedestrian Countdown Times	25% vehicle/pedestrian crashes	$12,000 per intersection
Leading Pedestrian Intervals	Up to 60% pedestrian/ vehicle crashes	$600 per intersection
Curb Extensions	Increase in vehicles yielding to pedestrians	$36,000 per corner
Center Island Medians	46% in vehicle/pedestrian crashes	$24,000 per approach
Roundabout (including Mini Roundabout)	20% to 50% all crashes/ 60% to 90% right-angle crashes	$4,200,000 per intersection
Urbanization (make it feel urban)		
Rectangular Rapid Flash Beacon (RRFB)	75% of drivers yield to pedestrians	$15,000
High-Intensity Activated crossWalk Beacon (HAWK)	69% Vehicle/Pedestrian	$50,000 to $120,000
Flashing Yellow Arrow (FYA) --> Note: Permitted to FYA	19.4% left turn crashes	
Turn Lanes (Offset, Channelized)	27%	$150,000 to $500,000

Notes:
* - Crash reduction factors based on review of CMF Clearinghouse and other published research

Google Earth Maps

KMZ Maps of Roadway Facilities and Crashes with Popup Information



6.058.002

6.058.002	
Intersection ID	6.058.002
RouteSyste	MNTH
RouteSys_1	MN
RouteNo_Sh	58
RouteName	MN58
ReferenceP	001+00.313
Intersec_1	CSAH 6 LT/GOODHUE CO
Interchang	
DistrictMN	6
RouteNo_Lo	058
TIS_Code	0300000058
TruMile	1.4
GeneralEnv	Urban
Segment_ID	6.058.002
CityName	
District2	6
District	6
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SegmentID	6.058.002
RouteSystem	MN
RouteNo	58
MajorTISCodeNumber	0300000058
MinorTISCodeNumber	
IntersectionDescription	CSAH 6 LT/GOODHUE CO
TruMile	1.4
District1	6
ControlSectionMajorNumber1	
ControlSectionMajorNumber2	
ControlSectionMinorNumber1	
ControlSectionMinorNumber2	
City	
Config	T
Designtype	Traditional
TrafficControl	Thru-Stop
StreetLights	Yes
RampTerminal	No
MajorApproachSpeedLimit	40
Notes	
MajorApproach_Leg1ApproachLanes	TB
MajorApproach_Leg2ApproachLanes	TR
MajorApproach_Leg1Median	Undivided
MajorApproach_Leg2Median	Undivided
MajorApproach_Leg1LeftTurnLaneType	Bypass
MajorApproach_Leg2LeftTurnLaneType	None
MajorApproach_MajorApproachSignalPhase	None

Research One-Pagers

Enhanced Edge Lines

What are enhanced edge lines?

Enhanced edge lines refer to pavement markings that are either wider than typical or provide other enhancements such as recessing the marking or using an alternative material.

Along roadways with edge lines installed, most agencies have traditionally used a 4-inch-wide latex (water-based paint) line placed on the surface of the road, consistent with the guidelines in the Minnesota Manual on Uniform Traffic Control Devices (MN MUTCD). Section 3A.6 (functions, widths and patterns of longitudinal pavement markings) of the MN MUTCD states that "the width of the line indicates the degree of emphasis."[1] The chosen width, or degree of emphasis, can be based on a combination of agency judgment and practice, economic benefit, and safety need.

The three most common techniques for providing enhanced edge lines include:

- Using a wider 6-inch line for heightened visibility of the line and road edge
- Using a special paint that provides benefits such as higher levels of retroreflectivity (a wet-reflective material that contains larger glass beads) or increased durability
- Recessing the markings in a shallow trough to protect from snow plow damage





What is the purpose of enhanced edge lines?

Both nationally and in Minnesota, road departure crashes account for more fatalities and serious injuries than any other type of crash. A first step in efforts to mitigate these crashes is attempting to keep vehicles on the roadway by focusing on improvements to the road edge. This further suggests that if the reduction of these kinds of crashes is desired, agencies should improve road edge delineation by using enhanced edge lines along key roadway segments that are identified as being the most at-risk for road departure crashes.



How effective are enhanced edge lines?

Two studies[2,6] documented the effects of providing non-recessed enhanced edge lines along approximately 3,800 miles of two-lane rural roads in Michigan and Minnesota. Both studies found that replacing 4-inch edge lines with 6-inch edge lines was an effective countermeasure for reducing run-off-road crashes. Crash reduction factors include:

- Total crashes were reduced by 16 to 18 percent (statistically significant).
- Severe crashes were reduced by 10 to 18 percent (not statistically significant).
- Total run-off-road right crashes were reduced by 34 percent (statistically significant).
- Severe run-off-road right crashes were reduced by around 85 percent (not statistically significant).

COUNTY ROADWAY Safety Plan Toward ZERO Deaths

JUNE 2017

DEPARTMENT OF TRANSPORTATION

Pavement Markings on Challenging Surfaces

What is the issue?

Seal coating and micro surfacing present a challenge for the performance and maintenance of pavement markings. Seal coating is a widely used pavement resurfacing technique that consists of applying a thin layer of liquid asphalt, followed by a cover layer of stone chips. Micro surface treatments involve a machine laid combination of crushed aggregate, asphalt emulsion, mineral filler (such as Portland cement), and water that is spread as a relatively thin layer over an existing pavement surface. Seal coats and micro surfaces provide excellent traction for drivers, even under wet pavement conditions. However, both treatments produce a coarse pavement surface with relatively large gaps between the aggregate which provides a way for paint to sink below the surface where it is not visible to motorists. This problem is magnified during adverse conditions, such as low light and wet pavement. Even when the lane markings are new, they are seen as faded or non-existent.



Typical Seal Coat (Chip Seal)



Typical Micro Surface

What are potential solutions?

The two most common materials for marking edge and center lines in Minnesota include latex paint and epoxy.[2] There is a long history of agencies using latex paint because it is inexpensive, can be easily painted over, and provides reasonable levels of retro-reflectivity on roadways that have traditional, smoother surfaces. Pavement markings wear out due to the volume of roadway traffic, harsh weather, and loss of material from winter maintenance activities. These conditions result in a typical service life of 1 to 2 years for latex paint. Epoxy has a slightly longer service life, usually 3 to 5 years, but lower unit costs and ease of application result in most agencies opting to continue using latex paint.

In response to these issues, research was conducted that focused on identifying the performance of a variety of potential solutions, including: latex paint, latex over a primer coat, epoxy, and a combination of a layer of latex applied immediately following the chip seal followed by epoxy the next year.[1]

How effective are these solutions?

For chip seals, the research[1] found:

- A thick layer (high-build) of either latex or epoxy performed well.
- The combination of striping with latex over the seal coat immediately after resurfacing followed by applying epoxy the following year performed very well, with observed service lives of 2 to 3 years.

The research concluded that the most cost-effective and easy to implement solution was the combination of applying a thin coat of latex immediately after the chip seal followed by a layer of epoxy the following year. In contrast to applying thick layers of paint, using standard layers of latex and epoxy is consistent with MnDOT guidelines for all road surfaces[2]. The material can be ordered using MnDOT's materials specification, requires no installation adjustments and performed well on the research test deck.

For mirco surfaces, the research[1] found:

- Thin layers of latex markings by themselves, with and without primer coatings, performed poorly and needed repainting less than 1 year after installation.
- Thin layers of epoxy performed well, even after 2 years.

COUNTY ROADWAY Safety Plan Toward ZERO Deaths

JUNE 2017

DEPARTMENT OF TRANSPORTATION

Enhanced Crosswalks

What are enhanced crosswalks?

Enhanced crosswalks are pedestrian crossing countermeasures used in addition to the pavement markings typically used at pedestrian crossings not controlled by a traffic signal or STOP sign. The most common examples of enhanced crosswalks include:

- Median refuge islands
- Curb extensions
- Street lights
- Rectangular Rapid Flashing Beacons (RRFBs)
- High-Intensity Activated CrossWalK beacon (HAWK beacon)



Curb Extensions



High-Intensity Activated Crosswalk Beacon



Rectangular Rapid Flashing Beacon

Why are enhanced crosswalks needed?

Research consistently conveys that marked crosswalks alone do NOT reduce the number or rate of pedestrian-vehicle crashes.[5] Since only marking a crosswalk is unlikely to improve pedestrian safety, the use of enhanced crossing countermeasures is suggested to improve crosswalk safety.

Although definitive rationale is not available as to why marked crosswalks alone are ineffective, theories include:

- False sense of security on the part of the pedestrians and inconsistent driving behaviors
- Distracted drivers and pedestrians
- Reduced effectiveness as a result of either overuse or warning of conditions that drivers rarely encounter

How effective are enhanced crosswalks?

Curb Extensions and Median Refuge Islands are countermeasures that reduce crossing distances. In the case of median refuge islands, allow for pedestrians to cross one direction of travel at a time. These improvements are PROVEN effective with crash reductions in the range of 40 to 45 percent.[2]

Street Lighting at isolated locations in rural areas is considered PROVEN effective, with a crash reduction in the range of 30 to 40 percent. Limited research is available on the effectiveness of pedestrian-related crashes in urban areas.

HAWK Beacons and RRBFs are relatively new technologies with promising initial research. HAWK beacons and RRFBs have crash reductions over 50 percent[4], and RRFBs have documented high yielding rates to pedestrians in excess of 80 percent.[4]

COUNTY ROADWAY Safety Plan Toward ZERO Deaths

JUNE 2017

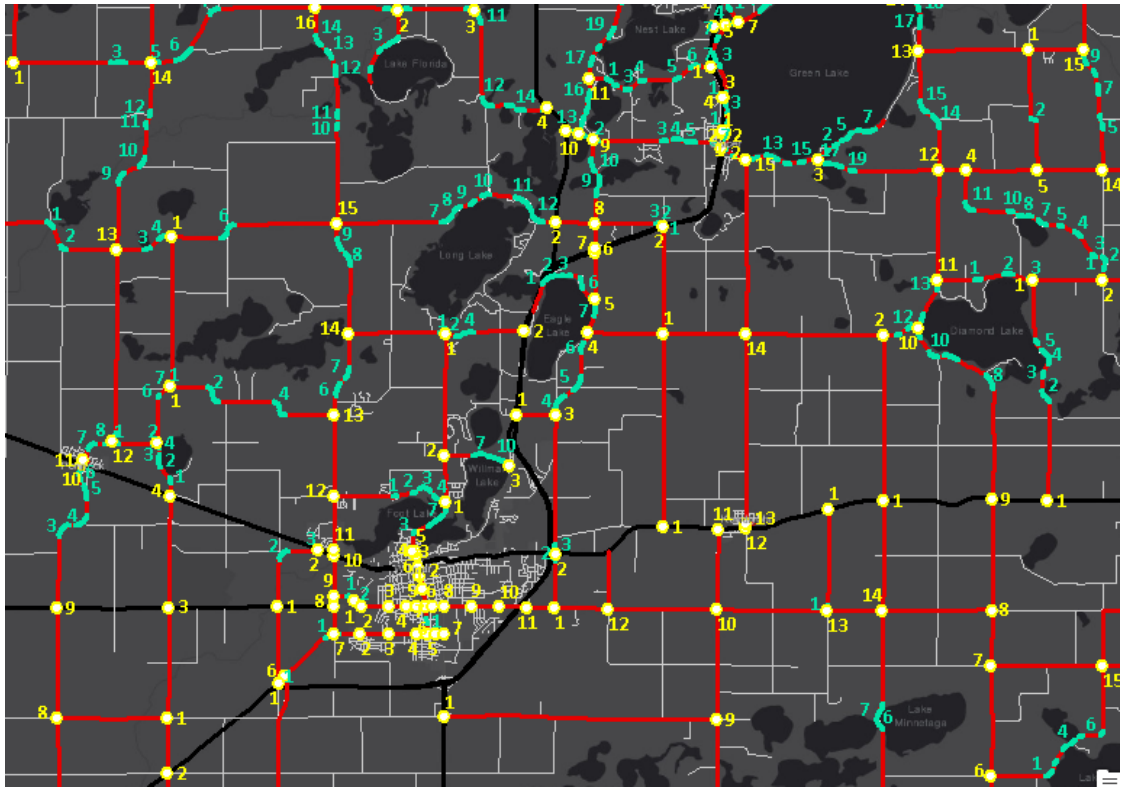
DEPARTMENT OF TRANSPORTATION

Roadway Network Development

Goal: Develop a map with identified segments, intersections and curves for each county by the April 12th meeting

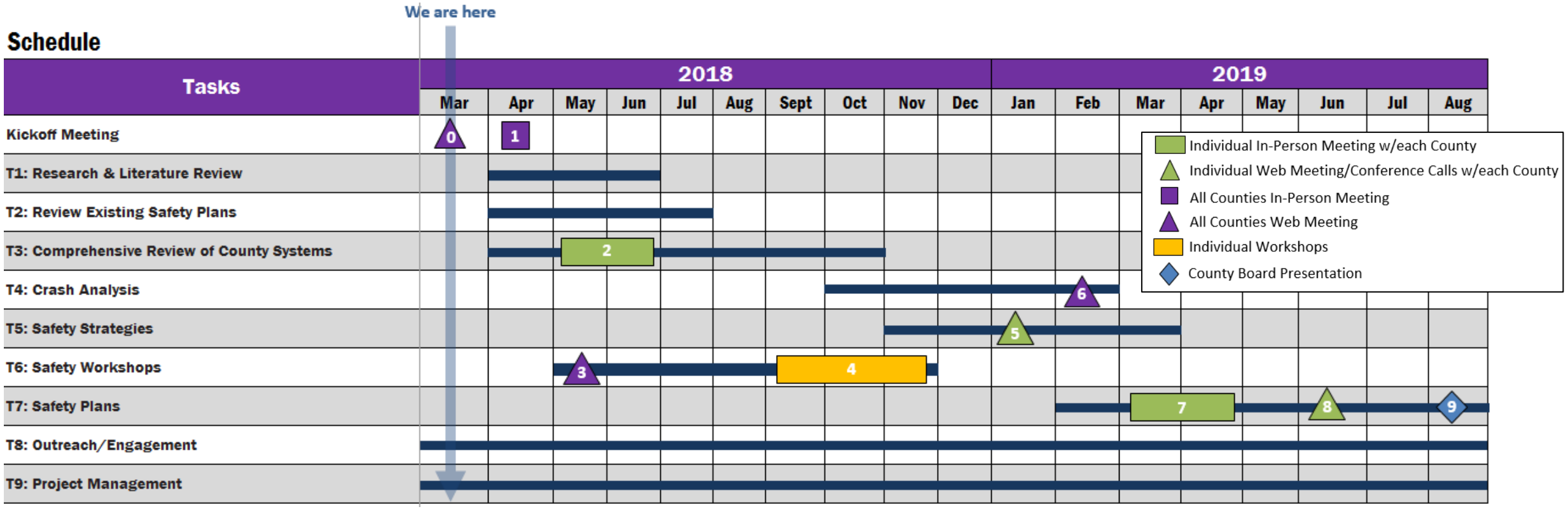
Approach:

- We will segment your roadway network for you
- You provide feedback on the completed segmentation



Example Map: Kandiyohi County

Schedule


We are here
Schedule
Tasks
2018
2019
Mar
Apr
May
Jun
Jul
Aug
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Kickoff Meeting
T1: Research & Literature Review
T2: Review Existing Safety Plans
T3: Comprehensive Review of County Systems
T4: Crash Analysis
T5: Safety Strategies
T6: Safety Workshops
T7: Safety Plans
T8: Outreach/Engagement
T9: Project Management
0
1
2
3
4
5
6
7
8
9
Individual In-Person Meeting w/each County
Individual Web Meeting/Conference Calls w/each County
All Counties In-Person Meeting
All Counties Web Meeting
Individual Workshops
County Board Presentation

Outreach and Engagement

Goal: To further reduce K+A's by fostering stronger collaboration through a more individualized approach with each county.



Meetings:

- All county meetings
  - One meeting in person
  - Three meetings via webinar
- Individual county meetings
  - Two meetings in person
  - One Workshop
  - Two meetings via webinar/conf call
  - One optional County Board Presentation

April 12th – Kick-Off Meeting

11am-2pm (lunch provided)

MnDOT St. Cloud Training Center

Additional Discussion Items:

- Facilitated Discussion: What you hope happens/doesn't happen in the CRSP update process?
- Highlights of Lessons Learned from Phase 1
- Results of Research Synthesis survey
- Crash Data Analytical Approach and Analyses of Results
- Summary of Phase 1 CRSP Safety Projects
- Discussion of Roadway Network Assessment

Next Steps

Next Meeting:

April 12, 2018* (11:00am-2:00pm) *at the MnDOT Training Center in St. Cloud

We need from each county:

- Review segmented maps and provide feedback
- Begin planning for county Workshop date and location. (T,W,Th during Sept/Oct/early Nov.)
- Provide contact information for staff you would like involved to Renae Kuehl at rkuehl@srfconsulting.com

Questions?

- Mark Vizecky – MnDOT State Aid

  Mark.vizecky@state.mn.us 651-366-3839

- Howard Preston – CH2M

  howard.preston@ch2m.com 651-365-8514

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Phase 2 CRSP Updates

County Safety Workshop Overview Webinar

May 8, 2018

Skype

Outreach and Engagement

Goal:

To further reduce K+A's by fostering stronger county collaboration through a more individualized approach with each county.



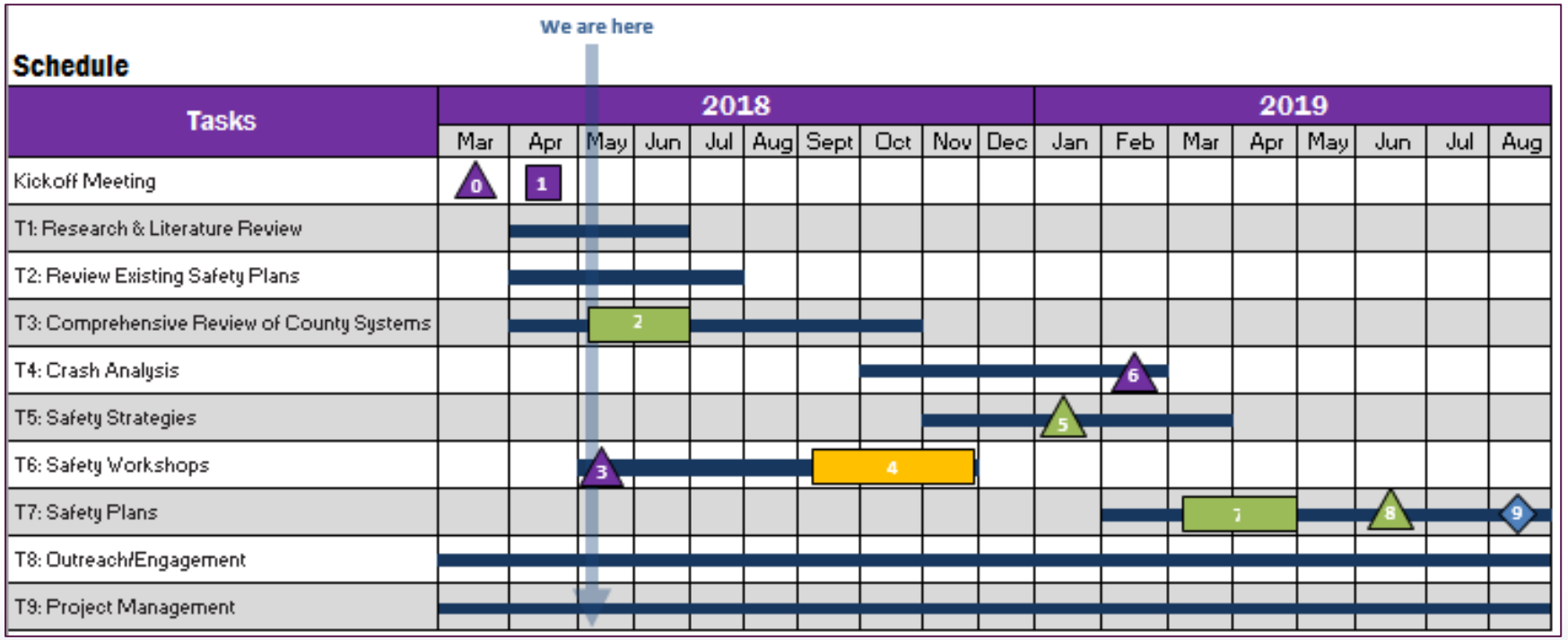
- All county meetings
  - One in-person meeting
  - Three webinar meetings
- Individual county meetings
  - Two in-person meetings
  - One safety workshop
  - Two meetings via webinar or conf. call
  - One optional county board presentation

Outreach and Engagement

		Phase 2	
	MEETING TITLE	**MEETING FORMAT**	**TOPICS**
0	**PRE-KICKOFF MEETING**	All Counties Web Meeting	• Goals • Process • Schedule • Needs
1	**KICK-OFF MEETING**	All Counties In-Person Meeting	• CRSP update Review • What are you looking for from project? • P1 Lessons Learned, approach, results and projects • P2 Roadway Network Assessment
2	**ROADWAY NETWORK REVIEW**	Individual County In-Person Meeting	• Segments • Intersections • Curves • Missing data needed from county
3	**WORKSHOP OVERVIEW**	All Counties Web Meeting	• Overview of workshop goals • Phase 1 workshops review • Workshop options • Planning approach and schedule
4	**WORKSHOP**	Individual County Workshop	• Present crash analysis findings • Present systematic and high crash location analysis process • Review high priority locations identified • Review safety strategies being considered
5	**STRATEGIES REVIEW**	Individual County Web Meeting	• Review preferred strategies to include, with each county
6	**RISK FACTORS REVIEW**	All Counties Web Meeting	• Present identified risk factors for systematic analysis
7	**PROPOSED PROJECTS REVIEW**	Individual County In-Person Meeting	• Proposed projects for each segment, intersection and curve • Desired changes to projects
8	**DRAFT PLAN REVIEW**	Individual County Web Meeting	• Review content for the draft County Road Safety Plan • Discuss edits needed
9	**COUNTY BOARD PRESENTATION *(optional)***	Individual County (16) Board Meeting	• Present CRSP approach and results to county board

Schedule

- Individual In-Person Meeting w/each County
- Individual Web Meeting/Conference Calls w/each County
- All Counties In-Person Meeting
- All Counties Web Meeting
- Individual Workshops
- County Board Presentation



County Road Safety Workshop: Alternative Formats and Audiences

Formats…choose one:

a) Featured Safety Strategy Presentation/Discussion
b) Site Locations Working Session
c) Featured Safety Strategy Presentation/Discussion + Site Locations Working Session
d) Board Presentation (pre- or post-CRSP Plan Development)
e) Board Presentation + safety stakeholders

General audiences:

- Safety stakeholders + county staff
- County staff only
- County board members

Potential Workshop Topics

- Workshop Goals and Introductions
- County Road Safety Plan Update and Safety Strategies Overview
  - Overview of CRSP, MN TZA, Statewide Performance Measures, Data Driven Safety Analysis
  - Proactive Systemic Safety Approach
  - Implemented Safety Projects and County Implementation Approach
  - County Crash Data Overview and Focus Areas
- Group Discussion: *What is important to advance road safety in the County?*
- Featured Infrastructure Safety Strategies Presentation & Discussion
- Priority Site Location Discussions
- Next Steps

Example Agenda: *McLeod County*
A) Featured Strategy Presentation/Discussion

9:00	Welcome, Introductions, and Workshop Goals
9:10	Intro to CRSP/MN TZD Goals
	Data Driven Safety Analysis
	Discussion: What is important to advance road safety in the county?
	Overview of Proactive Systemic Safety Approach
10:45	Implemented Safety Projects
11:00	County Crash Data Overview and Focus Areas
11:20	Featured Infrastructure Safety Strategies Discussion
2:00	Adjourn

(Excludes Site Locations Working Session)

Example Agenda: *Chisago County*
B) Site Locations Working Session

9:00	Welcome, Introductions, and Workshop Goals
9:10	Intro to CRSP/MN TZD Goals
	Data Driven Safety Analysis
	Discussion: What is important to advance road safety in the county?
	Overview of Proactive Systemic Safety Approach
10:00	Implemented Safety Projects
10:20	County Crash Data Overview and Focus Areas
10:50	Priority Site Locations (2 Intersections, 2 segments)
2:30	Adjourn

(Excludes featured presentation of safety strategies.)

COUNTY ROADWAY Safety Plan Toward ZERO Deaths

Example Agenda: *Chisago County*
B) Site Locations Working Session

Priority Site Location Discussion Format:

- County Site Overview [10 min.]
- Site Crash Facts [5 min.]
- Alternative Safety Strategy Discussion [20 min.]
- Summary [5 min.]

Locations:

1. **Intersection** of *CSAH 25/292nd Ave, City of Lindstrom (at the High School)*
2. **Intersection** of *CSAH 1/CSAH 39, Rush City*
3. **Segment** of *CSAH 7 from CSAH 39 (Fairfield Ave) to CSAH 30 (Forest Blvd), Rush City*
4. **Segment** of *CSAH 30 from 360th St to 420th St, North Branch*

Example Agenda: *Wright County*

C) Featured Strategy Presentation/Discussion + Site Locations Working Session

9:00	Welcome, Introductions, and Workshop Goals
9:10	Intro to CRSP/MN TZD Goals
	Data Driven Safety Analysis
	Discussion: What is important to advance road safety in the county?
	Overview of Proactive Systemic Safety Approach
	County Crash Data Overview and Focus Areas
10:55	Featured Infrastructure Safety Strategies Discussion
12:30	Priority Site Locations ((1 segment, 2 intersections)
3:30	Adjourn

Example Agenda: Otter Tail County

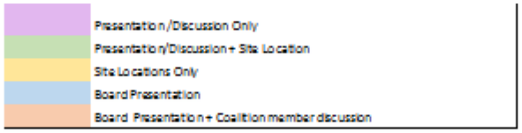
D and E) AM Board Meeting & Safety Stakeholder Workshop

Board Meeting	
9:35	Welcome, Introductions, and Workshop Goals
9:40	Intro to CRSP/MN TZD Goals
	Overview of Proactive Systemic Safety Approach
	County Crash Data Overview and Focus Areas
10:10	Featured Infrastructure Safety Strategies and Discussion
11:00	Adjourn
Safety Workshop	
1:00	Welcome, Introductions, and Workshop Goals
1:10	Intro to CRSP/MN TZD Goals
	Discussion: What is important to advance road safety in the county?
	Overview of Proactive Systemic Safety Approach
2:10	Implemented Safety Projects
2:55	Featured Infrastructure Safety Strategies and Discussion
4:00	Adjourn

Condenses Workshop agenda. Excludes the Site Location Discussion

COUNTY ROADWAY Safety Plan Toward ZERO Deaths

Phase 1 Workshop Format Summary



	Presentation Topics								# of Locations	Length	# of	Audience	Notes
	Intro to CRSP/MN TZD Goals	Crash Data/Focus Areas	Data Driven Safety Analysis	Implemented Safety Projects	Discussion: What is important to advan	Proactive Systemic Analytical Process	Infrastructure Safety Strategies Discus	Site Discussion and Alternative Strategi	Site-specific locations				
Beltrami	X	X	X	X	X	X			None	6 hours	24	County Staff, County commissioners; MnDOT, Schools, State Patrol, TZD,	Included a voting exercise
Carlton	X	X	X	X	X	X	X		None	5 Hours	32	County; MnDOT; Health; City; Township; TZD; Tribal; Fire	
McLeod	X	X	X	X	X	X	X		None	5 Hours	28	County Board, Dept. Heads, School Superintendents, RDC planner, 4 E's, Community advocates, City engineers, City administrators, Twp	
Freeborn	X	X	X	X	X		X	X	1.) CSAH 13 & 18 2.) CSAH 46 & 26 3.) I-35 & East Main Street (Truck Stop Region) 4.) I-90 & MN 13	6.5	29	AM: MnDOT, County, City, Driver Ed, Law Enforcement, Health, Commissioners, Administrator, TZD PM: elected officials from the county, city, townships	
Goodhue	X	X	X	X	X	X	X	X	1.) CR 7 from TH 61 to TH 19 2.) CR 18/ TH 61	6.5 Hours	26	County Staff and Commissioners, School Districts, Transportation-related businesses, City Councils & staff, Township	Emphasis on Motorcycle safety strategies
Hennepin	X	X	X	X	X	X		X	1.) CSAH 19 & CR 117 2.) Minnetonka Blvd & Dakota Ave 3.) CSAH 81 & Elm Creek Blvd	5.5	35	Hennepin County Public Works staff, Public Affairs, and County Administration, city staff,	
Morrison	X	X	X	X	X	X	X	X	1.) TH 10/CSAH 14	5 Hours - AM Safety Stakeholders 2 Hours - PM County Staff	28	MnDOT; Commissioners; Township: Mayor; City Staff; County Staf; Law Enforcement	Site location discussion with county staff only
Olmsted	X	X	X	X	X	X	X	X	1.) CSAH 36 (Marion Rd) 2.) CSAH 1 & TH 30	4.5	16	county engineer/staff, large and small city engineers/consultants, MnDOT D6 traffic staff, law	

Phase 1 Workshop Format Summary

	Presentation Topics												
	Intro to CRSP/MN TZD Goals	Crash Data/Focus Areas	Data Driven Safety Analysis	Implemented Safety Projects	Discussion: What is important to advance road	Proactive Systemic Analytical Process	Infrastructure Safety Strategies Discussion	Site Discussion and Alternative Strategies	Site-specific locations				
									# of Locations	Length	# of Attendees	Audience	Notes
St. Louis	X	X		X	X	X		X	1.) CSAH 13 & CSAH 45 2.) CSAH 146 & US-53 3.) MNTH-37 & CSAH 7 4.) US 53 & MNTH 1/CSAH 115 5.) MNTH 37 & CSAH 25 East	6	13	Site specific reps ARDC MIC Safe Communities coalition State Patrol SLC Sheriff Major city police	Hosted a separate County Board Meeting Oct 17th 9:30-10:30
Stearns	X	X	X	X	X	X	X	X	1.) CSAH 2 & Minnesota Street	5.5	13	MnDOT, County, Law Enforcement, EMS,	
Wright	X	X	X	X	X	X	X	X	1. CSAH 39 Corridor 2. CSAH 39 & Gillard Avenue Intersection 3. CSAH 39 & CSAH 19 Intersection	6.5	18	County Commissioners; Law Enforcement; Emergency Responders; Media; Safe Communities BOD; County Staff; City Staff	
Chisago	X	X	X	X	X	X		X	1.) CSAH 25/292nd Ave 2.) CSAH 1/CSAH 39 3.) CSAH 7 from CSAH 39 to CSAH 30 4.) CSAH 30 form 360th ST to 420th St	5.5	24	MnDOT. County, City staff, TZD, FHWA, Schools, Law Enforcement, EMS,	
Meeker	X	X	X	X		X	X		None	2 Hours	13	County Board of Commissioner, TZD Meeker Safe Roads Coalition	
Crow Wing	X				X	X	X	X	1.) CSAH 3/CSAH 11	1 Hour - AM Board 1 Hour - PM Stakeholders	9 19	AM - County commissioners + press PM - Safety Coalition Committee	
Otter Tail	X	X	X	X	X	X	X		None.	1.5 Hour - AM Board 3 Hours - PM Stakeholders	12 20	AM - Board Meeting County commissioners PM - Safety Stakeholder Workshop	

- Presentation /Discussion Only
- Presentation/Discussion + Site Location
- Site Locations Only
- Board Presentation
- Board Presentation + Coalition member discussion

Potential Workshop Objectives

1. Create a shared understanding of the County Road Safety Plan update process and its importance.
2. Create a shared understanding of the County's roadway safety approach.
3. Solicit and share safety stakeholder perspectives to reduce severe crashes in the County.
4. Develop a more comprehensive understanding of featured infrastructure safety strategies to reduce severe crashes in the County.
5. Collaboratively explore infrastructure safety strategies for priority site locations.

Workshop Audience: Example Invite List

- County engineers and maintenance staff
- County Administrator
- County Commissioners
- Safe Roads Coalition
- Regional TZD representative
- City reps including Consulting engineer acting as city engineer
- Law enforcement (MSP, Police, Sheriff)
- Emergency medical response
- Tribal governments (if applicable)
- MnDOT District staff, DSAE, traffic engineering and planning
- FHWA Safety Engineer Will Stein

Next Steps:
County Safety Workshop Planning

- ✓Determine workshop location and date
  - T, W, Th in September/October/November
- ✓Identify County's preferred workshop objectives.
  - Key messages important to communicate?
- ✓Determine workshop audience and invitees
  - County sends invitation and cc. Renae/Cheri
- ✓Confirm featured infrastructure safety strategies:
  - For plan consideration
  - To feature in workshop

Your decisions are part of the critical path!

Questions?

- Mark Vizecky – MnDOT State Aid
  Mark.vizecky@state.mn.us 651-366-3839
- Cheri Marti
  Cheri.f.marti@gmail.com 612-616-4280
- Renae Kuehl
  RKuehl@srfconsulting.com 763-249-6783

THANK YOU!

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COUNTY ROADWAY
Safety Plan
Toward ZERO Deaths

Appendix C – Workshop Material

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Washington County Safety Workshop

WORKSHOP DATE: Thursday, October 18th, 2018

MEETING TIME: 8:15 Registration; 8:30 AM – 12:30 PM Safety Workshop; 12:30 - 1:00 Lunch

LOCATION: Washington County Public Works Building
North Shop Training Rooms (1243 and 1244)
11660 Myeron Road North, Stillwater MN

Workshop Agenda

8:15	**Registration and Refreshments**	
8:30	**Welcome, Introductions and Workshop Goals** • Create a shared understanding of CRSP and Washington County's infrastructure roadway safety approach • Share safety stakeholder perspectives to reduce severe crashes. • Develop understanding of and collaboratively explore proven infrastructure strategies for CRSP plan consideration.	Cheri Marti, Jacobs/ Washington County
8:40	**County Roadway Safety Plan (CRSP) Background & Discussion** • Overview of CRSP and Data-Driven Safety Analysis Video • **Discussion:** *What is important to advance road safety in the county?* • Overview of Proactive Systemic Safety Approach	MnDOT All Howard Preston/Jacobs
9:45	• Implemented Safety Projects and Washington County Safety Approach	Howard Preston/ Washington County
10:10	Break (10 Minutes)	
10:20	• Washington County Crash Data Overview	Howard Preston
10:50	Featured Infrastructure Safety Strategies Discussion	
12:20	**Wrap Up: Closing Comments** + Workshop Evaluation	Jacobs
12:30	Lunch	
1:00	Adjourn	



Washington County
County Roadway Safety Plan Workshop

October 18, 2018

County Roadway Safety Plan Updates

Discussion Goals and Agenda Review

Goals:

- Create a shared understanding of CRSP and Washington County's infrastructure roadway safety approach
- Share safety stakeholder perspectives to reduce severe crashes.
- Develop understanding of and collaboratively explore proven infrastructure strategies for CRSP plan consideration.

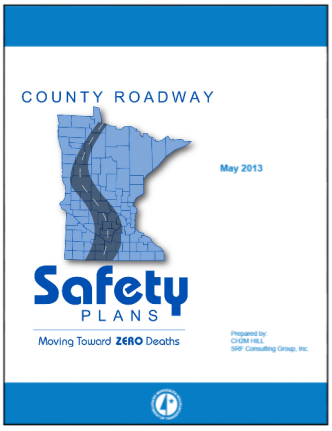
Agenda Review

Handouts Review

- Agenda
- PPT Slides
- County Rural Crash Tree
- County Urban Crash Tree
- Statewide/County Focus Area Tables
- Big Book of Ideas
- Evaluation Form
- CRSP One-pager
- Research/Strategy One-pagers
- TZD One-pager
- Data-Driven Safety Analysis (DDSA) One-pager (FHWA)

What is a County Roadway Safety Plan or "CRSP?"

- CRSP Identifies priority location-specific safety concerns and suggested priority infrastructure improvements.
  - o County segments, curves, & intersections
  - o Locations that are most at risk
  - o Proven safety strategies
- In 2014, initial CRSP plan created for all 87 MN counties in partnership with MnDOT and the Federal Highway Administration.
- The "CRSP Update" is an effort to continue to advance safety on county roadways.



Why the need for County Roadway Safety Plans?

- 60% of severe crashes (fatality or serious injury) occur on local roadways; **most severe are on county roads**.
- Local agencies are responsible for more than 90% of the state's roadway miles.
- The majority of roadway safety investments have been made on the state system.

"It will be impossible to achieve Minnesota's long-term goal of zero fatalities if minimal investment is made to address safety on local roadways" Mitch Rasmussen, Assistant Commissioner State Aid Division



5

What is the goal of County Road Safety Plans or CRSP ?

To support the statewide initiative of moving **Minnesota Toward Zero Deaths Program** through **continued reduction** of **fatalities and serious injuries** on county roadways.

- Minnesota TZD Program:
  - Even one traffic death is unacceptable
  - Interdisciplinary approach: Engineering, Enforcement, Education, Emergency medical and trauma services
  - Partnership with community safety stakeholders
- CRSP aligns with the Minnesota Strategic Highway Safety Plan (SHSP)
- Support TZD Goal of fewer than 300 fatalities and 850 serious injuries by 2020

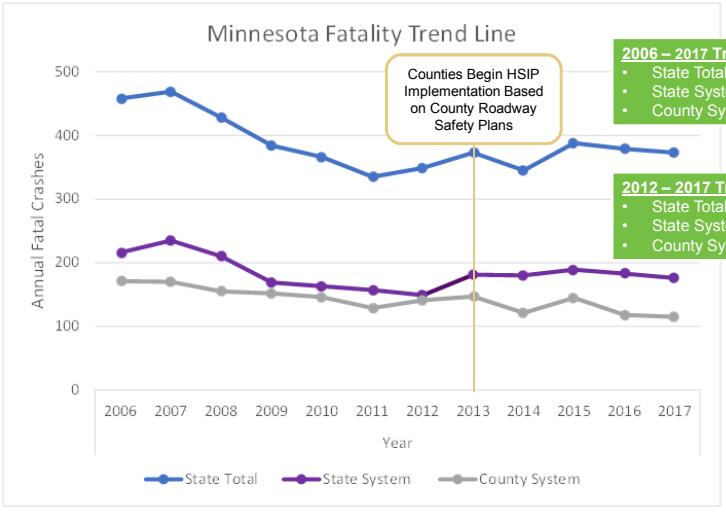
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CRSP Funding

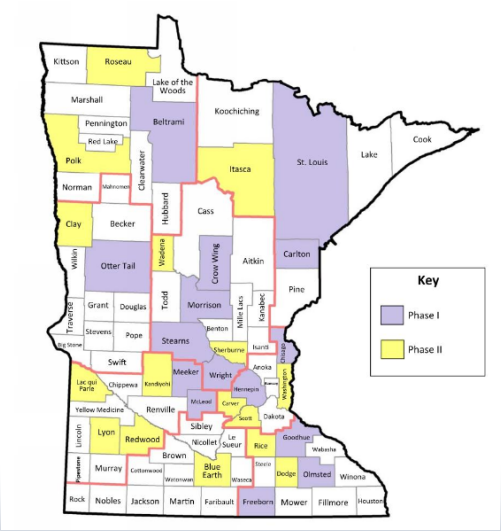
- Every Year, Minnesota receives ~$30 Million Federal Highway safety funding
- Highway Safety Improvements Program (HSIP)
- Minnesota shares HSIP funding with the local governing agencies (about 50%)



What are the initial results of county road safety improvements?



CRSP Update - Phase 2 (16 Counties)

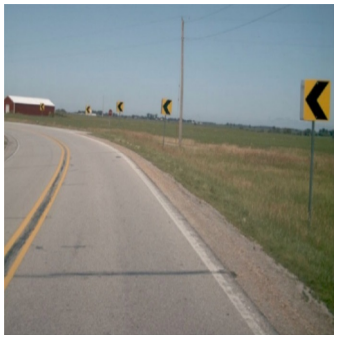


Data-Driven Safety Analysis: Minnesota Case Study Video



Data Analysis Goals

- Conducting a **data-driven** safety analysis of the county roadway system
- Identifying and **prioritizing candidate locations** for safety investment
- Developing **safety projects** – specific strategies at specific locations



11

Your thoughts...

What is important to advance road safety in the county?

12



Overview of Proactive Systemic Safety Approach

County Roadway Safety Plan Updates

Why Proactive Systemic Safety Approach?

Traditional method: **"high crash" locations**

- Concern: no locations met the high crash designation

The solution for local system safety analyses =

Proactive Systemic Risk Analysis

What is a Systemic Risk Analysis?

- **Analytical approach** identifies and prioritizes safety deficiencies on roads based on risk of crash
- **Identifies risk factors** based on roadway and traffic characteristics
- **Prioritizes the road system for safety investment** by documenting the number of risk factors present at each location.

What is the benefit of a systemic process?

- It works
- It leads to implementation
- It allows agencies to proactively deploy safety projects on at-risk locations.

With the systemic process, the answer to "*How many people have to die before you do something?*" – is Zero!

Risk Factor Identification

Segments:

- Density of Road Departure
- Traffic Volume
- Critical Curve Radius
- Access Density
- Edge Risk Assessment



Risk Factor Identification

Curves:

- ADT Range
- Radius Range
- Severe Crash on Curve
- Intersection on Curve
- Visual Trap on Curve



Risk Factor Identification

Intersections

- Skewed Approach
- On/near curve
- Volume
- Proximity to railroad crossing
- Proximity to last STOP sign
- Intersection related crashes
- Commercial Development in Quadrant

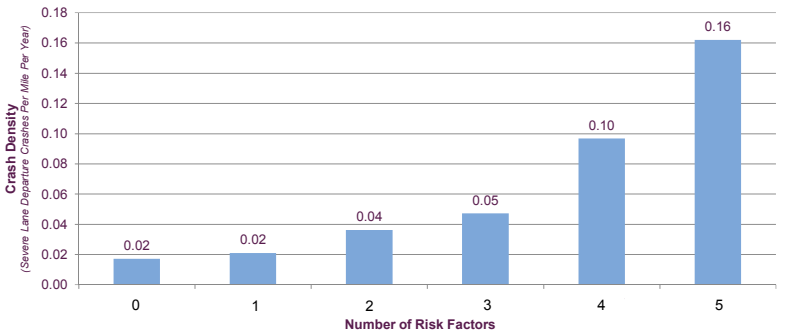


COUNTY ROADWAY Safety Plan Toward ZERO Deaths

19

Systemic Safety Approach Works!

Higher priority segments have higher crash densities

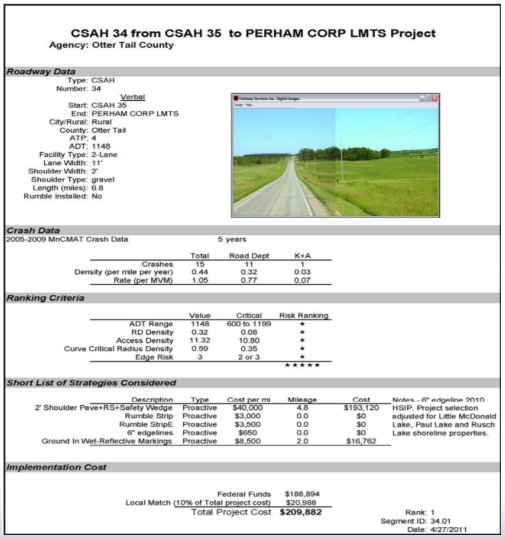


Low Priority → **High Priority**

COUNTY ROADWAY Safety Plan Toward ZERO Deaths

20

Project Form & Impact of Having a Safety Plan



CSAH 34 from CSAH 35 to PERHAM CORP LMTS Project
Agency: Otter Tail County

Roadway Data

Type: CSAH
Number: 34
Verbal
Start: CSAH 35
End: PERHAM CORP LMTS
City/Rural: Rural
County: Otter Tail
ATP: 4
ADT: 1148
Facility Type: 2-Lane
Lane Width: 11'
Shoulder Width: 2'
Shoulder Type: gravel
Length (miles): 6.8
Rumble Installed: No

Crash Data

2005-2009 MnCMAT Crash Data — 5 years

	Total	Road Dept	K+A
Crashes	15	11	1
Density (per mile per year)	0.44	0.32	0.03
Rate (per MVM)	1.05	0.77	0.07

Ranking Criteria

	Value	Critical	Risk Ranking
ADT Range	1148	600 to 1199	*
RD Density	0.32	0.08	*
Access Density	11.32	10.80	*
Curve Critical Radius Density	0.59	0.35	*
Edge Risk	3	2 or 3	*
			*****

Short List of Strategies Considered

Description	Type	Cost per mi	Mileage	Cost	Notes - 6" edgeline 2010
2' Shoulder Pave+RS+Safety Wedge	Proactive	$40,000	4.8	$193,120	HSIP. Project selection
Rumble Strip	Proactive	$3,000	0.0	$0	adjusted for Little McDonald
Rumble StripE	Proactive	$3,500	0.0	$0	Lake, Paul Lake and Rusch
6" edgelines	Proactive	$650	0.0	$0	Lake shoreline properties.
Ground In Wet-Reflective Markings	Proactive	$8,500	2.0	$16,762	

Implementation Cost

Federal Funds	$188,894
Local Match (10% of Total project cost)	$20,988
Total Project Cost	**$209,882**

Rank: 1
Segment ID: 34.01
Date: 4/27/2011

Over a 4-year period:

- **Over 85% of Minnesota counties** secured HSIP funding for at least one project.
- More than **$60M of HSIP funds** were directed to supporting the implementation of safety projects on the county system.



Implemented Safety Projects and County Implementation Approach

County Roadway Safety Plan Updates

Sample of Typical County System Projects

	No. of projects	HSIP Funding
Segments		
Edgeline Improvements	195	$44,718,352.48
Geometrics	2	$370,000.00
Guardrails	3	$314,820.00
Shoulder Improvements	40	$8,844,196.90
Rumble Strips	27	$4,697,091.00
Signing	2	$204,705.00
Surface Improvements	1	$288,000.00
Turn Lanes	4	$874,500.00
Total Segments	**274**	**$60,311,665.38**
Curves		
Chevrons	38	$7,728,821.80
Geometrics	1	$157,500.00
Total Curves	**39**	**$7,886,321.80**
Intersections		
Geometrics	21	$9,993,750.00
Lighting	33	$4,654,055.00
Miscellaneous Improvements	5	$1,007,068.00
Signing	21	$2,161,464.00
Total Intersections	**80**	**$17,816,337.00**
Totals	**393**	**$86,014,324.18**

COUNTY ROADWAY Safety Plan Toward ZERO Deaths

23

Washington County – Examples of Implemented Safety Projects

- Chevrons on curves
- "Safety Wedge" on paving projects
- Roundabouts
- Center Left-Turn lanes and buffers
- 6" Edge Lines
- Paved shoulders
- Separated multi-use trails
- Yellow border on signal heads with Flashing Yellow Arrow indication
- Access management

COUNTY ROADWAY Safety Plan Toward ZERO Deaths

24

Washington County – Implemented Safety Projects - Example

Installation of Center Buffer/Left Turn Lanes



Washington County – Implemented Safety Projects - Example

Chevrons on Curves

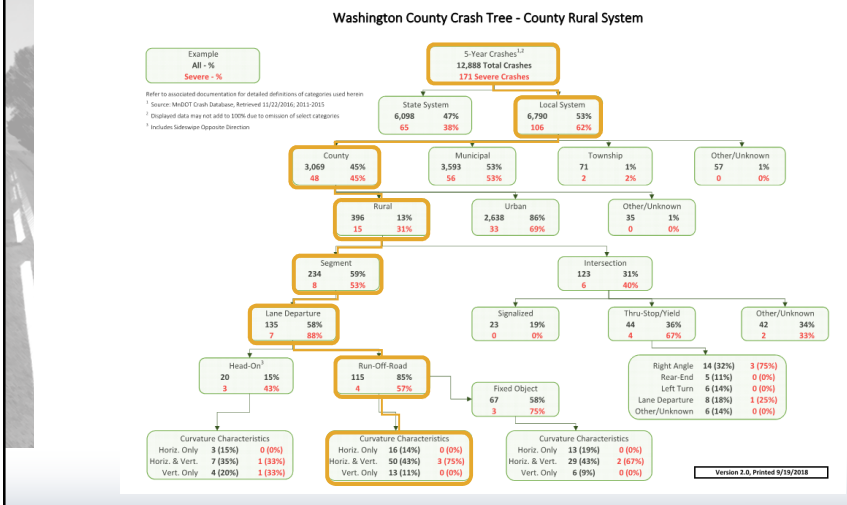


COUNTY ROADWAY Safety Plan Toward ZERO Deaths

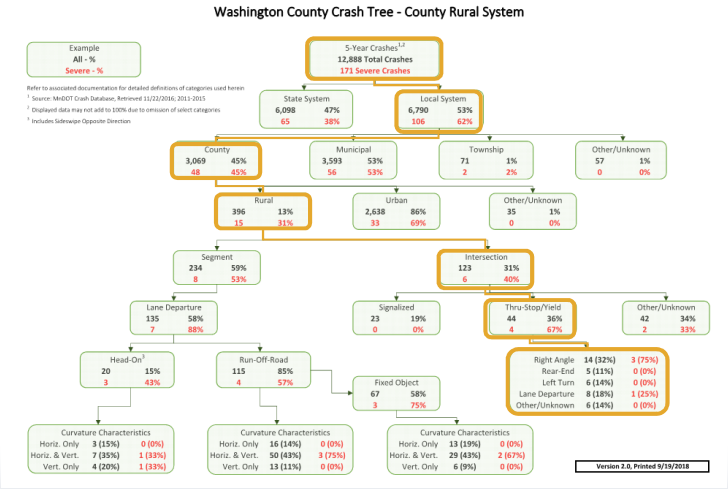
Washington County Crash Data Overview

County Roadway Safety Plan Updates

Washington County Crash Tree – Rural



Washington County Crash Tree – Rural



County Versus State Crash Data - Rural

Washington County Crash Summary - Rural

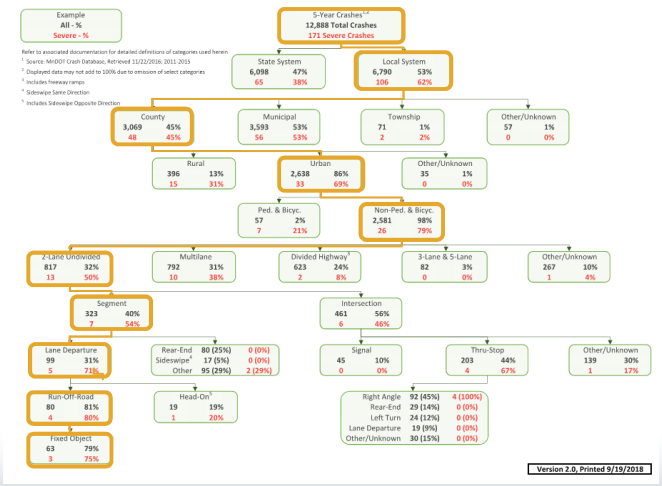
Crash Statistics (Severe Crashes)	Statewide Greater Minnesota	Washington County
State vs. Local System	38% vs. 62%	38% vs. 62%
On County System	45%	45%
Rural vs. Urban	57% vs. 42%	31% vs. 69%
Segment Related	63%	53%
Lane Departure	71%	88%
Head - On	17%	43%
Run-off-Road	83%	57%
Curve Related	47%	75%
Intersection Related	31%	40%
Thru - STOP	54%	67%
Right Angle	43%	75%

Washington County Crash Tree – Rural Key Takeaways

- Focus on supporting safety initiatives on local systems especially on county roadways
- Primary focus on Rural County Roadways
- Primary focus on Lane Departure Crashes along Rural Road segments and horizontal curves
- Secondary focus on Angle Crashes at Rural Thru-STOP controlled intersections

Washington County Crash Tree - Urban

Washington County Crash Tree - County System Urban 2-Lane Undivided



County Versus State Crash Data - Urban

Washington County Crash Summary - Urban

Crash Statistics (Severe Crashes)	Statewide Greater Minnesota	Washington County
State vs. Local System	38% vs. 62%	38% vs. 62%
On County System	45%	45%
Rural vs. Urban	57% vs. 42%	31% vs. 69%
2-Lane Undivided	40%	50%
Segment Related	58%	54%
Single vs. Multi Vehicle	33% vs. 57%	71% vs. 29%
Head-On vs. Rear End	33% vs 7%	100% vs. 0%
Multi-Lane & Divided	49%	46%
Intersection Related	75%	75%
Signal Control	66%	67%
Right Angle Collision	44%	33%
Pedestrian & Bicycle Crashes	25%	21%
2 - Lane Undivided	25%	43%
Segment vs. Intersection	48% vs. 46%	67% vs 0 %
Signal Control	33%	0%
Speed Limit - 30mph	45%	0%
Multi-Lane & Divided	63%	43%
Segment vs. Intersection	27% vs. 67%	0 vs. 100%
Signal Control	73%	100%
Speed Limit - 30mph	58%	0%

COUNTY ROADWAY Safety Plan Toward ZERO Deaths

33

Washington County Crash Tree– Urban Key Takeaways

- Too few severe urban crashes to identify statistically reliable trends
  -Need to also consider statewide values
- Need to focus on BOTH 2-Lane Undivided and Multilane/Divided facilities
- On 2-Lane undivided facilities, the majority of crashes are segment related involving multiple vehicles and the most common type of crash is a Head-On
- On Multi-Lane Divided facilities, the majority of crashes are intersection related with traffic signal control and the most common type of crash is a Right Angle collision
- The majority of Pedestrian/Bicycle crashes occur on Multi-Lane/ Divided facilities at intersections with traffic signal control with a 30 MPH speed limit

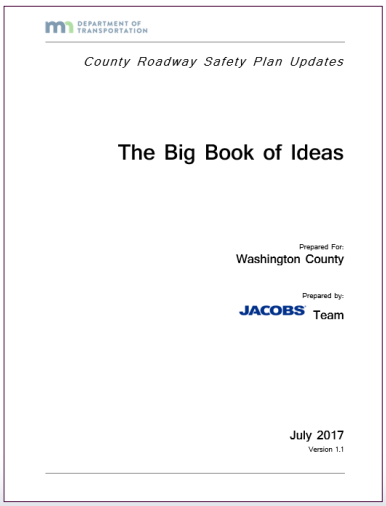
COUNTY ROADWAY Safety Plan Toward ZERO Deaths

34

Washington County Infrastructure Safety Strategies

County Roadway Safety Plan Updates

Big Book of Ideas



DEPARTMENT OF TRANSPORTATION

County Roadway Safety Plan Updates

The Big Book of Ideas

Prepared For:
Washington County

Prepared by:
JACOBS Team

July 2017
Version 1.1

Rural Segments



Centerline Rumble Strip

Crash Reduction Factor

- 40% head-on/sideswipe crashes

Typical Installation Costs

- $3,600 per mile



Shoulder/ Edgeline Rumble Strips

Crash Reduction Factor

- 20% run off road crashes

Typical Installation Costs

- $5,850 per mile





Traditional vs. “Mumble” Strips

Traditional Rumble Strips





Wave-shaped design produced less external noise than MnDOT's current design

Mumble Strips





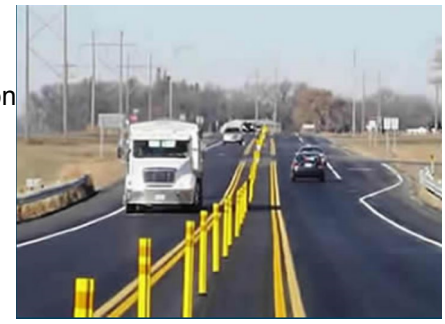
Buffers Between Opposing Lanes

Crash Reduction Factor

- 50% for all crashes & 100% for head-on crashes (based on TH 5 in Lake Elmo)

Typical Installation Costs

- $150,000 to $500,000 per mile



Rural Curves



Streetlights (and Approaches)

Crash Reduction Factor

- 25% to 40% of nighttime crashes

Typical Installation Costs

- $6,000 per light



Clear Zone Maintenance/ Enhancements

Crash Reduction Factor

- Fatal, serious, & minor injury crashes: increase of 28% to decrease of 18%

Typical Installation Costs

- $10,000 to $250,000 per curve



Urban Segments



Road Diet (3- and 5-Lane Conversions)

Crash Reduction Factor

- 30% to 50%

Typical Installation Costs

- $48,000 per mile [three-lane] +$54,000 per mile [five-lane] +$36,000 per signalized intersection for updates (for example, loop and signal head placement)



Dynamic Speed Feedback Sign

Crash Reduction Factor

- 5% - 7% all crashes

Typical Installation Costs

- $30,000 per location



Sidewalks

Crash Reduction Factor

- Not Available

Typical Installation Costs

- $5 to $10 per square foot



Urban Intersections



Signalized RCUT

Crash Reduction Factor

- Not Available

Typical Installation Costs

- $1 to $5 million



Confirmation Lights

Crash Reduction Factor

- 25% to 84% reduction in violations

Typical Installation Costs

- $1,200 per two approaches



Curb Extensions

Crash Reduction Factor

- Increase in vehicles yielding to pedestrians

Typical Installation Costs

- $36,000 per corner



Center Island Medians

Crash Reduction Factor

- 46% in vehicle/pedestrian crashes

Typical Installation Costs

- $24,000 per approach



Rectangular Rapid Flash Beacon (RRFB)

Crash Reduction Factor

- 75% of drivers yield to pedestrians

Typical Installation Costs

- $15,000



Michael Frederick, City of St. Petersburg, FL

High-Intensity Activated Crosswalk Beacon (HAWK)

Crash Reduction Factor

- 69% Vehicle/Pedestrian

Typical Installation Costs

- $50,000 to $120,000



Wrap-Up

Next Steps:

- Complete systemic roadway risk-factors and high-crash data analyses
- Develop safety recommendations for priority crash locations
- Develop County Road Safety Plan draft report

Thank you for your participation and input!

Questions?

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DEPARTMENT OF TRANSPORTATION

County Roadway Safety Plan Updates

The Big Book of Ideas

Prepared For:
Washington County

Prepared by:
JACOBS Team

July 2017
Version 1.1

List of Strategies

Rural Segments

- Centerline Rumble Strip
    - Sinusoidal Rumble "Mumble" Strips included
- Shoulder/Edgeline Rumble Strips
    - Sinusoidal Rumble "Mumble" Strips included
- Buffers Between Opposing Lanes
- Safety Edge
- Enhanced Edgeline (6" & 8")
- Shoulder Paving (2', 4', 6')
- Clear Zone Maintenance/Enhancements
- Ditch/embankment Improvements
- Separated Bike Trail/Path

Rural Curves

- Chevrons
- Delineators
- High Friction Surface Treatment (HFST)
- Dynamic Curve Signing
- Lighting
- Clear Zone Maintenance/Enhancements
- Reconstruct [TT to a Single T intersection]

Rural Intersections

- Upgrade Signs and Pavement Markings
- Streetlights (and approaches)
- All-Way Stop/Yield
- Restricted Crossing U-Turn (RCUT) Intersection
- Rural Intersection Conflict Warning System (RICWS)
- Offset T-Intersection
- Roundabout

- Turn Lanes (Offset, Channelized)
- Continuous Green T
- Mainline Dynamic Warning System
- Median Acceleration Lanes (MALs)
- LED Stop Signs
- Remove Skew / Realign Intersections

Urban Segments

- Road diet [3- & 5-Lane Conversions]
- ¾-Intersection
- Divided Roadway
- Access Management
- Bike Lane/Boulevard
- Urbanization (make it feel urban)
- Dynamic Speed Feedback Sign
- Sidewalks

Urban Intersections

- Echelon
- Continuous Flow Intersection (CFI)
- Signalized RCUT
- Confirmation Lights
- Pedestrian Countdown Timers
- Leading Pedestrian Intervals
- Curb Extensions
- Center Island Medians
- Roundabout
- Mini Roundabout
- Urbanization (make it feel urban)
- Rectangular Rapid Flash Beacon (RRFB)
- High-Intensity Activated crossWalk Beacon (HAWK)
- Flashing Yellow Arrow (FYA)

- Reflective Streetlight Backplate
- Turn Lanes (Offset, Channelized)
- Zig Zag Pavement Markings
- Pedestrian Education/Visibility

Interchange Types

- Grade Separated T-Intersection
- Single Quadrant
- Two Quadrant
- Diverging Diamond Interchange (DDI)
- Single Point Urban Interchange (SPUI)
- Offset SPUI (Hwy 36 & Rice Street)
- Roundabout terminals
- Fully Directional

Rural Segments

Strategy	Crash Reduction Factor*	Typical Installation Costs
Centerline Rumble Strip	40% head-on/sideswipe crashes	$3,600 per mile
Shoulder/Edgeline Rumble Strip	20% run off road crashes	$5,850 per mile
Buffers Between Opposing Lanes	50% for all crashes & 100% for head-on crashes [based on TH 5 in Lake Elmo, MN]	$150,000 to $500,000 per mile
Safety Edge	5% to 10%§	$10,000 to $20,000 per mile
Enhanced Edgeline (6" & 8")	10% to 45% all rural serious crashes (6")	$2,000 per mile
Shoulder Paving (2', 4', 6')	20% to 30% run-off-the-road crashes (with shoulder rumble) (2' only)	$54,000 per mile + $5,850 per mile (for Edge Rumble)
Clear Zone Maintenance/Enhancements	Fatal, Serious & Minor Injury Crashes: Increase of 28% to Decrease of 18%	$50,000 to $500,000 per mile
Ditch/Embankment Improvements	32% to 41% (Adding new guardrail to embankments – Run off road crashes)	$500,000 to $1M per mile
Bike Paths/Trails	Not Available	$50,000 to $150,000 per mile

Notes:
* - Crash reduction factors based on review of CMF Clearinghouse and other published research
§ - For all crashes



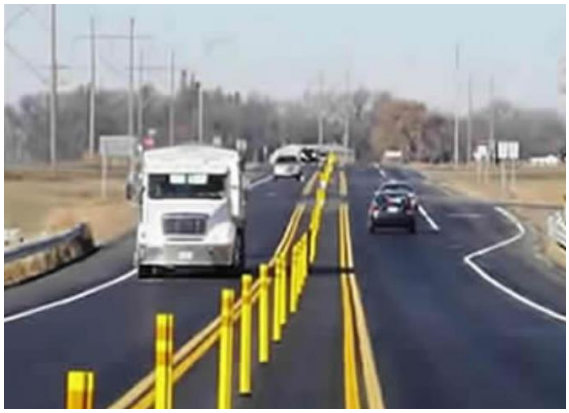
Centerline Rumble Strips
Source: Mitigation Strategies for Design Exceptions (FHWA, FHWA-SA-07-011)



Shoulder Rumble Strips
Source: Mitigation Strategies for Design Exceptions (FHWA, FHWA-SA-07-011)



Edgeline Rumble Strips
Source: Proven Countermeasures, Longitudinal Rumble Strips and Stripes on 2-Lane Roads (FHWA)



Buffers Between Opposing Lanes
TH 14 in District 7
Source: MnDOT Presentation @ 2014 TZD Conference



Safety Edge
Source: FHWA Public Roads (Sept/Oct 2014; Vol. 78 No. 2)



Enhanced Edgeline
Source: Low-Cost Treatments for Horizontal Curve Safety (FHWA, FHWA-SA-07-002)



Enhanced Edgeline
Source: Low-Cost Treatments for Horizontal Curve Safety (FHWA, FHWA-SA-07-002)



Shoulder Paving
Source:https://mntransportationresearch.files.wordpress.com/2014/06/dsc_8665nv.jpg?w=672&h=372&crop=1



Clear Zone Maintenance
Source:https://nativeengineering.files.wordpress.com/2016/12/3.jpg?w=300&h=204



Ditch/Embankment Improvements
Source: http://www.roadex.org/wp-content/uploads/elearning/drainage/5/521.jpg



Separated Bike Path
Source: http://www.bikethebyways.org/lakes-to-locks-passage/rouses-point-keeseville/

Rural Curves

Strategy	Crash Reduction Factor*	Typical Installation Costs
Chevrons	20% to 30%	$3,960 per curve
Delineators	18% to 34%†	$500 per curve
High Friction Surface Treatment (HFST)	All Crash Types - 24% Wet Road Crash Type – 52%	$25 to $35 per square yard
Dynamic Curve Signing	Not Available	$50,000 per curve
Lighting	See Rural Intersections	See Rural Intersections
Clear Zone Maintenance/Enhancements	Fatal, Serious & Minor Injury Crashes: Increase of 28% to Decrease of 18%	$10,000 - $250,000 per curve
Reconstruct → TT to Single T Intersection	Not Available	$150,000 - $300,000 per curve

Notes:
* - Crash reduction factors based on review of CMF Clearinghouse and other published research
† - Non-intersection, head-on, run-off-road, sideswipe, Nighttime crash types



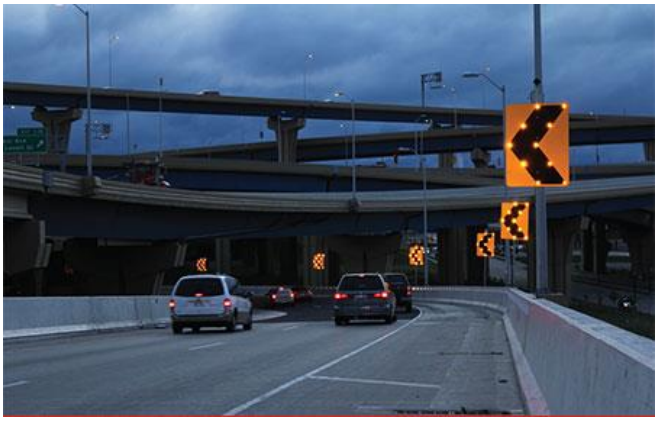
Chevrons
Source: Low Cost Traffic Engineering Improvements: A Primer (FHWA, FHWA-OP-03-078)



Delineators
Source: Low-Cost Treatments for Horizontal Curve Safety (FHWA, FHWA-SA-07-002)



High Friction Surface Treatment
Source: Minnesota LTAP Technology Exchange (Fall 2014, Vo. 22 No. 4)



Dynamic Curve Signing
Source: FHWA, Sequential Dynamic Curve Warning System: Product Safety Performance Evaluation (2011)



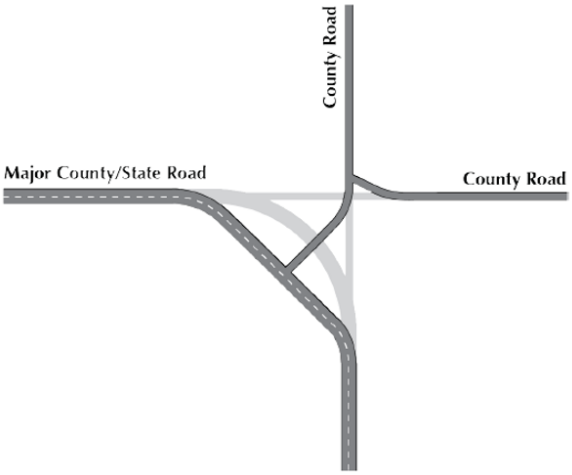
Street Lights

Source: Mitigation Strategies for Design Exceptions (FHWA, FHWA-SA-07-011)



Clear Zone Maintenance

Source:https://nativeengineering.files.wordpress.com/2016/12/3.jpg?w=300&h=204



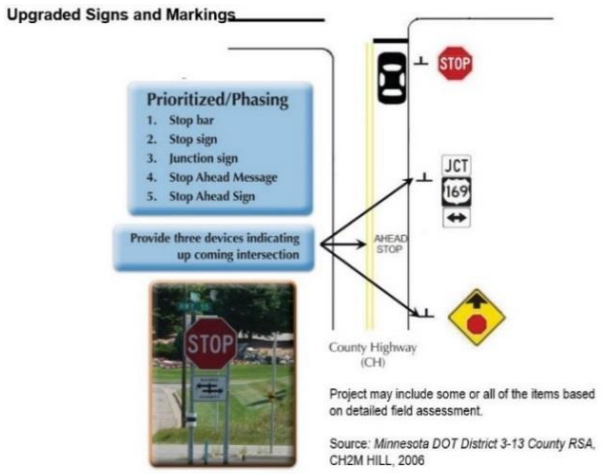
TT to T Intersection Reconstruction

Source: MnDOT 2015 Traffic Safety Fundamentals Handbook

Rural Intersection

Strategy	Crash Reduction Factor*	Typical Installation Costs
Upgrade Signs and Pavement Markings	40% upgrade of all signs and pavement markings/ 15% for STOP AHEAD pavement marking	$2,640 per approach†
Streetlights (and approaches)	25% to 40% of nighttime crashes	$6,000 per light
All-Way Stop/Yield	Not Available	$1,000 per intersection
Restricted Crossing U-Turn (RCUT) Intersection	17% all crashes/ 100% angle crashes	$750,000 per intersection
Rural Intersection Conflict Warning System (RICWS)	50% all crashes/ 75% severe right angle crashes	$75,000 to $125,000 per intersection
Offset T-Intersection (Convert 4-legged intersection to 2 3-legged intersection)	All Crash Types & Severities 53%	$150,000 - $300,000 per intersection
Roundabout	20% to 50% all crashes/ 60% to 90% right-angle crashes	$1,000,000 per intersection
Turn Lanes (Offset, Channelized)	Create Positive Offset Left Turn Lanes - ~35% (All + Severe Crashes) Channelize Right Turn Lanes – 43% - 60% (All crash severities)	$75,000 - $250,000
Continuous Green T (Signalized) §	Angle Crashes – 96.8% Injury Crashes – 70% Total Crashes – 60%	$300,000 per intersection
Mainline Dynamic Warning System@	Angle Crashes – 67% All Crashes – 54% to 70%	$150,000 (estimated)
Median Acceleration Lanes (MALs) ^	Angle: increased 57% Rear End: decreased 40%	$115,000 for 1,500 feet with a 12 feet wide lane
LED Stop Signsδ	Angle Crashes: 0% to 71%	$2,000 to $6,000 per intersection
Remove Skew	0% to 33%	$150,000 - $300,000 per intersection

Notes:
* - Crash reduction factors based on review of CMF Clearinghouse and other published research
† - Includes $540 per STOP sign, $540 per junction sign assembly, $600 per STOP AHEAD sign, $600 per STOP AHEAD pavement marking message, and $360 per stop bar
§ - Source: https://safety.fhwa.dot.gov/intersection/innovative/others/casestudies/fhwasa09016/fhwasa09016.pdf
@ - 2-star quality studies only
^ - http://www.dot.state.mn.us/trafficeng/safety/medianaccelerationlanestudy.pdf
δ – Source: http://www.its.umn.edu/Publications/ResearchReports/reportdetail.html?id=2330



Upgrade Signs and Pavement Markings
Source: Minnesota CRSP



Street Lights
Source: Mitigation Strategies for Design Exceptions (FHWA, FHWA-SA-07-011)



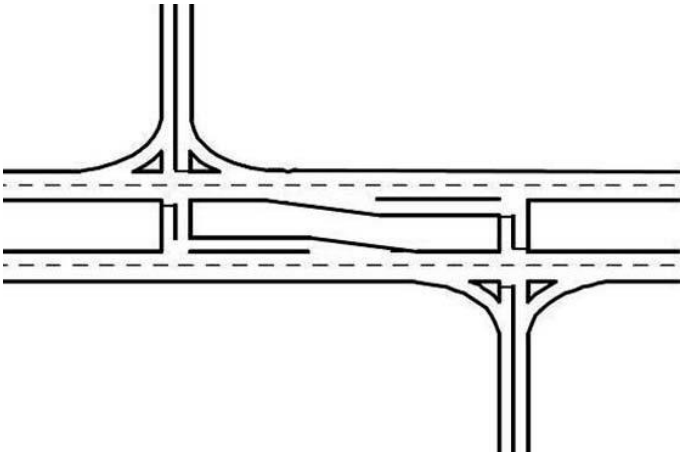
All-Way Stop Controled intersection
Source: http://www.ite.org/uiig/images/type/clip_image010.jpg



Restricted Crossing U-Turn Intersections
Source: Bolton and Menk



Rural Intersection Conflict Warning System
Source: MnDOT Traffic Engineering (http://www.dot.state.mn.us/trafficeng /signals /conflictwarning.html)



Offset T-Intersection
Source: Alternative Intersections/Interchanges: Informational Report (FHWA, FHWA-HRT-09-060)



Roundabout
Source: Innovative Intersection Safety Improvement Strategies and Management Practices: A Domestic Scan (FHWA, FHWA-SA-06-016)



Offset Right Turn Lane
Source: Review of Iowa's Rural Intersection Crashes: Application of Methodology for Identifying Intersections for IDS (MnDOT, MN/RC 2007-27)



Continuous Green T Intersection
Source: St. Louis County, Minnesota



Mainline Dynamic Warning System
Source: Google Earth – US 169 & Mille Lacs County Road 11



Median Acceleration Lane (MAL)
Source: Google Earth - US 169 & MNTH 68 Mankato MN



LED Stop Sign
Source: MnDOT – MNTH 95 & Chisago County State Aide Highway 9





Before **After**

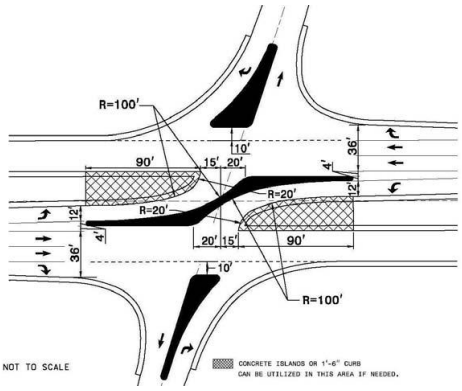
Remove Skew
Source: Google Earth

Urban Segments

Strategy	Crash Reduction Factor*	Typical Installation Costs
Road Diet [3- & 5-Lane Conversions]	30% to 50%	$48,000 per mile [three-lane] $54,000 per mile [five-lane]+$36,000 per signalized intersection for updates (for example, loop and signal head placement)
¾-Intersection	25%	$150,000 per location
Divided Roadway	22% (HSM §13.4.2.6)	$5M to $10M per mile
Access Mgmt (Access Mgmt Plan)	5% to 31%	$360,000 per mile§
Bike Lane/Boulevard	Approximately 60% (Some studies have noted increases)	Repurposing existing road ~$5,000 per mile New Construction of Separated Boulevard ~ $500,000 per mile
Urbanization (make it feel urban)	Not Available	$500,000 - $1,000,000 per mile
Dynamic Speed Feedback Sign	All crashes 5% - 7%	$30,000 per location
Sidewalks	Not Available	$5 to $10 per square foot
Notes: * - Crash reduction factors based on review of CMF Clearinghouse and other published research § - For management of unsignalized intersection movements within a corridor that has a divided median. Typical project may include minor street diverters, signed turn restrictions, and median closings.		



Road Diet
Source: Bike Walk Twin Cities



¾ Intersection
Source: Alternative Intersections/Interchanges: Informational Report (FHWA, FHWA-HRT-09-060)



Divided Roadway
Source: Flexibility in Design (FHWA)



Before



After

Access Management

Source: Mitigation Strategies for Design Exceptions (FHWA, FHWA-SA-07-011)



Bicycle Boulevard
Source: Minnesota's Best Practices for Pedestrian/Bicycle Safety (MnDOT, Report 2013-22)



Bike Lane
Source: Minnesota's Best Practices for Pedestrian/Bicycle Safety (MnDOT, Report 2013-22)



Rural Design - TH 2 Approaching Floodwood, MN



Urban Design - TH 2 in Floodwood, MN

Urbanization

Source: Google Street View



Dynamic Speed Feedback Sign
Source: http://1x57.com/wp-content/uploads/2011/06/25-mph-regulatory-speed-limit-sign-with-radar-sign1-173x300.jpg

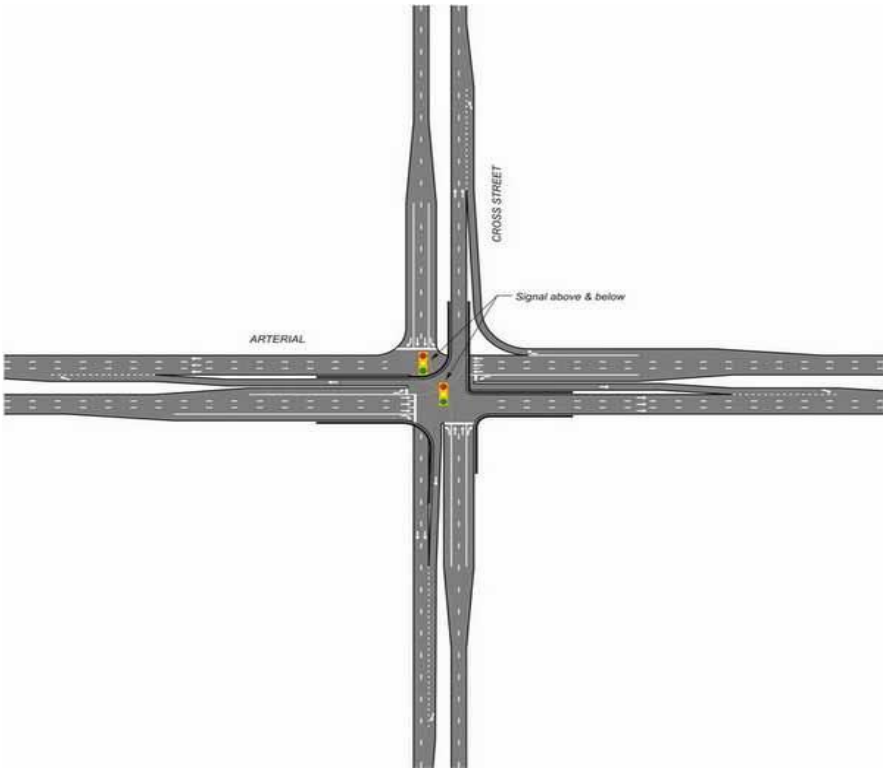


Sidewalk
Source: http://locallygrownnorthfield.org/post/tag/sidewalks

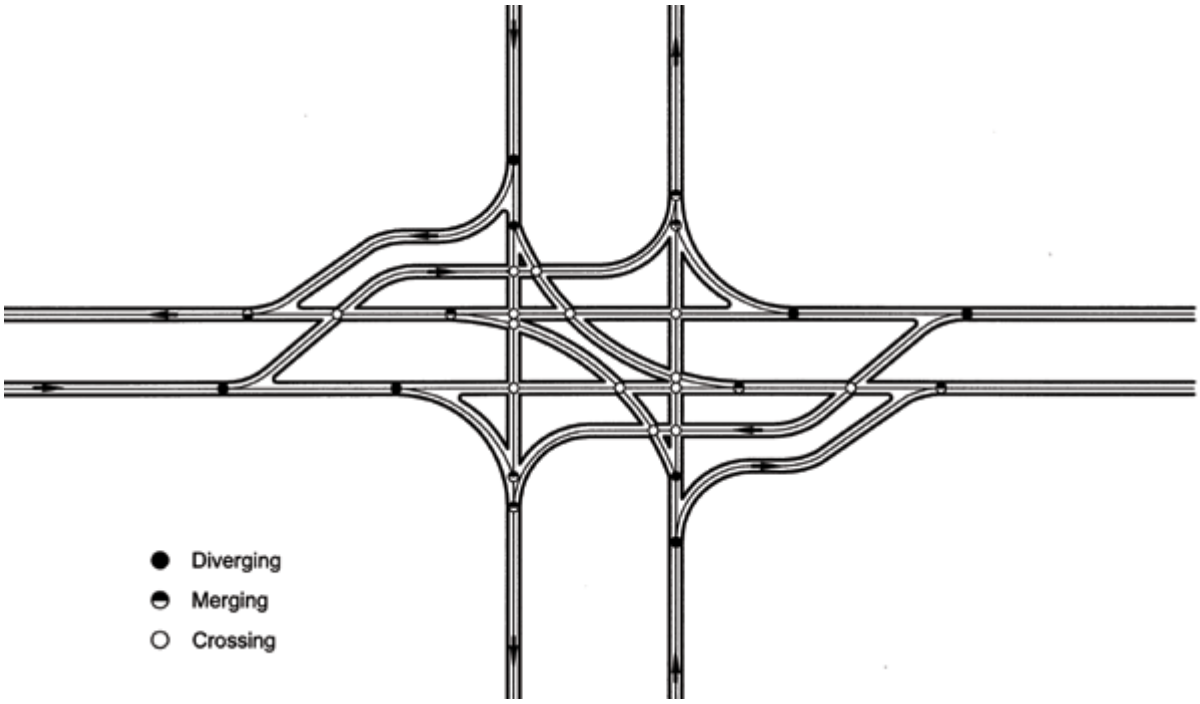
Urban Intersections

Strategy	Crash Reduction Factor*	Typical Installation Costs
Echelon	Not Available	$10 - $15 million
Continuous Flow Intersection (CFI)	Not Available	$4-$7 million
Signalized RCUT	Not Available	$1 to $5 million
Confirmation Lights	25% to 84% reduction in violations	$1,200 per two approaches
Pedestrian Countdown Times	25% vehicle/pedestrian crashes	$12,000 per intersection
Leading Pedestrian Intervals	Up to 60% pedestrian/ vehicle crashes	$600 per intersection
Curb Extensions	Increase in vehicles yielding to pedestrians	$36,000 per corner
Center Island Medians	46% in vehicle/pedestrian crashes	$24,000 per approach
Roundabout	20% to 50% all crashes/ 60% to 90% right-angle crashes	$4,200,000 per intersection
Mini Roundabout	20% to 50% all crashes/ 60% to 90% right-angle crashes	$40,000 to 500,000 per intersection
Urbanization (make it feel urban)	Not Available	$250,000 - $500,000 per intersection
Rectangular Rapid Flash Beacon (RRFB)	75% of drivers yield to pedestrians	$15,000
High-Intensity Activated crossWalk Beacon (HAWK)	69% Vehicle/Pedestrian	$50,000 to $120,000
Flashing Yellow Arrow (FYA) --> Note: Permitted to FYA	19.4% left turn crashes	
Reflective Streetlight Backplate	15% reduction in claims	$2500 per intersection
Turn Lanes (Offset, Channelized)	27%	$150,000 to $500,000
Zig Zag Pavement Markings[a]	Not available	$91,000[a]
Pedestrian Education/Visibility	Not Available	Not Available

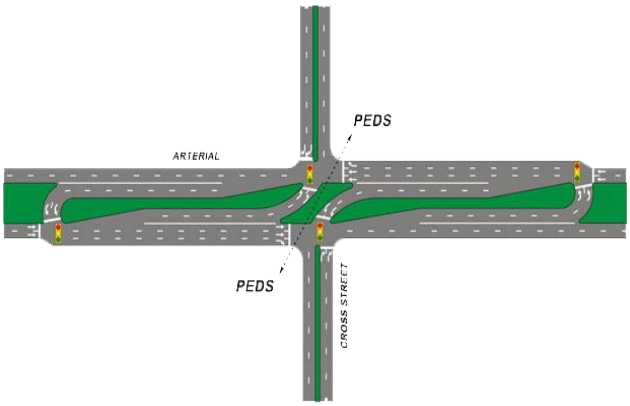
Notes:
* - Crash reduction factors based on review of CMF Clearinghouse and other published research
[a] – Virginia DOT Report: https://www.railstotrails.org/resourcehandler.ashx?id=4063



Echelon Intersection
Source: http://www.fhwa.dot.gov/publications/research/safety/09060/images/09060_img_222.jpg



Continuous Flow Intersection
Source: http://www.fhwa.dot.gov/publications/research/safety/04091/images/fig096.gif



Signalized RCUT
Source: Kentucky Transportation Cabinet; Congestion Toolbox



Confirmation Lights
Source: MnDOT 2015 Traffic Safety Fundamentals Handbook



Pedestrian Countdown Timer
Source: Oakland MTC: Bicycle/Pedestrian Safety Toolbox



Leading Pedestiran Interval
Source: https://bikeuptowndotorg.files.wordpress.com/2012/04/2012-04-15-09-56-491.jpg



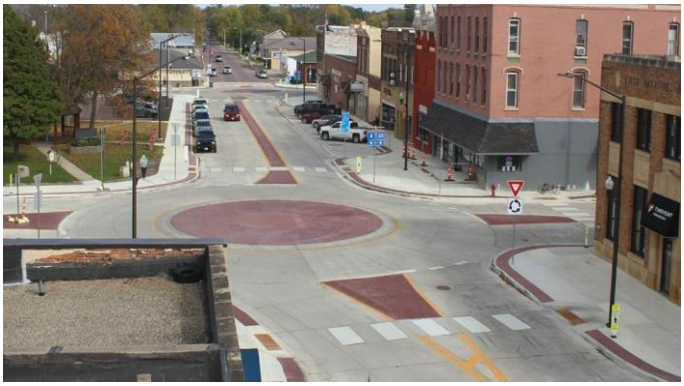
Curb Extensions
Source: http://www.fhwa.dot.gov/publications/research/safety/pedbike/05085/images/fig205.jpg



Center Island Medians
Source:http://safety.fhwa.dot.gov/provencountermeasures/images/sa12_011.jpg



Roundabout
Source: Innovative Intersection Safety Improvement Strategies and Management Practices: A Domestic Scan (FHWA, FHWA-SA-06-016)



Mini Roundabout
Source:



Urbanization
Source: Google Earth Street View



Rectangular Rapid Flash Beacon
Source: http://www.fhwa.dot.gov/publicroads/11mayjun/images/do1.jpg



Urbanization
Source: Google Earth Street View



HAWK
Source: http://www.fhwa.dot.gov/publications/research/safety/10045/images/hawk_027.jpg



Flashing Yellow Arrow and Reflective Backplate
Source: http://safety.fhwa.dot.gov/newsletter/safetycompass/2012/winter/images/rrb.png



Channelized Right Turn Lane
Source:http://www.ops.fhwa.dot.gov/publications/fhwahop12004/images/c4b.jpg



Zig Zag Pavement Markings
Source: VDOT https://www.railstotrails.org/resourcehandler.ashx?id=4063



Pedestrian Education/ Visibility
Source: http://exchange.aaa.com/safety/pedestrian-safety/tips-pedestrian-safety/

Interchange Types

Strategy	Relative Safety Performance*	Typical Installation Costs+
Grade Separated T-Intersection	★★	$
Single Quadrant	★★	$
Two Quadrant	★★	$$
Diverging Diamond Interchange (DDI)	★★★	$$
Single Point Urban Interchange (SPUI)	★★★★	$$$$
Offset SPUI (Hwy 36 & Rice Street)	★★★★	$$$$$
Roundabout Terminals	★★	$$$
Fully Directional	★	$$$$$

Notes:
* - Expected relative safety performance: 1★ = Highest Performance; 5★ = Lowest Performance
+ - Expected relative construction cost: 1$ = Lowest Costs; 5$ = Highest Cost



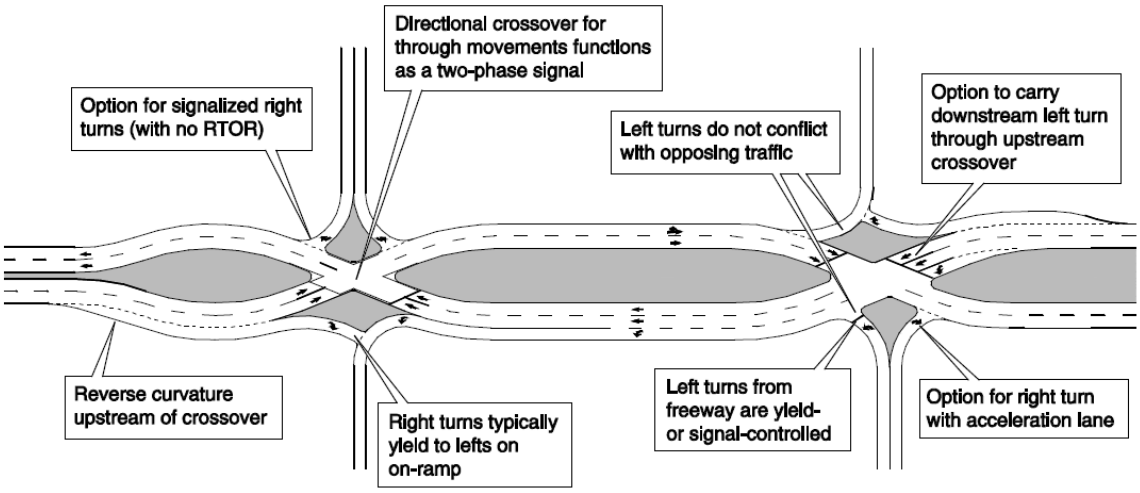
Grade Separated T-Intersection
TH 13; Savage, MN
Source: Google Earth Pro



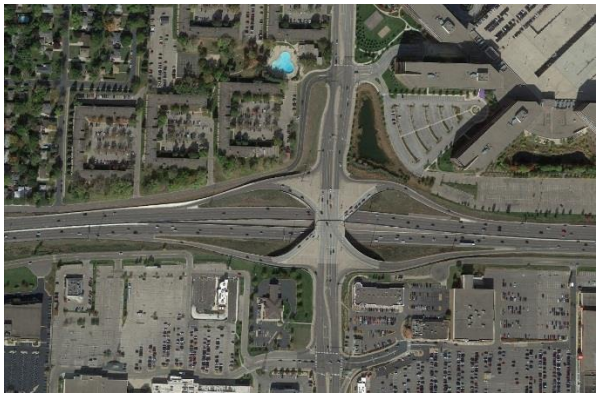
Single Quadrant Interchange
US 14 & TH 23; Florence, MN
Source: Google Earth Pro



Two Quadrant Interchange
Source: Google Earth



Diverging Diamond Interchange
Source: Diverging Diamond Interchange Informational Guide (FHWA, FHWA-SA-14-067)



Single Point Urban Interchange
I-494 & Penn Ave; Bloomington, MN
Source: Google Earth Pro



Offset SPUI
TH 36 & Rice Street; Bloomington, MN
Source: Google Earth Pro



Interchange with Roundabout Terminals
I-35 & CR 12; Medford, MN
Source: Google Earth Pro



Fully Directional Interchange
Source: Missouri DOT Engineering Policy Guide

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WORKSHOP MEETING SUMMARY

Washington County Safety Workshop

WORKSHOP DATE: Thursday, October 18, 2018

MEETING TIME: 8:15 AM Registration; 8:30 AM – 12:30 PM Safety Workshop; 12:30 – 1:00pm Lunch

LOCATION: Washington County Public Works Building
North Shop Training Rooms (1243 and 1244)
11660 Myeron Road North, Stillwater MN

Attendees

- Adam Bruening, Washington County Public Works
- Adam Josephson, MnDOT
- Allan Brandt, Washington County
- Allen Eisinger, Bayport Fire
- Amanda Wheelan, Stillwater Area Public Schools
- Andrew Giesen, Washington County
- Benjamin Davis, Stillwater Area Public Schools
- Beth Brisky, Washington County Public Health and Environment
- Brian Mueller, Washington County Sheriff's Office
- Cory Farver, Washington County
- Cory Slagle, Washington County Public Works Department
- Dan Starry, Washington County Sheriff
- David Brandt, Washington County
- David Brummel, Washington County Public Health and Environment
- Dorian Grilley, Bicycle Alliance of Minnesota
- Doug Anschutz, Washington County Sheriff's Office
- Eden Rogers, Washington County
- Gerritt Bangma, Washington County Public Works
- Jack Lavold, Washington County Commissioner
- Joe Gustafson, Washington County Public Works
- Kevin Peterson, Washington County
- Kim Ball, Washington County Public Health and Environment
- Lisa Weik, Washington County Commissioner
- Mitch Bartelt, Washington County Public Works
- Morgan Abbott, Washington County Public Works
- Nate Estrem, City of Cottage Grove Project Engineer
- Nathan Arnold, Washington County Public Works
- Shawn Gillis, Washington County
- Wayne Sandberg, Washington County
- Yvonne Klinnert, Washington County

Consultant Team

- Derek Leuer, MnDOT
- Tara Olds, MnDOT
- Girma Feyissa, MnDOT
- Howard Preston, Jacobs
- Cheri Marti, Jacobs
- Nicole Buehne, SRF

Workshop Goals

Welcome, Introductions, and Workshop Goals

- Create a shared understanding of CRSP and Washington County's infrastructure roadway safety approach
- Share safety stakeholder perspectives to reduce severe crashes.
- Develop understanding of and collaboratively explore proven infrastructure strategies for CRSP plan consideration.

County Roadway Safety Plan (CRSP) Updates Discussion Summary

- **County Roadway Safety Plan (CRSP) Background**
  - Howard presented on the background of the CRSP.
- **Overview of CRSP and Data-Driven Safety Analysis Video**
  - Derek presented a summary on the CRSP and Data-Driven Safety Analysis Video.
- **Discussion: What is important to advance road safety in the county?**
  - Distracted Driving
    - It is rare to not see someone on the phone when driving.
    - 1 in 5 severe crashes are due to distracted driving.
    - Law enforcement: For us, it's hard to tell if someone is on their phone dialing a number versus looking something up (like, navigation). We are trying to figure out how to pass certain laws at the capitol. You can't go down the road without seeing a phone in someone's hand. I don't know if it's any worse than before. However, it seems to be a newer phenomenon than 20 years ago.
    - Demographics and millennials – We are seeing that the older drivers, millennials to be exact, are more prone to drive and use their phones. Younger drivers are making a larger effort to not drive and use their phones. They are actively putting their phones in their glove box before they drive because it was how they were taught. It's a norm.
  - Speeds are a big issue and it's not only engineering, education is huge.
    - We should consider discount driving programs. For example, from AAA. Why is this only available to elderly drivers.
    - Education is key. Bike MN (Dorian Grilley) is actively teaching 4th and 5th graders, who are bicycling, to use the roadways safely.
    - Cars are made to go faster and faster with ease. New Teslas can go zero to a hundred in just a few feet. This is the future. What does this mean for our future?
  - Ongoing education.
    - The driving environment is continuously changing and there is no mechanism to educate the public on these changes.
  - Aggressive driving.

        - Everyone is in such a hurry. They aren't paying attention to road signals. More alarming, people will go out of their way to pull out in front of fire trucks and maneuver around them to avoid traffic.
        - Law enforcement receives quite a few calls on aggressive driving on County and State roadways. However, by the time they arrive on site, the aggressive driver is miles away.
    - Education on signage
        - In addition to education on signage, visibility of the signs is a problem. Washington County has a few intersections where school buses routes do not go because of the difficulty around this. For example, 69th and Lake Elmo Avenue
        - Minimize signage to maximize effectiveness
    - Depreciated Shoulders for avid runners. Runners tend to avoid high speed roads.
    - Uncontrolled intersections and 4-Way Stops with stronger controls.
        - Washington County are actively working on improvements.
    - Congestion
        - For example, the left turn from Valley Creek Road onto 95. Many experience high levels of congestion on the turn lane. The public is frustrated at the intensive driving at a critical time of the day. There is concern that the data may not always show this.
    - Roundabouts and rumble strips
        - Rumble strips on the shoulders may pose a problem to bikers. However, if you apply them correctly, they should be OK.
    - Sobriety of drivers
        - Washington County will have more challenges with prescription drugs, marijuana, etc. We need to prepare for it.
        - A few deputies completed the specialized training due to the ongoing issues of sobriety seen on the road. The focus is on getting the impaired driver off the road.

- Overview of Proactive Systemic Safety Approach
    - Does this take into account speed factors at intersections?
        - Yes. However, we are looking at rural roads. Most rural roads are 55 mph due to statute. Urban is looked at a little differently. It has not been an overarching problem on rural roads because the statutory speed limits.
- Implemented Safety Projects and Washington Safety Approach
    - Chevrons on curves
    - Safety wedge – This is part of a standard process when Washington County overlays.
    - Roundabout on CR 4 in Hugo – Roundabouts are a great safety solution; however, the County is limited due to available funds. They are costly.
    - Center left turn lanes and buffers – The County receives state money for these projects. However, they are seeking more funds.
    - 6' Edge Line – The County completes these as standalone projects. The county will also often reduce lanes from 12' to 11' in order to create at least 1 ft of shoulder.
    - Separated multi-use trail – Common to most projects in developed areas. Recent connections constructed in Woodbury and Cottage Grove.
    - County installed yellow borders on signal heads with flashing yellow arrow indication.

- Access management – They County only had one intersection in Woodbury that was named the most at-risk intersection during the last round of the CRSP. This intersection was converted to a ¾ in 2018.

- Washington County Crash Data Overview
  - Howard reviewed the County's crash data.
- Featured Infrastructure Safety Strategies Discussion
  - What does the data say about pedestrian crosswalks?
    - Currently there is no data that signs and markings provide a safety benefit for uncontrolled intersections. In many cases, such as multi-lane locations, the data proves the opposite. The data does not show yielding behaviors as a result of the sign.
  - Stop signs assign ROW, but they are not safety strategies.
  - Centerline Rumble Strip
    - To date, the County has not installed these. The complaint is that they create too much noise.
    - Have you thought about installing mumbles to avoid noise?
      - Were motorcycles included in testing mumbles strips?
        - Yes. The mumble strips performed like rumble strips. Motorcyclists also mentioned that the mumbles were favorable over the rumble strips.
      - Manning Ave experienced 3 cross-centerline fatal crashes
  - Shoulder/Edge Line Rumble Strips
    - Bicyclists prefer the edge line rumbles because it leaves them more shoulder to ride on.
    - One foreseeable disadvantage is that it is not unusual for drivers to encroach the edge lines, which may illicit unneeded use and noise.
  - Buffers between Opposing Lanes
    - How do buffers between opposing lanes affect winter maintenance?
      - According to maintenance crews, the buffers did not pose as much of a disturbance as they though it would. The crews would do their best to plow as close to the tubular channelizers and that turned out to be sufficient.
    - The strategy is a reallocation of roadways. The shoulders are reduced for the installation of the center buffer.
  - Streetlights
    - The reduction comes from the both the davit in the air, the lighted pool around the intersection, and the light on the ground. Overall, it is just the increased conspicuity of the intersection.
  - Clear zone maintenance and enhancements
  - Road Diet (3 and 5 lane conversions)
    - Washington County does not have many 4-lane undivided cross sections. However, the County did recently restripe a section to include a center turn lane.
  - Dynamic Speed Feedback Sign
    - The County has around a dozen throughout the County.
  - Sidewalks
  - Signalized RCUT

- Confirmation Lights
  - The County favors the strategy due to the low costs. Confirmation Lights are included in their plan. However, before the County invests, they would like confirmation from law enforcement that they intend to actively utilize the device. Also, when it is time, the County would like to work with law enforcement to make sure they are installed in the best locations.
  - The County does have some skepticism surrounding the confirmation lights. They experience more problems with distracted driving, which may not be affected by enforcement, versus drivers running the light intentionally.
  - The County agrees that the confirmation lights provide a valuable tool to enforcement when the judge is trying to weigh law enforcement stories to the drivers. It's not always black and white. This provides validation.
- Curb Extensions
  - The drawback is that cyclists are pushed out toward or into the lane.
- Center Island Medians
  - From a driver's perspective operating school buses, center medians are preferred over curb extensions because the back dually will go over the curb extensions.
- Rectangular Rapid Flash Beach (RRFB)
- High Intensity Activated Walking Crosswalk Beacon (HAWK)
- Do the strategies and design considerations recommended today consider autonomous vehicles? When we are looking at implementing these strategies, we should understand what the existing and future technology utilizes, so we don't compete with them.

- Wrap Up: Closing Comments + Workshop Evaluation
  - What does the audience feel is important for the County to know as they consider strategies?
    - Is there existing data that shows the difference and effectiveness between RRFB and HAWK? If we can do ten RRFBs for the price of one HAWK. Then should we only look at RRFBs?
      - No, the strategies are deployed for different reasons, although very comparable.
    - There should be an education system included in these efforts that is run by a volunteer or a professional.
    - The County's Bicycle Alliance will be training 20 teachers to teach 5th graders in Stillwater.
    - Comment about implementation: We should use performance management to be able to show how strategies affect safety. This information will be valuable especially when addressing citizen concerns.

- Lunch/Adjourn

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COUNTY ROADWAY
Safety Plan
Toward ZERO Deaths

Appendix D – List of Prioritized Locations

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Rural Segment Prioritization for Washington County

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No	Project Page No.	CRSP 2 ID	Route System	Route No.	Segment Start Description	Segment End Description	Length [miles]	ADT [vpd]	Speed Limit	ADT Single-Vehicle	ADT Multi-Vehicle	Access Density	Curve Density	Edge Risk	Total Stars
17	1	8.003	CSAH	8	Goodview Ave N	140th St N	1.72	1950	★	★	★	★	★	★	★★★★★★
63	2	22.005	CSAH	22	840 ft East of CSAH 19	Peller Ave S	5.38	1752	★	★	★	★	★		★★★★★
12	3	7.001	CSAH	7	Goodview Ave	Jody Ave N	4.06	1833	★	★	★	★	★		★★★★★
18	4	8.004	CSAH	8	Homestead Ave N	122nd St N	3.30	870	★	★		★	★	★	★★★★★
60	5	21.004	CSAH	21	170 ft North of 37th St	1320 ft Southwest of 45th St	1.40	1350		★	★	★	★	★	★★★★★
55	6	20.003	CSAH	20	632 ft Northwest of Radio Dr	710 ft Southwest of Radio Dr	0.25	5200	★		★	★	★	★	★★★★★
19	7	9.001	CSAH	9	75th St	Ironwood Ave	3.49	3567	★		★	★	★		★★★★
22	8	10.004	CSAH	10	Lake Elmo Ave N	Stagecoach Trail N	4.25	4675	★		★	★	★		★★★★
68	9	50.002	CR	50	Harrow Ave N	Manning Trail N	4.60	640	★	★			★	★	★★★★
81	10	91.001	CR	91	270 ft North of 239th St N	Scandia Trail N	3.00	825	★	★		★	★		★★★★
69	11	51.001	CR	51	Square Lake Trail N	St Croix Trail N	2.98	552	★	★		★	★		★★★★
74	12	61.001	CR	61	Manning Trail N	Norell Ave N	2.84	510	★	★		★	★		★★★★
72	13	57.001	CR	57	170th St N	122nd St N	5.83	359	★			★	★	★	★★★★
71	14	55.001	CR	55	Square Lake Trail N	Dellwood Rd	4.32	1825	★	★	★		★		★★★★
1	15	2.001	CSAH	2	Lyons St NE	810 ft Northwest of Everton Ave N	0.42	7600	★		★	★	★		★★★★
5	16	3.005	CSAH	3	240th St	Olinda Ln N	2.49	2525	★		★	★	★		★★★★
8	17	4.003	CSAH	4	Olinda Trail	St Croix Trail	3.93	737	★	★		★	★		★★★★
9	18	5.003	CSAH	5	Dellwood Rd	Norell Ave N	0.85	5500	★		★	★	★		★★★★
14	19	7.003	CSAH	7	Manning Trail N	Partridge Rd N	4.36	1648	★	★	★		★		★★★★
20	20	9.002	CSAH	9	122nd St N	Ironwood Ave N	2.53	1150		★		★	★	★	★★★★
21	21	10.003	CSAH	10	1620 ft East of Linwood Ave N	Lake Elmo Ave N	2.17	6600	★		★	★		★	★★★★
27	22	12.004	CSAH	12	955 ft West of Manning Ave N	345 ft Northwest of Birchwood Dr	1.91	6750	★		★	★	★		★★★★
57	23	21.001	CSAH	21	200 ft South of 90th St S	Point Douglas Dr S	5.08	1107	★	★		★	★		★★★★
58	24	21.002	CSAH	21	1493 ft North of 87th St S	200 ft South of 90th St S	0.58	1400	★	★	★	★			★★★★
62	25	21.007	CSAH	21	47th St N	10th St N	3.81	4500	★		★	★	★		★★★★
61	26	21.006	CSAH	21	10th St N	St Croix Trail S	4.64	1240		★		★	★	★	★★★★
78	27	74.001	CR	74	Hastings Ave	Hinton Ave S	2.20	2300			★	★	★	★	★★★★
35	28	15.002	CSAH	15	500 ft NorthEast of Intersection of Manning Trail N	950 ft NorthEast 10th St N	0.38	11600	★		★	★	★		★★★★
41	29	15.01	CSAH	15	Intersection of 170th St N	Intersection of Square Lake Trail N	4.51	5200	★		★	★	★		★★★★
39	30	15.008	CSAH	15	614 ft North of 110th St N	590 ft South of Mendel Rd N	0.43	7000	★		★	★	★		★★★★
42	31	15.011	CSAH	15	Intersection of Scandia Trail N	Intersection of 170th St N	4.11	3975	★		★	★	★		★★★★
7	32	4.002	CSAH	4	Intersection of Manning Trail N	Intersection of Olinda Trail N	2.72	2900	★		★	★	★		★★★★
40	33	15.009	CSAH	15	Square Lake Trail N	614 ft North of 110th St N	1.91	6800	★		★	★	★		★★★★
84	34	96.003	CSAH	96	Manning Ave N	Norell Ave N	1.64	7600	★		★	★	★		★★★★
85	35	96.004	CSAH	96	Norell Ave N	St Croix Trail	1.17	3050	★		★	★	★		★★★★
50	36	18.007	CSAH	18	Oakgreen Ave S	St Croix Trail S	2.28	1550		★	★		★	★	★★★★
26	37	12.003	CSAH	12	CSAH 12	945ft West of CSAH 12	2.83	4850	★		★	★			★★★
23	38	11.002	CSAH	11	120th St N	540 ft Southwest of Orwell Ave N	3.24	1175	★	★			★		★★★
77	39	71.002	CR	71	10th St N	40th St S	5.12	1400		★	★			★	★★★
73	40	59.001	CR	59	Paul Ave N	St Croix Trail N	1.82	325	★			★	★		★★★
79	41	75.001	CR	75	14th Ave	105th St S	2.52	1120		★			★	★	★★★
80	42	76.001	CR	76	Manning Ave S	St Croix Trail S	3.03	348	★			★		★	★★★
70	43	52.002	CR	52	365 ft Northwest of Ostrum Ave N	St Croix Trail	1.63	395	★			★	★		★★★
88	44	19A.001	CR	19	US 10	Miller Rd	0.71	2700			★	★	★		★★★
43	45	15.012	CSAH	15	240th St N	Scandia Trail N	3.02	2450	★		★		★		★★★
87	46	17B.001	CR	17	10th St N	513 ft South of Hudson Blvd	1.00	3400	★		★	★			★★★
89	47	4A.001	CR	4	Elmcrest Ave N	Forest Blvd N	1.82	1800	★	★	★				★★★
54	48	20.002	CSAH	20	Bailey Rd	617 ft West of Radio Dr	2.62	3925	★		★		★		★★★
6	49	4.001	CSAH	4	Forest Blvd N	Manning Trail N	4.88	3725	★		★	★			★★★
2	50	3.001	CSAH	3	Square Lake Trail	170th St N	3.68	920		★		★	★		★★★
3	51	3.002	CSAH	3	2250 ft South of 177th St N	170th St N	0.36	2550	★		★		★		★★★
4	52	3.003	CSAH	3	962 ft Southwest of 205th St N	2250 ft South of 177th St N	3.48	2550	★		★		★		★★★
11	53	6.002	CSAH	6	Ideal Ave N	34th St N	1.19	5150			★		★	★	★★★
13	54	7.002	CSAH	7	Jody Ave N	Manning Trail N	1.77	2467	★		★		★		★★★
15	55	7.004	CSAH	7	Partridge Rd N	Squarelake Trail N	0.51	840		★		★	★		★★★
25	56	12.002	CSAH	12	Ideal Ave N	Jamaca Ave N	0.99	9000	★		★	★			★★★
53	57	19.003	CSAH	19	1900 ft South of Bailey Rd	630 ft of Military Rd	1.73	7300	★		★	★			★★★
32	58	14.006	CSAH	14	Manning Ave N	47th St N	2.99	3650	★		★		★		★★★
31	59	14.002	CSAH	14	1110 ft East of Jamaca Ave N	494 ft West of Lake Elmo Ave N	1.76	10400			★	★	★		★★★
51	60	18.008	CSAH	18	260 ft North of 7th St S	Stagecoach Trail S	2.48	4288			★	★	★		★★★
52	61	19.001	CSAH	19	80th St S	725 ft Southwest of E Point Douglas Rd S	2.08	6900	★		★	★			★★★
56	62	20.004	CSAH	20	710 ft Southwest of Radio Dr	Intersection of Military and Jamaica Ave S	1.10	5200	★		★	★			★★★
59	63	21.003	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S	3.84	1150		★			★	★	★★★
66	64	29.001	CSAH	29	Stillwater Rd	Viking Dr	1.57	10250			★	★	★		★★★
67	65	50.001	CR	50	Forest Blvd N	Harrow Ave N	1.46	2150			★	★	★		★★★
34	66	15.001	CSAH	15	950 ft NorthEast 10th St N	490 ft South of MidWest Trail N	1.22	13550			★	★	★		★★★
36	67	15.003	CSAH	15	Intersection of 40th St N	500 ft NorthEast of Manning Trail N	2.62	13900	★		★	★			★★★
37	68	15.006	CSAH	15	655 ft North of Dellwood Rd	1386 North of 75th St N	1.37	12500	★		★	★			★★★
38	69	15.007	CSAH	15	590 ft South of Mendel Rd N	655 ft North of Dellwood Rd	1.41	7000	★		★	★			★★★
83	70	96.002	CSAH	96	Jamaca Ave N	Manning Ave N	3.08	3700			★	★	★		★★★
82	71	96.001	CSAH	96	280 ft West of Dellwood Ave	Jamaca Ave N	3.16	4050			★	★	★		★★★
76	72	71.001	CR	71	40th St S	70th St S	2.96	820	★	★		★			★★★
65	73	28.001	CSAH	28	TH 95 (Manning Ave S)	CSAH 21 (St Croix Scenic Bywy)	2.76	975	★	★		★			★★★
75	74	64.001	CR	64	Manning Ave N	Neal Ave N	0.97	1700		★	★				★★
10	75	5.004	CSAH	5	Otchipwe Ave N	Dellwood Rd	1.84	3200			★		★		★★
16	76	7.005	CSAH	7	Squarelake Trail N	St Croix Trail	3.11	428				★	★		★★
24	77	11.003	CSAH	11	Square Lake Trail N	120th St N	1.55	550		★			★		★★
28	78	13.003	CSAH	13	790 ft South of Hargis Pkwy	580 ft North of Washington Co Hwy 20	0.86	9500	★		★				★★
30	79	14.001	CSAH	14	Geneva Ave N	1110 ft East of Jamaca Ave N	3.21	14833	★		★				★★
33	80	14.007	CSAH	14	N Osgood Ave	Stagecoach Trail N	0.50	5000			★		★		★★
45	81	17.001	CSAH	17	590 ft South of 30th St N	10th St N	1.92	3650			★		★		★★

Rural Segment Prioritization for Washington County

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No	Project Page No.	CRSP 2 ID	Route System	Route No.	Segment Start Description	Segment End Description	Length [miles]	ADT [vpd]	Speed Limit	ADT Single-Vehicle	ADT Multi-Vehicle	Access Density	Curve Density	Edge Risk	Total Stars
46	82	17.005	CSAH	17	60th St N	Stillwater Blve N	2.41	4750	★		★				★★
48	83	18.001	CSAH	18	Military Rd	2422 ft West of Woodlane Dr Rd	0.95	12000			★		★		★★
47	84	17.006	CSAH	17	75th St	200 ft South of 60th St N	1.52	5000	★		★				★★
49	85	18.006	CSAH	18	Manning Ave S	Oakgreen Ave S	1.96	2600	★		★				★★
86	86	244.002	CSAH	244	350 ft East of Ridge Way	Stillwater Rd	0.75	11800			★		★		★★
44	87	15.013	CSAH	15	290 ft North of 53rd St N	40th St N	1.31	15150			★	★			★★
29	88	13.009	CSAH	13	Stillwater Blvd N	15th St N	1.49	7700			★				★
64	89	24.001	CSAH	24	275 ft North of Valley View Park Rd	47th St N	0.86	6000			★				★
						Total Length (Miles)	210.57								

	Count	Percent
★★★★★★	1	1%
★★★★★	5	6%
★★★★	30	34%
★★★	37	42%
★★	14	16%
★	2	2%
	0	0%
	89	100%

Count of Stars --	59	28	67	59	63	16
Percent of Stars --	66%	31%	75%	66%	71%	18%

Curve Prioritization for Washington County

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.	Project Page No.	CRSP 2 ID	Route System	Route No.	Segment Start Description	Segment End Description	Radius [feet]	ADT [vpd]	Lane Width [feet]	High Side Shoulder Type	Total Cross Section Width [feet]	Adjacent Intersection	Visual Tral	Outside Edge Risk	Total Stars
101	1	9.007	CSAH	9	122nd St N	Ironwood Ave N	★		★	★	★	★	★	★	★★★★★★★
89	2	8.007	CSAH	8	Goodview Ave N	140th St N	★		★	★	★	★		★	★★★★★★
69	3	7.022	CSAH	7	Squarelake Trail N	St Croix Trail	★	★	★	★	★			★	★★★★★★
67	4	7.02	CSAH	7	Squarelake Trail N	St Croix Trail	★	★	★	★	★			★	★★★★★★
66	5	7.019	CSAH	7	Squarelake Trail N	St Croix Trail	★	★	★	★	★			★	★★★★★★
64	6	7.017	CSAH	7	Squarelake Trail N	St Croix Trail	★	★	★	★	★			★	★★★★★★
256	7	21.04	CSAH	21	10th St N	St Croix Trail S	★	★	★	★		★		★	★★★★★★
330	8	57.003	CR	57	170th St N	122nd St N	★	★	★	★		★		★	★★★★★★
90	9	8.008	CSAH	8	Homestead Ave N	122nd St N	★		★	★	★	★		★	★★★★★★
94	10	8.012	CSAH	8	Homestead Ave N	122nd St N	★		★	★	★	★		★	★★★★★★
104	11	9.01	CSAH	9	122nd St N	Ironwood Ave N	★		★	★	★	★		★	★★★★★★
102	12	9.008	CSAH	9	122nd St N	Ironwood Ave N	★		★	★	★		★	★	★★★★★★
51	13	7.004	CSAH	7	Goodview Ave	Jody Ave N	★		★	★	★	★		★	★★★★★★
50	14	7.003	CSAH	7	Goodview Ave	Jody Ave N	★		★		★	★	★	★	★★★★★★
3	15	3.001	CSAH	3	Square Lake Trail	170th St N	★		★	★	★	★		★	★★★★★★
354	16	75.004	CR	75	14th Ave	105th St S			★	★	★	★	★	★	★★★★★★
2	17	2.002	CSAH	2	420 ft SouthEast of Ethan Ct N	NW 4th St	★		★	★		★		★	★★★★★
315	18	50.004	CSAH	50	Harrow Ave N	Manning Trail N		★	★	★		★		★	★★★★★
29	19	4.007	0	0	Olinda Trail	St Croix Trail	★	★		★		★	★		★★★★★
321	20	52.004	CSAH	52	365 ft Northwest of Ostrum Ave N	St Croix Trail		★		★	★	★		★	★★★★★
162	21	15.022	CSAH	15	240th St N	Scandia Trail N	★		★	★		★		★	★★★★★
336	22	57.009	CSAH	57	170th St N	122nd St N	★	★	★	★				★	★★★★★
337	23	57.01	CR	57	170th St N	122nd St N	★	★	★	★				★	★★★★★
332	24	57.005	CR	57	170th St N	122nd St N	★	★	★	★				★	★★★★★
86	25	8.004	CSAH	8	Goodview Ave N	140th St N	★		★	★	★			★	★★★★★
87	26	8.005	CSAH	8	Goodview Ave N	140th St N	★		★	★	★			★	★★★★★
88	27	8.006	CSAH	8	Goodview Ave N	140th St N	★		★	★	★			★	★★★★★
93	28	8.011	CSAH	8	Homestead Ave N	122nd St N	★		★	★	★			★	★★★★★
345	29	61.004	CSAH	61	Manning Trail N	Norell Ave N	★	★	★	★	★				★★★★★
344	30	61.003	CR	61	Manning Trail N	Norell Ave N		★	★	★	★	★			★★★★★
342	31	61.001	CR	61	Manning Trail N	Norell Ave N		★	★	★	★	★			★★★★★
251	32	21.035	CSAH	21	10th St N	St Croix Trail S	★	★	★	★				★	★★★★★
250	33	21.034	CSAH	21	10th St N	St Croix Trail S		★	★	★		★		★	★★★★★
257	34	21.041	CSAH	21	10th St N	St Croix Trail S		★	★	★		★		★	★★★★★
258	35	21.042	CSAH	21	10th St N	St Croix Trail S	★	★	★	★				★	★★★★★
259	36	21.043	CSAH	21	10th St N	St Croix Trail S		★	★	★		★		★	★★★★★
260	37	21.044	CSAH	21	10th St N	St Croix Trail S	★	★	★	★				★	★★★★★
223	38	21.007	CSAH	21	200 ft South of 90th St S	Point Douglas Dr S	★		★	★	★	★			★★★★★
285	39	25.001	CR	25	Lake Rd	Carver Ave	★		★	★			★	★	★★★★★
18	40	3.021	CSAH	3	240th St	Olinda Ln N	★		★	★		★		★	★★★★★
16	41	3.014	CR	3	962 ft Southwest of 205th St N	2250 ft South of 177th St N	★		★	★		★		★	★★★★★
14	42	3.012	CSAH	3	962 ft Southwest of 205th St N	2250 ft South of 177th St N	★		★	★		★		★	★★★★★
28	43	4.006	CSAH	4	Intersection of Manning Trail N	Intersection of Olinda Trail N	★	★	★	★		★			★★★★★
335	44	57.008	CSAH	57	170th St N	122nd St N	★	★	★	★				★	★★★★★
334	45	57.007	CR	57	170th St N	122nd St N	★	★	★	★				★	★★★★★
328	46	57.001	CR	57	170th St N	122nd St N	★	★	★	★				★	★★★★★
91	47	8.009	CSAH	8	Homestead Ave N	122nd St N			★	★	★	★		★	★★★★★
103	48	9.009	CSAH	9	122nd St N	Ironwood Ave N	★		★	★	★			★	★★★★★
49	49	7.002	CSAH	7	Goodview Ave	Jody Ave N	★		★	★	★			★	★★★★★
52	50	7.005	CSAH	7	Goodview Ave	Jody Ave N	★		★		★	★		★	★★★★★
53	51	7.006	CSAH	7	Goodview Ave	Jody Ave N	★		★		★	★		★	★★★★★
65	52	7.018	CSAH	7	Squarelake Trail N	St Croix Trail	★	★	★	★	★				★★★★★
4	53	3.002	CSAH	3	Square Lake Trail	170th St N	★		★	★	★			★	★★★★★
116	54	11.012	CR	11	Square Lake Trail N	120th St N	★	★	★		★			★	★★★★★
114	55	11.01	CSAH	11	Square Lake Trail N	120th St N	★	★	★		★			★	★★★★★
9	56	3.007	CR	3	Square Lake Trail	170th St N	★		★	★	★			★	★★★★★
8	57	3.006	CSAH	3	Square Lake Trail	170th St N			★	★	★	★		★	★★★★★
224	58	21.008	CSAH	21	200 ft South of 90th St S	Point Douglas Dr S	★		★	★	★	★			★★★★★
351	59	75.001	CR	75	14th Ave	105th St S	★		★	★	★			★	★★★★★
297	60	33.003	CSAH	33	W Broadway Ave	220th St N			★	★		★		★	★★★★
296	61	33.002	CSAH	33	W Broadway Ave	220th St N	★		★	★				★	★★★★
295	62	33.001	CSAH	33	W Broadway Ave	220th St N	★		★	★				★	★★★★
316	63	50.005	CSAH	50	Harrow Ave N	Manning Trail N		★	★	★				★	★★★★
317	64	50.006	CSAH	50	Harrow Ave N	Manning Trail N		★	★	★				★	★★★★
314	65	50.003	CR	50	Harrow Ave N	Manning Trail N		★	★	★		★			★★★★
312	66	50.001	CR	50	Forest Blvd N	Harrow Ave N			★	★	★		★		★★★★
363	67	91.009	CR	91	270 ft North of 239th St N	Scandia Trail N	★	★		★		★			★★★★
32	68	4.01	CSAH	4	Olinda Trail	St Croix Trail		★		★		★	★		★★★★
333	69	57.006	CR	57	170th St N	122nd St N		★	★	★				★	★★★★
76	70	7.029	CSAH	7	Squarelake Trail N	St Croix Trail	★	★			★	★			★★★★
75	71	7.028	CSAH	7	Squarelake Trail N	St Croix Trail	★	★		★	★				★★★★
74	72	7.027	CSAH	7	Squarelake Trail N	St Croix Trail	★	★		★	★				★★★★
72	73	7.025	CSAH	7	Squarelake Trail N	St Croix Trail	★	★		★	★				★★★★
71	74	7.024	CSAH	7	Squarelake Trail N	St Croix Trail	★	★		★	★				★★★★
70	75	7.023	CSAH	7	Squarelake Trail N	St Croix Trail	★	★		★	★				★★★★

Curve Prioritization for Washington County

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343	76	61.002	CR	61	Manning Trail N	Norell Ave N		★	★	★	★				★★★★
284	77	23.004	CSAH	23	CSAH 21 (56th St N)	TH 95 (Main St S)			★	★		★		★	★★★★
283	78	23.003	CSAH	23	CSAH 21 (56th St N)	TH 95 (Main St S)	★		★			★		★	★★★★
282	79	23.002	CSAH	23	CSAH 21 (56th St N)	TH 95 (Main St S)	★		★			★		★	★★★★
253	80	21.037	CSAH	21	10th St N	St Croix Trail S		★	★	★				★	★★★★
252	81	21.036	CSAH	21	10th St N	St Croix Trail S	★	★	★					★	★★★★
254	82	21.038	CSAH	21	10th St N	St Croix Trail S	★	★	★					★	★★★★
261	83	21.045	CSAH	21	10th St N	St Croix Trail S		★	★	★				★	★★★★
262	84	21.046	CSAH	21	10th St N	St Croix Trail S	★	★	★					★	★★★★
47	85	6.007	CSAH	6	Ideal Ave N	34th St N	★		★		★	★			★★★★
128	86	13.005	CSAH	13	Intersection of 50th St N	650 ft North of 36th St N	★		★	★	★				★★★★
130	87	13.007	CSAH	13	Intersection of 50th St N	650 ft North of 36th St N	★		★	★	★				★★★★
131	88	13.008	CSAH	13	Intersection of 50th St N	650 ft North of 36th St N	★		★		★			★	★★★★
299	89	35.002	CSAH	35	MN 36	Helmo Ave N	★		★		★	★			★★★★
196	90	18.016	CSAH	18	US 12	268 ft North of Quentin Ave S	★		★			★		★	★★★★
222	91	21.006	CSAH	21	200 ft South of 90th St S	Point Douglas Dr S			★	★	★		★		★★★★
287	92	25.003	CR	25	Lake Rd	Carver Ave	★		★	★				★	★★★★
288	93	25.004	CSAH	25	Lake Rd	Carver Ave	★		★	★				★	★★★★
26	94	4.004	CSAH	4	Intersection of Manning Trail N	Intersection of Olinda Trail N	★		★	★		★			★★★★
338	95	57.011	CSAH	57	170th St N	122nd St N		★	★	★				★	★★★★
331	96	57.004	CR	57	170th St N	122nd St N		★	★	★				★	★★★★
329	97	57.002	CR	57	170th St N	122nd St N		★	★	★				★	★★★★
92	98	8.01	CSAH	8	Homestead Ave N	122nd St N			★	★	★	★			★★★★
68	99	7.021	CSAH	7	Squarelake Trail N	St Croix Trail		★	★	★	★				★★★★
118	100	11.014	CSAH	11	Square Lake Trail N	120th St N		★	★		★			★	★★★★
117	101	11.013	CR	11	Square Lake Trail N	120th St N		★	★		★			★	★★★★
115	102	11.011	CR	11	Square Lake Trail N	120th St N		★	★		★			★	★★★★
318	103	51.001	CSAH	51	Square Lake Trail N	St Croix Trail N	★	★	★					★	★★★★
7	104	3.005	CSAH	3	Square Lake Trail	170th St N	★		★	★	★				★★★★
6	105	3.004	CSAH	3	Square Lake Trail	170th St N			★	★	★			★	★★★★
349	106	74.004	CR	74	Hastings Ave	Hinton Ave S	★		★	★				★	★★★★
239	107	21.023	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S	★		★	★				★	★★★★
228	108	21.012	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S	★		★	★				★	★★★★
220	109	21.004	CSAH	21	200 ft South of 90th St S	Point Douglas Dr S			★	★	★			★	★★★★
218	110	21.002	CSAH	21	200 ft South of 90th St S	Point Douglas Dr S			★	★	★			★	★★★★
352	111	75.002	CSAH	75	14th Ave	105th St S			★	★	★			★	★★★★
353	112	75.003	CSAH	75	14th Ave	105th St S			★	★	★			★	★★★★
367	113	96.004	CR	96	280 ft West of Dellwood Ave	Jamaca Ave N	★		★			★		★	★★★★
371	114	96.008	CR	96	280 ft West of Dellwood Ave	Jamaca Ave N	★		★			★		★	★★★★
372	115	96.009	CR	96	Jamaca Ave N	Manning Ave N			★		★	★		★	★★★★
373	116	96.01	CR	96	Jamaca Ave N	Manning Ave N			★		★	★		★	★★★★
379	117	244.001	CSAH	244	350 ft East of Ridge Way	Stillwater Rd			★		★	★		★	★★★★
1	118	2.001	CSAH	2	Lyons St NE	810 ft Northwest of Everton Ave N	★		★			★			★★★
313	119	50.002	CR	50	Forest Blvd N	Harrow Ave N			★	★	★				★★★
33	120	4.011	CSAH	4	Olinda Trail	St Croix Trail	★	★		★					★★★
34	121	4.012	CSAH	4	Olinda Trail	St Croix Trail	★	★		★					★★★
161	122	15.021	CR	15	240th St N	Scandia Trail N	★		★			★			★★★
152	123	15.012	CSAH	15	Intersection of 170th St N	Intersection of Square Lake Trail N	★		★			★			★★★
149	124	15.009	CSAH	15	Square Lake Trail N	614 ft North of 110th St N	★		★			★			★★★
148	125	15.008	CSAH	15	Square Lake Trail N	614 ft North of 110th St N	★		★			★			★★★
145	126	15.005	CSAH	15	655 ft North of Dellwood Rd	1386 North of 75th St N			★			★		★	★★★
85	127	8.003	CR	8	Forest Blvd N	Goodview Ave N	★		★			★			★★★
82	128	7.035	CSAH	7	Squarelake Trail N	St Croix Trail		★			★	★			★★★
81	129	7.034	CSAH	7	Squarelake Trail N	St Croix Trail		★			★		★		★★★
80	130	7.033	CSAH	7	Squarelake Trail N	St Croix Trail	★	★			★				★★★
79	131	7.032	CSAH	7	Squarelake Trail N	St Croix Trail	★	★			★				★★★
78	132	7.031	CSAH	7	Squarelake Trail N	St Croix Trail	★	★			★				★★★
77	133	7.03	CSAH	7	Squarelake Trail N	St Croix Trail	★	★			★				★★★
73	134	7.026	CSAH	7	Squarelake Trail N	St Croix Trail		★		★	★				★★★
63	135	7.016	CSAH	7	Partridge Rd N	Squarelake Trail N	★		★	★					★★★
339	136	59.001	CR	59	Paul Ave N	St Croix Trail N	★	★	★						★★★
5	137	3.003	CSAH	3	Square Lake Trail	170th St N			★	★	★				★★★
325	138	55.004	CSAH	55	Square Lake Trail N	Dellwood Rd	★			★		★			★★★
38	139	5.004	CSAH	5	Dellwood Rd	Norell Ave N	★		★			★			★★★
37	140	5.003	CSAH	5	Owens St N	230 ft NorthEast of Autumn Way	★		★			★			★★★
122	141	12.005	CSAH	12	955 ft West of Manning Ave N	345 ft Northwest of Birchwood Dr	★		★			★			★★★
123	142	12.006	CSAH	12	345 ft Northwest of Birchwood Dr	Owens St S	★		★			★			★★★
281	143	23.001	CSAH	23	CSAH 21 (56th St N)	TH 95 (Main St S)			★			★		★	★★★
139	144	14.008	CSAH	14	Manning Ave N	47th St N	★		★			★			★★★
136	145	14.005	CSAH	14	Manning Ave N	47th St N	★		★			★			★★★
255	146	21.039	CSAH	21	10th St N	St Croix Trail S		★	★					★	★★★
181	147	17.008	CSAH	17	80 ft North of Intersection of 33rd St N	Intersection of 32nd St N	★		★			★			★★★
129	148	13.006	CSAH	13	Intersection of 50th St N	650 ft North of 36th St N			★	★	★				★★★
298	149	35.001	CSAH	35	MN 36	Helmo Ave N	★		★		★				★★★
306	150	38.007	CSAH	38	Intersection of Glen Rd	1340 ft Northwest of 65th St			★			★		★	★★★

Curve Prioritization for Washington County

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List No.	Project Page No.	CRSP 2 ID	Route System	Route No.	Segment Start Description	Segment End Description	Radius [feet]	ADT [vpd]	Lane Width [feet]	High Side Shoulder Type	Total Cross Section Width [feet]	Adjacent Intersection	Visual Tral	Outside Edge Risk	Total Stars
346	151	74.001	CSAH	74	Hastings Ave	Hinton Ave S			★			★		★	★★★
350	152	74.005	CSAH	74	Hastings Ave	Hinton Ave S	★		★			★			★★★
210	153	20.009	CR	20	Bailey Rd	617 ft West of Radio Dr	★		★			★			★★★
215	154	20.014	CSAH	20	632 ft Northwest of Radio Dr	710 ft Southwest of Radio Dr	★		★			★			★★★
276	155	22.007	CSAH	22	875 ft East of Isleton Ave S	845 ft East of Washington Co Hwy 19	★		★			★			★★★
249	156	21.033	CSAH	21	170 ft North of 37th St	1320 ft Southwest of 45th St			★			★		★	★★★
232	157	21.016	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S			★	★				★	★★★
231	158	21.015	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S			★	★				★	★★★
205	159	20.001	CR	20	TH 10	CSAH 20 (Military Rd)					★	★		★	★★★
286	160	25.002	CR	25	Lake Rd	Carver Ave			★	★				★	★★★
216	161	20.015	CSAH	20	Jamaica Ave S	CSAH 22 (70th S)	★			★		★			★★★
15	162	3.013	CR	3	962 ft Southwest of 205th St N	2250 ft South of 177th St N	★		★			★			★★★
12	163	3.01	CSAH	3	2250 ft South of 177th St N	170th St N	★		★					★	★★★
100	164	9.006	CSAH	9	75th St	Ironwood Ave	★			★		★			★★★
48	165	7.001	CSAH	7	Goodview Ave	Jody Ave N	★		★		★				★★★
327	166	55.006	CSAH	55	Square Lake Trail N	Dellwood Rd	★			★		★			★★★
113	167	11.009	CSAH	11	120th St N	540 ft Southwest of Orwell Ave N						★	★	★	★★★
40	168	5.006	CSAH	5	Otchipwe Ave N	Dellwood Rd			★			★		★	★★★
109	169	11.005	CSAH	11	120th St N	540 ft Southwest of Orwell Ave N				★		★		★	★★★
11	170	3.009	CSAH	3	Square Lake Trail	170th St N			★		★			★	★★★
10	171	3.008	CR	3	Square Lake Trail	170th St N			★	★	★				★★★
347	172	74.002	CSAH	74	Hastings Ave	Hinton Ave S	★		★					★	★★★
238	173	21.022	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S			★	★				★	★★★
237	174	21.021	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S			★	★				★	★★★
233	175	21.017	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S			★	★				★	★★★
230	176	21.014	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S			★	★				★	★★★
229	177	21.013	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S	★		★	★					★★★
227	178	21.011	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S			★	★				★	★★★
226	179	21.01	CSAH	21	200 ft South of 90th St S	Point Douglas Dr S			★	★	★				★★★
225	180	21.009	CSAH	21	200 ft South of 90th St S	Point Douglas Dr S			★	★	★				★★★
221	181	21.005	CSAH	21	200 ft South of 90th St S	Point Douglas Dr S			★	★	★				★★★
219	182	21.003	CSAH	21	200 ft South of 90th St S	Point Douglas Dr S			★		★			★	★★★
217	183	21.001	CSAH	21	200 ft South of 90th St S	Point Douglas Dr S			★		★	★			★★★
381	184	19A.001	CSAH	0	US 10	Miller Rd	★			★		★			★★★
364	185	96.001	CR	96	280 ft West of Dellwood Ave	Jamaca Ave N			★	★		★			★★★
365	186	96.002	CR	96	280 ft West of Dellwood Ave	Jamaca Ave N			★			★		★	★★★
368	187	96.005	CR	96	280 ft West of Dellwood Ave	Jamaca Ave N			★			★		★	★★★
369	188	96.006	CR	96	280 ft West of Dellwood Ave	Jamaca Ave N			★			★		★	★★★
374	189	96.012	CR	96	Manning Ave N	Norell Ave N			★		★	★			★★★
375	190	96.013	CR	96	Manning Ave N	Norell Ave N			★		★	★			★★★
376	191	96.014	CR	96	Norell Ave N	St Croix Trail			★		★	★			★★★
377	192	96.015	CR	96	Norell Ave N	St Croix Trail			★		★	★			★★★
378	193	96.016	CR	96	Norell Ave N	St Croix Trail			★		★	★			★★★
380	194	244.002	CSAH	244	350 ft East of Ridge Way	Stillwater Rd			★		★	★			★★★
166	195	15.026	CSAH	15	240th St N	Scandia Trail N			★			★			★★
164	196	15.024	CSAH	15	240th St N	Scandia Trail N			★			★			★★
17	197	3.02	CSAH	3	240th St	Olinda Ln N	★		★						★★
30	198	4.008	CSAH	4	Olinda Trail	St Croix Trail		★		★					★★
31	199	4.009	CSAH	4	Olinda Trail	St Croix Trail		★		★					★★
35	200	4.013	CSAH	4	Olinda Trail	St Croix Trail		★		★					★★
36	201	4.014	CSAH	4	Olinda Trail	St Croix Trail	★					★			★★
163	202	15.023	CSAH	15	240th St N	Scandia Trail N	★		★						★★
156	203	15.016	CSAH	15	Intersection of Scandia Trail N	Intersection of 170th St N	★		★						★★
155	204	15.015	CSAH	15	Intersection of Scandia Trail N	Intersection of 170th St N	★		★						★★
154	205	15.014	CSAH	15	Intersection of Scandia Trail N	Intersection of 170th St N	★		★						★★
153	206	15.013	CSAH	15	Intersection of Scandia Trail N	Intersection of 170th St N	★		★						★★
151	207	15.011	CSAH	15	Intersection of 170th St N	Intersection of Square Lake Trail N	★		★						★★
150	208	15.01	CSAH	15	Intersection of 170th St N	Intersection of Square Lake Trail N	★		★						★★
120	209	12.003	CSAH	12	955 ft West of Manning Ave N	345 ft Northwest of Birchwood Dr			★			★			★★
146	210	15.006	CSAH	15	655 ft North of Dellwood Rd	1386 North of 75th St N			★			★			★★
119	211	12.002	CSAH	12	955 ft West of Manning Ave N	345 ft Northwest of Birchwood Dr			★			★			★★
83	212	8.001	CR	8	Main St	Forest Blvd N	★		★						★★
84	213	8.002	CR	8	Main St	Forest Blvd N	★		★						★★
340	214	59.002	CSAH	59	Paul Ave N	St Croix Trail N		★	★						★★
60	215	7.013	CR	7	Manning Trail N	Partridge Rd N	★					★			★★
326	216	55.005	CSAH	55	Square Lake Trail N	Dellwood Rd	★			★					★★
324	217	55.003	CR	55	Square Lake Trail N	Dellwood Rd				★		★			★★
319	218	51.002	CSAH	51	Square Lake Trail N	St Croix Trail N		★	★						★★
121	219	12.004	CSAH	12	955 ft West of Manning Ave N	345 ft Northwest of Birchwood Dr			★			★			★★
290	220	26.002	CSAH	26	N Osgood Ave	Beach Rd			★					★	★★
271	221	21.056	CSAH	21	Stagecoach Trail N	TH 95 (St Croix Scenic Bywy)			★			★			★★
140	222	14.009	CSAH	14	N Osgood Ave	Stagecoach Trail N	★		★						★★
138	223	14.007	CSAH	14	Manning Ave N	47th St N			★			★			★★
137	224	14.006	CSAH	14	Manning Ave N	47th St N			★			★			★★
144	225	15.004	CSAH	15	Intersection of 40th St N	500 ft NorthEast of Manning Trail N			★			★			★★

Curve Prioritization for Washington County

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.	Project Page No.	CRSP 2 ID	Route System	Route No.	Segment Start Description	Segment End Description	Radius [feet]	ADT [vpd]	Lane Width [feet]	High Side Shoulder Type	Total Cross Section Width [feet]	Adjacent Intersection	Visual Tral	Outside Edge Risk	Total Stars
266	226	21.05	CSAH	21	47th St N	10th St N			★			★			★★
264	227	21.048	CSAH	21	47th St N	10th St N			★			★			★★
199	228	18.019	CSAH	18	260 ft North of 7th St S	Stagecoach Trail S				★		★			★★
198	229	18.018	CSAH	18	TH 10	CSAH 20 (Military Rd)			★	★					★★
197	230	18.017	CSAH	18	TH 10	CSAH 20 (Military Rd)			★	★					★★
142	231	15.002	CSAH	15	Intersection of 40th St N	500 ft NorthEast of Manning Trail N			★			★			★★
141	232	15.001	CSAH	15	950 ft NorthEast 10th St N	490 ft South of MidWest Trail N			★			★			★★
180	233	17.007	CSAH	17	Intersection of 32nd St N	590 ft South of 30th St N			★			★			★★
42	234	6.002	CSAH	6	Century Ave	Helmo Ave	★					★			★★
41	235	6.001	CSAH	6	Century Ave	Helmo Ave	★					★			★★
294	236	29.004	CSAH	29	Stillwater Rd	Viking Dr			★			★			★★
293	237	29.003	CSAH	29	Stillwater Rd	Viking Dr			★			★			★★
292	238	29.002	CSAH	29	Stillwater Rd	Viking Dr			★			★			★★
291	239	29.001	CSAH	29	Stillwater Rd	Viking Dr			★			★			★★
143	240	15.003	CSAH	15	Intersection of 40th St N	500 ft NorthEast of Manning Trail N			★			★			★★
204	241	19.003	CSAH	19	10th St N	Hudson Blvd			★			★			★★
203	242	19.002	CSAH	19	10th St N	Hudson Blvd			★			★			★★
127	243	13.004	CSAH	13	Hudson Rd	Pioneer Dr			★			★			★★
170	244	16.002	CSAH	16	Intersection of Century Ave S	Intersection of Woodbury Dr	★					★			★★
194	245	18.014	CSAH	18	US 12	268 ft North of Quentin Ave S	★		★						★★
195	246	18.015	CSAH	18	US 12	268 ft North of Quentin Ave S	★		★						★★
191	247	18.011	CSAH	18	Oakgreen Ave S	St Croix Trail S			★			★			★★
190	248	18.01	CSAH	18	Oakgreen Ave S	St Croix Trail S			★					★	★★
188	249	18.008	CSAH	18	1500 ft West of Woodbury Dr	Intersection of 40th St S and Manning Ave S			★			★			★★
185	250	18.005	CSAH	18	850 ft East of and Pioneer Dr	1500 ft West of Woodbury Dr			★			★			★★
184	251	18.004	CSAH	18	850 ft East of and Pioneer Dr	1500 ft West of Woodbury Dr	★		★						★★
182	252	18.002	CSAH	18	Military Rd	2422 ft West of Woodlane Dr Rd	★		★						★★
308	253	38.009	CSAH	38	Intersection of 7th Ave	240 ft Southwest of 10th Ave			★			★			★★
307	254	38.008	CSAH	38	Intersection of 7th Ave	240 ft Southwest of 10th Ave			★			★			★★
305	255	38.006	CSAH	38	Intersection of Glen Rd	1340 ft Northwest of 65th St			★					★	★★
302	256	38.003	CSAH	38	1340 ft Northwest of 5th St	70th St S	★		★						★★
301	257	38.002	CSAH	38	1340 ft Northwest of 5th St	70th St S			★			★			★★
300	258	38.001	CSAH	38	1340 ft Northwest of 5th St	70th St S			★			★			★★
208	259	20.007	CR	20	Bailey Rd	617 ft West of Radio Dr	★		★						★★
209	260	20.008	CR	20	Bailey Rd	617 ft West of Radio Dr	★		★						★★
211	261	20.01	CSAH	20	Bailey Rd	617 ft West of Radio Dr	★		★						★★
125	262	13.002	CSAH	13	580 ft North of CSAH 20	69th St S			★			★			★★
124	263	13.001	CSAH	13	580 ft North of CSAH 20	69th St S			★			★			★★
275	264	22.006	CSAH	22	1065 ft East of Hardwood Ave S	875 ft East of Isleton Ave S			★			★			★★
272	265	22.002	CSAH	22	Intersection of Broadway Ave	1075 ft West of Goodview Ave S			★					★	★★
309	266	39.001	CSAH	39	80th St	Summit Ave	★					★			★★
277	267	22.008	CSAH	22	840 ft East of CSAH 19	Peller Ave S	★		★						★★
278	268	22.009	CSAH	22	840 ft East of CSAH 19	Peller Ave S			★			★			★★
279	269	22.01	CSAH	22	840 ft East of CSAH 19	Peller Ave S			★			★			★★
280	270	22.011	CSAH	22	840 ft East of CSAH 19	Peller Ave S			★			★			★★
248	271	21.032	CSAH	21	170 ft North of 37th St	1320 ft Southwest of 45th St	★		★						★★
245	272	21.029	CSAH	21	170 ft North of 37th St	1320 ft Southwest of 45th St	★		★						★★
244	273	21.028	CSAH	21	170 ft North of 37th St	1320 ft Southwest of 45th St	★		★						★★
243	274	21.027	CSAH	21	170 ft North of 37th St	1320 ft Southwest of 45th St	★		★						★★
289	275	25.005	CSAH	25	Lake Rd	Carver Ave			★			★			★★
21	276	3.024	CR	3	240th St	Olinda Ln N	★		★						★★
20	277	3.023	CR	3	240th St	Olinda Ln N	★		★						★★
25	278	4.003	CSAH	4	Intersection of Manning Trail N	Intersection of Olinda Trail N	★		★						★★
27	279	4.005	CSAH	4	Intersection of Manning Trail N	Intersection of Olinda Trail N			★	★					★★
99	280	9.005	CSAH	9	75th St	Ironwood Ave	★			★					★★
98	281	9.004	CSAH	9	75th St	Ironwood Ave	★			★					★★
320	282	51.003	CSAH	51	Square Lake Trail N	St Croix Trail N		★	★						★★
341	283	59.003	CSAH	59	Paul Ave N	St Croix Trail N		★	★						★★
61	284	7.014	CR	7	Manning Trail N	Partridge Rd N	★					★			★★
59	285	7.012	CSAH	7	Manning Trail N	Partridge Rd N	★					★			★★
323	286	55.002	CR	55	Square Lake Trail N	Dellwood Rd	★			★					★★
112	287	11.008	CSAH	11	120th St N	540 ft Southwest of Orwell Ave N				★				★	★★
39	288	5.005	CSAH	5	Otchipwe Ave N	Dellwood Rd			★					★	★★
110	289	11.006	CSAH	11	120th St N	540 ft Southwest of Orwell Ave N				★				★	★★
268	290	21.052	CSAH	21	CSAH 14 (47th St N)	CSAH 21 (56th St N)	★		★						★★
265	291	21.049	CSAH	21	47th St N	10th St N			★			★			★★
174	292	17.001	CSAH	17	590 ft South of 30th St N	10th St N	★							★	★★
178	293	17.005	CSAH	17	590 ft South of 30th St N	10th St N	★							★	★★
236	294	21.02	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S			★					★	★★
235	295	21.019	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S	★		★						★★
234	296	21.018	CSAH	21	1320 ft Southwest of 45th St	1493 ft North of 87th St S			★	★					★★
366	297	96.003	CSAH	96	280 ft West of Dellwood Ave	Jamaca Ave N			★					★	★★
370	298	96.007	CR	96	280 ft West of Dellwood Ave	Jamaca Ave N			★					★	★★
135	299	14.004	CSAH	14	39th St N	CSAH 15 (Manning Ave N)	★					★			★★
106	300	10.002	CR	10	Lake Elmo Ave N	Stagecoach Trail N						★			★

Curve Prioritization for Washington County

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.	Project Page No.	CRSP 2 ID	Route System	Route No.	Segment Start Description	Segment End Description	Radius [feet]	ADT [vpd]	Lane Width [feet]	High Side Shoulder Type	Total Cross Section Width [feet]	Adjacent Intersection	Visual Tral	Outside Edge Risk	Total Stars
107	301	10.003	CR	10	Lake Elmo Ave N	Stagecoach Trail N						★			★
167	302	15.027	CSAH	15	240th St N	Scandia Trail N			★						★
168	303	15.028	CSAH	15	240th St N	Scandia Trail N			★						★
165	304	15.025	CSAH	15	240th St N	Scandia Trail N			★						★
362	305	91.008	CR	91	270 ft North of 239th St N	Scandia Trail N		★							★
361	306	91.007	CR	91	270 ft North of 239th St N	Scandia Trail N		★							★
357	307	91.003	CR	91	270 ft North of 239th St N	Scandia Trail N	★								★
356	308	91.002	CR	91	270 ft North of 239th St N	Scandia Trail N						★			★
22	309	3.025	CR	3	240th St	Olinda Ln N			★						★
23	310	4.001	CSAH	4	Forest Blvd N	Manning Trail N	★								★
24	311	4.002	CSAH	4	Forest Blvd N	Manning Trail N	★								★
160	312	15.02	CSAH	15	Intersection of Scandia Trail N	Intersection of 170th St N			★						★
159	313	15.019	CSAH	15	Intersection of Scandia Trail N	Intersection of 170th St N			★						★
158	314	15.018	CSAH	15	Intersection of Scandia Trail N	Intersection of 170th St N			★						★
157	315	15.017	CSAH	15	Intersection of Scandia Trail N	Intersection of 170th St N			★						★
147	316	15.007	CSAH	15	590 ft South of Mendel Rd N	655 ft North of Dellwood Rd			★						★
96	317	9.002	CSAH	9	75th St	Ironwood Ave						★			★
97	318	9.003	CSAH	9	75th St	Ironwood Ave						★			★
57	319	7.01	CSAH	7	Manning Trail N	Partridge Rd N						★			★
56	320	7.009	CR	7	Manning Trail N	Partridge Rd N	★								★
267	321	21.051	CSAH	21	47th St N	10th St N			★						★
263	322	21.047	CSAH	21	47th St N	10th St N			★						★
201	323	18.021	CSAH	18	US 12	268 ft North of Quentin Ave S			★						★
200	324	18.02	CSAH	18	260 ft North of 7th St S	Stagecoach Trail S						★			★
179	325	17.006	CSAH	17	Intersection of 32nd St N	590 ft South of 30th St N			★						★
134	326	14.003	CSAH	14	1110 ft East of Jamaca Ave N	494 ft West of Lake Elmo Ave N						★			★
133	327	14.002	CSAH	14	1110 ft East of Jamaca Ave N	494 ft West of Lake Elmo Ave N						★			★
132	328	14.001	CSAH	14	Geneva Ave N	1110 ft East of Jamaca Ave N						★			★
46	329	6.006	CSAH	6	Century Ave	Helmo Ave						★			★
45	330	6.005	CSAH	6	Century Ave	Helmo Ave						★			★
43	331	6.003	CSAH	6	Century Ave	Helmo Ave	★								★
126	332	13.003	CSAH	13	CSAH 13	790 ft South of Hargis Pkwy						★			★
173	333	16.005	CSAH	16	Intersection of Century Ave S	Intersection of Woodbury Dr						★			★
172	334	16.004	CSAH	16	Intersection of Century Ave S	Intersection of Woodbury Dr						★			★
171	335	16.003	CSAH	16	Intersection of Century Ave S	Intersection of Woodbury Dr						★			★
169	336	16.001	CSAH	16	Intersection of Century Ave S	Intersection of Woodbury Dr	★								★
193	337	18.013	CSAH	18	US 12	268 ft North of Quentin Ave S			★						★
192	338	18.012	CSAH	18	260 ft North of 7th St S	Stagecoach Trail S								★	★
189	339	18.009	CSAH	18	1500 ft West of Woodbury Dr	Intersection of 40th St S and Manning Ave S			★						★
187	340	18.007	CSAH	18	1500 ft West of Woodbury Dr	Intersection of 40th St S and Manning Ave S			★						★
186	341	18.006	CSAH	18	850 ft East of and Pioneer Dr	1500 ft West of Woodbury Dr			★						★
183	342	18.003	CSAH	18	Military Rd	2422 ft West of Woodlane Dr Rd			★						★
207	343	20.006	CSAH	20	Bailey Rd	617 ft West of Radio Dr			★						★
206	344	20.005	CSAH	20	Bailey Rd	617 ft West of Radio Dr			★						★
304	345	38.005	CSAH	38	Intersection of Glen Rd	1340 ft Northwest of 65th St			★						★
303	346	38.004	CSAH	38	Intersection of Glen Rd	1340 ft Northwest of 65th St			★						★
212	347	20.011	CSAH	20	Bailey Rd	617 ft West of Radio Dr			★						★
213	348	20.012	CSAH	20	Bailey Rd	617 ft West of Radio Dr			★						★
214	349	20.013	CSAH	20	Bailey Rd	617 ft West of Radio Dr			★						★
274	350	22.004	CSAH	22	1075 ft West of Goodview Ave S	1065 ft East of Hardwood Ave S			★						★
273	351	22.003	CSAH	22	1075 ft West of Goodview Ave S	1065 ft East of Hardwood Ave S			★						★
311	352	39.003	CSAH	39	80th St	Summit Ave						★			★
310	353	39.002	CSAH	39	80th St	Summit Ave						★			★
247	354	21.031	CSAH	21	170 ft North of 37th St	1320 ft Southwest of 45th St			★						★
246	355	21.03	CSAH	21	170 ft North of 37th St	1320 ft Southwest of 45th St			★						★
242	356	21.026	CSAH	21	170 ft North of 37th St	1320 ft Southwest of 45th St			★						★
241	357	21.025	CSAH	21	170 ft North of 37th St	1320 ft Southwest of 45th St			★						★
240	358	21.024	CSAH	21	170 ft North of 37th St	1320 ft Southwest of 45th St			★						★
202	359	19.001	CSAH	19	610 ft North of Military Rd	80th St S			★						★
19	360	3.022	CSAH	3	240th St	Olinda Ln N			★						★
13	361	3.011	CSAH	3	2250 ft South of 177th St N	170th St N			★						★
62	362	7.015	CR	7	Manning Trail N	Partridge Rd N						★			★
322	363	55.001	CSAH	55	Square Lake Trail N	Dellwood Rd	★								★
108	364	11.004	CSAH	11	120th St N	540 ft Southwest of Orwell Ave N								★	★
270	365	21.054	CSAH	21	CSAH 14 (47th St N)	CSAH 21 (56th St N)			★						★
269	366	21.053	CSAH	21	CSAH 14 (47th St N)	CSAH 21 (56th St N)			★						★
175	367	17.002	CSAH	17	590 ft South of 30th St N	10th St N	★								★
176	368	17.003	CSAH	17	590 ft South of 30th St N	10th St N	★								★
177	369	17.004	CSAH	17	590 ft South of 30th St N	10th St N	★								★
348	370	74.003	CR	74	Hastings Ave	Hinton Ave S			★						★
105	371	10.001	CSAH	10	Lake Elmo Ave N	Stagecoach Trail N									
360	372	91.006	CR	91	270 ft North of 239th St N	Scandia Trail N									
359	373	91.005	CR	91	270 ft North of 239th St N	Scandia Trail N									
358	374	91.004	CR	91	270 ft North of 239th St N	Scandia Trail N									
355	375	91.001	CR	91	270 ft North of 239th St N	Scandia Trail N									

Curve Prioritization for Washington County

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List No.	Project Page No.	CRSP 2 ID	Route System	Route No.	Segment Start Description	Segment End Description	Radius [feet]	ADT [vpd]	Lane Width [feet]	High Side Shoulder Type	Total Cross Section Width [feet]	Adjacent Intersection	Visual Tral	Outside Edge Risk	Total Stars
55	376	7.008	CSAH	7	Jody Ave N	Manning Trail N									
58	377	7.011	CSAH	7	Manning Trail N	Partridge Rd N									
44	378	6.004	CSAH	6	Century Ave	Helmo Ave									
54	379	7.007	CSAH	7	Jody Ave N	Manning Trail N									
95	380	9.001	CSAH	9	75th St	Ironwood Ave									
111	381	11.007	CSAH	11	120th St N	540 ft Southwest of Orwell Ave N									

Stars	Count	Percent
★★★★★★★★	0	0%
★★★★★★★	1	0%
★★★★★★	15	4%
★★★★★	43	11%
★★★★	58	15%
★★★	77	20%
★★	105	28%
★	71	19%
	11	3%
Total	381	100%

Count of Stars --	169	74	288	135	90	161	11	128
Percent of Stars --	44%	19%	76%	35%	24%	42%	3%	34%

Rural Intersection Prioritization for Washington County

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.	Project Page No.	CRSP 2 ID	Route System	Route No.	Major Approach	Minor Approach	Context Zone	Total Entering ADT or Cross Product	Leg Configuration	Alignment Skew [degrees]	Adjacent RR Crossing	Adjacent Curve	Adjacent Commercial Development	Previous Stop (>5 Mi)	Major Approach Speed Limit	Major Approach Turn Lane Configuration	Total Stars
36	1	16.006	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 106 (Bielenberg RD)	★	★	★	★		★	★			★	★★★★★★★
42	2	17.007	CSAH	17	MN 36	CSAH 17 (Lake Elmo Ave N)	★	★	★					★	★	★	★★★★★★
3	3	10.012	CSAH	10	CSAH 15 (Manning Ave N)	CSAH 10 (10th St N)		★	★	★		★				★	★★★★★
9	4	12.008	CSAH	12	CSAH 15 (Manning AVE N)	CSAH 12 (75th St N)	★	★	★			★				★	★★★★★
12	5	13.004	CSAH	13	CSAH 13 (Radio DR)	CSAH 20 (Military RD)	★	★	★	★		★					★★★★★
18	6	14.003	CSAH	14	CSAH 14 (34th St N)	MSAS 121 (Hadley Ave N)	★	★	★				★			★	★★★★★
72	7	29.001	CSAH	29	CSAH 29 (Hilton TRL N)	M 2 (Viking Dr)	★	★	★	★		★					★★★★★
129	8	91.001	CR	91	MN 97 (Scandia Tr N)	CR 91 (Lofton Ave N)		★	★	★		★		★			★★★★★
4	9	10.013	CSAH	10	CSAH 10 (10th ST N)	CR 71 (Neal Ave N)	★	★	★			★					★★★★
10	10	12.011	CSAH	12	CSAH 12 (75th St N)	M 211 (Northland Ave)	★	★	★			★					★★★★
15	11	13.032	CSAH	13	CSAH 14 (34th St N)	CSAH 13 (Ideal AVE N)	★	★	★							★	★★★★
17	12	14.002	CSAH	14	CSAH 14 (34th St N)	MSAS 234 (Granada Ave N)	★	★	★							★	★★★★
19	13	14.005	CSAH	14	CSAH 14 (Stillwater Blvd N)	CSAH 17 (Lake Elmo Ave N)	★	★		★						★	★★★★
21	14	14.012	CSAH	14	CSAH 14 (40th St N)	CR 65 (Oakgreen Ave N)		★		★		★				★	★★★★
24	15	14.017	CSAH	14	CSAH 14 (Stillwater BLVD)	CSAH 15 (Manning AVE N)	★	★	★							★	★★★★
27	16	15.003	CSAH	15	CSAH 15 (Manning Ave N)	MSAS 115 (Manning Tr N)	★	★	★			★					★★★★
44	17	18.001	CSAH	18	CSAH 18 (Bailey RD)	CSAH 20 (Military RD)	★	★		★		★					★★★★
50	18	19.002	CSAH	19	CSAH 19 (Innovation RD S)	MSAS 120 (Ravine Pkwy)		★	★	★		★					★★★★
54	19	19A.001	CSAH	0	CR 19A (Innovation Rd)	US 61 (Ramp)		★	★			★			★		★★★★
56	20	20.004	CSAH	20	CSAH 20 (Military RD)	MSAS 109 (Woodlane DR)	★	★	★			★					★★★★
66	21	21.009	CSAH	21	CSAH 21 (Stagecoach Tr N)	T 151 (22nd St N)	★	★	★			★					★★★★
67	22	21.010	CSAH	21	CSAH 21 (Stagecoach Tr N)	M 65 (Inspiration PKWY S)	★	★	★			★					★★★★
69	23	244.001	CSAH	244	CR 12 (Wildwood Rd)	MSAS 110 (Old Wildwood Rd)	★	★		★		★					★★★★
73	24	29.002	CSAH	29	CSAH 29 (Hilton TRL N)	MN 36 (Ramp)	★	★		★		★					★★★★
82	25	4.004	CSAH	4	CSAH 4 (170th St N)	CSAH 15 (Manning TRL N)		★	★	★				★			★★★★
84	26	4.006	0	0	MN 95 (Saint Croix Tr N)	CSAH 4 (Maple St)	★	★	★	★							★★★★
94	27	52.002	CR	52	MN 95 (Saint Croix Tr N)	CR 52 (Oakhill Rd N)	★	★				★				★	★★★★
98	28	6.007	CSAH	6	CSAH 6 (Stillwater Blvd N)	CSAH 14 (34th Rabt N)	★	★	★			★					★★★★
111	29	7.012	0	0	MN 95 (Saint Croix Tr N)	CSAH 7 (Nason Hill Rd)		★	★	★		★					★★★★
122	30	74.002	CR	74	CR 74 (65th St S)	M 28 (Hadley AVE S)	★	★	★			★					★★★★
131	31	96.002	CR	96	MN 95 (Main St)	MN 96 (Dellwood Rd N)	★	★	★			★					★★★★
1	32	10.010	CSAH	10	CSAH 10 (10th ST N)	CSAH 19 (Keats Ave N)	★	★	★								★★★
2	33	10.011	CSAH	10	CSAH 10 (10th ST N)	CSAH 17 (Lake Elmo Ave N)	★	★	★								★★★
5	34	10.014	CSAH	10	CSAH 10 (10th ST N)	CR 65 (Oakgreen Ave N)	★	★								★	★★★
11	35	12.012	CSAH	12	CSAH 12 (75th ST N)	MSAS 122 (Boutwell Rd N)	★	★				★					★★★
13	36	13.005	CSAH	13	CSAH 13 (Radio DR)	MSAS 119 (Dale Rd)		★				★				★	★★★
22	37	14.013	CSAH	14	CSAH 14 (Osgood Ave N)	CSAH 24 (Osgood Ave N)		★		★	★						★★★
25	38	15.001	CSAH	15	CSAH 15 (Manning Ave N)	I 94 (Ramp)		★	★						★		★★★
30	39	15.011	CSAH	15	CSAH 15 (Manning AVE N)	MSAS 122 (80th St N)	★	★	★								★★★
31	40	15.012	CSAH	15	CSAH 15 (Manning AVE N)	CR 64 (Mckusick Rd N)	★	★	★								★★★
32	41	15.013	CSAH	15	MN 96 (Dellwood RD N)	CSAH 15 (Manning AVE N)		★	★					★			★★★
37	42	17.001	CSAH	17	CSAH 17 (Lake Elmo Ave N)	MSAS 107 (20th St N)	★	★				★					★★★
38	43	17.002	CR	17	MSAS 120 (Hudson Blvd)	CR 17B (Lake Elmo Ave N)		★	★			★					★★★
47	44	18.009	CSAH	18	CSAH 21 (St. Croix TRL S)	CSAH 18 (Afton Blvd S)	★	★	★								★★★
52	45	19.004	CSAH	19	CSAH 19 (Keats Ave S)	MSAS 102 (80th ST S)	★	★	★								★★★
58	46	21.001	CSAH	21	US 10 (Point Douglas RD S)	CSAH 21 (St. Croix TRL S)		★				★		★			★★★
62	47	21.005	CSAH	21	CSAH 21 (St. Croix TRL S)	M 65 (50th St S)	★		★			★					★★★
64	48	21.007	CSAH	21	CSAH 21 (Stagecoach Tr N)	T 1166 (Hudson Rd S)			★			★		★			★★★
65	49	21.008	CSAH	21	CSAH 21 (Stagecoach Tr N)	T 1320 (Hudson BLVD N)		★	★			★					★★★
70	50	244.002	CSAH	244	CR 12 (Wildwood Beach Rd)	MSAS 100 (Lincolntown Ave)		★				★				★	★★★
74	51	29.003	CSAH	29	CSAH 29 (Hilton TRL N)	MSAS 106 (72nd St N)	★	★	★								★★★
75	52	3.001	CSAH	3	CSAH 7 (Square Lake Tr N)	CSAH 3 (Norell Ave N)		★				★				★	★★★
78	53	4.001	CSAH	4	US 61 (Forest BLVD)	CSAH 4 (170th St N)		★	★	★							★★★
79	54	4.001	CR	4	US 61 (Forest Blvd N)	CR 4A (170th St N)		★	★	★							★★★
81	55	4.003	CSAH	4	CSAH 4 (170th St N)	CR 57 (Jeffrey Ave N)		★						★		★	★★★
85	56	5.010	CSAH	5	MN 96 (Dellwood Rd N)	CSAH 5 (Stone Bridge Tr N)		★	★	★							★★★
87	57	5.012	CSAH	5	CSAH 5 (Stone Bridge Tr N)	CSAH 11 (Otchipwe Ave N)		★	★	★							★★★
95	58	55.001	CR	55	CR 55 (Norell Ave N)	CR 61 (Myeron Rd N)	★	★								★	★★★
96	59	59.001	CR	59	MN 95 (Saint Croix Tr N)	CR 59 (Square Lake Tr N)	★	★				★					★★★
97	60	6.006	CSAH	6	CSAH 6 (Stillwater Blvd N)	CSAH 13 (Inwood AVE N)	★	★	★								★★★
101	61	7.002	CSAH	7	CSAH 7 (122nd ST N)	CSAH 8 (Jody AVE N)		★				★		★			★★★
104	62	7.005	CSAH	7	CSAH 15 (Manning TRL N)	CSAH 7 (122nd St N)		★				★		★			★★★
105	63	7.006	CSAH	7	CSAH 15 (Manning TRL N)	CSAH 7 (Square Lake Tr N)		★		★	★						★★★
106	64	7.007	CSAH	7	CSAH 7 (Square Lake Tr N)	CR 55 (Norell Ave N)		★	★			★					★★★
120	65	71.009	CR	71	CR 71 (Neal Ave S)	T 1315 (Hudson Blvd)	★		★			★					★★★
121	66	74.001	CR	74	CR 74 (65th St S)	M 11 (Geneva Ave S)		★	★	★							★★★
123	67	75.001	CR	75	CR 75 (Grey Cloud Island Dr)	T 322 (Grey Cloud Tr)	★			★		★					★★★

Rural Intersection Prioritization for Washington County

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List No.	Project Page No.	CRSP 2 ID	Route System	Route No.	Major Approach	Minor Approach	Context Zone	Total Entering ADT or Cross Product	Leg Configuration	Alignment Skew [degrees]	Adjacent RR Crossing	Adjacent Curve	Adjacent Commercial Development	Previous Stop (>5 Mi)	Major Approach Speed Limit	Major Approach Turn Lane Configuration	Total Stars
125	68	8.007	CSAH	8	CSAH 8 (Jody AVE N)	MSAS 123 (Homestead Ave N)	★	★				★					★★★
127	69	9.001	CSAH	9	CSAH 12 (75th St N)	CSAH 19 (Jamaca Ave N)	★	★	★								★★★
8	70	12.007	CSAH	12	CSAH 12 (75th St N)	CSAH 17 (Lake Elmo Ave N)		★	★								★★
14	71	13.031	CSAH	13	CSAH 13 (Inwood AVE N)	MSAS 110 (15th St N)		★	★								★★
16	72	14.001	CSAH	14	MN 120 (Century Ave N)	CSAH 14 (34th St N)		★	★								★★
20	73	14.011	CSAH	14	CSAH 14 (40th St N)	T 212 (Northbrook Blvd N)	★	★									★★
23	74	14.014	CSAH	14	CSAH 21 (Stagecoach Tr N)	CSAH 14 (47th St N)	★	★									★★
26	75	15.002	CSAH	15	CSAH 15 (Manning Ave N)	MSAS 120 (Hudson Blvd)		★				★					★★
28	76	15.004	CSAH	15	CSAH 15 (Manning Ave N)	MSAS 108 (30th St N)		★	★								★★
29	77	15.005	CSAH	15	CSAH 15 (Stillwater Blvd N)	MSAS 111 (50th St N)		★					★				★★
33	78	15.016	CSAH	15	CSAH 15 (Manning TRL N)	CR 61 (120th St N)		★		★							★★
35	79	15.018	CSAH	15	MN 97 (Scandia Tr N)	CSAH 15 (Manning TRL N)		★	★								★★
40	80	17.005	CSAH	17	CSAH 17 (Lake Elmo Ave N)	MSAS 104 (43rd St N)	★	★									★★
41	81	17.006	CSAH	17	CSAH 17 (Lake Elmo Ave N)	MSAS 111 (50th St N)		★	★								★★
43	82	17.008	CSAH	17	CSAH 17 (Lake Elmo Ave N)	M 1 (69th St N)	★	★									★★
45	83	18.006	CSAH	18	MN 95 (Manning Ave S)	CSAH 18 (Bailey RD)		★	★								★★
46	84	18.007	CSAH	18	CSAH 18 (40th ST S)	CR 71 (Neal Ave S)		★	★								★★
48	85	18.010	CSAH	18	CSAH 18 (St. Croix TRL S)	M 121 (30th ST S)	★	★									★★
49	86	19.001	CSAH	19	CSAH 19 (Innovation RD S)	MSAS 112 (Point Douglas RD S)		★	★								★★
51	87	19.003	CSAH	19	CSAH 19 (Keats Ave S)	MSAS 116 (85th ST)		★	★								★★
53	88	19.008	CSAH	19	CSAH 19 (Woodbury Dr)	MSAS 119 (Dale Rd)		★	★								★★
55	89	2.001	CSAH	2	CSAH 2 (Broadway Ave)	MSAS 136 (232nd St N)		★				★					★★
57	90	20.005	CSAH	20	CSAH 20 (Military RD)	M 502 (Jamaica Ave S)		★					★				★★
59	91	21.002	CSAH	21	CSAH 21 (St. Croix TRL S)	CR 78 (110th St S)			★			★					★★
61	92	21.004	CSAH	21	CSAH 21 (St. Croix TRL S)	CSAH 22 (70th ST S)		★	★								★★
63	93	21.006	CSAH	21	CSAH 21 (Stagecoach Tr S)	M 53 (Valley Creek Tr S)				★		★					★★
68	94	22.011	CSAH	22	CSAH 22 (70th ST S)	CR 71 (Neal Ave S)		★	★								★★
71	95	28.001	0	0	MN 95 (Manning Ave S)	CR 78 (110th St S)		★	★								★★
80	96	4.002	CSAH	4	CSAH 4 (170th St N)	MSAS 106 (Ingersoll Ave N)		★	★								★★
83	97	4.005	0	0	CSAH 4 (Ostrium Trl N)	Quant Ave N				★		★					★★
86	98	5.011	CSAH	5	MN 96 (Dellwood Rd N)	CSAH 5 (Stone Bridge Tr N)		★	★								★★
88	99	50.001	CR	50	US 61 (Forest Blvd N)	MSAS 113 (202nd St N)		★	★								★★
89	100	50.002	CR	50	CR 50 (202nd St N)	MSAS 127 (Goodview Ave N)	★	★									★★
93	101	51.001	CR	51	MN 95 (Saint Croix Tr N)	CR 51 (Partridge Rd N)		★				★					★★
100	102	7.001	CSAH	7	CSAH 7 (Illies Ave N)	MSAS 102 (125th St N)				★		★					★★
107	103	7.008	CSAH	7	CSAH 7 (Square Lake Tr N)	CSAH 11 (Otchipwe Ave N)				★		★					★★
108	104	7.009	CSAH	7	CSAH 7 (Square Lake Tr N)	CR 51 (Partridge Rd N)				★		★					★★
109	105	7.010	CSAH	7	CSAH 59 (Square Lake Tr N)	CR 7 (Square Lake Tr N)				★		★					★★
110	106	7.011	CSAH	7	CSAH 7 (Paul Avenue CT)	T 920 (Nason Hill Rd N)			★			★					★★
114	107	71.003	CR	71	CR 71 (Neal Ave S)	M 61 (30th St S)	★		★								★★
119	108	71.008	CR	71	CR 71 (Neal Ave S)	M 90 (Hudson Rd S)			★			★					★★
128	109	9.002	CSAH	9	MN 96 (Dellwood Rd N)	CSAH 9 (Jamaca Ave N)		★	★								★★
130	110	96.001	CR	96	MN 96 (Dellwood Rd)	MN 244 (Dellwood Ave)		★				★					★★
6	111	10.015	CSAH	10	CSAH 21 (Stagecoach Tr N)	CSAH 10 (10th St N)		★									★
7	112	11.001	CSAH	11	MN 96 (Dellwood Rd N)	CSAH 11 (Boom Rd)		★									★
34	113	15.017	CSAH	15	CSAH 15 (Manning TRL N)	CR 50 (192nd St N)		★									★
39	114	17.004	CSAH	17	CSAH 17 (Lake Elmo Ave N)	MSAS 114 (39th St N)		★									★
60	115	21.003	CSAH	21	CSAH 21 (St. Croix TRL S)	CR 76 (90th St S)						★					★
76	116	3.002	CSAH	3	CSAH 4 (170th St N)	CSAH 3 (Norell Ave N)		★									★
77	117	3.003	CSAH	3	CSAH 3 (Olinda Tr N)	CSAH 3 (Olinda Tr N)		★									★
90	118	50.003	CR	50	CR 50 (202nd St N)	MSAS 111 (Harrow Ave N)			★								★
92	119	50.005	CR	50	CR 50 (202nd St N)	MSAS 124 (July Ave N)	★										★
102	120	7.003	CSAH	7	CSAH 7 (122nd ST N)	CR 57 (Keller Ave N)		★									★
103	121	7.004	CSAH	7	CSAH 7 (122nd ST N)	CSAH 9 (Keystone Ave N)		★									★
112	122	71.001	CR	71	CR 71 (Neal Ave S)	M 38 (60th St S)			★								★
113	123	71.002	CR	71	CR 71 (Neal Ave S)	M 65 (50th St S)			★								★
115	124	71.004	CR	71	CR 71 (Neal Ave S)	M 53 (Valley Creek Tr S)						★					★
117	125	71.006	CR	71	CR 71 (Neal Ave S)	M 47 (15th St S)			★								★
118	126	71.007	CR	71	CR 71 (Neal Ave S)	M 45 (10th St S)			★								★
124	127	76.001	CR	76	MN 95 (Manning Ave S)	CR 76 (90th St S)		★									★
91	128	50.004	CR	50	CR 50 (Ingersoll Ave N)	CR 50 (202nd St N)											
99	129	61.001	CR	61	CR 61 (120th St N)	T 122 (120th St N)											

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116	130	71.005	CR	71	CR 71 (Neal Ave S)	M 51 (22nd St S)											
126	131	8.008	CSAH	8	CSAH 8 (Jody AVE N)	MSAS 109 (132nd St N)											

Stars	Count	Percent
★★★★★★★★★★	0	0%
★★★★★★★★★	0	0%
★★★★★★★★	0	0%
★★★★★★★	1	1%
★★★★★★	1	1%
★★★★★	6	5%
★★★★	23	18%
★★★	38	29%
★★	41	31%
★	17	13%
	4	3%
Total	131	100%

Count of Stars --	50	105	74	29	2	55	4	9	3	17
Percent of Stars --	38%	80%	56%	22%	2%	42%	3%	7%	2%	13%

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Urban Segment Prioritization for Washington County

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.	Project Page No.2	CRSP 2 ID	Route System	Route No.	Segment Start Description	Segment End Description	Length [miles]	ADT [vpd]	Context Zone	Speed Limit	Lane Width	Edgeline Striping	Parking	ADT	Access Density	Cross Section	Edge Risk	Shoulder Width	Total Stars
12	1	12.001	CSAH	12	Wildwood Rd	Ideal Ave N	0.81	8600	★		★	★	★	★			★	★	★★★★★★★
35	2	17.004	CSAH	17	Stillwater Blve N	80 ft North of 33rd St N	0.25	4500	★		★	★	★	★			★	★	★★★★★★★
65	3	25.002	CSAH	25	Brookview Dr E	Lake Rd	1.88	13367	★			★		★	★	★	★	★	★★★★★★★
16	4	13.004	CSAH	13	CSAH 13	790 ft South of Hargis Pkwy	2.18	11767	★	★				★		★	★	★	★★★★★★
30	5	15.005	CSAH	15	1386 North of 75th St N	MN 36	1.79	17650		★			★		★	★	★	★	★★★★★★
61	6	24.003	CSAH	24	CSAH24/Upper 56th St	740 ft North of State Route 36	0.47	12050	★		★			★		★	★	★	★★★★★★
5	7	5.002	CSAH	5	Owens St N	230 ft NorthEast of Autumn Way	1.87	8667			★	★	★	★			★	★	★★★★★★
14	8	13.001	CSAH	13	69th St S	70th St S	0.14	6000	★					★		★	★	★	★★★★★
15	9	13.002	CSAH	13	580 ft North of CSAH 20	69th St S	1.61	6400		★				★		★	★	★	★★★★★
21	10	13.01	CSAH	13	Intersection of Stillwater Blvd N	Intersection of 34th St N	0.45	5200	★					★	★		★	★	★★★★★
43	11	19.004	CSAH	19	Intersection of Park Crossing	1900 ft South of Bailey Rd	1.72	8400		★	★			★		★		★	★★★★★
44	12	19.005	CSAH	19	Hudson Rd	Park Crossing	2.04	21500		★	★					★	★	★	★★★★★
45	13	19.006	CSAH	19	Hudson Blvd	Hudson Rd	0.45	23950	★	★	★					★	★		★★★★★
47	14	19.008	CSAH	19	Park Crossing	1900 ft South of Bailey Rd	0.99	8400		★				★	★	★		★	★★★★★
1	15	2.002	CSAH	2	420 ft SouthEast of Ethan Ct N	NW 4th St	1.29	21750	★		★					★	★	★	★★★★★
49	16	21.005	CSAH	21	Intersection of Stagecoach Trail S	170 ft North of 37th St	0.64	2350	★			★	★				★	★	★★★★★
53	17	22.001	CSAH	22	Intersection of Broadway Ave	1075 ft West of Goodview Ave S	0.69	13650						★	★	★	★	★	★★★★★
58	18	23.003	CSAH	23	Willard St W	Chestnut St E	0.37	4100	★				★	★			★	★	★★★★★
62	19	24.004	CSAH	24	Intersection of Orleans St W	440 ft South of 62nd St N	0.34	12900			★		★	★			★	★	★★★★★
85	20	244.001	CSAH	244	Intersection of E County Line Rd N	350 ft East of Ridge Way	0.56	12600	★		★			★			★	★	★★★★★
67	21	27.001	CSAH	27	Wildwood Rd	Cedar Ave	1.04	5850	★					★	★		★	★	★★★★★
74	22	38.004	CSAH	38	Intersection of 7th Ave	240 ft Southwest of 10th Ave	0.47	5575	★					★		★	★	★	★★★★★
76	23	38.006	CSAH	38	Baily Rd	I-494	0.55	10900	★					★		★	★	★	★★★★★
77	24	39.001	CSAH	39	Intersection of Hadley Ave S	1300 ft West of Hardwood Ave S	0.22	17200	★						★	★	★	★	★★★★★
4	25	5.001	CSAH	5	MN 36	230 ft NorthEast of Autumn Way	0.99	20100	★						★	★	★	★	★★★★★
7	26	8.001	CSAH	8	Main St	Forest Blvd N	1.41	16600	★				★			★	★	★	★★★★★
13	27	12.005	CSAH	12	345 ft Northwest of Birchwood Dr	Owens St S	0.40	5800					★	★			★	★	★★★★
17	28	13.005	CSAH	13	Hudson Rd	Pioneer Dr	1.86	24500	★	★						★	★		★★★★
19	29	13.007	CSAH	13	1060 ft North of 10th St N	197 ft South of Inwood Ave N	1.12	17350	★	★						★	★		★★★★
22	30	13.011	CSAH	13	650 ft North of Intersection of 36th St N	Intersection of 34th St N	0.38	4250						★		★	★	★	★★★★
27	31	14.009	CSAH	14	100 ft East of Intersection of 9th St N	Intersection of St Croix Trail	0.32	1850	★				★				★	★	★★★★
32	32	16.002	CSAH	16	CSAH 19 (Radio Dr)	TH 95 (Manning Ave S)	1.99	8267		★				★	★	★			★★★★
33	33	17.002	CSAH	17	Intersection of 32nd St N	590 ft South of 30th St N	0.34	3250			★		★				★	★	★★★★
34	34	17.003	CSAH	17	80 ft North of Intersection of 33rd St N	Intersection of 32nd St N	0.20	3250			★		★				★	★	★★★★
36	35	18.002	CSAH	18	2422 ft West of Woodlane Dr Rd	166 ft East of Hill Rd	1.29	12800		★				★	★		★		★★★★
40	36	18.009	CSAH	18	US 12	268 ft North of Quentin Ave S	1.51	8833	★					★			★	★	★★★★
41	37	18.01	CSAH	20	TH 10	CSAH 20 (Military Rd)	0.82	14200		★					★	★		★	★★★★
2	38	2.003	CSAH	2	4th St SW	Lake St N	0.17	14200	★							★	★	★	★★★★
54	39	22.002	CSAH	22	1075 ft West of Goodview Ave S	1065 ft East of Hardwood Ave S	1.30	10100		★				★			★	★	★★★★
55	40	22.003	CSAH	22	1065 ft East of Hardwood Ave S	875 ft East of Isleton Ave S	1.42	7600		★				★			★	★	★★★★
56	41	22.004	CSAH	22	875 ft East of Isleton Ave S	845 ft East of Washington Co Hwy 19	1.30	5217	★	★				★			★		★★★★
59	42	23.004	CSAH	23	3rd St S	St Croix Trail	0.14	1750	★				★				★	★	★★★★
63	43	24.005	CSAH	24	4th St	3rd St S	0.07	12900					★	★			★	★	★★★★
64	44	25.001	CSAH	25	Lake Rd	Carver Ave	1.29	4033	★					★			★	★	★★★★
66	45	26.001	CSAH	26	N Osgood Ave	Beach Rd	0.57	890	★						★		★	★	★★★★
3	46	3.004	CSAH	3	Olinda Ln N	962 ft Southwest of 205th St N	1.19	2833	★				★				★	★	★★★★
69	47	33.001	CSAH	33	W Broadway Ave	220th St N	0.81	4350	★					★	★			★	★★★★
70	48	35.002	CSAH	35	220 ft East of Heather Ridge Rd N	Ideal Ave N	0.22	3250			★		★				★	★	★★★★
72	49	38.002	CSAH	38	Intersection of Glen Rd	1340 ft Northwest of 65th St	1.14	1800	★						★		★	★	★★★★
73	50	38.003	CSAH	38	240 ft Southwest of CSAH 38	Hastings Ave	0.14	4300	★					★			★	★	★★★★
79	51	52.001	CR	52	Scandia Trail N	380 ft Northwest of Ostrum Ave N	0.82	700	★				★				★	★	★★★★
82	52	64.002	CR	64	Neal Ave N	Owens St N	1.62	1750	★						★		★	★	★★★★
84	53	66.001	CR	66	Curve Crest Blvd	60th St N	0.49	11800	★					★			★	★	★★★★
9	54	10.001	CSAH	10	Geneva Ave N	330 ft East of Greystone Ave N	0.86	13500	★					★				★	★★★
10	55	10.002	CSAH	10	330 ft East of Greystone Ave N	1620 ft East of Linwood Ave N	1.96	16080	★							★		★	★★★
18	56	13.006	CSAH	13	197 ft South of Inwood Ave N	Hudson Rd	0.59	36500	★							★	★		★★★
24	57	13.013	CSAH	13	MN 36	Helmo Ave N	1.19	7150		★	★			★					★★★
25	58	14.003	CSAH	14	494 ft West of Intersection of Lake Elmo Ave N	Intersection of 39th St N	0.63	4850	★	★				★					★★★
26	59	14.008	CSAH	14	Intersection of Stagecoach Trail N	100 ft East of 9th St N	0.36	1850					★		★			★	★★★
28	60	14.01	CSAH	14	39th St N	CSAH 15 (Manning Ave N)	0.59	4850		★				★	★				★★★
31	61	16.001	CSAH	16	Intersection of Century Ave S	Intersection of Woodbury Dr	4.09	21233	★							★	★		★★★
37	62	18.003	CSAH	18	166 ft East of Hill Rd	850 ft East of Pioneer Dr	1.07	13000		★				★			★		★★★
46	63	19.007	CSAH	19	10th St N	Hudson Blvd	0.83	8300		★				★		★			★★★
48	64	20.005	CSAH	20	Jamaica Ave S	CSAH 22 (70th S)	0.92	4350		★				★	★				★★★
52	65	21.012	CSAH	23	CSAH 21 (56th St N)	TH 95 (Main St S)	2.45	2375	★		★		★						★★★
57	66	23.002	CSAH	23	Willard St W	4th Ave S	0.81	1750					★				★	★	★★★
60	67	24.002	CSAH	24	Upper 56th SW	275 ft North of Valley View Park Rd	0.20	6000						★			★	★	★★★
75	68	38.005	CSAH	38	I-494	Glen Rd	0.95	3350	★								★	★	★★★
80	69	62.001	CR	62	CSAH 24 (N Osgood Ave)	Panama Ave N	0.25	3192				★	★			★			★★★
81	70	63.001	CR	63	60th St N	CR 62 (62nd St N)	0.20	1743				★	★					★	★★★
8	71	8.002	CSAH	8	Forest Blvd N	Goodview Ave N	0.91	3575					★				★	★	★★★
11	72	11.001	CSAH	11	540 ft SouthEast of Orwell Ave N	Dellwood Rd	0.40	840									★	★	★★
20	73	13.008	CSAH	13	Intersection of 15th St N	1060 ft North of 10th St N	0.30	8400		★				★					★★
23	74	13.012	CSAH	13	Intersection of 50th St N	650 ft North of 36th St N	1.32	2850			★		★						★★
29	75	15.004	CSAH	15	MN 36 Westbound ramp	290 ft North of 53rd St N	1.01	23100	★							★			★★
38	76	18.004	CSAH	18	850 ft East of and Pioneer Dr	1500 ft West of Woodbury Dr	0.81	11800		★				★					★★
39	77	18.005	CSAH	18	1500 ft West of Woodbury Dr	Intersection of 40th St S and Manning Ave S	2.30	10650						★			★		★★
42	78	19.002	CSAH	19	610 ft North of Military Rd	80th St S	1.24	7000		★				★					★★
68	79	32.001	CSAH	32	Everton Ave N	Forest Blvd N	1.37	8125	★					★					★★
71	80	38.001	CSAH	38	1340 ft Northwest of 5th St	70th St S	0.57	3150									★	★	★★
78	81	39.002	CSAH	39	80th St	Summit Ave	1.68	3783					★					★	★★

Urban Segment Prioritization for Washington County

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.	Project Page No.2	CRSP 2 ID	Route System	Route No.	Segment Start Description	Segment End Description	Length [miles]	ADT [vpd]	Context Zone	Speed Limit	Lane Width	Edgeline Striping	Parking	ADT	Access Density	Cross Section	Edge Risk	Shoulder Width	Total Stars
50	82	21.01	CSAH	21	CSAH 14 (47th St N)	CSAH 21 (56th St N)	0.94	2650							★				★
6	83	6.001	CSAH	6	Century Ave	Helmo Ave	2.39	5267						★					★
83	84	65.001	CR	65	442 ft West of 10th St N	Olinda Blvd N	3.03	2475		★									★
51	85	21.011	CSAH	21	Stagecoach Trail N	TH 95 (St Croix Scenic Bywy)	0.24	2100											
						Total Length (Miles)	84.57												

Stars	Count	Percent
★★★★★★★★★	0	0%
★★★★★★★★	3	4%
★★★★★★	4	5%
★★★★★	19	22%
★★★★	27	32%
★★★	18	21%
★★	10	12%
★	3	4%
	1	1%
Total	85	96%

Count of Stars --	43	25	16	7	25	45	19	29	58	58	
Percent of Stars --	51%	29%	19%	8%	29%	53%	22%	34%	68%	68%	

Urban Intersection Prioritization for Washington County - Vehicle Related

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.	Project Page No.	CRSP 2 ID	Route System	Route No.	Major Approach Name	Minor Approach Name	Context Zone	Traffic Control Device	Total Entering ADT or Cross Product	Leg Configuration	Major Division Type	Alignment Skew [degrees]	Adjacent Commercial Development	Major/Minor Approach Speed Limit	Major Approach Left Turn Lane Phasing	Major Approach Turn Lane Configuration	Total Stars
148	1	39.001	CSAH	39	CSAH 39 (80th ST S)	US 61 (Ramp)	★	★	★	★	★	★	★	★	★	★	★★★★★★★★★★
149	2	39.002	CSAH	39	MSAS 102 (80th St S)	US 61 (Ramp)	★	★	★	★	★	★	★	★	★	★	★★★★★★★★★★
3	3	10.003	CSAH	10	CSAH 10 (10th ST N)	MSAS 121 (Hadley Ave N)	★	★	★	★	★		★	★	★	★	★★★★★★★★★
4	4	10.005	CSAH	10	CSAH 10 (10th ST N)	SB I-694 (Ramp)	★	★	★	★	★		★	★	★	★	★★★★★★★★★
6	5	10.007	CSAH	10	CSAH 10 (10th ST N)	MSAS 237 (Helmo AVE N)	★	★	★	★	★		★	★	★	★	★★★★★★★★★
26	6	13.013	CSAH	13	CSAH 13 (Radio DR)	CSAH 16 (Valley Creek Rd)	★	★	★	★	★		★	★	★	★	★★★★★★★★★
35	7	13.025	CSAH	13	CSAH 13 (Radio DR)	MSAS 142 (Woodbury Lakes RD)	★	★	★	★	★	★	★	★		★	★★★★★★★★★
54	8	16.002	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 101 (Weir Dr)	★	★	★	★	★		★	★	★	★	★★★★★★★★★
55	9	16.003	CSAH	16	CSAH 16 (Valley Creek Rd)	I 494 (Ramp)	★	★	★	★	★	★		★	★	★	★★★★★★★★★
58	10	16.007	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 105 (Tower Dr)		★	★	★	★	★	★	★	★	★	★★★★★★★★★
87	11	2.004	CSAH	2	CSAH 2 (Broadway Ave W)	MSAS 142 (19th St SW)	★	★	★	★	★		★	★	★	★	★★★★★★★★★
115	12	24.003	CSAH	24	MN 36	CSAH 24 (Osgood Ave N)	★	★	★	★	★		★	★	★	★	★★★★★★★★★
154	13	5.001	CSAH	5	CSAH 5 (Stillwater Blvd N)	Westbound TH 36 (Ramp)	★	★	★	★	★		★	★	★	★	★★★★★★★★★
155	14	5.002	CSAH	5	CSAH 5 (Stillwater Blvd N)	MSAS 112 (Curve Crest Blvd)	★	★	★	★	★		★	★	★	★	★★★★★★★★★
27	15	13.014	CSAH	13	CSAH 13 (Radio DR)	MSAS 126 (City Centre DR)	★	★	★	★	★		★	★		★	★★★★★★★★
31	16	13.019	CSAH	13	CSAH 13 (Radio DR)	MSAS 102 (Tamarack Rd)	★	★	★	★	★		★	★		★	★★★★★★★★
32	17	13.021	CSAH	13	CSAH 13 (Radio DR)	MSAS 117 (Hudson RD)	★	★	★	★	★		★	★		★	★★★★★★★★
34	18	13.023	CSAH	13	CSAH 13 (Radio DR)	MSAS 117 (Hudson Ave)	★	★	★	★	★		★	★		★	★★★★★★★★
36	19	13.027	CSAH	13	CSAH 13 (Inwood Ave N)	I 94 (Ramp)	★	★	★	★	★			★	★	★	★★★★★★★★
37	20	13.028	CSAH	13	CSAH 13 (Inwood AVE N)	MSAS 239 (4th St N)	★	★	★	★	★		★	★		★	★★★★★★★★
48	21	15.006	CSAH	15	CSAH 15 (Stillwater Blvd N)	MN 36 (Ramp)	★	★	★	★	★			★	★	★	★★★★★★★★
56	22	16.004	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 109 (Woodlane DR)	★	★	★	★	★		★	★		★	★★★★★★★★
57	23	16.005	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 122 (Queens Dr)	★	★	★	★	★		★	★		★	★★★★★★★★
60	24	16.009	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 132 (Donegal Dr)	★	★	★	★	★			★	★	★	★★★★★★★★
81	25	19.013	CSAH	19	CSAH 19 (Woodbury Dr)	MSAS 102 (Tamarack Rd)		★	★	★	★		★	★	★	★	★★★★★★★★
82	26	19.014	CSAH	19	CSAH 19 (Woodbury Dr)	MSAS 117 (Hudson Rd)	★	★	★	★	★		★	★		★	★★★★★★★★
83	27	19.015	CSAH	19	CSAH 19 (Keats Ave N)	I 94 (Ramp)	★	★	★	★	★			★	★	★	★★★★★★★★
86	28	2.003	CSAH	2	CSAH 2 (W Broadway Ave)	CSAH 33 (Everton Ave N)	★	★	★		★		★	★	★	★	★★★★★★★★
89	29	2.006	CSAH	2	CSAH 2 (Broadway Ave)	MSAS 102 (12th St SW)	★	★	★	★	★		★		★	★	★★★★★★★★
122	30	25.004	CSAH	25	CSAH 25 (Century Ave)	Century Ave S	★	★	★	★	★			★	★	★	★★★★★★★★
136	31	32.008	CSAH	32	US 61 (Forest Blvd N)	CSAH 32 (11th Ave SW)	★	★	★	★	★			★	★	★	★★★★★★★★
150	32	39.003	CSAH	39	CSAH 39 (80th ST S)	MSAS 107 (Hadley AVE S)	★	★	★	★	★		★		★	★	★★★★★★★★
163	33	6.001	CSAH	6	MN 120 (Century Ave N)	MN 5 (Stillwater Rd)	★	★	★	★		★	★	★	★		★★★★★★★★
167	34	8.001	CSAH	8	CSAH 8 (Frenchman Rd N)	MSAS 116 (Victor Hugo Blvd)	★	★	★	★	★		★	★		★	★★★★★★★★
1	35	10.001	CSAH	10	MN 120 (Century Ave N)	CSAH 34 (Minnehaha Ave E)	★	★	★	★			★	★	★		★★★★★★★
12	36	12.004	CSAH	12	CSAH 12 (Stillwater Rd)	CSAH 29 (Hilton TRL N)	★	★	★	★	★			★	★		★★★★★★★
19	37	13.006	CSAH	13	CSAH 13 (Radio DR)	MSAS 141 (Hingis PKWY)		★	★	★	★			★	★	★	★★★★★★★
22	38	13.009	CSAH	13	CSAH 13 (Radio DR)	MSAS 108 (Lake RD)		★	★	★	★	★		★		★	★★★★★★★
29	39	13.017	CSAH	13	CSAH 13 (Radio DR)	MSAS 139 (Seasons Pkwy)		★	★	★	★			★	★	★	★★★★★★★
33	40	13.022	CSAH	13	CSAH 13 (Radio Dr)	MSAS 117 (Hudson Rd)	★	★		★	★		★	★		★	★★★★★★★
38	41	13.030	CSAH	13	CSAH 13 (Inwood AVE N)	MSAS 112 (Eagle Point Blvd)	★		★	★	★		★	★		★	★★★★★★★
42	42	13.036	CSAH	13	CSAH 13 (Ironwood Ave N)	5th St N		★	★		★		★	★	★	★	★★★★★★★
53	43	16.001	CSAH	16	CSAH 16 (Valley Creek Rd)	CSAH 25 (Century Ave)		★	★	★	★	★		★		★	★★★★★★★
59	44	16.008	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 126 (City Centre DR)	★		★	★	★		★	★		★	★★★★★★★
61	45	16.010	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 120 (Interlachen PKWY)		★	★	★	★			★	★	★	★★★★★★★
62	46	16.011	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 133 (Colby Lake Dr)		★	★	★	★	★		★		★	★★★★★★★
63	47	16.012	CSAH	16	CSAH 16 (Valley Creek Rd)	CSAH 19 (Woodbury Dr)		★	★	★	★			★	★	★	★★★★★★★
78	48	19.010	CSAH	19	CSAH 19 (Woodbury Dr)	MSAS 137 (Eagle Valley Rd)		★	★	★	★			★	★	★	★★★★★★★
79	49	19.011	CSAH	19	CSAH 19 (Woodbury Dr)	CSAH 16 (Valley Creek Rd)		★	★	★	★			★	★	★	★★★★★★★
80	50	19.012	CSAH	19	CSAH 19 (Woodbury Dr)	Fox Run Rd		★	★	★	★			★	★	★	★★★★★★★
84	51	19.016	CSAH	19	CSAH 19 (Keats Ave N)	MSAS 120 (Hudson Blvd)		★	★	★	★			★	★	★	★★★★★★★
85	52	2.002	CSAH	2	CSAH 2 (Broadway Ave)	MSAS 137 (Everton Ave N)	★	★	★		★		★	★		★	★★★★★★★
88	53	2.005	CSAH	2	CSAH 2 (Broadway Ave)	I 35 (Ramp)		★	★	★	★			★	★	★	★★★★★★★
96	54	21.012	CSAH	21	MN 95 (Saint Croix Tr N)	CSAH 21 (56th ST N)		★	★	★	★			★	★	★	★★★★★★★
124	55	25.006	CSAH	25	CSAH 72 (Century Ave)	MSAS 114 (Upper Afton Rd)		★	★	★		★		★	★	★	★★★★★★★
126	56	27.001	CSAH	27	MN 120 (Century Ave)	CSAH 15 (County Rd E)	★	★	★	★			★	★	★		★★★★★★★
156	57	5.003	CSAH	5	CSAH 5 (Stillwater Blvd N)	MSAS 119 (Orleans St)		★	★	★	★			★	★	★	★★★★★★★
178	58	66.001	CR	66	MN 36	CR 66 (Greeley ST)		★	★	★	★			★	★	★	★★★★★★★
8	59	10.009	CSAH	10	CSAH 13 (Inwood Ave N)	CSAH 10 (10th ST N)		★	★	★	★			★		★	★★★★★★
21	60	13.008	CSAH	13	CSAH 13 (Radio DR)	M 645 (Commonwealth Ave)		★		★	★			★	★	★	★★★★★★
23	61	13.010	CSAH	13	CSAH 13 (Radio Dr)	MSAS 108 (Lake Rd)		★		★	★	★		★		★	★★★★★★
25	62	13.012	CSAH	13	CSAH 13 (Radio DR)	MSAS 107 (Pioneer DR)		★	★	★	★			★		★	★★★★★★
30	63	13.018	CSAH	13	CSAH 13 (Radio Dr)	MSAS 139 (Seasons Pkwy)		★		★	★			★	★	★	★★★★★★
49	64	15.007	CSAH	15	MN 36	CSAH 15 (Manning AVE N)		★	★	★	★			★		★	★★★★★★
51	65	15.009	CSAH	15	CSAH 15 (Manning AVE N)	M 374 (Liberty Ave)		★	★		★			★	★	★	★★★★★★
52	66	15.010	CSAH	15	CSAH 15 (Manning AVE N)	M 415 (Settlers Way)		★	★		★			★	★	★	★★★★★★
66	67	18.002	CSAH	18	CSAH 18 (Bailey RD)	MSAS 109 (Woodlane DR)		★	★	★		★		★	★		★★★★★★
90	68	2.007	CSAH	2	CSAH 2 (Broadway Ave)	MSAS 104 (4th St SW)		★	★	★	★				★	★	★★★★★★
92	69	20.001	CSAH	20	M 2168 (Maxwell AVE)	US 61 (Ramp)		★	★	★				★	★	★	★★★★★★
99	70	22.004	CSAH	22	CSAH 22 (70th ST S)	CSAH 38 (65th St S)		★	★		★			★	★	★	★★★★★★
117	71	24.005	CSAH	24	CSAH 24 (Osgood Ave N)	CSAH 26 (60th ST N)	★		★	★	★				★	★	★★★★★★
125	72	25.007	CSAH	25	MN 120 (Century Ave N)	CSAH 72 (Century Ave)	★		★	★	★			★		★	★★★★★★
170	73	8.004	CSAH	8	US 61	CSAH 8 (Frenchman Rd N)		★	★	★	★			★	★		★★★★★★
171	74	8.005	CSAH	8	US 61 (Forest Blvd)	CSAH 8 (Jody AVE N)		★	★	★		★		★	★		★★★★★★
2	75	10.002	CSAH	10	CSAH 10 (10th ST N)	MSAS 236 (Greenway Ave)		★	★		★			★	★		★★★★★
7	76	10.008	CSAH	10	CSAH 10 (10th ST N)	M 457 (Heron Ave N)		★		★	★			★		★	★★★★★
24	77	13.011	CSAH	13	CSAH 13 (Radio DR)	MSAS 105 (Tower Dr)			★	★	★			★		★	★★★★★
28	78	13.016	CSAH	13	CSAH 13 (Radio DR)	MSAS 132 (Donegal Dr)			★	★	★			★		★	★★★★★
43	79	14.006	CSAH	14	CSAH 14 (Stillwater Blvd N)	CSAH 17 (Lake Elmo Ave N)	★	★				★		★	★		★★★★★
50	80	15.008	CSAH	15	CSAH 15 (Manning AVE N)	MSAS 121 (62nd ST N)			★	★	★			★		★	★★★★★

Urban Intersection Prioritization for Washington County - Vehicle Related

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.	Project Page No.	CRSP 2 ID	Route System	Route No.	Major Approach Name	Minor Approach Name	Context Zone	Traffic Control Device	Total Entering ADT or Cross Product	Leg Configuration	Major Division Type	Alignment Skew [degrees]	Adjacent Commercial Development	Major/Minor Approach Speed Limit	Major Approach Left Turn Lane Phasing	Major Approach Turn Lane Configuration	Total Stars
67	81	18.003	CSAH	18	CSAH 18 (Bailey RD)	MSAS 107 (Pioneer DR)		★	★	★				★	★		★★★★★
77	82	19.009	CSAH	19	CSAH 19 (Woodbury DR)	MSAS 108 (Lake RD)			★	★	★			★		★	★★★★★
94	83	20.003	CSAH	20	CSAH 20 (Bailey RD)	M 8 (Hastings Ave)		★	★	★				★		★	★★★★★
103	84	22.008	CSAH	22	CSAH 20 (Jamaica AVE S)	CSAH 22 (70th ST S)			★	★	★			★		★	★★★★★
113	85	23.009	CSAH	23	MN 95 (Main St)	CSAH 23 (Chestnut ST E)	★	★	★	★					★		★★★★★
132	86	32.004	CSAH	32	CSAH 32 (11th Ave SW)	MSAS 102 (12th St SW)	★	★	★	★				★			★★★★★
143	87	38.002	CSAH	38	US 61	CSAH 38 (Glen Rd)		★		★	★			★		★	★★★★★
144	88	38.003	CSAH	38	CSAH 38 (Glen Rd)	US 61 (Ramp)		★		★	★			★		★	★★★★★
168	89	8.002	CSAH	8	CSAH 8 (Frenchman Rd N)	MSAS 117 (Everton AVE N)			★	★	★			★		★	★★★★★
169	90	8.003	CSAH	8	CSAH 8 (Frenchman Rd N)	MSAS 111 (Oneka PKWY N)			★	★	★			★		★	★★★★★
5	91	10.006	CSAH	10	CSAH 10 (10th ST N)	I 494 (Ramp)	★		★					★		★	★★★★
16	92	13.001	CSAH	13	CSAH 22 (70th St S)	CSAH 13 (Hinton AVE S)			★	★			★	★			★★★★
17	93	13.002	CSAH	13	CSAH 13 (Hinton AVE S)	MSAS 123 (65th ST S)				★	★			★		★	★★★★
18	94	13.003	CSAH	13	CSAH 13 (Hinton AVE S)	MSAS 118 (Glen Rd)				★	★			★		★	★★★★
20	95	13.007	CSAH	13	CSAH 18 (Bailey RD)	CSAH 13 (Radio Dr)			★	★	★			★			★★★★
44	96	14.007	CSAH	14	CSAH 14 (Stillwater Blvd N)	MSAS 106 (Laverne Ave N)	★			★		★		★			★★★★
68	97	18.004	CSAH	18	CSAH 18 (Bailey RD)	CSAH 19 (Woodbury DR)			★	★	★			★			★★★★
73	98	18.014	CSAH	18	CSAH 18 (St. Croix TRL N)	M 13 (8th St N)				★	★			★		★	★★★★
75	99	19.006	CSAH	19	CSAH 19 (Keats AVE S)	CSAH 22 (70th ST S)			★	★	★			★			★★★★
91	100	2.009	CSAH	2	US 61 (Lake Rabt)	CSAH 2 (Broadway Ave)			★	★	★		★				★★★★
93	101	20.002	CSAH	20	CSAH 20 (Bailey RD)	I 494 (Ramp)		★	★					★		★	★★★★
100	102	22.005	CSAH	22	CSAH 22 (70th ST S)	M 880 (Meadow Grass Ave)		★		★				★	★		★★★★
101	103	22.006	CSAH	22	CSAH 22 (70th ST S)	MSAS 112 (Hardwood AVE S)		★		★				★	★		★★★★
118	104	24.006	CSAH	24	CSAH 24 (Osgood Ave N)	M 51 (62nd St N)		★	★	★				★			★★★★
130	105	32.001	CSAH	32	CSAH 32 (220th St N)	CSAH 33 (Everton Ave N)	★				★	★		★			★★★★
141	106	35.004	CSAH	0	CSAH 35 (Hadley Ave N)	55th St N			★	★	★			★			★★★★
146	107	38.005	CSAH	38	CR 38A (Maxwell Ave)	I 494 (Ramp)			★		★			★		★	★★★★
165	108	6.003	CSAH	6	CSAH 6 (Stillwater Blvd N)	MSAS 121 (Hadley Ave N)			★	★		★		★			★★★★
15	109	12.013	CSAH	12	CSAH 12 (75th ST N)	MSAS 123 (Brick St)				★		★		★			★★★
69	110	18.005	CSAH	18	CSAH 18 (Bailey RD)	MSAS 116 (Cottage Grove Dr)			★	★				★			★★★
70	111	18.011	CSAH	18	CSAH 18 (St. Croix TRL S)	M 33 (5th St S)				★	★			★			★★★
71	112	18.012	CSAH	18	CSAH 18 (St. Croix TRL S)	M 70 (Division St N)				★	★			★			★★★
72	113	18.013	CSAH	18	CSAH 18 (St. Croix TRL N)	M 21 (5th St N)				★	★			★			★★★
76	114	19.007	CSAH	19	CSAH 19 (Keats AVE S)	M 528 (Military RD)					★	★		★			★★★
114	115	24.001	CSAH	24	CSAH 24 (Osgood Ave N)	M 57 (58th St N)				★			★	★			★★★
123	116	25.005	CSAH	25	CSAH 25 (Century Ave)	MSAS 129 (Pouliot Pkwy)					★			★		★	★★★
131	117	32.003	CSAH	32	CSAH 32 (220th St N)	MSAS 101 (15th St SW)	★				★			★			★★★
137	118	33.001	CSAH	33	CSAH 33 (Everton Ave N)	MSAS 142 (19th ST SW)	★			★				★			★★★
138	119	35.001	CSAH	35	CSAH 13 (Hadley AVE N)	MSAS 241 (Hadley AVE N)				★	★			★			★★★
145	120	38.004	CSAH	38	CSAH 38 (Maxwell Ave)	I-494 (Ramp)	★				★			★			★★★
147	121	38.006	CSAH	38	CR 38A (Maxwell Ave)	M 102 (Red Rock Rd)	★							★			★★★
164	122	6.002	CSAH	6	CSAH 6 (Stillwater Blvd N)	MSAS 234 (Granada Ave N)				★		★		★			★★★
166	123	6.005	CSAH	6	CSAH 6 (Stillwater Blvd N)	CSAH 13 (Ideal AVE N)			★	★				★			★★★
172	124	8.006	CSAH	8	CSAH 8 (Jody AVE N)	MSAS 103 (Goodview Ave N)				★		★		★			★★★
173	125	19A.001	CR	19A	CR 19A (Innovation Rd)	100th St S						★		★	★		★★★
174	126	52.001	CR	52	MN 97 (Scandia Tr N)	CR 52 (Oakhill Rd N)				★		★		★			★★★
179	127	66.002	CR	66	MSAS 108 (Greeley St)	MSAS 112 (Curve Crest Blvd)		★	★						★		★★★
9	128	12.001	CSAH	12	MN 244 (Wildwood Rd)	CSAH 12 (Stillwater Rd)			★			★					★★
11	129	12.003	CSAH	12	CSAH 12 (Stillwater Rd)	MSAS 105 (Hallam Ave)				★	★						★★
39	130	13.033	CSAH	13	CSAH 13 (Ideal AVE N)	M 27 (39th St N)				★				★			★★
45	131	14.008	CSAH	14	CSAH 14 (Stillwater Blvd N)	MSAS 114 (39th St N)	★							★			★★
46	132	14.015	CSAH	14	CSAH 21 (Stagecoach Tr N)	CSAH 14 (5th Ave N)						★		★			★★
47	133	14.016	CSAH	14	MN 95 (3rd St N)	CSAH 14 (5th Ave N)			★	★							★★
65	134	17.003	CSAH	17	CSAH 17 (Lake Elmo Ave N)	MSAS 106 (Upper 33rd St N)				★		★					★★
97	135	22.001	CSAH	22	CSAH 22 (Summit AVE)	CSAH 39 (Broadway AVE)			★	★							★★
98	136	22.002	CSAH	22	CSAH 22 (Summit AVE)	MSAS 108 (St Paul Park Rd)			★							★	★★
105	137	22.010	CSAH	22	MN 95 (Manning Ave S)	CSAH 22 (70th ST S)				★				★			★★
106	138	23.001	CSAH	23	CSAH 23 (60th ST N)	CSAH 26 (Frontage RD)						★		★			★★
109	139	23.005	CSAH	23	CSAH 23 (Orleans ST E)	CSAH 24 (3rd St S)				★				★			★★
112	140	23.008	CSAH	23	CSAH 23 (Chestnut ST E)	MSAS 106 (2nd St)	★			★							★★
116	141	24.004	CSAH	24	CSAH 23 (W Orleans St)	MSAS 103 (4th St)			★	★							★★
128	142	3.004	CSAH	3	CSAH 3 (Olinda Tr N)	CR 52 (Oakhill Rd N)				★						★	★★
129	143	3.005	CSAH	3	MN 97 (Scandia Trl N)	CSAH 3 (Olinda Tr N)				★				★			★★
133	144	32.005	CSAH	32	CSAH 32 (11th Ave SW)	MSAS 104 (4th St SW)	★							★			★★
134	145	32.006	CSAH	32	CSAH 32 (11th Ave SW)	MSAS 106 (Centennial St SW)	★							★			★★
135	146	32.007	CSAH	32	CSAH 32 (11th Ave SW)	MSAS 106 (Centennial St SW)	★							★			★★
142	147	38.001	CSAH	38	CSAH 38 (65th St S)	CR 74 (65th St S)					★			★			★★
157	148	5.004	CSAH	5	CSAH 5 (Stillwater Blvd N)	MSAS 102 (Pine St)		★				★					★★
159	149	5.006	CSAH	5	CSAH 12 (Myrtle St)	CSAH 5 (Owens St)			★	★							★★
161	150	5.008	CSAH	5	CSAH 5 (Owens St)	MSAS 116 (Mckusick Rd)				★		★					★★
175	151	62.001	CR	62	M 51 (62nd St N)	M 131 (Oxboro Ave N)				★					★		★★
176	152	64.001	CR	64	MSAS 116 (Mckusick Rd)	MSAS 117 (Neal Ave N)				★				★			★★
177	153	65.001	CR	65	CR 65 (Oakgreen Ave N)	T 150 (30th St N)				★				★			★★
10	154	12.002	CSAH	12	CSAH 12 (Stillwater Rd)	M 197 (Warner Ave N)				★							★
13	155	12.005	CSAH	12	CSAH 12 (75th St N)	M 3 (Keats Ave N)								★			★
14	156	12.006	CSAH	12	CSAH 12 (75th St N)	M 32 (Kimbro Ave N)								★			★
40	157	13.034	CSAH	13	CSAH 13 (Ideal AVE N)	MSAS 232 (40th St N)								★			★
41	158	13.035	CSAH	13	CSAH 13 (Olson Lake TRL N)	MSAS 119 (50th St N)						★					★
64	159	17.002	CSAH	17	CSAH 17 (Lake Elmo Ave N)	MSAS 108 (30th St N)						★					★
74	160	19.005	CSAH	19	CSAH 19 (Keats Ave S)	MSAS 125 (Indian Blvd S)								★			★

Urban Intersection Prioritization for Washington County - Vehicle Related

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.	Project Page No.	CRSP 2 ID	Route System	Route No.	Major Approach Name	Minor Approach Name	Context Zone	Traffic Control Device	Total Entering ADT or Cross Product	Leg Configuration	Major Division Type	Alignment Skew [degrees]	Adjacent Commercial Development	Major/Minor Approach Speed Limit	Major Approach Left Turn Lane Phasing	Major Approach Turn Lane Configuration	Total Stars
102	161	22.007	CSAH	22	CSAH 22 (70th ST S)	MSAS 122 (Inwood AVE S)								★			★
104	162	22.009	CSAH	22	CSAH 22 (70th ST S)	MSAS 103 (Kimbro AVE S)								★			★
107	163	23.003	CSAH	23	MSAS 120 (4th Ave S)	CSAH 23 (65th St N)				★							★
108	164	23.004	CSAH	23	CSAH 23 (65th ST N)	MSAS 101 (6th Ave S)				★							★
110	165	23.006	CSAH	23	CSAH 23 (3rd ST S)	MSAS 111 (Churchill St)				★							★
111	166	23.007	CSAH	23	CSAH 23 (3rd ST S)	MSAS 102 (Pine St)				★							★
121	167	25.003	CSAH	25	CSAH 25 (Century Ave S)	MSAS 127 (Linwood Ave E)						★					★
139	168	35.002	CSAH	35	CSAH 13 (50th St N)	MSAS 233 (50th St N)								★			★
140	169	35.003	CSAH	35	CSAH 13 (50th St N)	MSAS 121 (Hadley Ave N)								★			★
158	170	5.005	CSAH	5	CSAH 5 (Olive St)	MSAS 123 (Brick St)				★							★
160	171	5.007	CSAH	5	CSAH 5 (Owens St)	MSAS 105 (Mulberry St)				★							★
95	172	21.011	CSAH	21	CSAH 21 (Stagecoach Tr N)	CSAH 23 (Stage Coach TRL N)											
119	173	25.001	CSAH	25	CSAH 25 (Century Ave S)	MSAS 121 (Courtly Rd)											
120	174	25.002	CSAH	25	CSAH 72 (Century Ave S)	CSAH 25 (Highwood Ave E)											
127	175	27.002	CSAH	27	CSAH 27 (Century Ave)	CSAH 72 (Cedar Ave)											
151	176	39.004	CSAH	39	CSAH 39 (Hadley AVE S)	MSAS 115 (77th St S)											
152	177	39.005	CSAH	39	CSAH 39 (Hastings AVE)	MSAS 111 (Selby Ave)											
153	178	39.006	CSAH	39	CSAH 39 (Hastings AVE)	MSAS 103 (Lincoln Ave)											
162	179	5.009	CSAH	5	CSAH 5 (Owens St)	MSAS 110 (Wilkins St)											
						Count of Stars --	56	85	102	131	98	32	37	141	61	88	
						Percent of Stars --	31%	47%	57%	73%	55%	18%	21%	79%	34%	49%	

Stars	Count	Percent
★★★★★★★★★★	2	1%
★★★★★★★★★	12	7%
★★★★★★★★	20	11%
★★★★★★★	24	13%
★★★★★★	16	9%
★★★★★	16	9%
★★★★	18	10%
★★★	19	11%
★★	26	15%
★	18	10%
	8	4%
Total	179	100%

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Urban Intersection Prioritization for Washington County - Pedestrian/Bike Related

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.2	Project Page No.	CRSP 2 ID	Route System	Route No.	Major Approach Name	Minor Approach Name	Traffic Control Device	Total Entering ADT	Adjacent Commercial Development	Max Number of Lanes Crossed	Presence of Sidewalk	Pedestrian Crossing Type	Total Stars
85	1	2.002	CSAH	2	CSAH 2 (Broadway Ave)	MSAS 137 (Everton Ave N)	★	★	★	★	★	★	★★★★★★
86	2	2.003	CSAH	2	CSAH 2 (W Broadway Ave)	CSAH 33 (Everton Ave N)	★	★	★	★	★	★	★★★★★★
87	3	2.004	CSAH	2	CSAH 2 (Broadway Ave W)	MSAS 142 (19th St SW)	★	★	★	★	★	★	★★★★★★
89	4	2.006	CSAH	2	CSAH 2 (Broadway Ave)	MSAS 102 (12th St SW)	★	★	★	★	★	★	★★★★★★
154	5	5.001	CSAH	5	CSAH 5 (Stillwater Blvd N)	Westbound TH 36 (Ramp)	★	★	★	★	★	★	★★★★★★
155	6	5.002	CSAH	5	CSAH 5 (Stillwater Blvd N)	MSAS 112 (Curve Crest Blvd)	★	★	★	★	★	★	★★★★★★
163	7	6.001	CSAH	6	MN 120 (Century Ave N)	MN 5 (Stillwater Rd)	★	★	★	★	★	★	★★★★★★
1	8	10.001	CSAH	10	MN 120 (Century Ave N)	CSAH 34 (Minnehaha Ave E)	★	★	★	★	★	★	★★★★★★
3	9	10.003	CSAH	10	CSAH 10 (10th ST N)	MSAS 121 (Hadley Ave N)	★	★	★	★	★	★	★★★★★★
4	10	10.005	CSAH	10	CSAH 10 (10th ST N)	SB I-694 (Ramp)	★	★	★	★	★	★	★★★★★★
6	11	10.007	CSAH	10	CSAH 10 (10th ST N)	MSAS 237 (Helmo AVE N)	★	★	★	★	★	★	★★★★★★
27	12	13.014	CSAH	13	CSAH 13 (Radio DR)	MSAS 126 (City Centre DR)	★	★	★	★	★	★	★★★★★★
31	13	13.019	CSAH	13	CSAH 13 (Radio DR)	MSAS 102 (Tamarack Rd)	★	★	★	★	★	★	★★★★★★
32	14	13.021	CSAH	13	CSAH 13 (Radio DR)	MSAS 117 (Hudson RD)	★	★	★	★	★	★	★★★★★★
34	15	13.023	CSAH	13	CSAH 13 (Radio DR)	MSAS 117 (Hudson Ave)	★	★	★	★	★	★	★★★★★★
35	16	13.025	CSAH	13	CSAH 13 (Radio DR)	MSAS 142 (Woodbury Lakes RD)	★	★	★	★	★	★	★★★★★★
37	17	13.028	CSAH	13	CSAH 13 (Inwood AVE N)	MSAS 239 (4th St N)	★	★	★	★	★	★	★★★★★★
54	18	16.002	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 101 (Weir Dr)	★	★	★	★	★	★	★★★★★★
56	19	16.004	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 109 (Woodlane DR)	★	★	★	★	★	★	★★★★★★
57	20	16.005	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 122 (Queens Dr)	★	★	★	★	★	★	★★★★★★
58	21	16.007	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 105 (Tower Dr)	★	★	★	★	★	★	★★★★★★
81	22	19.013	CSAH	19	CSAH 19 (Woodbury Dr)	MSAS 102 (Tamarack Rd)	★	★	★	★	★	★	★★★★★★
82	23	19.014	CSAH	19	CSAH 19 (Woodbury Dr)	MSAS 117 (Hudson Rd)	★	★	★	★	★	★	★★★★★★
115	24	24.003	CSAH	24	MN 36	CSAH 24 (Osgood Ave N)	★	★	★	★	★	★	★★★★★★
150	25	39.003	CSAH	39	CSAH 39 (80th ST S)	MSAS 107 (Hadley AVE S)	★	★	★	★	★	★	★★★★★★
167	26	8.001	CSAH	8	CSAH 8 (Frenchman Rd N)	MSAS 116 (Victor Hugo Blvd)	★	★	★	★	★	★	★★★★★★
90	27	2.007	CSAH	2	CSAH 2 (Broadway Ave)	MSAS 104 (4th St SW)	★	★		★	★	★	★★★★★
156	28	5.003	CSAH	5	CSAH 5 (Stillwater Blvd N)	MSAS 119 (Orleans St)	★	★		★	★	★	★★★★★
170	29	8.004	CSAH	8	US 61	CSAH 8 (Frenchman Rd N)	★	★		★	★	★	★★★★★
171	30	8.005	CSAH	8	US 61 (Forest Blvd)	CSAH 8 (Jody AVE N)	★	★		★	★	★	★★★★★
8	31	10.009	CSAH	10	CSAH 13 (Inwood Ave N)	CSAH 10 (10th ST N)	★	★		★	★	★	★★★★★
12	32	12.004	CSAH	12	CSAH 12 (Stillwater Rd)	CSAH 29 (Hilton TRL N)	★	★		★	★	★	★★★★★
16	33	13.001	CSAH	13	CSAH 22 (70th St S)	CSAH 13 (Hinton AVE S)		★	★	★	★	★	★★★★★
19	34	13.006	CSAH	13	CSAH 13 (Radio DR)	MSAS 141 (Hingis PKWY)	★	★		★	★	★	★★★★★
22	35	13.009	CSAH	13	CSAH 13 (Radio DR)	MSAS 108 (Lake RD)	★	★		★	★	★	★★★★★
26	36	13.013	CSAH	13	CSAH 13 (Radio DR)	CSAH 16 (Valley Creek Rd)	★	★	★	★		★	★★★★★
29	37	13.017	CSAH	13	CSAH 13 (Radio DR)	MSAS 139 (Seasons Pkwy)	★	★		★	★	★	★★★★★
33	38	13.022	CSAH	13	CSAH 13 (Radio Dr)	MSAS 117 (Hudson Rd)	★		★	★	★	★	★★★★★
49	39	15.007	CSAH	15	MN 36	CSAH 15 (Manning AVE N)	★	★		★	★	★	★★★★★
53	40	16.001	CSAH	16	CSAH 16 (Valley Creek Rd)	CSAH 25 (Century Ave)	★	★		★	★	★	★★★★★
60	41	16.009	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 132 (Donegal Dr)	★	★		★	★	★	★★★★★
61	42	16.010	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 120 (Interlachen PKWY)	★	★		★	★	★	★★★★★
63	43	16.012	CSAH	16	CSAH 16 (Valley Creek Rd)	CSAH 19 (Woodbury Dr)	★	★		★	★	★	★★★★★
66	44	18.002	CSAH	18	CSAH 18 (Bailey RD)	MSAS 109 (Woodlane DR)	★	★		★	★	★	★★★★★
67	45	18.003	CSAH	18	CSAH 18 (Bailey RD)	MSAS 107 (Pioneer DR)	★	★		★	★	★	★★★★★
78	46	19.010	CSAH	19	CSAH 19 (Woodbury Dr)	MSAS 137 (Eagle Valley Rd)	★	★		★	★	★	★★★★★
79	47	19.011	CSAH	19	CSAH 19 (Woodbury Dr)	CSAH 16 (Valley Creek Rd)	★	★		★	★	★	★★★★★
80	48	19.012	CSAH	19	CSAH 19 (Woodbury Dr)	Fox Run Rd	★	★		★	★	★	★★★★★
94	49	20.003	CSAH	20	CSAH 20 (Bailey RD)	M 8 (Hastings Ave)	★	★		★	★	★	★★★★★
96	50	21.012	CSAH	21	MN 95 (Saint Croix Tr N)	CSAH 21 (56th ST N)	★	★		★	★	★	★★★★★
99	51	22.004	CSAH	22	CSAH 22 (70th ST S)	CSAH 38 (65th St S)	★	★		★	★	★	★★★★★
126	52	27.001	CSAH	27	MN 120 (Century Ave)	CSAH 15 (County Rd E)	★	★	★	★		★	★★★★★
136	53	32.008	CSAH	32	US 61 (Forest Blvd N)	CSAH 32 (11th Ave SW)	★	★		★	★	★	★★★★★
149	54	39.002	CSAH	39	MSAS 102 (80th St S)	US 61 (Ramp)	★	★	★	★	★		★★★★★
148	55	39.001	CSAH	39	CSAH 39 (80th ST S)	US 61 (Ramp)	★	★	★	★	★		★★★★★
122	56	25.004	CSAH	25	CSAH 25 (Century Ave)	Century Ave S	★	★		★	★	★	★★★★★
124	57	25.006	CSAH	25	CSAH 72 (Century Ave)	MSAS 114 (Upper Afton Rd)	★	★		★	★	★	★★★★★
52	58	15.010	CSAH	15	CSAH 15 (Manning AVE N)	M 415 (Settlers Way)	★	★		★	★	★	★★★★★

Urban Intersection Prioritization for Washington County - Pedestrian/Bike Related

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.2	Project Page No.	CRSP 2 ID	Route System	Route No.	Major Approach Name	Minor Approach Name	Traffic Control Device	Total Entering ADT	Adjacent Commercial Development	Max Number of Lanes Crossed	Presence of Sidewalk	Pedestrian Crossing Type	Total Stars
51	59	15.009	CSAH	15	CSAH 15 (Manning AVE N)	M 374 (Liberty Ave)	★	★		★	★	★	★★★★★
62	60	16.011	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 133 (Colby Lake Dr)	★	★		★	★	★	★★★★★
42	61	13.036	CSAH	13	CSAH 13 (Ironwood Ave N)	5th St N	★	★	★	★		★	★★★★★
168	62	8.002	CSAH	8	CSAH 8 (Frenchman Rd N)	MSAS 117 (Everton AVE N)		★		★	★	★	★★★★
169	63	8.003	CSAH	8	CSAH 8 (Frenchman Rd N)	MSAS 111 (Oneka PKWY N)		★		★	★	★	★★★★
2	64	10.002	CSAH	10	CSAH 10 (10th ST N)	MSAS 236 (Greenway Ave)	★	★			★	★	★★★★
23	65	13.010	CSAH	13	CSAH 13 (Radio Dr)	MSAS 108 (Lake Rd)	★			★	★	★	★★★★
25	66	13.012	CSAH	13	CSAH 13 (Radio DR)	MSAS 107 (Pioneer DR)	★	★		★	★		★★★★
30	67	13.018	CSAH	13	CSAH 13 (Radio Dr)	MSAS 139 (Seasons Pkwy)	★			★	★	★	★★★★
38	68	13.030	CSAH	13	CSAH 13 (Inwood AVE N)	MSAS 112 (Eagle Point Blvd)		★	★	★	★		★★★★
43	69	14.006	CSAH	14	CSAH 14 (Stillwater Blvd N)	CSAH 17 (Lake Elmo Ave N)	★			★	★	★	★★★★
50	70	15.008	CSAH	15	CSAH 15 (Manning AVE N)	MSAS 121 (62nd ST N)		★		★	★	★	★★★★
59	71	16.008	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 126 (City Centre DR)		★	★	★	★		★★★★
84	72	19.016	CSAH	19	CSAH 19 (Keats Ave N)	MSAS 120 (Hudson Blvd)	★	★		★	★		★★★★
93	73	20.002	CSAH	20	CSAH 20 (Bailey RD)	I 494 (Ramp)	★	★		★	★		★★★★
101	74	22.006	CSAH	22	CSAH 22 (70th ST S)	MSAS 112 (Hardwood AVE S)	★			★	★	★	★★★★
144	75	38.003	CSAH	38	CSAH 38 (Glen Rd)	US 61 (Ramp)	★			★	★	★	★★★★
143	76	38.002	CSAH	38	US 61	CSAH 38 (Glen Rd)	★			★	★	★	★★★★
178	77	66.001	CR	66	MN 36	CR 66 (Greeley ST)	★	★		★		★	★★★★
179	78	66.002	CR	66	MSAS 108 (Greeley St)	MSAS 112 (Curve Crest Blvd)	★	★		★	★		★★★★
7	79	10.008	CSAH	10	CSAH 10 (10th ST N)	M 457 (Heron Ave N)	★			★	★	★	★★★★
21	80	13.008	CSAH	13	CSAH 13 (Radio DR)	M 645 (Commonwealth Ave)	★			★	★	★	★★★★
100	81	22.005	CSAH	22	CSAH 22 (70th ST S)	M 880 (Meadow Grass Ave)	★			★	★	★	★★★★
118	82	24.006	CSAH	24	CSAH 24 (Osgood Ave N)	M 51 (62nd St N)	★	★		★		★	★★★★
165	83	6.003	CSAH	6	CSAH 6 (Stillwater Blvd N)	MSAS 121 (Hadley Ave N)		★			★	★	★★★
17	84	13.002	CSAH	13	CSAH 13 (Hinton AVE S)	MSAS 123 (65th ST S)				★	★	★	★★★
24	85	13.011	CSAH	13	CSAH 13 (Radio DR)	MSAS 105 (Tower Dr)		★		★	★		★★★
28	86	13.016	CSAH	13	CSAH 13 (Radio DR)	MSAS 132 (Donegal Dr)		★		★	★		★★★
47	87	14.016	CSAH	14	MN 95 (3rd St N)	CSAH 14 (5th Ave N)		★			★	★	★★★
69	88	18.005	CSAH	18	CSAH 18 (Bailey RD)	MSAS 116 (Cottage Grove Dr)		★		★	★		★★★
97	89	22.001	CSAH	22	CSAH 22 (Summit AVE)	CSAH 39 (Broadway AVE)		★			★	★	★★★
113	90	23.009	CSAH	23	MN 95 (Main St)	CSAH 23 (Chestnut ST E)	★	★				★	★★★
132	91	32.004	CSAH	32	CSAH 32 (11th Ave SW)	MSAS 102 (12th St SW)	★	★				★	★★★
146	92	38.005	CSAH	38	CR 38A (Maxwell Ave)	I 494 (Ramp)		★		★	★		★★★
98	93	22.002	CSAH	22	CSAH 22 (Summit AVE)	MSAS 108 (St Paul Park Rd)		★		★	★		★★★
125	94	25.007	CSAH	25	MN 120 (Century Ave N)	CSAH 72 (Century Ave)		★		★	★		★★★
114	95	24.001	CSAH	24	CSAH 24 (Osgood Ave N)	M 57 (58th St N)			★	★	★		★★★
91	96	2.009	CSAH	2	US 61 (Lake Rabt)	CSAH 2 (Broadway Ave)		★	★				★★
128	97	3.004	CSAH	3	CSAH 3 (Olinda Tr N)	CR 52 (Oakhill Rd N)					★	★	★★
129	98	3.005	CSAH	3	MN 97 (Scandia Trl N)	CSAH 3 (Olinda Tr N)				★	★		★★
157	99	5.004	CSAH	5	CSAH 5 (Stillwater Blvd N)	MSAS 102 (Pine St)	★				★		★★
159	100	5.006	CSAH	5	CSAH 12 (Myrtle St)	CSAH 5 (Owens St)		★				★	★★
164	101	6.002	CSAH	6	CSAH 6 (Stillwater Blvd N)	MSAS 234 (Granada Ave N)					★	★	★★
166	102	6.005	CSAH	6	CSAH 6 (Stillwater Blvd N)	CSAH 13 (Ideal AVE N)					★	★	★★
9	103	12.001	CSAH	12	MN 244 (Wildwood Rd)	CSAH 12 (Stillwater Rd)		★			★		★★
11	104	12.003	CSAH	12	CSAH 12 (Stillwater Rd)	MSAS 105 (Hallam Ave)					★	★	★★
18	105	13.003	CSAH	13	CSAH 13 (Hinton AVE S)	MSAS 118 (Glen Rd)				★	★		★★
20	106	13.007	CSAH	13	CSAH 18 (Bailey RD)	CSAH 13 (Radio Dr)		★			★		★★
44	107	14.007	CSAH	14	CSAH 14 (Stillwater Blvd N)	MSAS 106 (Laverne Ave N)				★	★		★★
45	108	14.008	CSAH	14	CSAH 14 (Stillwater Blvd N)	MSAS 114 (39th St N)				★	★		★★
46	109	14.015	CSAH	14	CSAH 21 (Stagecoach Tr N)	CSAH 14 (5th Ave N)				★	★		★★
68	110	18.004	CSAH	18	CSAH 18 (Bailey RD)	CSAH 19 (Woodbury DR)		★			★		★★
77	111	19.009	CSAH	19	CSAH 19 (Woodbury DR)	MSAS 108 (Lake RD)		★			★		★★
116	112	24.004	CSAH	24	CSAH 23 (W Orleans St)	MSAS 103 (4th St)		★			★		★★
145	113	38.004	CSAH	38	CSAH 38 (Maxwell Ave)	I-494 (Ramp)				★	★		★★
121	114	25.003	CSAH	25	CSAH 25 (Century Ave S)	MSAS 127 (Linwood Ave E)				★	★		★★
123	115	25.005	CSAH	25	CSAH 25 (Century Ave)	MSAS 129 (Pouliot Pkwy)				★	★		★★
10	116	12.002	CSAH	12	CSAH 12 (Stillwater Rd)	M 197 (Warner Ave N)					★	★	★★

Urban Intersection Prioritization for Washington County - Pedestrian/Bike Related

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.2	Project Page No.	CRSP 2 ID	Route System	Route No.	Major Approach Name	Minor Approach Name	Traffic Control Device	Total Entering ADT	Adjacent Commercial Development	Max Number of Lanes Crossed	Presence of Sidewalk	Pedestrian Crossing Type	Total Stars
39	117	13.033	CSAH	13	CSAH 13 (Ideal AVE N)	M 27 (39th St N)				★	★		★★
73	118	18.014	CSAH	18	CSAH 18 (St. Croix TRL N)	M 13 (8th St N)				★	★		★★
147	119	38.006	CSAH	38	CR 38A (Maxwell Ave)	M 102 (Red Rock Rd)				★	★		★★
117	120	24.005	CSAH	24	CSAH 24 (Osgood Ave N)	CSAH 26 (60th ST N)		★		★			★★
92	121	20.001	CSAH	20	M 2168 (Maxwell AVE)	US 61 (Ramp)	★	★					★★
83	122	19.015	CSAH	19	CSAH 19 (Keats Ave N)	I 94 (Ramp)	★	★					★★
55	123	16.003	CSAH	16	CSAH 16 (Valley Creek Rd)	I 494 (Ramp)	★	★					★★
88	124	2.005	CSAH	2	CSAH 2 (Broadway Ave)	I 35 (Ramp)	★	★					★★
158	125	5.005	CSAH	5	CSAH 5 (Olive St)	MSAS 123 (Brick St)					★		★
160	126	5.007	CSAH	5	CSAH 5 (Owens St)	MSAS 105 (Mulberry St)					★		★
161	127	5.008	CSAH	5	CSAH 5 (Owens St)	MSAS 116 (Mckusick Rd)					★		★
162	128	5.009	CSAH	5	CSAH 5 (Owens St)	MSAS 110 (Wilkins St)					★		★
172	129	8.006	CSAH	8	CSAH 8 (Jody AVE N)	MSAS 103 (Goodview Ave N)					★		★
5	130	10.006	CSAH	10	CSAH 10 (10th ST N)	I 494 (Ramp)		★					★
15	131	12.013	CSAH	12	CSAH 12 (75th ST N)	MSAS 123 (Brick St)					★		★
36	132	13.027	CSAH	13	CSAH 13 (Inwood Ave N)	I 94 (Ramp)	★						★
40	133	13.034	CSAH	13	CSAH 13 (Ideal AVE N)	MSAS 232 (40th St N)					★		★
41	134	13.035	CSAH	13	CSAH 13 (Olson Lake TRL N)	MSAS 119 (50th St N)					★		★
64	135	17.002	CSAH	17	CSAH 17 (Lake Elmo Ave N)	MSAS 108 (30th St N)					★		★
65	136	17.003	CSAH	17	CSAH 17 (Lake Elmo Ave N)	MSAS 106 (Upper 33rd St N)					★		★
74	137	19.005	CSAH	19	CSAH 19 (Keats Ave S)	MSAS 125 (Indian Blvd S)					★		★
75	138	19.006	CSAH	19	CSAH 19 (Keats AVE S)	CSAH 22 (70th ST S)					★		★
76	139	19.007	CSAH	19	CSAH 19 (Keats AVE S)	M 528 (Military RD)					★		★
102	140	22.007	CSAH	22	CSAH 22 (70th ST S)	MSAS 122 (Inwood AVE S)					★		★
103	141	22.008	CSAH	22	CSAH 20 (Jamaica AVE S)	CSAH 22 (70th ST S)					★		★
104	142	22.009	CSAH	22	CSAH 22 (70th ST S)	MSAS 103 (Kimbro AVE S)					★		★
105	143	22.010	CSAH	22	MN 95 (Manning Ave S)	CSAH 22 (70th ST S)					★		★
106	144	23.001	CSAH	23	CSAH 23 (60th ST N)	CSAH 26 (Frontage RD)					★		★
107	145	23.003	CSAH	23	MSAS 120 (4th Ave S)	CSAH 23 (65th St N)					★		★
108	146	23.004	CSAH	23	CSAH 23 (65th ST N)	MSAS 101 (6th Ave S)					★		★
109	147	23.005	CSAH	23	CSAH 23 (Orleans ST E)	CSAH 24 (3rd St S)					★		★
112	148	23.008	CSAH	23	CSAH 23 (Chestnut ST E)	MSAS 106 (2nd St)						★	★
127	149	27.002	CSAH	27	CSAH 27 (Century Ave)	CSAH 72 (Cedar Ave)					★		★
130	150	32.001	CSAH	32	CSAH 32 (220th St N)	CSAH 33 (Everton Ave N)					★		★
131	151	32.003	CSAH	32	CSAH 32 (220th St N)	MSAS 101 (15th St SW)					★		★
133	152	32.005	CSAH	32	CSAH 32 (11th Ave SW)	MSAS 104 (4th St SW)					★		★
134	153	32.006	CSAH	32	CSAH 32 (11th Ave SW)	MSAS 106 (Centennial St SW)					★		★
135	154	32.007	CSAH	32	CSAH 32 (11th Ave SW)	MSAS 106 (Centennial St SW)					★		★
137	155	33.001	CSAH	33	CSAH 33 (Everton Ave N)	MSAS 142 (19th ST SW)					★		★
138	156	35.001	CSAH	35	CSAH 13 (Hadley AVE N)	MSAS 241 (Hadley AVE N)						★	★
139	157	35.002	CSAH	35	CSAH 13 (50th St N)	MSAS 233 (50th St N)					★		★
140	158	35.003	CSAH	35	CSAH 13 (50th St N)	MSAS 121 (Hadley Ave N)					★		★
142	159	38.001	CSAH	38	CSAH 38 (65th St S)	CR 74 (65th St S)					★		★
151	160	39.004	CSAH	39	CSAH 39 (Hadley AVE S)	MSAS 115 (77th St S)					★		★
152	161	39.005	CSAH	39	CSAH 39 (Hastings AVE)	MSAS 111 (Selby Ave)					★		★
153	162	39.006	CSAH	39	CSAH 39 (Hastings AVE)	MSAS 103 (Lincoln Ave)					★		★
174	163	52.001	CR	52	MN 97 (Scandia Tr N)	CR 52 (Oakhill Rd N)					★		★
176	164	64.001	CR	64	MSAS 116 (Mckusick Rd)	MSAS 117 (Neal Ave N)					★		★
119	165	25.001	CSAH	25	CSAH 25 (Century Ave S)	MSAS 121 (Courtly Rd)					★		★
120	166	25.002	CSAH	25	CSAH 72 (Century Ave S)	CSAH 25 (Highwood Ave E)					★		★
13	167	12.005	CSAH	12	CSAH 12 (75th St N)	M 3 (Keats Ave N)					★		★
14	168	12.006	CSAH	12	CSAH 12 (75th St N)	M 32 (Kimbro Ave N)					★		★
177	169	65.001	CR	65	CR 65 (Oakgreen Ave N)	T 150 (30th St N)					★		★
72	170	18.013	CSAH	18	CSAH 18 (St. Croix TRL N)	M 21 (5th St N)					★		★
71	171	18.012	CSAH	18	CSAH 18 (St. Croix TRL S)	M 70 (Division St N)					★		★
70	172	18.011	CSAH	18	CSAH 18 (St. Croix TRL S)	M 33 (5th St S)					★		★
173	173	19A.001	CR	19A	CR 19A (Innovation Rd)	100th St S					★		★
141	174	35.004	CSAH	0	CSAH 35 (Hadley Ave N)	55th St N					★		★

Urban Intersection Prioritization for Washington County - Pedestrian/Bike Related

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.2	Project Page No.	CRSP 2 ID	Route System	Route No.	Major Approach Name	Minor Approach Name	Traffic Control Device	Total Entering ADT	Adjacent Commercial Development	Max Number of Lanes Crossed	Presence of Sidewalk	Pedestrian Crossing Type	Total Stars
48	175	15.006	CSAH	15	CSAH 15 (Stillwater Blvd N)	MN 36 (Ramp)	★						★
95	176	21.011	CSAH	21	CSAH 21 (Stagecoach Tr N)	CSAH 23 (Stage Coach TRL N)							
110	177	23.006	CSAH	23	CSAH 23 (3rd ST S)	MSAS 111 (Churchill St)							
111	178	23.007	CSAH	23	CSAH 23 (3rd ST S)	MSAS 102 (Pine St)							
175	179	62.001	CR	62	M 51 (62nd St N)	M 131 (Oxboro Ave N)							

Stars	Count	Percent
★★★★★★	26	15%
★★★★★	35	20%
★★★★	21	12%
★★★	13	7%
★★	29	16%
★	51	28%
	4	2%
Total	179	100%

Count of Stars --	85	96	37	101	156	88
Percent of Stars --	47%	54%	21%	56%	87%	49%

COUNTY ROADWAY Safety Plan
Toward ZERO Deaths

Appendix E – Regional TZD Coordinator Contact

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Contact MN TZD[1]

For more information about TZD, or for program-related questions:

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[1] List taken from
http://www.minnesotatzd.org/whatistzd/mntzd/contact/

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COUNTY ROADWAY
Safety Plan
Toward ZERO Deaths

Appendix F – List of Recommended Projects

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Rural Segment Project List for Washington County

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.	Project Page No.	CRSP 2 ID	Route System	Route No.	Segment Start Description	Segment End Description	Length [Miles]	Total Stars	Buffer between Opposing Lanes	Clear Zone Enhancements	Six Inch Wet Reflective Paint in Groove	Shoulder Paving and Safety Edge	Centerline Rumble Strip	Edgeline Rumble Strip	Shoulder Rumble Strip	Enhanced Edgeline	Cost
17	1	8.003	CSAH	8	Goodview Ave N	140th St N	1.72	★★★★★★	0	0	0	0	1	1	0	1	$14,930.46
63	2	22.005	CSAH	22	840 ft East of CSAH 19	Peller Ave S	5.38	★★★★★	0	0	0	0	1	1	0	1	$46,808.66
12	3	7.001	CSAH	7	Goodview Ave	Jody Ave N	4.06	★★★★★	0	0	0	0	1	1	0	1	$35,307.93
18	4	8.004	CSAH	8	Homestead Ave N	122nd St N	3.30	★★★★★	0	0	0	1	0	0	1	0	$175,141.11
60	5	21.004	CSAH	21	170 ft North of 37th St	1320 ft Southwest of 45th St	1.40	★★★★★	0	1	0	0	1	1	0	1	$152,521.75
55	6	20.003	CSAH	20	632 ft Northwest of Radio Dr	710 ft Southwest of Radio Dr	0.25	★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
19	7	9.001	CSAH	9	75th St	Ironwood Ave	3.49	★★★★	1	0	0	0	0	0	0	0	$523,848.52
22	8	10.004	CSAH	10	Lake Elmo Ave N	Stagecoach Trail N	4.25	★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
68	9	50.002	CR	50	Harrow Ave N	Manning Trail N	4.60	★★★★	0	0	0	0	0	0	0	1	$12,421.79
81	10	91.001	CR	91	270 ft North of 239th St N	Scandia Trail N	3.00	★★★★	0	0	0	0	0	1	0	1	$17,104.06
69	11	51.001	CR	51	Square Lake Trail N	St Croix Trail N	2.98	★★★★	0	0	0	0	0	0	0	1	$8,049.92
74	12	61.001	CR	61	Manning Trail N	Norell Ave N	2.84	★★★★	0	0	0	0	0	0	0	1	$7,674.00
72	13	57.001	CR	57	170th St N	122nd St N	5.83	★★★★	0	0	0	0	0	0	0	1	$15,736.22
71	14	55.001	CR	55	Square Lake Trail N	Dellwood Rd	4.32	★★★★	0	0	0	0	1	1	0	1	$37,549.14
1	15	2.001	CSAH	2	Lyons St NE	810 ft Northwest of Everton Ave N	0.42	★★★★	1	0	0	0	0	0	0	0	$63,593.18
5	16	3.005	CSAH	3	240th St	Olinda Ln N	2.49	★★★★	1	0	0	0	0	0	0	0	$372,784.11
8	17	4.003	CSAH	4	Olinda Trail	St Croix Trail	3.93	★★★★	0	0	0	0	0	0	1	1	$22,411.35
9	18	5.003	CSAH	5	Dellwood Rd	Norell Ave N	0.85	★★★★	1	0	0	0	0	0	0	0	$127,065.92
14	19	7.003	CSAH	7	Manning Trail N	Partridge Rd N	4.36	★★★★	0	0	0	0	1	1	0	1	$37,914.31
20	20	9.002	CSAH	9	122nd St N	Ironwood Ave N	2.53	★★★★	0	0	0	0	1	1	0	1	$22,053.64
21	21	10.003	CSAH	10	1620 ft East of Linwood Ave N	Lake Elmo Ave N	2.17	★★★★	1	0	0	0	0	0	0	0	$325,957.24
27	22	12.004	CSAH	12	955 ft West of Manning Ave N	345 ft Northwest of Birchwood Dr	1.91	★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
57	23	21.001	CSAH	21	200 ft South of 90th St S	Point Douglas Dr S	5.08	★★★★	0	0	0	0	1	1	0	1	$44,193.52
58	24	21.002	CSAH	21	1493 ft North of 87th St S	200 ft South of 90th St S	0.58	★★★★	0	0	0	0	1	1	0	1	$5,033.57
62	25	21.007	CSAH	21	47th St N	10th St N	3.81	★★★★	1	0	0	0	0	0	0	0	$571,469.05
61	26	21.006	CSAH	21	10th St N	St Croix Trail S	4.64	★★★★	0	0	0	0	1	1	0	1	$40,397.03
78	27	74.001	CR	74	Hastings Ave	Hinton Ave S	2.20	★★★★	1	0	0	0	0	0	0	0	$330,280.03
35	28	15.002	CSAH	15	500 ft NorthEast of Intersection of Manning Trail N	950 ft NorthEast 10th St N	0.38	★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
41	29	15.010	CSAH	15	Intersection of 170th St N	Intersection of Square Lake Trail N	4.51	★★★★	1	0	0	0	0	0	0	0	$676,124.48
39	30	15.008	CSAH	15	614 ft North of 110th St N	590 ft South of Mendel Rd N	0.43	★★★★	0	1	0	0	0	0	0	0	$42,821.20
42	31	15.011	CSAH	15	Intersection of Scandia Trail N	Intersection of 170th St N	4.11	★★★★	1	1	0	0	0	0	0	0	$1,027,306.52
7	32	4.002	CSAH	4	Intersection of Manning Trail N	Intersection of Olinda Trail N	2.72	★★★★	0	0	0	0	0	0	1	1	$15,513.38
40	33	15.009	CSAH	15	Square Lake Trail N	614 ft North of 110th St N	1.91	★★★★	1	0	0	0	0	0	0	0	$286,877.39
84	34	96.003	CSAH	96	Manning Ave N	Norell Ave N	1.64	★★★★	1	0	0	0	0	0	0	0	$246,746.11
85	35	96.004	CSAH	96	Norell Ave N	St Croix Trail	1.17	★★★★	1	0	0	0	0	0	0	0	$175,317.08
50	36	18.007	CSAH	18	Oakgreen Ave S	St Croix Trail S	2.28	★★★★	0	0	1	0	1	0	0	0	$12,982.89
						Total Length (Miles)	101.55446		12	3	1	1	11	11	3	17	$5,493,935.57

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Curve Project List for Washington County

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.	Project Page No.	CRSP 2 ID	Route System	Route No.	Segment Start Description	Segment End Description	Length [Miles]	Total Stars	Clear Zone Enhancements	High Friction Surface Treatment	Reconstruct TT Intersection to T Intersection	Lighting	Curve Warning Sign	Speed Advisory Sign	Chevrons or Arrow Board	Cost
101	1	9.007	CSAH	9	122nd St N	Ironwood Ave N	0.18	★★★★★★★	0	0	0	0	County Completed	0	County Completed	No Project - Previously Completed
89	2	8.007	CSAH	8	Goodview Ave N	140th St N	0.14	★★★★★★	1	0	0	0	County Completed	County Completed	County Completed	$100,000.00
69	3	7.022	CSAH	7	Squarelake Trail N	St Croix Trail	0.05	★★★★★★	0	0	0	0	0	0	0	No Project - Criteria Not Met
67	4	7.020	CSAH	7	Squarelake Trail N	St Croix Trail	0.10	★★★★★★	0	0	0	0	County Completed	0	0	No Project - Previously Completed
66	5	7.019	CSAH	7	Squarelake Trail N	St Croix Trail	0.05	★★★★★★	0	0	0	0	County Completed	County Completed	0	No Project - Previously Completed
64	6	7.017	CSAH	7	Squarelake Trail N	St Croix Trail	0.12	★★★★★★	0	0	0	0	0	0	0	No Project - Criteria Not Met
256	7	21.040	CSAH	21	10th St N	St Croix Trail S	0.08	★★★★★★	0	0	0	0	0	0	0	No Project - Criteria Not Met
330	8	57.003	CR	57	170th St N	122nd St N	0.08	★★★★★★	0	0	0	0	County Completed	1	County Completed	$1,000.00
90	9	8.008	CSAH	8	Homestead Ave N	122nd St N	0.12	★★★★★★	0	0	0	0	County Completed	County Completed	County Completed	No Project - Previously Completed
94	10	8.012	CSAH	8	Homestead Ave N	122nd St N	0.05	★★★★★★	0	0	0	0	1	1	1	$4,500.00
104	11	9.010	CSAH	9	122nd St N	Ironwood Ave N	0.17	★★★★★★	0	0	0	0	County Completed	0	1	$2,500.00
102	12	9.008	CSAH	9	122nd St N	Ironwood Ave N	0.12	★★★★★★	1	0	0	0	County Completed	0	County Completed	$100,000.00
51	13	7.004	CSAH	7	Goodview Ave	Jody Ave N	0.12	★★★★★★	1	0	0	0	County Completed	0	1	$102,500.00
50	14	7.003	CSAH	7	Goodview Ave	Jody Ave N	0.12	★★★★★★	0	0	0	0	County Completed	County Completed	1	$2,500.00
3	15	3.001	CSAH	3	Square Lake Trail	170th St N	0.09	★★★★★★	0	0	0	0	1	0	1	$3,500.00
354	16	75.004	CR	75	14th Ave	105th St S	0.04	★★★★★★	0	0	0	0	County Completed	County Completed	1	$2,500.00
2	17	2.002	CSAH	2	420 ft SouthEast of Ethan Ct N	NW 4th St	0.10	★★★★★	1	0	0	0	0	0	0	$100,000.00
315	18	50.004	CSAH	50	Harrow Ave N	Manning Trail N	0.07	★★★★★	0	0	0	0	1	1	1	$4,500.00
29	19	4.007	0	0	Olinda Trail	St Croix Trail	0.13	★★★★★	0	0	0	0	0	0	0	No Project - Criteria Not Met
321	20	52.004	CSAH	52	365 ft Northwest of Ostrum Ave N	St Croix Trail	0.56	★★★★★	0	0	0	0	0	0	0	No Project - Criteria Not Met
162	21	15.022	CSAH	15	240th St N	Scandia Trail N	0.08	★★★★★	0	0	0	0	0	0	0	No Project - Criteria Not Met
336	22	57.009	CSAH	57	170th St N	122nd St N	0.06	★★★★★	0	0	0	0	1	1	0	$2,000.00
337	23	57.010	CR	57	170th St N	122nd St N	0.03	★★★★★	0	0	0	0	1	0	0	$1,000.00
332	24	57.005	CR	57	170th St N	122nd St N	0.08	★★★★★	0	0	0	0	0	0	0	No Project - Criteria Not Met
86	25	8.004	CSAH	8	Goodview Ave N	140th St N	0.06	★★★★★	0	0	0	0	County Completed	1	0	$1,000.00
87	26	8.005	CSAH	8	Goodview Ave N	140th St N	0.07	★★★★★	1	0	0	0	County Completed	0	0	$100,000.00
88	27	8.006	CSAH	8	Goodview Ave N	140th St N	0.06	★★★★★	0	0	0	0	County Completed	County Completed	0	No Project - Previously Completed
93	28	8.011	CSAH	8	Homestead Ave N	122nd St N	0.14	★★★★★	0	0	0	0	County Completed	County Completed	0	No Project - Previously Completed
345	29	61.004	CSAH	61	Manning Trail N	Norell Ave N	0.07	★★★★★	0	0	0	0	1	1	0	$2,000.00
344	30	61.003	CR	61	Manning Trail N	Norell Ave N	0.09	★★★★★	0	0	0	0	0	0	0	No Project - Criteria Not Met
342	31	61.001	CR	61	Manning Trail N	Norell Ave N	0.18	★★★★★	0	0	0	0	0	0	0	No Project - Criteria Not Met
251	32	21.035	CSAH	21	10th St N	St Croix Trail S	0.09	★★★★★	1	0	0	0	0	0	0	$100,000.00
250	33	21.034	CSAH	21	10th St N	St Croix Trail S	0.24	★★★★★	0	0	0	0	0	0	0	No Project - Criteria Not Met
257	34	21.041	CSAH	21	10th St N	St Croix Trail S	0.10	★★★★★	0	0	0	0	0	0	0	No Project - Criteria Not Met
258	35	21.042	CSAH	21	10th St N	St Croix Trail S	0.07	★★★★★	0	0	0	0	0	0	0	No Project - Criteria Not Met
259	36	21.043	CSAH	21	10th St N	St Croix Trail S	0.08	★★★★★	1	0	0	0	0	0	0	$100,000.00
260	37	21.044	CSAH	21	10th St N	St Croix Trail S	0.08	★★★★★	1	0	0	0	0	0	0	$100,000.00
223	38	21.007	CSAH	21	200 ft South of 90th St S	Point Douglas Dr S	0.22	★★★★★	0	0	0	0	0	0	0	No Project - Criteria Not Met
285	39	25.001	CR	25	Lake Rd	Carver Ave	0.10	★★★★★	0	0	0	0	0	0	0	No Project - Criteria Not Met
18	40	3.021	CSAH	3	240th St	Olinda Ln N	0.10	★★★★★	0	0	0	0	0	0	0	No Project - Criteria Not Met
16	41	3.014	CR	3	962 ft Southwest of 205th St N	2250 ft South of 177th St N	0.06	★★★★★	0	0	0	0	0	0	0	No Project - Criteria Not Met
14	42	3.012	CSAH	3	962 ft Southwest of 205th St N	2250 ft South of 177th St N	0.15	★★★★★	0	0	0	0	0	0	1	$2,500.00
28	43	4.006	CSAH	4	Intersection of Manning Trail N	Intersection of Olinda Trail N	0.19	★★★★★	0	0	0	0	0	0	1	$2,500.00
335	44	57.008	CSAH	57	170th St N	122nd St N	0.06	★★★★★	0	0	0	0	1	1	0	$2,000.00
334	45	57.007	CR	57	170th St N	122nd St N	0.06	★★★★★	0	0	0	0	1	0	0	$1,000.00
328	46	57.001	CR	57	170th St N	122nd St N	0.12	★★★★★	0	0	0	0	County Completed	0	0	No Project - Previously Completed
91	47	8.009	CSAH	8	Homestead Ave N	122nd St N	0.10	★★★★★	0	0	0	0	County Completed	County Completed	County Completed	No Project - Previously Completed
103	48	9.009	CSAH	9	122nd St N	Ironwood Ave N	0.13	★★★★★	0	0	0	0	County Completed	0	0	No Project - Previously Completed
49	49	7.002	CSAH	7	Goodview Ave	Jody Ave N	0.19	★★★★★	1	0	0	0	County Completed	0	0	$100,000.00
52	50	7.005	CSAH	7	Goodview Ave	Jody Ave N	0.15	★★★★★	0	0	0	0	0	0	0	No Project - Criteria Not Met
53	51	7.006	CSAH	7	Goodview Ave	Jody Ave N	0.12	★★★★★	1	0	0	0	County Completed	County Completed	1	$102,500.00
65	52	7.018	CSAH	7	Squarelake Trail N	St Croix Trail	0.07	★★★★★	0	0	0	0	0	0	0	No Project - Criteria Not Met
4	53	3.002	CSAH	3	Square Lake Trail	170th St N	0.09	★★★★★	0	0	0	0	0	0	0	No Project - Criteria Not Met
116	54	11.012	CR	11	Square Lake Trail N	120th St N	0.05	★★★★★	0	0	0	0	0	0	0	No Project - Criteria Not Met
114	55	11.010	CSAH	11	Square Lake Trail N	120th St N	0.05	★★★★★	1	0	0	0	County Completed	0	0	$100,000.00
9	56	3.007	CR	3	Square Lake Trail	170th St N	0.04	★★★★★	0	0	0	0	County Completed	0	0	No Project - Previously Completed
8	57	3.006	CSAH	3	Square Lake Trail	170th St N	0.09	★★★★★	0	0	0	0	0	0	0	No Project - Criteria Not Met
224	58	21.008	CSAH	21	200 ft South of 90th St S	Point Douglas Dr S	0.16	★★★★★	1	0	0	0	0	0	0	$100,000.00
351	59	75.001	CR	75	14th Ave	105th St S	0.05	★★★★★	0	0	0	0	0	0	0	No Project - Criteria Not Met
						Total Length (miles)	6.41	Total Projects	12	0	0	0	8	7	10	$1,240,000.00

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Rural Intersection Project List for Washington County

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No. 1	Project Page No.	CRSP 2 ID	Route System	Route No.	Major Approach Name	Minor Approach Name	Total Stars	Reconstruct TT to Single T	Roundabout	J Turn	LED Stop Sign	Thru-Stop to All-Way Stop/Yield	Left Turn Lanes on Major Roads (Thru-Traffic)	Lighting	Review Signs and Markings	Upgrade Signs and Pavement Markings	Cost
36	1	16.006	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 106 (Bielenberg RD)	★★★★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
42	2	17.007	CSAH	17	MN 36	CSAH 17 (Lake Elmo Ave N)	★★★★★★	0	0	1	0	0	0	0	0	0	$1,000,000
3	3	10.012	CSAH	10	CSAH 15 (Manning Ave N)	CSAH 10 (10th St N)	★★★★★	0	0	1	0	0	0	0	0	0	$1,000,000
9	4	12.008	CSAH	12	CSAH 15 (Manning AVE N)	CSAH 12 (75th St N)	★★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
12	5	13.004	CSAH	13	CSAH 13 (Radio DR)	CSAH 20 (Military RD)	★★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
18	6	14.003	CSAH	14	CSAH 14 (34th St N)	MSAS 121 (Hadley Ave N)	★★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
72	7	29.001	CSAH	29	CSAH 29 (Hilton TRL N)	M 2 (Viking Dr)	★★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
129	8	91.001	CR	91	MN 97 (Scandia Tr N)	CR 91 (Lofton Ave N)	★★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
4	9	10.013	CSAH	10	CSAH 10 (10th ST N)	CR 71 (Neal Ave N)	★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
10	10	12.011	CSAH	12	CSAH 12 (75th St N)	M 211 (Northland Ave)	★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
15	11	13.032	CSAH	13	CSAH 14 (34th St N)	CSAH 13 (Ideal AVE N)	★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
17	12	14.002	CSAH	14	CSAH 14 (34th St N)	MSAS 234 (Granada Ave N)	★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
19	13	14.005	CSAH	14	CSAH 14 (Stillwater Blvd N)	CSAH 17 (Lake Elmo Ave N)	★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
21	14	14.012	CSAH	14	CSAH 14 (40th St N)	CR 65 (Oakgreen Ave N)	★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
24	15	14.017	CSAH	14	CSAH 14 (Stillwater BLVD)	CSAH 15 (Manning AVE N)	★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
27	16	15.003	CSAH	15	CSAH 15 (Manning Ave N)	MSAS 115 (Manning Tr N)	★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
44	17	18.001	CSAH	18	CSAH 18 (Bailey RD)	CSAH 20 (Military RD)	★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
50	18	19.002	CSAH	19	CSAH 19 (Innovation RD S)	MSAS 120 (Ravine Pkwy)	★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
54	19	19A.001	CSAH	0	CR 19A (Innovation Rd)	US 61 (Ramp)	★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
56	20	20.004	CSAH	20	CSAH 20 (Military RD)	MSAS 109 (Woodlane DR)	★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
66	21	21.009	CSAH	21	CSAH 21 (Stagecoach Tr N)	T 151 (22nd St N)	★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
67	22	21.010	CSAH	21	CSAH 21 (Stagecoach Tr N)	M 65 (Inspiration PKWY S)	★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
69	23	244.001	CSAH	244	CR 12 (Wildwood Rd)	MSAS 110 (Old Wildwood Rd)	★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
73	24	29.002	CSAH	29	CSAH 29 (Hilton TRL N)	MN 36 (Ramp)	★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
82	25	4.004	CSAH	4	CSAH 4 (170th St N)	CSAH 15 (Manning TRL N)	★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
84	26	4.006	CSAH	4	MN 95 (Saint Croix Tr N)	CSAH 4 (Maple St)	★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
94	27	52.002	CR	52	MN 95 (Saint Croix Tr N)	CR 52 (Oakhill Rd N)	★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
98	28	6.007	CSAH	6	CSAH 6 (Stillwater Blvd N)	CSAH 14 (34th Rabt N)	★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
111	29	7.012	0	0	MN 95 (Saint Croix Tr N)	CSAH 7 (Nason Hill Rd)	★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
122	30	74.002	CR	74	CR 74 (65th St S)	M 28 (Hadley AVE S)	★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
131	31	96.002	CR	96	MN 95 (Main St)	MN 96 (Dellwood Rd N)	★★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
1	32	10.010	CSAH	10	CSAH 10 (10th ST N)	CSAH 19 (Keats Ave N)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
2	33	10.011	CSAH	10	CSAH 10 (10th ST N)	CSAH 17 (Lake Elmo Ave N)	★★★	0	0	1	0	0	0	0	0	0	$1,000,000
5	34	10.014	CSAH	10	CSAH 10 (10th ST N)	CR 65 (Oakgreen Ave N)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
11	35	12.012	CSAH	12	CSAH 12 (75th ST N)	MSAS 122 (Boutwell Rd N)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
13	36	13.005	CSAH	13	CSAH 13 (Radio DR)	MSAS 119 (Dale Rd)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
22	37	14.013	CSAH	14	CSAH 14 (Osgood Ave N)	CSAH 24 (Osgood Ave N)	★★★	0	0	0	0	1	0	0	1	0	$3,000
25	38	15.001	CSAH	15	CSAH 15 (Manning Ave N)	I 94 (Ramp)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
30	39	15.011	CSAH	15	CSAH 15 (Manning AVE N)	MSAS 122 (80th St N)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
31	40	15.012	CSAH	15	CSAH 15 (Manning AVE N)	CR 64 (Mckusick Rd N)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
32	41	15.013	CSAH	15	MN 96 (Dellwood RD N)	CSAH 15 (Manning AVE N)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
37	42	17.001	CSAH	17	CSAH 17 (Lake Elmo Ave N)	MSAS 107 (20th St N)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
38	43	17.002	CR	17	MSAS 120 (Hudson Blvd)	CR 17B (Lake Elmo Ave N)	★★★	0	0	0	0	0	0	1	0	0	$15,000
47	44	18.009	CSAH	18	CSAH 21 (St. Croix TRL S)	CSAH 18 (Afton Blvd S)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
52	45	19.004	CSAH	19	CSAH 19 (Keats Ave S)	MSAS 102 (80th ST S)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
58	46	21.001	CSAH	21	US 10 (Point Douglas RD S)	CSAH 21 (St. Croix TRL S)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
62	47	21.005	CSAH	21	CSAH 21 (St. Croix TRL S)	M 65 (50th St S)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
64	48	21.007	CSAH	21	CSAH 21 (Stagecoach Tr N)	T 1166 (Hudson Rd S)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
65	49	21.008	CSAH	21	CSAH 21 (Stagecoach Tr N)	T 1320 (Hudson BLVD N)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
70	50	244.002	CSAH	244	CR 12 (Wildwood Beach Rd)	MSAS 100 (Lincolntown Ave)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
74	51	29.003	CSAH	29	CSAH 29 (Hilton TRL N)	MSAS 106 (72nd St N)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
75	52	3.001	CSAH	3	CSAH 7 (Square Lake Tr N)	CSAH 3 (Norell Ave N)	★★★	0	0	0	0	0	0	1	0	0	$15,000
78	53	4.001	CSAH	4	US 61 (Forest BLVD)	CSAH 4 (170th St N)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
79	54	4.001	CR	4	US 61 (Forest Blvd N)	CR 4A (170th St N)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
81	55	4.003	CSAH	4	CSAH 4 (170th St N)	CR 57 (Jeffrey Ave N)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
85	56	5.010	CSAH	5	MN 96 (Dellwood Rd N)	CSAH 5 (Stone Bridge Tr N)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
87	57	5.012	CSAH	5	CSAH 5 (Stone Bridge Tr N)	CSAH 11 (Otchipwe Ave N)	★★★	0	0	0	0	0	0	1	0	0	$15,000
95	58	55.001	CR	55	CR 55 (Norell Ave N)	CR 61 (Myeron Rd N)	★★★	0	0	0	0	0	0	1	0	0	$15,000
96	59	59.001	CR	59	MN 95 (Saint Croix Tr N)	CR 59 (Square Lake Tr N)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
97	60	6.006	CSAH	6	CSAH 6 (Stillwater Blvd N)	CSAH 13 (Inwood AVE N)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
101	61	7.002	CSAH	7	CSAH 7 (122nd ST N)	CSAH 8 (Jody AVE N)	★★★	0	0	0	0	0	0	1	0	0	$15,000
104	62	7.005	CSAH	7	CSAH 15 (Manning TRL N)	CSAH 7 (122nd St N)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
105	63	7.006	CSAH	7	CSAH 15 (Manning TRL N)	CSAH 7 (Square Lake Tr N)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
106	64	7.007	CSAH	7	CSAH 7 (Square Lake Tr N)	CR 55 (Norell Ave N)	★★★	0	0	0	0	0	0	1	0	0	$15,000
120	65	71.009	CR	71	CR 71 (Neal Ave S)	T 1315 (Hudson Blvd)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
121	66	74.001	CR	74	CR 74 (65th St S)	M 11 (Geneva Ave S)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
123	67	75.001	CR	75	CR 75 (Grey Cloud Island Dr)	T 322 (Grey Cloud Tr)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
125	68	8.007	CSAH	8	CSAH 8 (Jody AVE N)	MSAS 123 (Homestead Ave N)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met

Rural Intersection Project List for Washington County

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No. 1	Project Page No.	CRSP 2 ID	Route System	Route No.	Major Approach Name	Minor Approach Name	Total Stars	Reconstruct TT to Single T	Roundabout	J Turn	LED Stop Sign	Thru-Stop to All-Way Stop/Yield	Left Turn Lanes on Major Roads (Thru-Traffic)	Lighting	Review Signs and Markings	Upgrade Signs and Pavement Markings	Cost
127	69	9.001	CSAH	9	CSAH 12 (75th St N)	CSAH 19 (Jamaca Ave N)	★★★	0	0	0	0	0	0	0	1	0	No Project - Criteria Not Met
							Total Projects	**0**	**0**	**3**	**0**	**1**	**0**	**6**	**60**	**0**	**$3,093,000**

Urban Segment Project List for Washington County

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.	Project Page No.2	CRSP 2 ID	Route System	Route No.	Segment Start Description	Segment End Description	Length [miles]	Total Stars	Divided Roadway	Access Management	Road Diet	Vehicle Speed Feedback Signs	Sidewalk	Cost
12	1	12.001	CSAH	12	Wildwood Rd	Ideal Ave N	0.81	★★★★★★★	0	1	0	0	1	$355,536.40
35	2	17.004	CSAH	17	Stillwater Blve N	80 ft North of 33rd St N	0.25	★★★★★★★	0	1	0	0	0	$90,190.81
65	3	25.002	CSAH	25	Brookview Dr E	Lake Rd	1.88	★★★★★★★	0	1	0	0	0	$675,402.97
16	4	13.004	CSAH	13	CSAH 13	790 ft South of Hargis Pkwy	2.18	★★★★★★	0	0	0	0	0	No Project - Criteria Not Met
30	5	15.005	CSAH	15	1386 North of 75th St N	MN 36	1.79	★★★★★★	0	0	0	0	1	$143,132.88
61	6	24.003	CSAH	24	CSAH24/Upper 56th St	740 ft North of State Route 36	0.47	★★★★★★	0	1	0	0	1	$206,683.99
5	7	5.002	CSAH	5	Owens St N	230 ft NorthEast of Autumn Way	1.87	★★★★★★	0	1	0	0	0	$672,619.89
14	8	13.001	CSAH	13	69th St S	70th St S	0.14	★★★★★	1	0	0	0	0	$698,113.20
15	9	13.002	CSAH	13	580 ft North of CSAH 20	69th St S	1.61	★★★★★	0	0	0	0	0	No Project - Criteria Not Met
21	10	13.010	CSAH	13	Intersection of Stillwater Blvd N	Intersection of 34th St N	0.45	★★★★★	0	1	0	0	1	$196,887.20
43	11	19.004	CSAH	19	Intersection of Park Crossing	1900 ft South of Bailey Rd	1.72	★★★★★	0	0	0	0	0	No Project - Criteria Not Met
44	12	19.005	CSAH	19	Hudson Rd	Park Crossing	2.04	★★★★★	0	0	0	0	1	$327,174.45
45	13	19.006	CSAH	19	Hudson Blvd	Hudson Rd	0.45	★★★★★	0	0	0	0	1	$36,363.52
47	14	19.008	CSAH	19	Park Crossing	1900 ft South of Bailey Rd	0.99	★★★★★	0	0	0	0	0	No Project - Criteria Not Met
1	15	2.002	CSAH	2	420 ft SouthEast of Ethan Ct N	NW 4th St	1.29	★★★★★	0	1	0	0	0	$463,633.50
49	16	21.005	CSAH	21	Intersection of Stagecoach Trail S	170 ft North of 37th St	0.64	★★★★★	0	0	0	1	0	$30,000.00
53	17	22.001	CSAH	22	Intersection of Broadway Ave	1075 ft West of Goodview Ave S	0.69	★★★★★	0	0	0	0	1	$55,358.60
58	18	23.003	CSAH	23	Willard St W	Chestnut St E	0.37	★★★★★	0	0	0	1	0	$30,000.00
62	19	24.004	CSAH	24	Intersection of Orleans St W	440 ft South of 62nd St N	0.34	★★★★★	0	1	0	0	1	$148,811.89
85	20	244.001	CSAH	244	Intersection of E County Line Rd N	350 ft East of Ridge Way	0.56	★★★★★	0	0	0	0	0	No Project - Criteria Not Met
67	21	27.001	CSAH	27	Wildwood Rd	Cedar Ave	1.04	★★★★★	0	0	0	0	0	No Project - Criteria Not Met
74	22	38.004	CSAH	38	Intersection of 7th Ave	240 ft Southwest of 10th Ave	0.47	★★★★★	0	0	0	0	0	No Project - Criteria Not Met
76	23	38.006	CSAH	38	Baily Rd	I-494	0.55	★★★★★	0	0	0	0	1	$43,728.19
77	24	39.001	CSAH	39	Intersection of Hadley Ave S	1300 ft West of Hardwood Ave S	0.22	★★★★★	0	0	0	0	1	$34,580.26
4	25	5.001	CSAH	5	MN 36	230 ft NorthEast of Autumn Way	0.99	★★★★★	0	1	0	0	0	$356,080.35
7	26	8.001	CSAH	8	Main St	Forest Blvd N	1.41	★★★★★	0	0	0	0	1	$225,531.40
						Total Length (Miles)	26.57	Total Projects	1	9	0	2	12	$5,008,752.58

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Urban Intersection Project List for Washington County - Vehicle Related

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.	Project Page No.	CRSP 2 ID	Route System	Route No.	Major Approach Name	Minor Approach Name	Total Stars	Lighting	Roundabout	J Turn	Signalized J Turn	Thru-Stop to All-Way Stop/Yield	Upgrade Signs and Pavement Markings	Confirmation Lights	Upgrade Signal Hardware	Cost
148	1	39.001	CSAH	39	CSAH 39 (80th ST S)	US 61 (Ramp)	★★★★★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
149	2	39.002	CSAH	39	MSAS 102 (80th St S)	US 61 (Ramp)	★★★★★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
3	3	10.003	CSAH	10	CSAH 10 (10th ST N)	MSAS 121 (Hadley Ave N)	★★★★★★★★★	0	0	0	0	0	0	1	1	$51,500
4	4	10.005	CSAH	10	CSAH 10 (10th ST N)	SB I-694 (Ramp)	★★★★★★★★★	0	0	0	0	0	0	1	0	$1,500
6	5	10.007	CSAH	10	CSAH 10 (10th ST N)	MSAS 237 (Helmo AVE N)	★★★★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
26	6	13.013	CSAH	13	CSAH 13 (Radio DR)	CSAH 16 (Valley Creek Rd)	★★★★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
35	7	13.025	CSAH	13	CSAH 13 (Radio DR)	MSAS 142 (Woodbury Lakes RD)	★★★★★★★★★	0	0	0	0	0	0	1	0	$1,500
54	8	16.002	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 101 (Weir Dr)	★★★★★★★★★	0	0	0	0	0	0	1	1	$51,500
55	9	16.003	CSAH	16	CSAH 16 (Valley Creek Rd)	I 494 (Ramp)	★★★★★★★★★	0	0	0	1	0	0	1	0	$1,501,500
58	10	16.007	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 105 (Tower Dr)	★★★★★★★★★	0	0	0	0	0	0	1	0	$1,500
87	11	2.004	CSAH	2	CSAH 2 (Broadway Ave W)	MSAS 142 (19th St SW)	★★★★★★★★★	0	0	0	0	0	0	1	0	$1,500
115	12	24.003	CSAH	24	MN 36	CSAH 24 (Osgood Ave N)	★★★★★★★★★	0	0	0	1	0	0	1	0	$1,501,500
154	13	5.001	CSAH	5	CSAH 5 (Stillwater Blvd N)	Westbound TH 36 (Ramp)	★★★★★★★★★	0	0	0	0	0	0	1	0	$1,500
155	14	5.002	CSAH	5	CSAH 5 (Stillwater Blvd N)	MSAS 112 (Curve Crest Blvd)	★★★★★★★★★	0	0	0	0	0	0	1	0	$1,500
27	15	13.014	CSAH	13	CSAH 13 (Radio DR)	MSAS 126 (City Centre DR)	★★★★★★★★	0	0	0	0	0	0	1	0	$1,500
31	16	13.019	CSAH	13	CSAH 13 (Radio DR)	MSAS 102 (Tamarack Rd)	★★★★★★★★	0	0	0	1	0	0	1	0	$1,501,500
32	17	13.021	CSAH	13	CSAH 13 (Radio DR)	MSAS 117 (Hudson RD)	★★★★★★★★	0	0	0	1	0	0	1	0	$1,501,500
34	18	13.023	CSAH	13	CSAH 13 (Radio DR)	MSAS 117 (Hudson Ave)	★★★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
36	19	13.027	CSAH	13	CSAH 13 (Inwood Ave N)	I 94 (Ramp)	★★★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
37	20	13.028	CSAH	13	CSAH 13 (Inwood AVE N)	MSAS 239 (4th St N)	★★★★★★★★	0	0	0	0	0	0	1	0	$1,500
48	21	15.006	CSAH	15	CSAH 15 (Stillwater Blvd N)	MN 36 (Ramp)	★★★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
56	22	16.004	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 109 (Woodlane DR)	★★★★★★★★	0	0	0	1	0	0	1	0	$1,501,500
57	23	16.005	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 122 (Queens Dr)	★★★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
60	24	16.009	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 132 (Donegal Dr)	★★★★★★★★	0	0	0	0	0	0	1	0	$1,500
81	25	19.013	CSAH	19	CSAH 19 (Woodbury Dr)	MSAS 102 (Tamarack Rd)	★★★★★★★★	0	0	0	0	0	0	1	0	$1,500
82	26	19.014	CSAH	19	CSAH 19 (Woodbury Dr)	MSAS 117 (Hudson Rd)	★★★★★★★★	0	0	0	1	0	0	1	0	$1,501,500
83	27	19.015	CSAH	19	CSAH 19 (Keats Ave N)	I 94 (Ramp)	★★★★★★★★	0	0	0	1	0	0	1	0	$1,501,500
86	28	2.003	CSAH	2	CSAH 2 (W Broadway Ave)	CSAH 33 (Everton Ave N)	★★★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
89	29	2.006	CSAH	2	CSAH 2 (Broadway Ave)	MSAS 102 (12th St SW)	★★★★★★★★	0	0	0	1	0	0	1	0	$1,501,500
122	30	25.004	CSAH	25	CSAH 25 (Century Ave)	Century Ave S	★★★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
136	31	32.008	CSAH	32	US 61 (Forest Blvd N)	CSAH 32 (11th Ave SW)	★★★★★★★★	0	0	0	0	0	0	1	1	$51,500
150	32	39.003	CSAH	39	CSAH 39 (80th ST S)	MSAS 107 (Hadley AVE S)	★★★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
163	33	6.001	CSAH	6	MN 120 (Century Ave N)	MN 5 (Stillwater Rd)	★★★★★★★★	0	0	0	0	0	0	1	0	$1,500
167	34	8.001	CSAH	8	CSAH 8 (Frenchman Rd N)	MSAS 116 (Victor Hugo Blvd)	★★★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
1	35	10.001	CSAH	10	MN 120 (Century Ave N)	CSAH 34 (Minnehaha Ave E)	★★★★★★★	0	0	0	0	0	0	1	1	$51,500
12	36	12.004	CSAH	12	CSAH 12 (Stillwater Rd)	CSAH 29 (Hilton TRL N)	★★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
19	37	13.006	CSAH	13	CSAH 13 (Radio DR)	MSAS 141 (Hingis PKWY)	★★★★★★★	0	0	0	0	0	0	1	0	$1,500
22	38	13.009	CSAH	13	CSAH 13 (Radio DR)	MSAS 108 (Lake RD)	★★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
29	39	13.017	CSAH	13	CSAH 13 (Radio DR)	MSAS 139 (Seasons Pkwy)	★★★★★★★	0	0	0	0	0	0	1	0	$1,500
33	40	13.022	CSAH	13	CSAH 13 (Radio Dr)	MSAS 117 (Hudson Rd)	★★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
38	41	13.030	CSAH	13	CSAH 13 (Inwood AVE N)	MSAS 112 (Eagle Point Blvd)	★★★★★★★	0	0	0	0	0	1	0	0	$3,500
42	42	13.036	CSAH	13	CSAH 13 (Ironwood Ave N)	5th St N	★★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
53	43	16.001	CSAH	16	CSAH 16 (Valley Creek Rd)	CSAH 25 (Century Ave)	★★★★★★★	0	0	0	0	0	0	1	1	$51,500
59	44	16.008	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 126 (City Centre DR)	★★★★★★★	1	0	0	0	0	1	0	0	$18,500
61	45	16.010	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 120 (Interlachen PKWY)	★★★★★★★	0	0	0	0	0	0	1	0	$1,500
62	46	16.011	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 133 (Colby Lake Dr)	★★★★★★★	0	0	0	0	0	0	1	0	$1,500
63	47	16.012	CSAH	16	CSAH 16 (Valley Creek Rd)	CSAH 19 (Woodbury Dr)	★★★★★★★	0	0	0	1	0	0	1	0	$1,501,500
78	48	19.010	CSAH	19	CSAH 19 (Woodbury Dr)	MSAS 137 (Eagle Valley Rd)	★★★★★★★	0	0	0	0	0	0	1	0	$1,500
79	49	19.011	CSAH	19	CSAH 19 (Woodbury Dr)	CSAH 16 (Valley Creek Rd)	★★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
80	50	19.012	CSAH	19	CSAH 19 (Woodbury Dr)	Fox Run Rd	★★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
84	51	19.016	CSAH	19	CSAH 19 (Keats Ave N)	MSAS 120 (Hudson Blvd)	★★★★★★★	0	0	0	0	0	0	1	0	$1,500
85	52	2.002	CSAH	2	CSAH 2 (Broadway Ave)	MSAS 137 (Everton Ave N)	★★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
88	53	2.005	CSAH	2	CSAH 2 (Broadway Ave)	I 35 (Ramp)	★★★★★★★	0	0	0	1	0	0	1	0	$1,501,500
96	54	21.012	CSAH	21	MN 95 (Saint Croix Tr N)	CSAH 21 (56th ST N)	★★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
124	55	25.006	CSAH	25	CSAH 72 (Century Ave)	MSAS 114 (Upper Afton Rd)	★★★★★★★	0	0	0	0	0	0	1	0	$1,500
126	56	27.001	CSAH	27	MN 120 (Century Ave)	CSAH 15 (County Rd E)	★★★★★★★	0	0	0	0	0	0	1	1	$51,500
156	57	5.003	CSAH	5	CSAH 5 (Stillwater Blvd N)	MSAS 119 (Orleans St)	★★★★★★★	0	0	0	0	0	0	1	0	$1,500
178	58	66.001	CR	66	MN 36	CR 66 (Greeley ST)	★★★★★★★	0	0	0	1	0	0	1	0	$1,501,500
8	59	10.009	CSAH	10	CSAH 13 (Inwood Ave N)	CSAH 10 (10th ST N)	★★★★★★	0	0	0	0	0	0	1	1	$51,500
21	60	13.008	CSAH	13	CSAH 13 (Radio DR)	M 645 (Commonwealth Ave)	★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
23	61	13.010	CSAH	13	CSAH 13 (Radio Dr)	MSAS 108 (Lake Rd)	★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
25	62	13.012	CSAH	13	CSAH 13 (Radio DR)	MSAS 107 (Pioneer DR)	★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
30	63	13.018	CSAH	13	CSAH 13 (Radio Dr)	MSAS 139 (Seasons Pkwy)	★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
49	64	15.007	CSAH	15	MN 36	CSAH 15 (Manning AVE N)	★★★★★★	0	0	0	1	0	0	1	0	$1,501,500
51	65	15.009	CSAH	15	CSAH 15 (Manning AVE N)	M 374 (Liberty Ave)	★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
52	66	15.010	CSAH	15	CSAH 15 (Manning AVE N)	M 415 (Settlers Way)	★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
66	67	18.002	CSAH	18	CSAH 18 (Bailey RD)	MSAS 109 (Woodlane DR)	★★★★★★	0	0	0	0	0	0	1	0	$1,500
90	68	2.007	CSAH	2	CSAH 2 (Broadway Ave)	MSAS 104 (4th St SW)	★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
92	69	20.001	CSAH	20	M 2168 (Maxwell AVE)	US 61 (Ramp)	★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
99	70	22.004	CSAH	22	CSAH 22 (70th ST S)	CSAH 38 (65th St S)	★★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
117	71	24.005	CSAH	24	CSAH 24 (Osgood Ave N)	CSAH 26 (60th ST N)	★★★★★★	1	0	0	0	0	1	0	0	$18,500
125	72	25.007	CSAH	25	MN 120 (Century Ave N)	CSAH 72 (Century Ave)	★★★★★★	0	0	0	0	0	1	0	0	$3,500
170	73	8.004	CSAH	8	US 61	CSAH 8 (Frenchman Rd N)	★★★★★★	0	0	0	0	0	0	1	1	$51,500
171	74	8.005	CSAH	8	US 61 (Forest Blvd)	CSAH 8 (Jody AVE N)	★★★★★★	0	0	0	0	0	0	1	0	$1,500

Urban Intersection Project List for Washington County - Vehicle Related

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.	Project Page No.	CRSP 2 ID	Route System	Route No.	Major Approach Name	Minor Approach Name	Total Stars	Lighting	Roundabout	J Turn	Signalized J Turn	Thru-Stop to All-Way Stop/Yield	Upgrade Signs and Pavement Markings	Confirmation Lights	Upgrade Signal Hardware	Cost
2	75	10.002	CSAH	10	CSAH 10 (10th ST N)	MSAS 236 (Greenway Ave)	★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
7	76	10.008	CSAH	10	CSAH 10 (10th ST N)	M 457 (Heron Ave N)	★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
24	77	13.011	CSAH	13	CSAH 13 (Radio DR)	MSAS 105 (Tower Dr)	★★★★★	0	0	0	0	0	1	0	0	$3,500
28	78	13.016	CSAH	13	CSAH 13 (Radio DR)	MSAS 132 (Donegal Dr)	★★★★★	0	0	0	0	0	1	0	0	$3,500
43	79	14.006	CSAH	14	CSAH 14 (Stillwater Blvd N)	CSAH 17 (Lake Elmo Ave N)	★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
50	80	15.008	CSAH	15	CSAH 15 (Manning AVE N)	MSAS 121 (62nd ST N)	★★★★★	1	0	0	0	0	1	0	0	$18,500
67	81	18.003	CSAH	18	CSAH 18 (Bailey RD)	MSAS 107 (Pioneer DR)	★★★★★	0	0	0	0	0	0	1	0	$1,500
77	82	19.009	CSAH	19	CSAH 19 (Woodbury DR)	MSAS 108 (Lake RD)	★★★★★	0	0	0	0	0	1	0	0	$3,500
94	83	20.003	CSAH	20	CSAH 20 (Bailey RD)	M 8 (Hastings Ave)	★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
103	84	22.008	CSAH	22	CSAH 20 (Jamaica AVE S)	CSAH 22 (70th ST S)	★★★★★	0	0	0	0	0	1	0	0	$3,500
113	85	23.009	CSAH	23	MN 95 (Main St)	CSAH 23 (Chestnut ST E)	★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
132	86	32.004	CSAH	32	CSAH 32 (11th Ave SW)	MSAS 102 (12th St SW)	★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
143	87	38.002	CSAH	38	US 61	CSAH 38 (Glen Rd)	★★★★★	0	0	0	0	0	0	0	0	No Project - Criteria Not Met
144	88	38.003	CSAH	38	CSAH 38 (Glen Rd)	US 61 (Ramp)	★★★★★	0	0	0	0	0	0	1	0	$1,500
168	89	8.002	CSAH	8	CSAH 8 (Frenchman Rd N)	MSAS 117 (Everton AVE N)	★★★★★	0	0	0	0	0	1	0	0	$3,500
169	90	8.003	CSAH	8	CSAH 8 (Frenchman Rd N)	MSAS 111 (Oneka PKWY N)	★★★★★	0	0	0	0	0	1	0	0	$3,500
							Total Projects	3	0	0	12	0	11	43	8	$18,548,000

Urban Intersection Project List for Washington County - Pedestrian/Bike Related

CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.	Project Page No.	CRSP 2 ID	Route System	Route No.	Major Approach Name	Minor Approach Name	Total Stars	Mini Roundabout	Median Refuge Island	RRFB	RRFB with Refuge Island	Pedestrian Hybrid Beacon	No Right Turn on Red Sign (static or blank out)	Curb Extensions	Leading Pedestrian Interval	Pedestrian Countdown Timer	Upgrade Signal Hardware and Review and Revise Signal Timing and Operations	Cost
85	1	2.002	CSAH	2	CSAH 2 (Broadway Ave)	MSAS 137 (Everton Ave N)	★★★★★★	0	0	0	0	0	0	1	1	1	1	$28,000
86	2	2.003	CSAH	2	CSAH 2 (W Broadway Ave)	CSAH 33 (Everton Ave N)	★★★★★★	0	1	0	0	0	0	0	1	1	1	$43,000
87	3	2.004	CSAH	2	CSAH 2 (Broadway Ave W)	MSAS 142 (19th St SW)	★★★★★★	0	1	0	0	0	0	0	1	0	1	$31,000
89	4	2.006	CSAH	2	CSAH 2 (Broadway Ave)	MSAS 102 (12th St SW)	★★★★★★	0	0	0	0	0	0	0	1	0	1	$6,000
154	5	5.001	CSAH	5	CSAH 5 (Stillwater Blvd N)	Westbound TH 36 (Ramp)	★★★★★★	0	1	0	0	0	0	0	1	1	1	$43,000
155	6	5.002	CSAH	5	CSAH 5 (Stillwater Blvd N)	MSAS 112 (Curve Crest Blvd)	★★★★★★	0	0	0	0	0	0	0	1	0	1	$6,000
163	7	6.001	CSAH	6	MN 120 (Century Ave N)	MN 5 (Stillwater Rd)	★★★★★★	0	0	0	0	0	0	1	1	0	1	$16,000
1	8	10.001	CSAH	10	MN 120 (Century Ave N)	CSAH 34 (Minnehaha Ave E)	★★★★★★	0	0	0	0	0	0	1	1	1	1	$28,000
3	9	10.003	CSAH	10	CSAH 10 (10th ST N)	MSAS 121 (Hadley Ave N)	★★★★★★	0	0	0	0	0	0	0	1	1	1	$18,000
4	10	10.005	CSAH	10	CSAH 10 (10th ST N)	SB I-694 (Ramp)	★★★★★★	0	0	0	0	0	0	1	1	1	1	$28,000
6	11	10.007	CSAH	10	CSAH 10 (10th ST N)	MSAS 237 (Helmo AVE N)	★★★★★★	0	0	0	0	0	0	0	1	0	1	$6,000
27	12	13.014	CSAH	13	CSAH 13 (Radio DR)	MSAS 126 (City Centre DR)	★★★★★★	0	0	0	0	0	0	0	1	1	1	$18,000
31	13	13.019	CSAH	13	CSAH 13 (Radio DR)	MSAS 102 (Tamarack Rd)	★★★★★★	0	0	0	0	0	0	0	1	1	1	$18,000
32	14	13.021	CSAH	13	CSAH 13 (Radio DR)	MSAS 117 (Hudson RD)	★★★★★★	0	0	0	0	0	0	0	1	0	1	$6,000
34	15	13.023	CSAH	13	CSAH 13 (Radio DR)	MSAS 117 (Hudson Ave)	★★★★★★	0	0	0	0	0	0	0	1	0	1	$6,000
35	16	13.025	CSAH	13	CSAH 13 (Radio DR)	MSAS 142 (Woodbury Lakes RD)	★★★★★★	0	0	0	0	0	0	0	1	0	1	$6,000
37	17	13.028	CSAH	13	CSAH 13 (Inwood AVE N)	MSAS 239 (4th St N)	★★★★★★	0	0	0	0	0	0	0	1	1	1	$18,000
54	18	16.002	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 101 (Weir Dr)	★★★★★★	0	0	0	0	0	1	0	1	1	1	$20,400
56	19	16.004	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 109 (Woodlane DR)	★★★★★★	0	0	0	0	0	0	0	1	1	1	$18,000
57	20	16.005	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 122 (Queens Dr)	★★★★★★	0	0	0	0	0	0	0	1	0	1	$6,000
58	21	16.007	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 105 (Tower Dr)	★★★★★★	0	1	0	0	0	0	0	1	0	1	$31,000
81	22	19.013	CSAH	19	CSAH 19 (Woodbury Dr)	MSAS 102 (Tamarack Rd)	★★★★★★	0	1	0	0	0	0	0	1	1	1	$43,000
82	23	19.014	CSAH	19	CSAH 19 (Woodbury Dr)	MSAS 117 (Hudson Rd)	★★★★★★	0	0	0	0	0	0	0	1	1	1	$18,000
115	24	24.003	CSAH	24	MN 36	CSAH 24 (Osgood Ave N)	★★★★★★	0	0	0	0	0	0	0	1	0	1	$6,000
150	25	39.003	CSAH	39	CSAH 39 (80th ST S)	MSAS 107 (Hadley AVE S)	★★★★★★	0	0	0	0	0	0	1	1	0	1	$16,000
167	26	8.001	CSAH	8	CSAH 8 (Frenchman Rd N)	MSAS 116 (Victor Hugo Blvd)	★★★★★★	0	0	0	0	0	0	0	1	0	1	$6,000
90	27	2.007	CSAH	2	CSAH 2 (Broadway Ave)	MSAS 104 (4th St SW)	★★★★★	0	1	0	0	0	0	0	1	0	1	$31,000
156	28	5.003	CSAH	5	CSAH 5 (Stillwater Blvd N)	MSAS 119 (Orleans St)	★★★★★	0	0	0	0	0	0	0	1	0	1	$6,000
170	29	8.004	CSAH	8	US 61	CSAH 8 (Frenchman Rd N)	★★★★★	0	1	0	0	0	0	0	1	1	1	$43,000
171	30	8.005	CSAH	8	US 61 (Forest Blvd)	CSAH 8 (Jody AVE N)	★★★★★	0	0	0	0	0	0	1	1	0	1	$16,000
8	31	10.009	CSAH	10	CSAH 13 (Inwood Ave N)	CSAH 10 (10th ST N)	★★★★★	0	0	0	0	0	0	0	1	1	1	$18,000
12	32	12.004	CSAH	12	CSAH 12 (Stillwater Rd)	CSAH 29 (Hilton TRL N)	★★★★★	0	0	0	0	0	0	1	1	1	1	$28,000
16	33	13.001	CSAH	13	CSAH 22 (70th St S)	CSAH 13 (Hinton AVE S)	★★★★★	0	1	0	0	0	0	1	0	0	0	$35,000
19	34	13.006	CSAH	13	CSAH 13 (Radio DR)	MSAS 141 (Hingis PKWY)	★★★★★	0	0	0	0	0	0	0	1	0	1	$6,000
22	35	13.009	CSAH	13	CSAH 13 (Radio DR)	MSAS 108 (Lake RD)	★★★★★	0	0	0	0	0	0	0	1	1	1	$18,000
26	36	13.013	CSAH	13	CSAH 13 (Radio DR)	CSAH 16 (Valley Creek Rd)	★★★★★	0	0	0	0	0	0	0	1	0	1	$6,000
29	37	13.017	CSAH	13	CSAH 13 (Radio DR)	MSAS 139 (Seasons Pkwy)	★★★★★	0	0	0	0	0	0	0	1	1	1	$18,000
33	38	13.022	CSAH	13	CSAH 13 (Radio Dr)	MSAS 117 (Hudson Rd)	★★★★★	0	0	0	0	0	0	0	1	0	1	$6,000
49	39	15.007	CSAH	15	MN 36	CSAH 15 (Manning AVE N)	★★★★★	0	0	0	0	0	0	0	1	0	1	$6,000
53	40	16.001	CSAH	16	CSAH 16 (Valley Creek Rd)	CSAH 25 (Century Ave)	★★★★★	0	0	0	0	0	0	0	1	0	1	$6,000
60	41	16.009	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 132 (Donegal Dr)	★★★★★	0	0	0	0	0	0	0	1	0	1	$6,000
61	42	16.010	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 120 (Interlachen PKWY)	★★★★★	0	0	0	0	0	0	0	1	0	1	$6,000
63	43	16.012	CSAH	16	CSAH 16 (Valley Creek Rd)	CSAH 19 (Woodbury Dr)	★★★★★	0	0	0	0	0	0	0	1	0	1	$6,000
66	44	18.002	CSAH	18	CSAH 18 (Bailey RD)	MSAS 109 (Woodlane DR)	★★★★★	0	0	0	0	0	0	1	1	1	1	$28,000
67	45	18.003	CSAH	18	CSAH 18 (Bailey RD)	MSAS 107 (Pioneer DR)	★★★★★	0	0	0	0	0	0	1	1	0	1	$16,000
78	46	19.010	CSAH	19	CSAH 19 (Woodbury Dr)	MSAS 137 (Eagle Valley Rd)	★★★★★	0	0	0	0	0	1	0	1	0	1	$8,400
79	47	19.011	CSAH	19	CSAH 19 (Woodbury Dr)	CSAH 16 (Valley Creek Rd)	★★★★★	0	0	0	0	0	0	0	1	0	1	$6,000
80	48	19.012	CSAH	19	CSAH 19 (Woodbury Dr)	Fox Run Rd	★★★★★	0	0	0	0	0	0	0	1	0	1	$6,000
94	49	20.003	CSAH	20	CSAH 20 (Bailey RD)	M 8 (Hastings Ave)	★★★★★	0	1	0	0	0	0	0	1	1	1	$43,000
96	50	21.012	CSAH	21	MN 95 (Saint Croix Tr N)	CSAH 21 (56th ST N)	★★★★★	0	0	0	0	0	0	1	1	0	1	$16,000
99	51	22.004	CSAH	22	CSAH 22 (70th ST S)	CSAH 38 (65th St S)	★★★★★	0	0	0	0	0	0	1	1	1	1	$28,000
126	52	27.001	CSAH	27	MN 120 (Century Ave)	CSAH 15 (County Rd E)	★★★★★	0	1	0	0	0	1	0	1	1	1	$45,400
136	53	32.008	CSAH	32	US 61 (Forest Blvd N)	CSAH 32 (11th Ave SW)	★★★★★	0	1	0	0	0	0	0	1	1	1	$43,000
149	54	39.002	CSAH	39	MSAS 102 (80th St S)	US 61 (Ramp)	★★★★★	0	1	0	0	0	0	0	1	0	1	$31,000
148	55	39.001	CSAH	39	CSAH 39 (80th ST S)	US 61 (Ramp)	★★★★★	0	0	0	0	0	0	1	1	0	1	$16,000
122	56	25.004	CSAH	25	CSAH 25 (Century Ave)	Century Ave S	★★★★★	0	0	0	0	0	0	1	1	0	1	$16,000
124	57	25.006	CSAH	25	CSAH 72 (Century Ave)	MSAS 114 (Upper Afton Rd)	★★★★★	0	0	0	0	0	0	1	1	0	1	$16,000
52	58	15.010	CSAH	15	CSAH 15 (Manning AVE N)	M 415 (Settlers Way)	★★★★★	0	0	0	0	0	0	0	1	0	1	$6,000
51	59	15.009	CSAH	15	CSAH 15 (Manning AVE N)	M 374 (Liberty Ave)	★★★★★	0	0	0	0	0	0	0	1	0	1	$6,000
62	60	16.011	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 133 (Colby Lake Dr)	★★★★★	0	0	0	0	0	0	0	1	0	1	$6,000
42	61	13.036	CSAH	13	CSAH 13 (Ironwood Ave N)	5th St N	★★★★★	0	0	0	0	0	0	0	1	0	1	$6,000
168	62	8.002	CSAH	8	CSAH 8 (Frenchman Rd N)	MSAS 117 (Everton AVE N)	★★★★	0	0	0	1	0	0	0	0	0	0	$75,000
169	63	8.003	CSAH	8	CSAH 8 (Frenchman Rd N)	MSAS 111 (Oneka PKWY N)	★★★★	0	0	0	1	0	0	0	0	0	0	$75,000
2	64	10.002	CSAH	10	CSAH 10 (10th ST N)	MSAS 236 (Greenway Ave)	★★★★	0	0	0	0	0	0	1	1	0	1	$16,000
23	65	13.010	CSAH	13	CSAH 13 (Radio Dr)	MSAS 108 (Lake Rd)	★★★★	0	0	0	0	0	0	0	1	1	1	$18,000
25	66	13.012	CSAH	13	CSAH 13 (Radio DR)	MSAS 107 (Pioneer DR)	★★★★	0	0	0	0	0	0	0	1	1	1	$18,000
30	67	13.018	CSAH	13	CSAH 13 (Radio Dr)	MSAS 139 (Seasons Pkwy)	★★★★	0	0	0	0	0	0	0	1	1	1	$18,000
38	68	13.030	CSAH	13	CSAH 13 (Inwood AVE N)	MSAS 112 (Eagle Point Blvd)	★★★★	0	1	0	0	0	0	1	0	0	0	$35,000
43	69	14.006	CSAH	14	CSAH 14 (Stillwater Blvd N)	CSAH 17 (Lake Elmo Ave N)	★★★★	0	0	0	0	0	0	1	1	0	1	$16,000
50	70	15.008	CSAH	15	CSAH 15 (Manning AVE N)	MSAS 121 (62nd ST N)	★★★★	0	0	0	1	0	0	0	0	0	0	$75,000
59	71	16.008	CSAH	16	CSAH 16 (Valley Creek Rd)	MSAS 126 (City Centre DR)	★★★★	0	0	0	0	1	0	0	0	0	0	$120,000
84	72	19.016	CSAH	19	CSAH 19 (Keats Ave N)	MSAS 120 (Hudson Blvd)	★★★★	0	0	0	0	0	0	1	1	1	1	$28,000
93	73	20.002	CSAH	20	CSAH 20 (Bailey RD)	I 494 (Ramp)	★★★★	0	0	0	0	0	0	1	1	1	1	$28,000
101	74	22.006	CSAH	22	CSAH 22 (70th ST S)	MSAS 112 (Hardwood AVE S)	★★★★	0	0	0	0	0	0	1	1	1	1	$28,000
144	75	38.003	CSAH	38	CSAH 38 (Glen Rd)	US 61 (Ramp)	★★★★	0	0	0	0	0	0	1	1	0	1	$16,000
143	76	38.002	CSAH	38	US 61	CSAH 38 (Glen Rd)	★★★★	0	0	0	0	0	0	1	1	0	1	$16,000
178	77	66.001	CR	66	MN 36	CR 66 (Greeley ST)	★★★★	0	0	0	0	0	0	0	1	1	1	$18,000
179	78	66.002	CR	66	MSAS 108 (Greeley St)	MSAS 112 (Curve Crest Blvd)	★★★★	0	0	0	0	0	0	1	1	0	1	$16,000
7	79	10.008	CSAH	10	CSAH 10 (10th ST N)	M 457 (Heron Ave N)	★★★★	0	0	0	0	0	0	1	1	0	1	$16,000
21	80	13.008	CSAH	13	CSAH 13 (Radio DR)	M 645 (Commonwealth Ave)	★★★★	0	0	0	0	0	0	0	1	0	1	$6,000
100	81	22.005	CSAH	22	CSAH 22 (70th ST S)	M 880 (Meadow Grass Ave)	★★★★	0	0	0	0	0	0	1	1	0	1	$16,000

Urban Intersection Project List for Washington County - Pedestrian/Bike Related

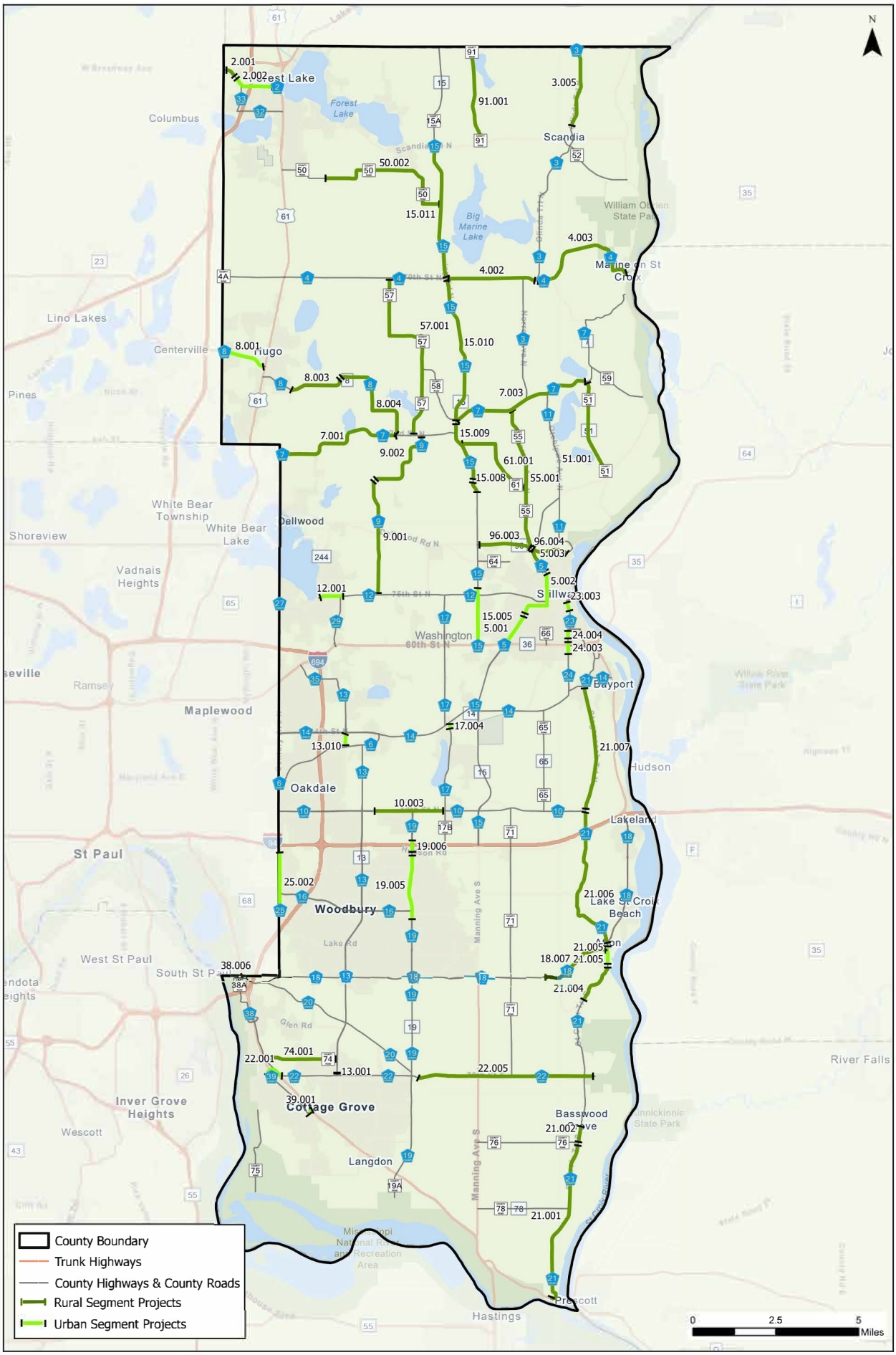
CRSP2 ID Example: 1.001: 1= Route Number, 001 = First Segment

List No.	Project Page No.	CRSP 2 ID	Route System	Route No.	Major Approach Name	Minor Approach Name	Total Stars	Mini Roundabout	Median Refuge Island	RRFB	RRFB with Refuge Island	Pedestrian Hybrid Beacon	No Right Turn on Red Sign (static or blank out)	Curb Extensions	Leading Pedestrian Interval	Pedestrian Countdown Timer	Upgrade Signal Hardware and Review and Revise Signal Timing and Operations	Cost
118	82	24.006	CSAH	24	CSAH 24 (Osgood Ave N)	M 51 (62nd St N)	★★★★	0	0	0	0	0	0	1	1	1	1	$28,000
							Total Projects	0	13	0	3	1	3	27	76	31	76	$1,775,200

COUNTY ROADWAY
Safety Plan
Toward ZERO Deaths

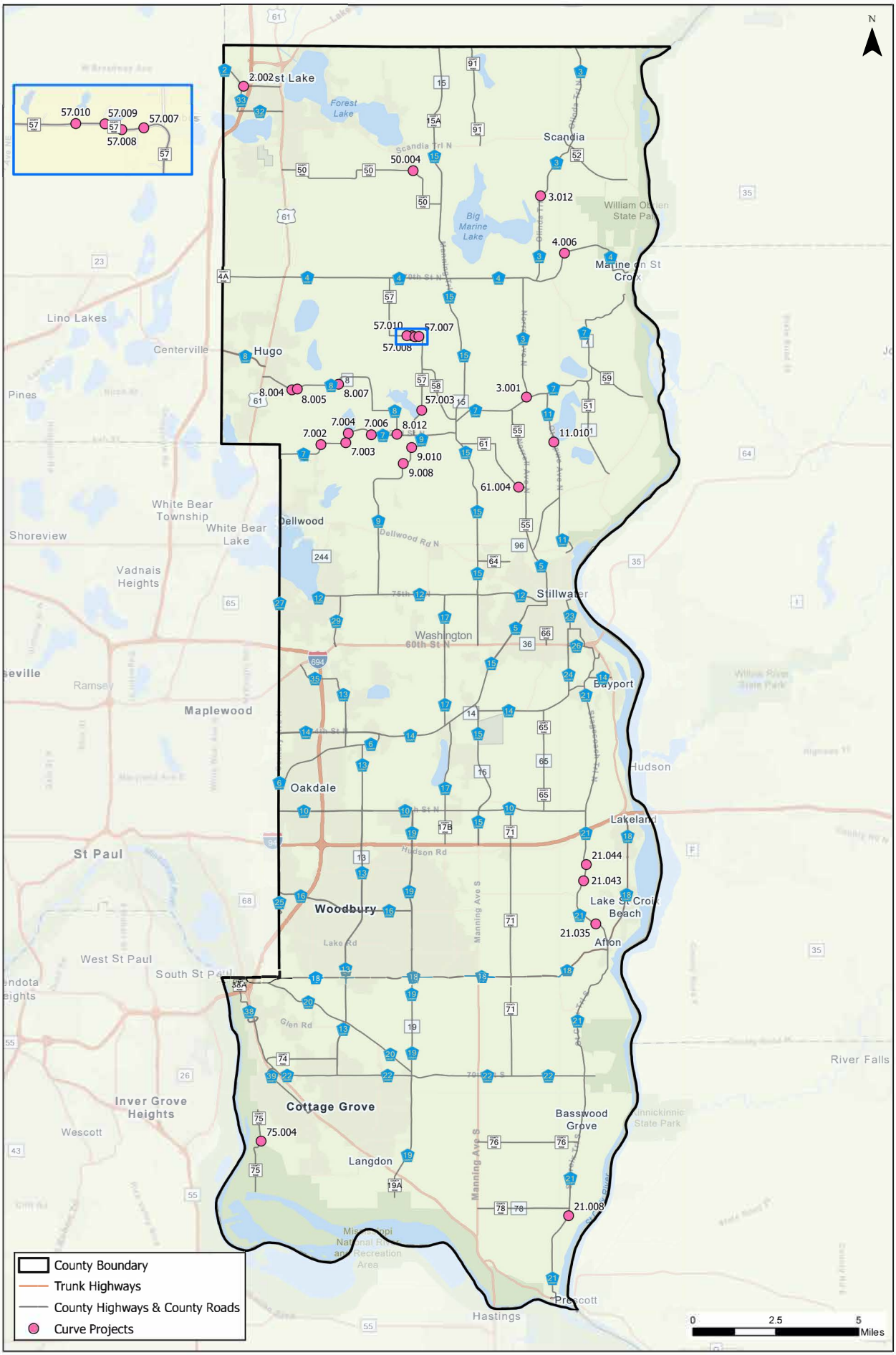
Appendix G – Recommended Project Maps

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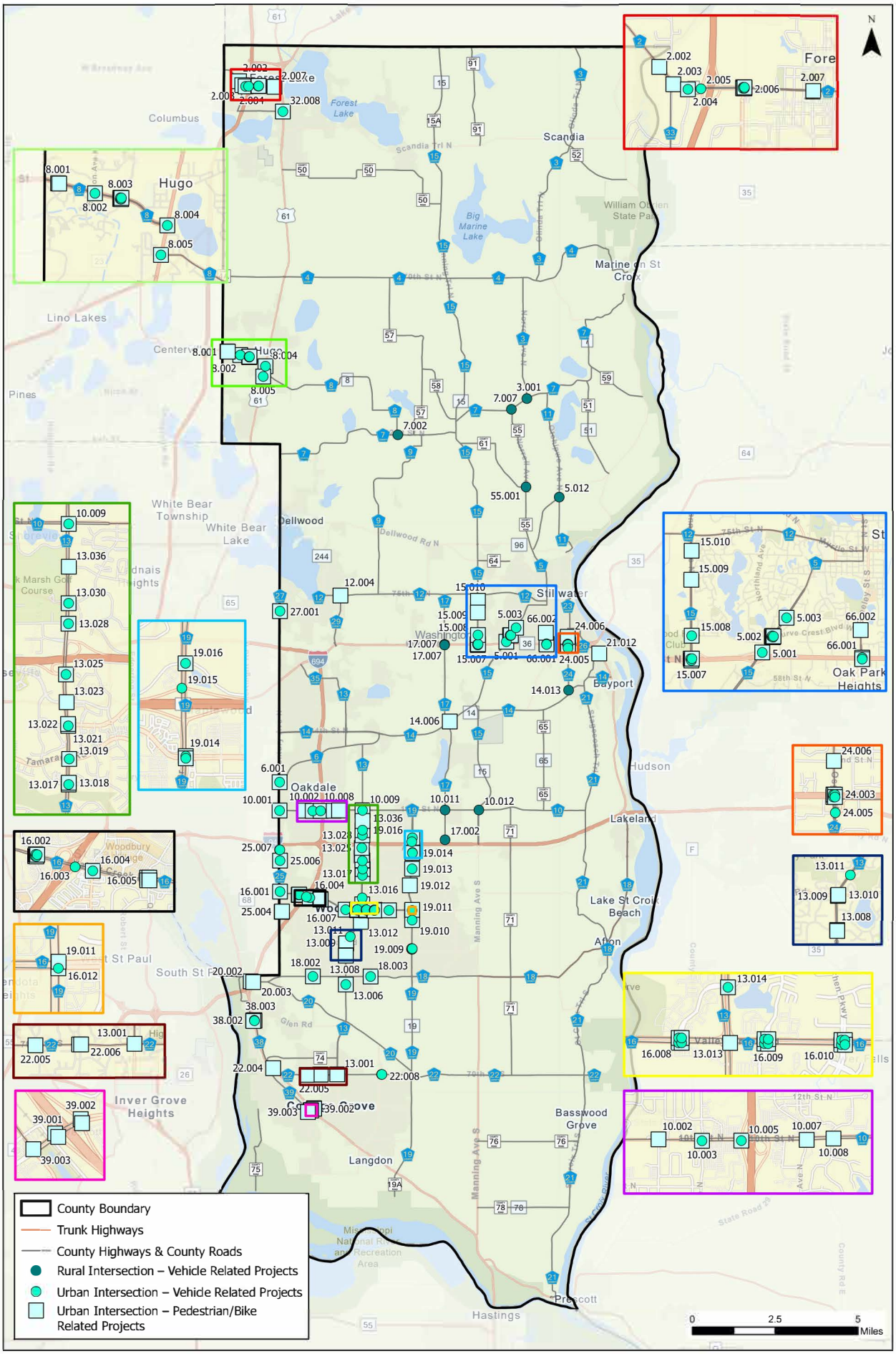
Washington County - Segment Projects

Created on 3/21/2023



Washington County - Curve Projects

Created on 3/21/2023



Washington County - Intersection Projects

Created on 3/24/2023

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COUNTY ROADWAY
Safety Plan
Toward ZERO Deaths

Appendix H – HSIP Submission Forms

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Rural Segment Project on CSAH 2

Roadway Information

Segment Start:	Lyons St NE
Segment End:	810 ft Northwest of Everton Ave N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	2
Facility Type:	2-Lane
Segment Length (mile):	0.42
Traffic Volume (vpd):	7600
Lane Width (ft):	12
Shoulder Type:	Paved
Shoulder Width (ft):	8



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	3	0	0	0
Density (per mile per yr):	1.42	0	0	0
Rate (per MVM):	0.51	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	7600	500 ≤ xx ≤ 2,000	-
ADT-RM (Rural Multi-veh) (vpd):	7600	xx ≥ 1,250	★
Curve Density (cur per mile):	2.36	xx ≥ 0.6	★
Access Density (access per mile):	11.79	7 ≤ xx ≤ 18	★
Outside Edge Risk:	1	2S or 3	-
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

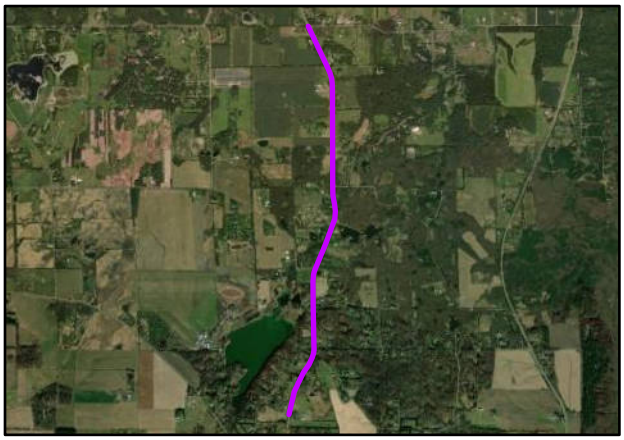
	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	1	$63,593.18
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Edgeline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	0	$0
				Total Estimated Project Cost	$63,593.18

Systemic Project	√

Rural Segment Project on CSAH 3

Roadway Information

Segment Start:	240th St
Segment End:	Olinda Ln N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	3
Facility Type:	2-Lane
Segment Length (mile):	2.49
Traffic Volume (vpd):	2525
Lane Width (ft):	12
Shoulder Type:	Paved
Shoulder Width (ft):	10



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	1	0	1	0
Density (per mile per yr):	0.08	0	0.08	0
Rate (per MVM):	0.09	0	0.09	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	2525	500 ≤ xx ≤ 2,000	-
ADT-RM (Rural Multi-veh) (vpd):	2525	xx ≥ 1,250	★
Curve Density (cur per mile):	2.41	xx ≥ 0.6	★
Access Density (access per mile):	17.3	7 ≤ xx ≤ 18	★
Outside Edge Risk:	2C	2S or 3	-
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	1	$372,784.11
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Edgeline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	0	$0
				Total Estimated Project Cost	$372,784.11

Systemic Project	√

Rural Segment Project on CSAH 4

Roadway Information

Segment Start:	Intersection of Manning Trail N
Segment End:	Intersection of Olinda Trail N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	4
Facility Type:	2-Lane
Segment Length (mile):	2.72
Traffic Volume (vpd):	2900
Lane Width (ft):	12
Shoulder Type:	Paved
Shoulder Width (ft):	7



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	3	0	0	0
Density (per mile per yr):	0.22	0	0	0
Rate (per MVM):	0.21	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	2900	500 ≤ xx ≤ 2,000	-
ADT-RM (Rural Multi-veh) (vpd):	2900	xx ≥ 1,250	★
Curve Density (cur per mile):	0.73	xx ≥ 0.6	★
Access Density (access per mile):	7.35	7 ≤ xx ≤ 18	★
Outside Edge Risk:	1	2S or 3	-
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	0	$0
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Edgeline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Shoulder Rumble Strip:	Proactive	$3,000	per mile	1	$8,164.94
Enhanced Edgeline:	Proactive	$2,700	per mile	1	$7,348.44
				Total Estimated Project Cost	$15,513.38

Systemic Project	√

Rural Segment Project on CSAH 4

Roadway Information

Segment Start:	Olinda Trail
Segment End:	St Croix Trail
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	4
Facility Type:	2-Lane
Segment Length (mile):	3.93
Traffic Volume (vpd):	737
Lane Width (ft):	11
Shoulder Type:	Composite
Shoulder Width (ft):	6



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	14	0	11	0
Density (per mile per yr):	0.71	0	0.56	0
Rate (per MVM):	2.65	0	2.08	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	737	500 ≤ xx ≤ 2,000	★
ADT-RM (Rural Multi-veh) (vpd):	737	xx ≥ 1,250	-
Curve Density (cur per mile):	3.82	xx ≥ 0.6	★
Access Density (access per mile):	15.51	7 ≤ xx ≤ 18	★
Outside Edge Risk:	2C	2S or 3	-
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	0	$0
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Edgeline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Shoulder Rumble Strip:	Proactive	$3,000	per mile	1	$11,795.45
Enhanced Edgeline:	Proactive	$2,700	per mile	1	$10,615.9
				Total Estimated Project Cost	$22,411.35

Systemic Project	√

Project Page #: 17
Segment ID: 4.003
Date: 3/29/2023

Rural Segment Project on CSAH 5

Roadway Information

Segment Start:	Dellwood Rd
Segment End:	Norell Ave N
Area Type:	Rural
County:	Washington
Context Zone:	Residential
Segment Route System:	CSAH
Segment Route No:	5
Facility Type:	2-Lane
Segment Length (mile):	0.85
Traffic Volume (vpd):	5500
Lane Width (ft):	12
Shoulder Type:	Composite
Shoulder Width (ft):	15



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	1	0	1	0
Density (per mile per yr):	0.24	0	0.24	0
Rate (per MVM):	0.12	0	0.12	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	5500	500 ≤ xx ≤ 2,000	-
ADT-RM (Rural Multi-veh) (vpd):	5500	xx ≥ 1,250	★
Curve Density (cur per mile):	2.36	xx ≥ 0.6	★
Access Density (access per mile):	15.35	7 ≤ xx ≤ 18	★
Outside Edge Risk:	1	2S or 3	-
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	1	$127,065.92
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Edgeline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	0	$0
				Total Estimated Project Cost	$127,065.92

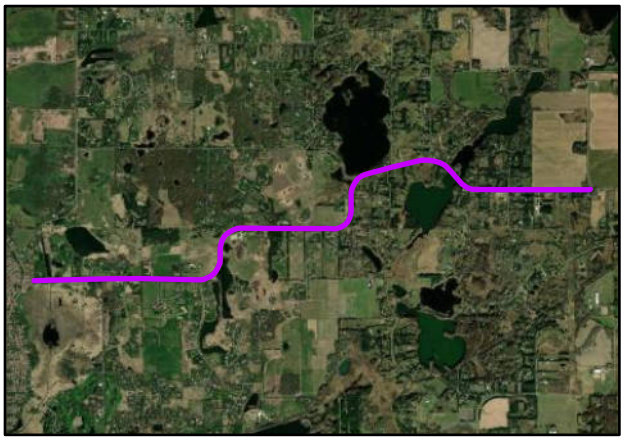
Systemic Project	√

Project Page #: 18
Segment ID: 5.003
Date: 3/29/2023

Rural Segment Project on CSAH 7

Roadway Information

Segment Start:	Goodview Ave
Segment End:	Jody Ave N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	7
Facility Type:	2-Lane
Segment Length (mile):	4.06
Traffic Volume (vpd):	1833
Lane Width (ft):	12
Shoulder Type:	Paved
Shoulder Width (ft):	5



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	14	6	6	2
Density (per mile per yr):	0.69	0.3	0.3	0.1
Rate (per MVM):	1.03	0.44	0.44	0.15

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	1833	500 ≤ xx ≤ 2,000	★
ADT-RM (Rural Multi-veh) (vpd):	1833	xx ≥ 1,250	★
Curve Density (cur per mile):	1.48	xx ≥ 0.6	★
Access Density (access per mile):	17.99	7 ≤ xx ≤ 18	★
Outside Edge Risk:	2C	2S or 3	-
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	0	$0
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	1	$12,175.15
Edgeline Rumble Strip:	Proactive	$3,000	per mile	1	$12,175.15
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	1	$10,957.63
			Total Estimated Project Cost		$35,307.93

Systemic Project	√

Rural Segment Project on CSAH 7

Roadway Information

Segment Start:	Manning Trail N
Segment End:	Partridge Rd N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	7
Facility Type:	2-Lane
Segment Length (mile):	4.36
Traffic Volume (vpd):	1648
Lane Width (ft):	12
Shoulder Type:	Paved
Shoulder Width (ft):	10



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	8	0	1	0
Density (per mile per yr):	0.37	0	0.05	0
Rate (per MVM):	0.61	0	0.08	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	1648	500 ≤ xx ≤ 2,000	★
ADT-RM (Rural Multi-veh) (vpd):	1648	xx ≥ 1,250	★
Curve Density (cur per mile):	1.61	xx ≥ 0.6	★
Access Density (access per mile):	19.05	7 ≤ xx ≤ 18	-
Outside Edge Risk:	2C	2S or 3	-
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	0	$0
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	1	$13,073.9
Edgeline Rumble Strip:	Proactive	$3,000	per mile	1	$13,073.9
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	1	$11,766.51
				Total Estimated Project Cost	$37,914.31

Systemic Project	√

Project Page #: 19
Segment ID: 7.003
Date: 3/29/2023

Rural Segment Project on CSAH 8

Roadway Information

Segment Start:	Goodview Ave N
Segment End:	140th St N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	8
Facility Type:	2-Lane
Segment Length (mile):	1.72
Traffic Volume (vpd):	1950
Lane Width (ft):	12
Shoulder Type:	Gravel
Shoulder Width (ft):	4



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	7	0	3	0
Density (per mile per yr):	0.82	0	0.35	0
Rate (per MVM):	1.15	0	0.49	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	1950	500 ≤ xx ≤ 2,000	★
ADT-RM (Rural Multi-veh) (vpd):	1950	xx ≥ 1,250	★
Curve Density (cur per mile):	2.33	xx ≥ 0.6	★
Access Density (access per mile):	17.48	7 ≤ xx ≤ 18	★
Outside Edge Risk:	2S	2S or 3	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	0	$0
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	1	$5,148.43
Edgeline Rumble Strip:	Proactive	$3,000	per mile	1	$5,148.43
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	1	$4,633.59
				Total Estimated Project Cost	$14,930.46

Systemic Project	√

Rural Segment Project on CSAH 8

Roadway Information

Segment Start:	Homestead Ave N
Segment End:	122nd St N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	8
Facility Type:	2-Lane
Segment Length (mile):	3.3
Traffic Volume (vpd):	870
Lane Width (ft):	11
Shoulder Type:	Gravel
Shoulder Width (ft):	4



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	6	0	2	0
Density (per mile per yr):	0.36	0	0.12	0
Rate (per MVM):	1.14	0	0.38	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	870	500 ≤ xx ≤ 2,000	★
ADT-RM (Rural Multi-veh) (vpd):	870	xx ≥ 1,250	-
Curve Density (cur per mile):	1.51	xx ≥ 0.6	★
Access Density (access per mile):	14.53	7 ≤ xx ≤ 18	★
Outside Edge Risk:	2S	2S or 3	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

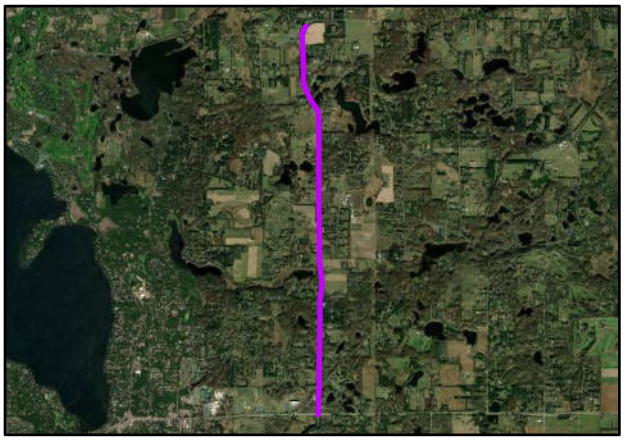
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Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	0	$0
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	1	$165,227.47
Centerline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Edgeline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Shoulder Rumble Strip:	Proactive	$3,000	per mile	1	$9,913.65
Enhanced Edgeline:	Proactive	$2,700	per mile	0	$0
				Total Estimated Project Cost	$175,141.11

Systemic Project	√

Rural Segment Project on CSAH 9

Roadway Information

Segment Start:	75th St
Segment End:	Ironwood Ave
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	9
Facility Type:	2-Lane
Segment Length (mile):	3.49
Traffic Volume (vpd):	3567
Lane Width (ft):	12
Shoulder Type:	Paved
Shoulder Width (ft):	10



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	8	2	2	0
Density (per mile per yr):	0.46	0.11	0.11	0
Rate (per MVM):	0.35	0.09	0.09	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	3567	500 ≤ xx ≤ 2,000	-
ADT-RM (Rural Multi-veh) (vpd):	3567	xx ≥ 1,250	★
Curve Density (cur per mile):	1.72	xx ≥ 0.6	★
Access Density (access per mile):	13.46	7 ≤ xx ≤ 18	★
Outside Edge Risk:	2C	2S or 3	-
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

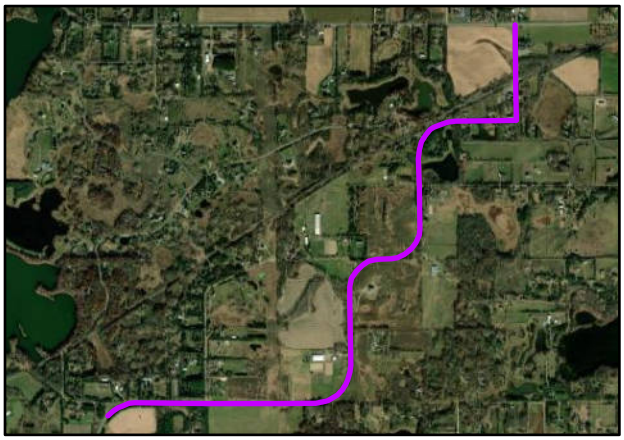
	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	1	$523,848.52
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Edgeline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	0	$0
				Total Estimated Project Cost	$523,848.52

Systemic Project	√

Rural Segment Project on CSAH 9

Roadway Information

Segment Start:	122nd St N
Segment End:	Ironwood Ave N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	9
Facility Type:	2-Lane
Segment Length (mile):	2.53
Traffic Volume (vpd):	1150
Lane Width (ft):	12
Shoulder Type:	Gravel
Shoulder Width (ft):	6



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	2	0	1	0
Density (per mile per yr):	0.16	0	0.08	0
Rate (per MVM):	0.38	0	0.19	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	50	≥ 55	-
ADT-RS (Rural Single-veh) (vpd):	1150	500 ≤ xx ≤ 2,000	★
ADT-RM (Rural Multi-veh) (vpd):	1150	xx ≥ 1,250	-
Curve Density (cur per mile):	1.58	xx ≥ 0.6	★
Access Density (access per mile):	13.41	7 ≤ xx ≤ 18	★
Outside Edge Risk:	3	2S or 3	★
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

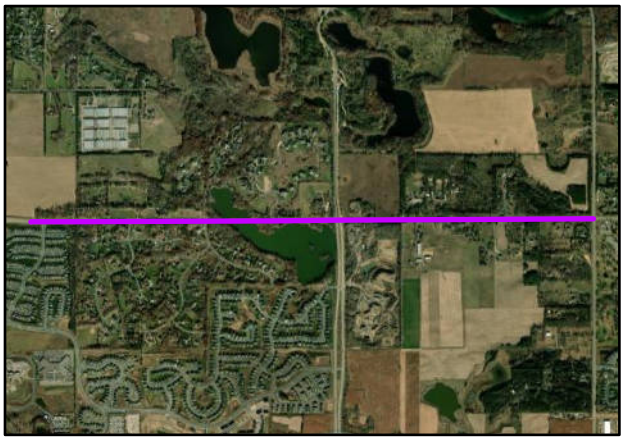
	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	0	$0
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	1	$7,604.71
Edgeline Rumble Strip:	Proactive	$3,000	per mile	1	$7,604.71
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	1	$6,844.23
			Total Estimated Project Cost		$22,053.64

Systemic Project	√

Rural Segment Project on CSAH 10

Roadway Information

Segment Start:	1620 ft East of Linwood Ave N
Segment End:	Lake Elmo Ave N
Area Type:	Rural
County:	Washington
Context Zone:	Recreational
Segment Route System:	CSAH
Segment Route No:	10
Facility Type:	2-Lane
Segment Length (mile):	2.17
Traffic Volume (vpd):	6600
Lane Width (ft):	12
Shoulder Type:	Paved
Shoulder Width (ft):	9



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	13	2	5	1
Density (per mile per yr):	1.2	0.18	0.46	0.09
Rate (per MVM):	0.5	0.08	0.19	0.04

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	6600	500 ≤ xx ≤ 2,000	-
ADT-RM (Rural Multi-veh) (vpd):	6600	xx ≥ 1,250	★
Curve Density (cur per mile):	0	xx ≥ 0.6	-
Access Density (access per mile):	13.81	7 ≤ xx ≤ 18	★
Outside Edge Risk:	3	2S or 3	★
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	1	$325,957.24
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Edgeline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	0	$0
				Total Estimated Project Cost	$325,957.24

Systemic Project	√

Rural Segment Project on CSAH 15

Roadway Information

Segment Start:	614 ft North of 110th St N
Segment End:	590 ft South of Mendel Rd N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	15
Facility Type:	3-Lane
Segment Length (mile):	0.43
Traffic Volume (vpd):	7000
Lane Width (ft):	12
Shoulder Type:	Paved
Shoulder Width (ft):	9



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	5	1	3	1
Density (per mile per yr):	2.34	0.47	1.4	0.47
Rate (per MVM):	0.91	0.18	0.55	0.18

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	7000	500 ≤ xx ≤ 2,000	-
ADT-RM (Rural Multi-veh) (vpd):	7000	xx ≥ 1,250	★
Curve Density (cur per mile):	4.67	xx ≥ 0.6	★
Access Density (access per mile):	14.01	7 ≤ xx ≤ 18	★
Outside Edge Risk:	2C	2S or 3	-
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	0	$0
Clear Zone Enhancements:	Proactive	$100,000	per mile	1	$42,821.19
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Edgeline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	0	$0
				Total Estimated Project Cost	$42,821.19

Systemic Project	√

Rural Segment Project on CSAH 15

Roadway Information

Segment Start:	Square Lake Trail N
Segment End:	614 ft North of 110th St N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	15
Facility Type:	2-Lane
Segment Length (mile):	1.91
Traffic Volume (vpd):	6800
Lane Width (ft):	12
Shoulder Type:	Paved
Shoulder Width (ft):	10



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	7	1	3	1
Density (per mile per yr):	0.73	0.1	0.31	0.1
Rate (per MVM):	0.29	0.04	0.13	0.04

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	6800	500 ≤ xx ≤ 2,000	-
ADT-RM (Rural Multi-veh) (vpd):	6800	xx ≥ 1,250	★
Curve Density (cur per mile):	1.57	xx ≥ 0.6	★
Access Density (access per mile):	16.73	7 ≤ xx ≤ 18	★
Outside Edge Risk:	2C	2S or 3	-
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	1	$286,877.39
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Edgeline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	0	$0
				Total Estimated Project Cost	$286,877.39

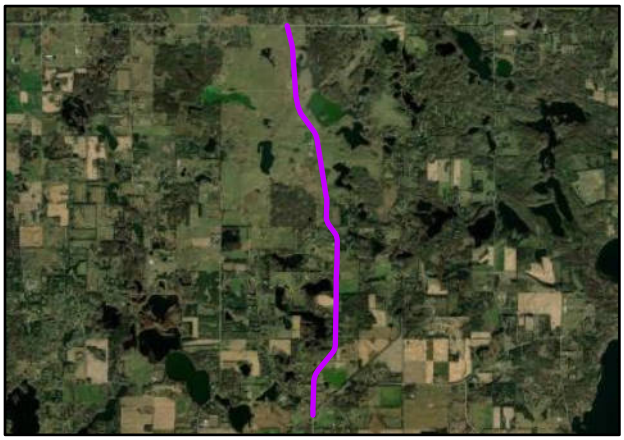
Systemic Project	√

Project Page #: 33
Segment ID: 15.009
Date: 3/29/2023

Rural Segment Project on CSAH 15

Roadway Information

Segment Start:	Intersection of 170th St N
Segment End:	Intersection of Square Lake Trail N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	15
Facility Type:	2-Lane
Segment Length (mile):	4.51
Traffic Volume (vpd):	5200
Lane Width (ft):	12
Shoulder Type:	Paved
Shoulder Width (ft):	9



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	15	0	10	0
Density (per mile per yr):	0.67	0	0.44	0
Rate (per MVM):	0.35	0	0.23	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	5200	500 ≤ xx ≤ 2,000	-
ADT-RM (Rural Multi-veh) (vpd):	5200	xx ≥ 1,250	★
Curve Density (cur per mile):	1.77	xx ≥ 0.6	★
Access Density (access per mile):	12.2	7 ≤ xx ≤ 18	★
Outside Edge Risk:	1	2S or 3	-
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	1	$676,124.48
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Edgeline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	0	$0
				Total Estimated Project Cost	$676,124.48

Systemic Project	√

Project Page #: 29
Segment ID: 15.010
Date: 3/29/2023

Rural Segment Project on CSAH 15

Roadway Information

Segment Start:	Intersection of Scandia Trail N
Segment End:	Intersection of 170th St N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	15
Facility Type:	2-Lane
Segment Length (mile):	4.11
Traffic Volume (vpd):	3975
Lane Width (ft):	12
Shoulder Type:	Paved
Shoulder Width (ft):	10



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	21	1	16	1
Density (per mile per yr):	1.02	0.05	0.78	0.05
Rate (per MVM):	0.7	0.03	0.54	0.03

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	3975	500 ≤ xx ≤ 2,000	-
ADT-RM (Rural Multi-veh) (vpd):	3975	xx ≥ 1,250	★
Curve Density (cur per mile):	1.22	xx ≥ 0.6	★
Access Density (access per mile):	16.3	7 ≤ xx ≤ 18	★
Outside Edge Risk:	2C	2S or 3	-
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

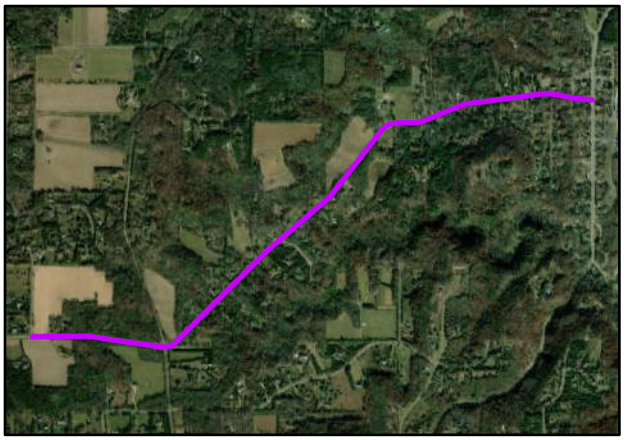
	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	1	$616,383.91
Clear Zone Enhancements:	Proactive	$100,000	per mile	1	$410,922.61
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Edgeline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	0	$0
				Total Estimated Project Cost	$1,027,306.52

Systemic Project	√

Rural Segment Project on CSAH 18

Roadway Information

Segment Start:	Oakgreen Ave S
Segment End:	St Croix Trail S
Area Type:	Rural
County:	Washington
Context Zone:	Residential
Segment Route System:	CSAH
Segment Route No:	18
Facility Type:	2-Lane
Segment Length (mile):	2.28
Traffic Volume (vpd):	1550
Lane Width (ft):	12
Shoulder Type:	Curb & Gutter
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	11	0	5	0
Density (per mile per yr):	0.97	0	0.44	0
Rate (per MVM):	1.71	0	0.78	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	45	≥ 55	-
ADT-RS (Rural Single-veh) (vpd):	1550	500 ≤ xx ≤ 2,000	★
ADT-RM (Rural Multi-veh) (vpd):	1550	xx ≥ 1,250	★
Curve Density (cur per mile):	3.07	xx ≥ 0.6	★
Access Density (access per mile):	26.34	7 ≤ xx ≤ 18	-
Outside Edge Risk:	3	2S or 3	★
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	0	$0
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	1	$6,149.79
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	1	$6,833.1
Edgeline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	0	$0
				Total Estimated Project Cost	$12,982.89

Systemic Project	√

Rural Segment Project on CSAH 21

Roadway Information

Segment Start:	200 ft South of 90th St S
Segment End:	Point Douglas Dr S
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	21
Facility Type:	2-Lane
Segment Length (mile):	5.08
Traffic Volume (vpd):	1107
Lane Width (ft):	12
Shoulder Type:	Paved
Shoulder Width (ft):	5



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	9	1	5	1
Density (per mile per yr):	0.35	0.04	0.2	0.04
Rate (per MVM):	0.88	0.1	0.49	0.1

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	1107	500 ≤ xx ≤ 2,000	★
ADT-RM (Rural Multi-veh) (vpd):	1107	xx ≥ 1,250	-
Curve Density (cur per mile):	1.97	xx ≥ 0.6	★
Access Density (access per mile):	12.4	7 ≤ xx ≤ 18	★
Outside Edge Risk:	2C	2S or 3	-
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	0	$0
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	1	$15,239.14
Edgeline Rumble Strip:	Proactive	$3,000	per mile	1	$15,239.14
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	1	$13,715.23
			Total Estimated Project Cost		$44,193.52

Systemic Project	√

Rural Segment Project on CSAH 21

Roadway Information

Segment Start:	1493 ft North of 87th St S
Segment End:	200 ft South of 90th St S
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	21
Facility Type:	2-Lane
Segment Length (mile):	0.58
Traffic Volume (vpd):	1400
Lane Width (ft):	12
Shoulder Type:	Paved
Shoulder Width (ft):	10



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	2	0	1	0
Density (per mile per yr):	0.69	0	0.35	0
Rate (per MVM):	1.35	0	0.68	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	1400	500 ≤ xx ≤ 2,000	★
ADT-RM (Rural Multi-veh) (vpd):	1400	xx ≥ 1,250	★
Curve Density (cur per mile):	0	xx ≥ 0.6	-
Access Density (access per mile):	15.56	7 ≤ xx ≤ 18	★
Outside Edge Risk:	2C	2S or 3	-
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	0	$0
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	1	$1,735.72
Edgeline Rumble Strip:	Proactive	$3,000	per mile	1	$1,735.72
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	1	$1,562.14
				Total Estimated Project Cost	$5,033.57

Systemic Project	√

Project Page #: 24
Segment ID: 21.002
Date: 3/29/2023

Rural Segment Project on CSAH 21

Roadway Information

Segment Start:	170 ft North of 37th St
Segment End:	1320 ft Southwest of 45th St
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	21
Facility Type:	2-Lane
Segment Length (mile):	1.4
Traffic Volume (vpd):	1350
Lane Width (ft):	12
Shoulder Type:	Curb & Gutter
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	10	2	5	2
Density (per mile per yr):	1.43	0.29	0.71	0.29
Rate (per MVM):	2.89	0.58	1.45	0.58

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	30	≥ 55	-
ADT-RS (Rural Single-veh) (vpd):	1350	500 ≤ xx ≤ 2,000	★
ADT-RM (Rural Multi-veh) (vpd):	1350	xx ≥ 1,250	★
Curve Density (cur per mile):	7.13	xx ≥ 0.6	★
Access Density (access per mile):	8.55	7 ≤ xx ≤ 18	★
Outside Edge Risk:	3	2S or 3	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

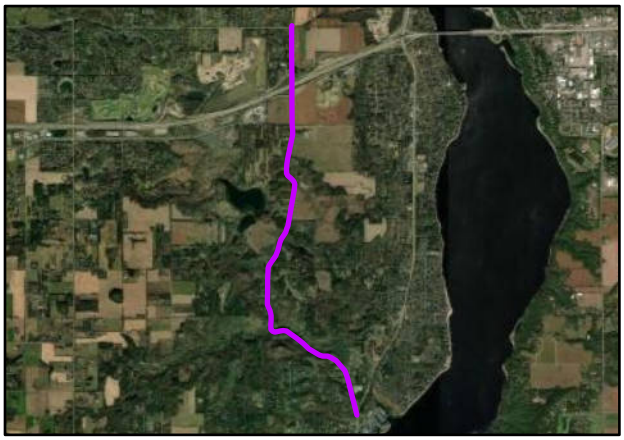
	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	0	$0
Clear Zone Enhancements:	Proactive	$100,000	per mile	1	$140,314.4
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	1	$4,209.43
Edgeline Rumble Strip:	Proactive	$3,000	per mile	1	$4,209.43
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	1	$3,788.49
				Total Estimated Project Cost	$152,521.75

Systemic Project	√

Rural Segment Project on CSAH 21

Roadway Information

Segment Start:	10th St N
Segment End:	St Croix Trail S
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	21
Facility Type:	2-Lane
Segment Length (mile):	4.64
Traffic Volume (vpd):	1240
Lane Width (ft):	12
Shoulder Type:	None
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	11	2	7	1
Density (per mile per yr):	0.47	0.09	0.3	0.04
Rate (per MVM):	1.05	0.19	0.67	0.1

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	45	≥ 55	-
ADT-RS (Rural Single-veh) (vpd):	1240	500 ≤ xx ≤ 2,000	★
ADT-RM (Rural Multi-veh) (vpd):	1240	xx ≥ 1,250	-
Curve Density (cur per mile):	2.8	xx ≥ 0.6	★
Access Density (access per mile):	15.29	7 ≤ xx ≤ 18	★
Outside Edge Risk:	3	2S or 3	★
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

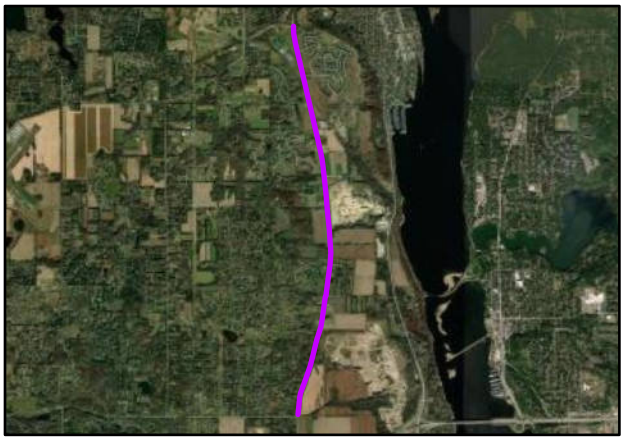
	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	0	$0
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	1	$13,930.01
Edgeline Rumble Strip:	Proactive	$3,000	per mile	1	$13,930.01
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	1	$12,537.01
			Total Estimated Project Cost		$40,397.03

Systemic Project	√

Rural Segment Project on CSAH 21

Roadway Information

Segment Start:	47th St N
Segment End:	10th St N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	21
Facility Type:	2-Lane
Segment Length (mile):	3.81
Traffic Volume (vpd):	4500
Lane Width (ft):	12
Shoulder Type:	Paved
Shoulder Width (ft):	10



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	23	1	9	0
Density (per mile per yr):	1.21	0.05	0.47	0
Rate (per MVM):	0.74	0.03	0.29	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	4500	500 ≤ xx ≤ 2,000	-
ADT-RM (Rural Multi-veh) (vpd):	4500	xx ≥ 1,250	★
Curve Density (cur per mile):	1.31	xx ≥ 0.6	★
Access Density (access per mile):	11.02	7 ≤ xx ≤ 18	★
Outside Edge Risk:	1	2S or 3	-
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	1	$571,469.05
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Edgeline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	0	$0
				Total Estimated Project Cost	$571,469.05

Systemic Project	√

Rural Segment Project on CSAH 22

Roadway Information

Segment Start:	840 ft East of CSAH 19
Segment End:	Peller Ave S
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	22
Facility Type:	2-Lane
Segment Length (mile):	5.38
Traffic Volume (vpd):	1752
Lane Width (ft):	12
Shoulder Type:	Paved
Shoulder Width (ft):	8



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	14	0	1	0
Density (per mile per yr):	0.52	0	0.04	0
Rate (per MVM):	0.81	0	0.06	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	1752	500 ≤ xx ≤ 2,000	★
ADT-RM (Rural Multi-veh) (vpd):	1752	xx ≥ 1,250	★
Curve Density (cur per mile):	0.74	xx ≥ 0.6	★
Access Density (access per mile):	12.82	7 ≤ xx ≤ 18	★
Outside Edge Risk:	1	2S or 3	-
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

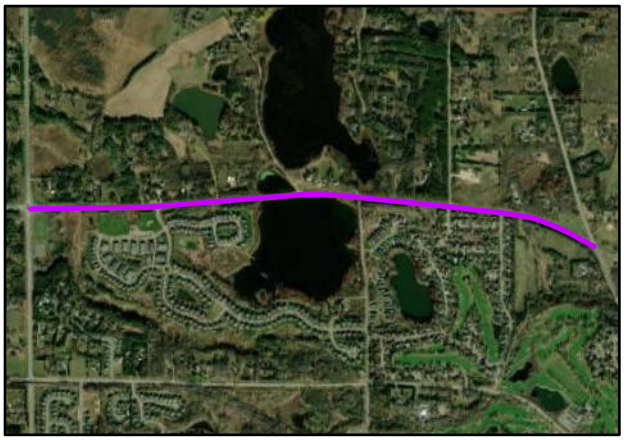
	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	0	$0
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	1	$16,140.92
Edgeline Rumble Strip:	Proactive	$3,000	per mile	1	$16,140.92
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	1	$14,526.83
			Total Estimated Project Cost		$46,808.66

Systemic Project	√

Rural Segment Project on CSAH 96

Roadway Information

Segment Start:	Manning Ave N
Segment End:	Norell Ave N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	96
Facility Type:	2-Lane
Segment Length (mile):	1.64
Traffic Volume (vpd):	7600
Lane Width (ft):	12
Shoulder Type:	Paved
Shoulder Width (ft):	5



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	10	0	4	0
Density (per mile per yr):	1.22	0	0.49	0
Rate (per MVM):	0.44	0	0.18	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	7600	500 ≤ xx ≤ 2,000	-
ADT-RM (Rural Multi-veh) (vpd):	7600	xx ≥ 1,250	★
Curve Density (cur per mile):	1.22	xx ≥ 0.6	★
Access Density (access per mile):	12.16	7 ≤ xx ≤ 18	★
Outside Edge Risk:	2C	2S or 3	-
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	1	$246,746.11
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Edgeline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	0	$0
				Total Estimated Project Cost	$246,746.11

Systemic Project	√

Rural Segment Project on CSAH 96

Roadway Information

Segment Start:	Norell Ave N
Segment End:	St Croix Trail
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	96
Facility Type:	2-Lane
Segment Length (mile):	1.17
Traffic Volume (vpd):	3050
Lane Width (ft):	12
Shoulder Type:	Paved
Shoulder Width (ft):	5



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	15	0	1	0
Density (per mile per yr):	2.57	0	0.17	0
Rate (per MVM):	2.31	0	0.15	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	3050	500 ≤ xx ≤ 2,000	-
ADT-RM (Rural Multi-veh) (vpd):	3050	xx ≥ 1,250	★
Curve Density (cur per mile):	1.71	xx ≥ 0.6	★
Access Density (access per mile):	11.12	7 ≤ xx ≤ 18	★
Outside Edge Risk:	2C	2S or 3	-
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

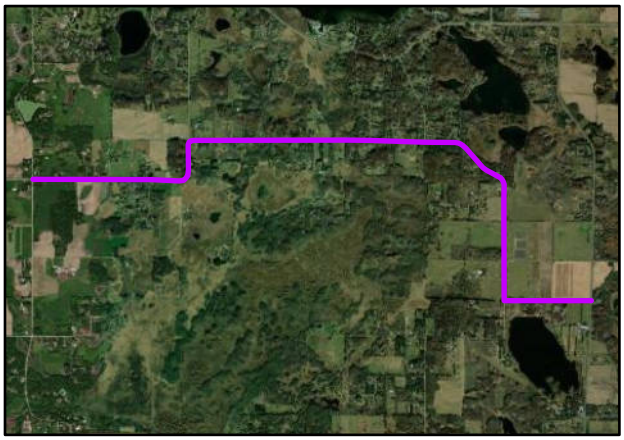
	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	1	$175,317.08
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Edgeline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	0	$0
				Total Estimated Project Cost	$175,317.08

Systemic Project	√

Rural Segment Project on CR 50

Roadway Information

Segment Start:	Harrow Ave N
Segment End:	Manning Trail N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CR
Segment Route No:	50
Facility Type:	2-Lane
Segment Length (mile):	4.6
Traffic Volume (vpd):	640
Lane Width (ft):	12
Shoulder Type:	None
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	6	2	3	0
Density (per mile per yr):	0.26	0.09	0.13	0
Rate (per MVM):	1.12	0.37	0.56	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	640	500 ≤ xx ≤ 2,000	★
ADT-RM (Rural Multi-veh) (vpd):	640	xx ≥ 1,250	-
Curve Density (cur per mile):	0.87	xx ≥ 0.6	★
Access Density (access per mile):	18.91	7 ≤ xx ≤ 18	-
Outside Edge Risk:	2S	2S or 3	★
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

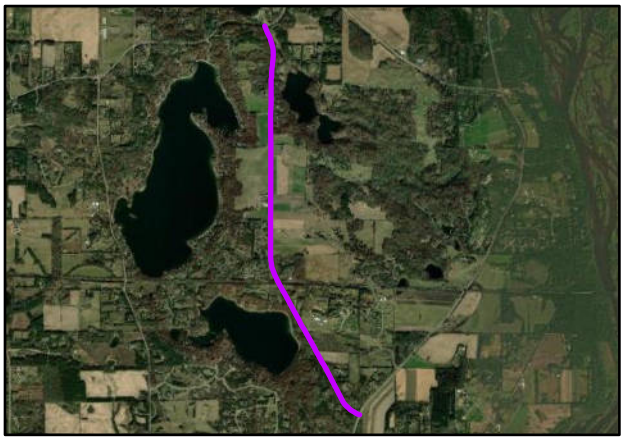
	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	0	$0
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Edgeline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	1	$12,421.79
				Total Estimated Project Cost	$12,421.79

Systemic Project	√

Rural Segment Project on CR 51

Roadway Information

Segment Start:	Square Lake Trail N
Segment End:	St Croix Trail N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CR
Segment Route No:	51
Facility Type:	2-Lane
Segment Length (mile):	2.98
Traffic Volume (vpd):	552
Lane Width (ft):	12
Shoulder Type:	Paved
Shoulder Width (ft):	9



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	2	0	1	0
Density (per mile per yr):	0.13	0	0.07	0
Rate (per MVM):	0.67	0	0.33	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	552	500 ≤ xx ≤ 2,000	★
ADT-RM (Rural Multi-veh) (vpd):	552	xx ≥ 1,250	-
Curve Density (cur per mile):	1.01	xx ≥ 0.6	★
Access Density (access per mile):	14.09	7 ≤ xx ≤ 18	★
Outside Edge Risk:	2C	2S or 3	-
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

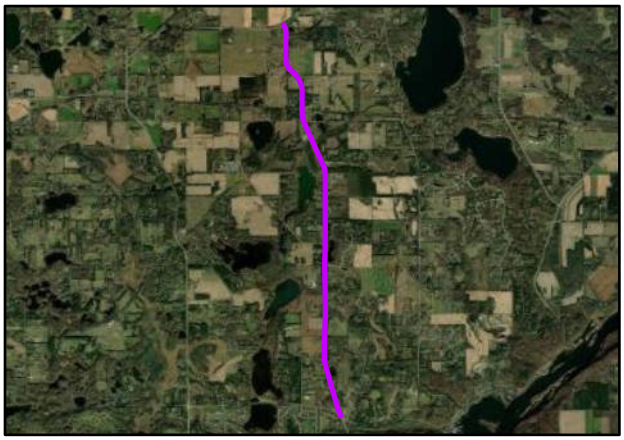
	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	0	$0
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Edgeline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	1	$8,049.92
				Total Estimated Project Cost	$8,049.92

Systemic Project	√

Rural Segment Project on CR 55

Roadway Information

Segment Start:	Square Lake Trail N
Segment End:	Dellwood Rd
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CR
Segment Route No:	55
Facility Type:	2-Lane
Segment Length (mile):	4.32
Traffic Volume (vpd):	1825
Lane Width (ft):	12
Shoulder Type:	Gravel
Shoulder Width (ft):	6



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	6	0	1	0
Density (per mile per yr):	0.28	0	0.05	0
Rate (per MVM):	0.42	0	0.07	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	1825	500 ≤ xx ≤ 2,000	★
ADT-RM (Rural Multi-veh) (vpd):	1825	xx ≥ 1,250	★
Curve Density (cur per mile):	1.39	xx ≥ 0.6	★
Access Density (access per mile):	18.54	7 ≤ xx ≤ 18	-
Outside Edge Risk:	2C	2S or 3	-
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

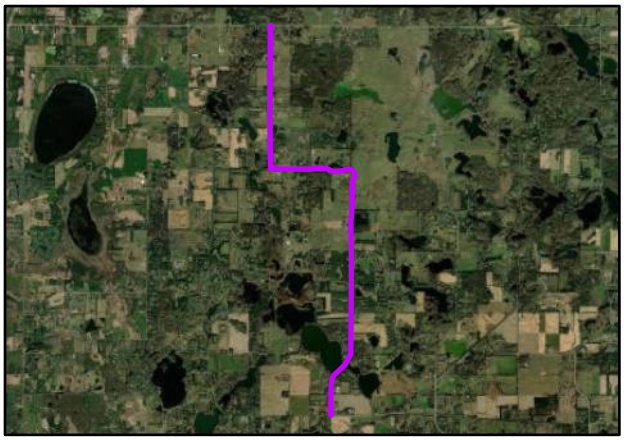
	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	0	$0
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	1	$12,947.98
Edgeline Rumble Strip:	Proactive	$3,000	per mile	1	$12,947.98
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	1	$11,653.18
			Total Estimated Project Cost		$37,549.14

Systemic Project	√

Rural Segment Project on CR 57

Roadway Information

Segment Start:	170th St N
Segment End:	122nd St N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CR
Segment Route No:	57
Facility Type:	2-Lane
Segment Length (mile):	5.83
Traffic Volume (vpd):	359
Lane Width (ft):	12
Shoulder Type:	None
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	3	1	2	0
Density (per mile per yr):	0.1	0.03	0.07	0
Rate (per MVM):	0.79	0.26	0.52	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	359	500 ≤ xx ≤ 2,000	-
ADT-RM (Rural Multi-veh) (vpd):	359	xx ≥ 1,250	-
Curve Density (cur per mile):	1.89	xx ≥ 0.6	★
Access Density (access per mile):	16.3	7 ≤ xx ≤ 18	★
Outside Edge Risk:	3	2S or 3	★
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	0	$0
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Edgeline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	1	$15,736.22
				Total Estimated Project Cost	$15,736.22

Systemic Project	√

Rural Segment Project on CR 61

Roadway Information

Segment Start:	Manning Trail N
Segment End:	Norell Ave N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CR
Segment Route No:	61
Facility Type:	2-Lane
Segment Length (mile):	2.84
Traffic Volume (vpd):	510
Lane Width (ft):	12
Shoulder Type:	Paved
Shoulder Width (ft):	5



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	3	0	0	0
Density (per mile per yr):	0.21	0	0	0
Rate (per MVM):	1.13	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	510	500 ≤ xx ≤ 2,000	★
ADT-RM (Rural Multi-veh) (vpd):	510	xx ≥ 1,250	-
Curve Density (cur per mile):	1.41	xx ≥ 0.6	★
Access Density (access per mile):	13.02	7 ≤ xx ≤ 18	★
Outside Edge Risk:	2C	2S or 3	-
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	0	$0
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Edgeline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	1	$7,674
				Total Estimated Project Cost	$7,674

Systemic Project	√

Rural Segment Project on CR 74

Roadway Information

Segment Start:	Hastings Ave
Segment End:	Hinton Ave S
Area Type:	Rural
County:	Washington
Context Zone:	Residential
Segment Route System:	CR
Segment Route No:	74
Facility Type:	2-Lane
Segment Length (mile):	2.2
Traffic Volume (vpd):	2300
Lane Width (ft):	12
Shoulder Type:	None
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	9	0	0	0
Density (per mile per yr):	0.82	0	0	0
Rate (per MVM):	0.97	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	50	≥ 55	-
ADT-RS (Rural Single-veh) (vpd):	2300	500 ≤ xx ≤ 2,000	-
ADT-RM (Rural Multi-veh) (vpd):	2300	xx ≥ 1,250	★
Curve Density (cur per mile):	2.27	xx ≥ 0.6	★
Access Density (access per mile):	17.71	7 ≤ xx ≤ 18	★
Outside Edge Risk:	3	2S or 3	★
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

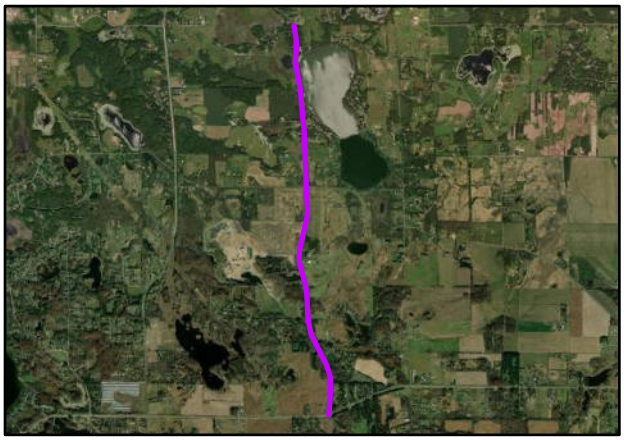
	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	1	$330,280.03
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Edgeline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	0	$0
				Total Estimated Project Cost	$330,280.03

Systemic Project	√

Rural Segment Project on CR 91

Roadway Information

Segment Start:	270 ft North of 239th St N
Segment End:	Scandia Trail N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CR
Segment Route No:	91
Facility Type:	2-Lane
Segment Length (mile):	3
Traffic Volume (vpd):	825
Lane Width (ft):	12
Shoulder Type:	Composite
Shoulder Width (ft):	7



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	5	0	1	0
Density (per mile per yr):	0.33	0	0.07	0
Rate (per MVM):	1.11	0	0.22	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 55	★
ADT-RS (Rural Single-veh) (vpd):	825	500 ≤ xx ≤ 2,000	★
ADT-RM (Rural Multi-veh) (vpd):	825	xx ≥ 1,250	-
Curve Density (cur per mile):	3	xx ≥ 0.6	★
Access Density (access per mile):	16	7 ≤ xx ≤ 18	★
Outside Edge Risk:	2C	2S or 3	-
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Buffer Between Opposing Lanes:	Proactive	$150,000	per mile	0	$0
Clear Zone Enhancements:	Proactive	$100,000	per mile	0	$0
6" Wet Reflective Paint in Groove:	Proactive	$2,700	per mile	0	$0
Shoulder Paving, Safety Edge:	Proactive	$50,000	per mile	0	$0
Centerline Rumble Strip:	Proactive	$3,000	per mile	0	$0
Edgeline Rumble Strip:	Proactive	$3,000	per mile	1	$9,002.14
Shoulder Rumble Strip:	Proactive	$3,000	per mile	0	$0
Enhanced Edgeline:	Proactive	$2,700	per mile	1	$8,101.92
			Total Estimated Project Cost		$17,104.06

Systemic Project	√

Curve along W broadway Ave (Co Hwy 2)

Roadway Information

Segment Start:	420 ft SouthEast of Ethan Ct N
Segment End:	NW 4th St
Area Type:	Suburban
County:	Washington
Context Zone:	Mixed Use
Segment Route System:	CSAH
Segment Route No:	2
Curve Length (ft):	539.67
Curve Radius (ft):	239.28
Traffic Volume (vpd):	20200
Lane Width (ft):	10
Shoulder Type:	None
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	24	0	5	0
Density (per mile per yr):	4.8	0	1	0
Rate (per MVM):	0.65	0	0.14	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Radius (ft):	239.28	500 ≤ xx < 1400	★
ADT (vpd):	20200	200 ≤ xx < 800	-
Lane Width (ft):	10	< 12	★
Shoulder Type:	None	None, Gravel, Composite	★
Total Cross Section Width (ft)	40	28 ≤ xx < 34	-
Adjacent Intersection:	Intersection	Roadway or Railroad Crossing	★
Visual Trap:	None	Present	-
Outside Edge Risk:	3	2S or 3 deficiencies	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Clear Zone Enhancements:	Proactive	$100,000	Per curve	1	$100,000
High Friction Surface Treatment:	Proactive	$30/sq yd	Per sq yd	0	$0
Reconstruct TT to Single T:	Proactive	$400,000	Per curve	0	$0
Lighting:	Proactive	$15,000	Per light/curve	0	$0
Curve Warning Sign:	Proactive	$1,000	Per curve	0	$0
Speed Advisory Signs:	Proactive	$1,000	Per curve	0	$0
Chevrons/Arrow Board:	Proactive	$2,500	Per curve	0	$0
				Total Estimated Project Cost:	$100,000

Systemic Project	√

Project Page #: 17
Segment ID: 2.002
Date: 3/30/2023

Curve along Norell Ave N (Co Hwy 3)

Roadway Information

Segment Start:	Square Lake Trail
Segment End:	170th St N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	3
Curve Length (ft):	462.55
Curve Radius (ft):	216.93
Traffic Volume (vpd):	980
Lane Width (ft):	10
Shoulder Type:	Gravel
Shoulder Width (ft):	3



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	0	0	0	0
Density (per mile per yr):	0	0	0	0
Rate (per MVM):	0	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Radius (ft):	216.93	500 ≤ xx < 1400	★
ADT (vpd):	980	200 ≤ xx < 800	-
Lane Width (ft):	10	< 12	★
Shoulder Type:	Gravel	None, Gravel, Composite	★
Total Cross Section Width (ft)	30	28 ≤ xx < 34	★
Adjacent Intersection:	Intersection	Roadway or Railroad Crossing	★
Visual Trap:	None	Present	-
Outside Edge Risk:	3	2S or 3 deficiencies	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Clear Zone Enhancements:	Proactive	$100,000	Per curve	0	$0
High Friction Surface Treatment:	Proactive	$30/sq yd	Per sq yd	0	$0
Reconstruct TT to Single T:	Proactive	$400,000	Per curve	0	$0
Lighting:	Proactive	$15,000	Per light/curve	0	$0
Curve Warning Sign:	Proactive	$1,000	Per curve	1	$1,000
Speed Advisory Signs:	Proactive	$1,000	Per curve	0	$0
Chevrons/Arrow Board:	Proactive	$2,500	Per curve	1	$2,500
			Total Estimated Project Cost:		$3,500

Systemic Project	√

Curve along Olinda Trail/ Olinda Trail N (Co Hwy 3)

Roadway Information

Segment Start:	962 ft Southwest of 205th St N
Segment End:	2250 ft South of 177th St N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	3
Curve Length (ft):	797.93
Curve Radius (ft):	280.41
Traffic Volume (vpd):	2550
Lane Width (ft):	10
Shoulder Type:	None
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	0	0	0	0
Density (per mile per yr):	0	0	0	0
Rate (per MVM):	0	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Radius (ft):	280.41	500 ≤ xx < 1400	★
ADT (vpd):	2550	200 ≤ xx < 800	-
Lane Width (ft):	10	< 12	★
Shoulder Type:	None	None, Gravel, Composite	★
Total Cross Section Width (ft)	42	28 ≤ xx < 34	-
Adjacent Intersection:	Intersection	Roadway or Railroad Crossing	★
Visual Trap:	None	Present	-
Outside Edge Risk:	3	2S or 3 deficiencies	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Clear Zone Enhancements:	Proactive	$100,000	Per curve	0	$0
High Friction Surface Treatment:	Proactive	$30/sq yd	Per sq yd	0	$0
Reconstruct TT to Single T:	Proactive	$400,000	Per curve	0	$0
Lighting:	Proactive	$15,000	Per light/curve	0	$0
Curve Warning Sign:	Proactive	$1,000	Per curve	0	$0
Speed Advisory Signs:	Proactive	$1,000	Per curve	0	$0
Chevrons/Arrow Board:	Proactive	$2,500	Per curve	1	$2,500
				Total Estimated Project Cost:	$2,500

Systemic Project	√

Curve along 170th St N (Co Hwy 14)

Roadway Information

Segment Start:	Intersection of Manning Trail N
Segment End:	Intersection of Olinda Trail N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	4
Curve Length (ft):	978.93
Curve Radius (ft):	303.57
Traffic Volume (vpd):	510
Lane Width (ft):	11
Shoulder Type:	Composite
Shoulder Width (ft):	6



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	0	0	0	0
Density (per mile per yr):	0	0	0	0
Rate (per MVM):	0	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Radius (ft):	303.57	500 ≤ xx < 1400	★
ADT (vpd):	510	200 ≤ xx < 800	★
Lane Width (ft):	11	< 12	★
Shoulder Type:	Composite	None, Gravel, Composite	★
Total Cross Section Width (ft)	36	28 ≤ xx < 34	-
Adjacent Intersection:	Intersection	Roadway or Railroad Crossing	★
Visual Trap:	None	Present	-
Outside Edge Risk:	2C	2S or 3 deficiencies	-
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Clear Zone Enhancements:	Proactive	$100,000	Per curve	0	$0
High Friction Surface Treatment:	Proactive	$30/sq yd	Per sq yd	0	$0
Reconstruct TT to Single T:	Proactive	$400,000	Per curve	0	$0
Lighting:	Proactive	$15,000	Per light/curve	0	$0
Curve Warning Sign:	Proactive	$1,000	Per curve	0	$0
Speed Advisory Signs:	Proactive	$1,000	Per curve	0	$0
Chevrons/Arrow Board:	Proactive	$2,500	Per curve	1	$2,500
				Total Estimated Project Cost:	$2,500

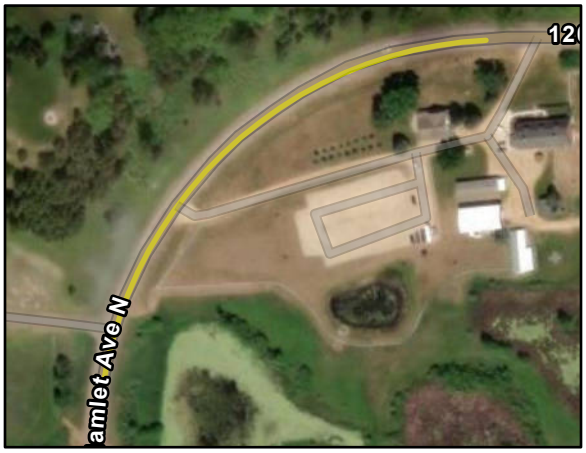
Systemic Project	√

Project Page #:	43
Segment ID:	4.006
Date:	3/30/2023

Curve along 117th St N/120th St N/Illies Ave N/122nd St N/Hamlet Ave N (Co Hwy 7)

Roadway Information

Segment Start:	Goodview Ave
Segment End:	Jody Ave N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	7
Curve Length (ft):	1016.89
Curve Radius (ft):	215.44
Traffic Volume (vpd):	1850
Lane Width (ft):	11
Shoulder Type:	Composite
Shoulder Width (ft):	3



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	1	0	1	0
Density (per mile per yr):	0.2	0	0.2	0
Rate (per MVM):	0.3	0	0.3	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Radius (ft):	215.44	500 ≤ xx < 1400	★
ADT (vpd):	1850	200 ≤ xx < 800	-
Lane Width (ft):	11	< 12	★
Shoulder Type:	Composite	None, Gravel, Composite	★
Total Cross Section Width (ft)	32	28 ≤ xx < 34	★
Adjacent Intersection:	None	Roadway or Railroad Crossing	-
Visual Trap:	None	Present	-
Outside Edge Risk:	3	2S or 3 deficiencies	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Clear Zone Enhancements:	Proactive	$100,000	Per curve	1	$100,000
High Friction Surface Treatment:	Proactive	$30/sq yd	Per sq yd	0	$0
Reconstruct TT to Single T:	Proactive	$400,000	Per curve	0	$0
Lighting:	Proactive	$15,000	Per light/curve	0	$0
Curve Warning Sign:	Proactive	$1,000	Per curve	0	$0
Speed Advisory Signs:	Proactive	$1,000	Per curve	0	$0
Chevrons/Arrow Board:	Proactive	$2,500	Per curve	0	$0
				Total Estimated Project Cost:	$100,000

Systemic Project	√

County Completed - Curve Warning Sign

Project Page #:	49
Segment ID:	7.002
Date:	3/30/2023

Curve along 117th St N/120th St N/Illies Ave N/122nd St N/Hamlet Ave N (Co Hwy 7)

Roadway Information

Segment Start:	Goodview Ave
Segment End:	Jody Ave N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	7
Curve Length (ft):	625.98
Curve Radius (ft):	167.61
Traffic Volume (vpd):	1850
Lane Width (ft):	11
Shoulder Type:	Paved
Shoulder Width (ft):	3



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	1	1	0	0
Density (per mile per yr):	0.2	0.2	0	0
Rate (per MVM):	0.3	29.620001	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Radius (ft):	167.61	500 ≤ xx < 1400	★
ADT (vpd):	1850	200 ≤ xx < 800	-
Lane Width (ft):	11	< 12	★
Shoulder Type:	Paved	None, Gravel, Composite	-
Total Cross Section Width (ft)	32	28 ≤ xx < 34	★
Adjacent Intersection:	Intersection	Roadway or Railroad Crossing	★
Visual Trap:	Present	Present	★
Outside Edge Risk:	3	2S or 3 deficiencies	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Clear Zone Enhancements:	Proactive	$100,000	Per curve	0	$0
High Friction Surface Treatment:	Proactive	$30/sq yd	Per sq yd	0	$0
Reconstruct TT to Single T:	Proactive	$400,000	Per curve	0	$0
Lighting:	Proactive	$15,000	Per light/curve	0	$0
Curve Warning Sign:	Proactive	$1,000	Per curve	0	$0
Speed Advisory Signs:	Proactive	$1,000	Per curve	0	$0
Chevrons/Arrow Board:	Proactive	$2,500	Per curve	1	$2,500
				Total Estimated Project Cost:	$2,500

Systemic Project	√

County Completed - Curve Warning Sign and Speed Advisory Sign

Project Page #:	14
Segment ID:	7.003
Date:	3/30/2023

Curve along 117th St N/120th St N/Illies Ave N/122nd St N/Hamlet Ave N (Co Hwy 7)

Roadway Information

Segment Start:	Goodview Ave
Segment End:	Jody Ave N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	7
Curve Length (ft):	645.42
Curve Radius (ft):	219.23
Traffic Volume (vpd):	1250
Lane Width (ft):	11
Shoulder Type:	Composite
Shoulder Width (ft):	3



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	1	0	1	0
Density (per mile per yr):	0.2	0	0.2	0
Rate (per MVM):	0.44	0	0.44	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Radius (ft):	219.23	500 ≤ xx < 1400	★
ADT (vpd):	1250	200 ≤ xx < 800	-
Lane Width (ft):	11	< 12	★
Shoulder Type:	Composite	None, Gravel, Composite	★
Total Cross Section Width (ft)	32	28 ≤ xx < 34	★
Adjacent Intersection:	Intersection	Roadway or Railroad Crossing	★
Visual Trap:	None	Present	-
Outside Edge Risk:	3	2S or 3 deficiencies	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Clear Zone Enhancements:	Proactive	$100,000	Per curve	1	$100,000
High Friction Surface Treatment:	Proactive	$30/sq yd	Per sq yd	0	$0
Reconstruct TT to Single T:	Proactive	$400,000	Per curve	0	$0
Lighting:	Proactive	$15,000	Per light/curve	0	$0
Curve Warning Sign:	Proactive	$1,000	Per curve	0	$0
Speed Advisory Signs:	Proactive	$1,000	Per curve	0	$0
Chevrons/Arrow Board:	Proactive	$2,500	Per curve	1	$2,500
				Total Estimated Project Cost:	$102,500

Systemic Project	√

County Completed - Curve Warning Sign

Project Page #:	13
Segment ID:	7.004
Date:	3/30/2023

Curve along 117th St N/120th St N/Illies Ave N/122nd St N/Hamlet Ave N (Co Hwy 7)

Roadway Information

Segment Start:	Goodview Ave
Segment End:	Jody Ave N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	7
Curve Length (ft):	627.58
Curve Radius (ft):	212.86
Traffic Volume (vpd):	1250
Lane Width (ft):	11
Shoulder Type:	Paved
Shoulder Width (ft):	3



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	1	0	1	0
Density (per mile per yr):	0.2	0	0.2	0
Rate (per MVM):	0.44	0	0.44	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Radius (ft):	212.86	500 ≤ xx < 1400	★
ADT (vpd):	1250	200 ≤ xx < 800	-
Lane Width (ft):	11	< 12	★
Shoulder Type:	Paved	None, Gravel, Composite	-
Total Cross Section Width (ft)	32	28 ≤ xx < 34	★
Adjacent Intersection:	Intersection	Roadway or Railroad Crossing	★
Visual Trap:	None	Present	-
Outside Edge Risk:	3	2S or 3 deficiencies	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Clear Zone Enhancements:	Proactive	$100,000	Per curve	1	$100,000
High Friction Surface Treatment:	Proactive	$30/sq yd	Per sq yd	0	$0
Reconstruct TT to Single T:	Proactive	$400,000	Per curve	0	$0
Lighting:	Proactive	$15,000	Per light/curve	0	$0
Curve Warning Sign:	Proactive	$1,000	Per curve	0	$0
Speed Advisory Signs:	Proactive	$1,000	Per curve	0	$0
Chevrons/Arrow Board:	Proactive	$2,500	Per curve	1	$2,500
				Total Estimated Project Cost:	$102,500

Systemic Project	√

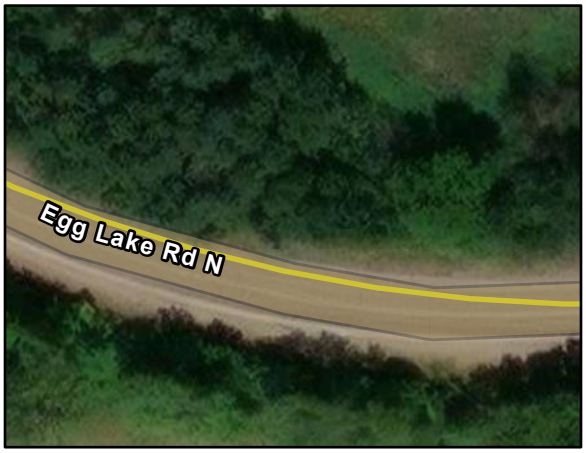
County Completed - Curve Warning Sign and Speed Advisory Sign

Project Page #:	51
Segment ID:	7.006
Date:	3/30/2023

Curve along 137th St N/Egg Lake Rd N/Homestead Ave N (Co Hwy 8)

Roadway Information

Segment Start:	Goodview Ave N
Segment End:	140th St N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	8
Curve Length (ft):	326.68
Curve Radius (ft):	204.2
Traffic Volume (vpd):	1950
Lane Width (ft):	11
Shoulder Type:	Gravel
Shoulder Width (ft):	3



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	0	0	0	0
Density (per mile per yr):	0	0	0	0
Rate (per MVM):	0	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Radius (ft):	204.2	500 ≤ xx < 1400	★
ADT (vpd):	1950	200 ≤ xx < 800	-
Lane Width (ft):	11	< 12	★
Shoulder Type:	Gravel	None, Gravel, Composite	★
Total Cross Section Width (ft)	30	28 ≤ xx < 34	★
Adjacent Intersection:	None	Roadway or Railroad Crossing	-
Visual Trap:	None	Present	-
Outside Edge Risk:	3	2S or 3 deficiencies	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Clear Zone Enhancements:	Proactive	$100,000	Per curve	0	$0
High Friction Surface Treatment:	Proactive	$30/sq yd	Per sq yd	0	$0
Reconstruct TT to Single T:	Proactive	$400,000	Per curve	0	$0
Lighting:	Proactive	$15,000	Per light/curve	0	$0
Curve Warning Sign:	Proactive	$1,000	Per curve	0	$0
Speed Advisory Signs:	Proactive	$1,000	Per curve	1	$1,000
Chevrons/Arrow Board:	Proactive	$2,500	Per curve	0	$0
				Total Estimated Project Cost:	$1,000

Systemic Project	√

County Completed - Curve Warning Sign

Project Page #: 25
Segment ID: 8.004
Date: 3/30/2023

Curve along 137th St N/Egg Lake Rd N/Homestead Ave N (Co Hwy 8)

Roadway Information

Segment Start:	Goodview Ave N
Segment End:	140th St N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	8
Curve Length (ft):	358.32
Curve Radius (ft):	222.31
Traffic Volume (vpd):	1950
Lane Width (ft):	11
Shoulder Type:	Gravel
Shoulder Width (ft):	3



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	1	0	1	0
Density (per mile per yr):	0.2	0	0.2	0
Rate (per MVM):	0.28	0	0.28	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Radius (ft):	222.31	500 ≤ xx < 1400	★
ADT (vpd):	1950	200 ≤ xx < 800	-
Lane Width (ft):	11	< 12	★
Shoulder Type:	Gravel	None, Gravel, Composite	★
Total Cross Section Width (ft)	30	28 ≤ xx < 34	★
Adjacent Intersection:	None	Roadway or Railroad Crossing	-
Visual Trap:	None	Present	-
Outside Edge Risk:	3	2S or 3 deficiencies	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Clear Zone Enhancements:	Proactive	$100,000	Per curve	1	$100,000
High Friction Surface Treatment:	Proactive	$30/sq yd	Per sq yd	0	$0
Reconstruct TT to Single T:	Proactive	$400,000	Per curve	0	$0
Lighting:	Proactive	$15,000	Per light/curve	0	$0
Curve Warning Sign:	Proactive	$1,000	Per curve	0	$0
Speed Advisory Signs:	Proactive	$1,000	Per curve	0	$0
Chevrons/Arrow Board:	Proactive	$2,500	Per curve	0	$0
				Total Estimated Project Cost:	$100,000

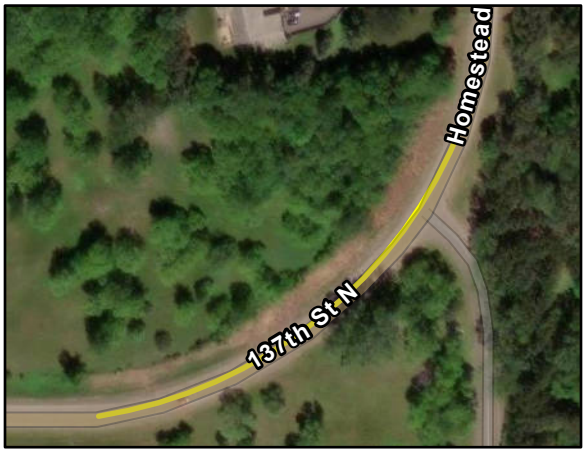
Systemic Project	√

County Completed - Curve Warning Sign

Curve along 137th St N/Egg Lake Rd N/Homestead Ave N (Co Hwy 8)

Roadway Information

Segment Start:	Goodview Ave N
Segment End:	140th St N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	8
Curve Length (ft):	754.21
Curve Radius (ft):	186.37
Traffic Volume (vpd):	1950
Lane Width (ft):	11
Shoulder Type:	Gravel
Shoulder Width (ft):	3



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	2	0	1	0
Density (per mile per yr):	0.4	0	0.2	0
Rate (per MVM):	0.56	0	0.28	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Radius (ft):	186.37	500 ≤ xx < 1400	★
ADT (vpd):	1950	200 ≤ xx < 800	-
Lane Width (ft):	11	< 12	★
Shoulder Type:	Gravel	None, Gravel, Composite	★
Total Cross Section Width (ft)	30	28 ≤ xx < 34	★
Adjacent Intersection:	Intersection	Roadway or Railroad Crossing	★
Visual Trap:	None	Present	-
Outside Edge Risk:	3	2S or 3 deficiencies	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Clear Zone Enhancements:	Proactive	$100,000	Per curve	1	$100,000
High Friction Surface Treatment:	Proactive	$30/sq yd	Per sq yd	0	$0
Reconstruct TT to Single T:	Proactive	$400,000	Per curve	0	$0
Lighting:	Proactive	$15,000	Per light/curve	0	$0
Curve Warning Sign:	Proactive	$1,000	Per curve	0	$0
Speed Advisory Signs:	Proactive	$1,000	Per curve	0	$0
Chevrons/Arrow Board:	Proactive	$2,500	Per curve	0	$0
				Total Estimated Project Cost:	$100,000

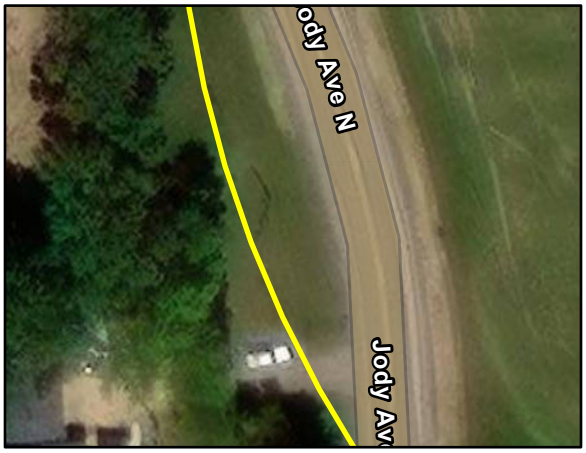
Systemic Project	√

County Completed - Curve Warning Sign, Chevrons or Arrow Board, and Speed Advisory Sign

Curve along 140th St N/Isleton Ave N/130th St N/Jody Ave N (Co Hwy 8)

Roadway Information

Segment Start:	Homestead Ave N
Segment End:	122nd St N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	8
Curve Length (ft):	281.06
Curve Radius (ft):	153.84
Traffic Volume (vpd):	860
Lane Width (ft):	10
Shoulder Type:	Gravel
Shoulder Width (ft):	3



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	0	0	0	0
Density (per mile per yr):	0	0	0	0
Rate (per MVM):	0	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Radius (ft):	153.84	500 ≤ xx < 1400	★
ADT (vpd):	860	200 ≤ xx < 800	-
Lane Width (ft):	10	< 12	★
Shoulder Type:	Gravel	None, Gravel, Composite	★
Total Cross Section Width (ft)	28	28 ≤ xx < 34	★
Adjacent Intersection:	Intersection	Roadway or Railroad Crossing	★
Visual Trap:	None	Present	-
Outside Edge Risk:	3	2S or 3 deficiencies	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Clear Zone Enhancements:	Proactive	$100,000	Per curve	0	$0
High Friction Surface Treatment:	Proactive	$30/sq yd	Per sq yd	0	$0
Reconstruct TT to Single T:	Proactive	$400,000	Per curve	0	$0
Lighting:	Proactive	$15,000	Per light/curve	0	$0
Curve Warning Sign:	Proactive	$1,000	Per curve	1	$1,000
Speed Advisory Signs:	Proactive	$1,000	Per curve	1	$1,000
Chevrons/Arrow Board:	Proactive	$2,500	Per curve	1	$2,500
				Total Estimated Project Cost:	$4,500

Systemic Project	√

Project Page #:	10
Segment ID:	8.012
Date:	3/30/2023

Curve along Keystone Ave N/199th St N/Keats Ave N/115th St N/Julianne Ave N/110th St N (Co Hwy 9)

Roadway Information

Segment Start:	122nd St N
Segment End:	Ironwood Ave N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	9
Curve Length (ft):	658.81
Curve Radius (ft):	173.8
Traffic Volume (vpd):	1000
Lane Width (ft):	11
Shoulder Type:	Gravel
Shoulder Width (ft):	3



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	1	0	1	0
Density (per mile per yr):	0.2	0	0.2	0
Rate (per MVM):	0.55	0	0.55	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Radius (ft):	173.8	500 ≤ xx < 1400	★
ADT (vpd):	1000	200 ≤ xx < 800	-
Lane Width (ft):	11	< 12	★
Shoulder Type:	Gravel	None, Gravel, Composite	★
Total Cross Section Width (ft)	34	28 ≤ xx < 34	★
Adjacent Intersection:	None	Roadway or Railroad Crossing	-
Visual Trap:	Present	Present	★
Outside Edge Risk:	3	2S or 3 deficiencies	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Clear Zone Enhancements:	Proactive	$100,000	Per curve	1	$100,000
High Friction Surface Treatment:	Proactive	$30/sq yd	Per sq yd	0	$0
Reconstruct TT to Single T:	Proactive	$400,000	Per curve	0	$0
Lighting:	Proactive	$15,000	Per light/curve	0	$0
Curve Warning Sign:	Proactive	$1,000	Per curve	0	$0
Speed Advisory Signs:	Proactive	$1,000	Per curve	0	$0
Chevrons/Arrow Board:	Proactive	$2,500	Per curve	0	$0
				Total Estimated Project Cost:	$100,000

Systemic Project	√

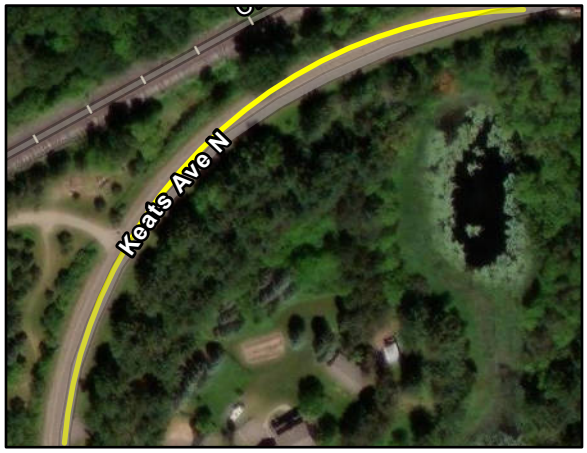
County Completed - Curve Warning Sign and Chevrons or Arrow Board

Project Page #:	12
Segment ID:	9.008
Date:	3/30/2023

Curve along Keystone Ave N/199th St N/Keats Ave N/115th St N/Julianne Ave N/110th St N (Co Hwy 9)

Roadway Information

Segment Start:	122nd St N
Segment End:	Ironwood Ave N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	9
Curve Length (ft):	899.99
Curve Radius (ft):	188.43
Traffic Volume (vpd):	1000
Lane Width (ft):	11
Shoulder Type:	Gravel
Shoulder Width (ft):	3



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	0	0	0	0
Density (per mile per yr):	0	0	0	0
Rate (per MVM):	0	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Radius (ft):	188.43	500 ≤ xx < 1400	★
ADT (vpd):	1000	200 ≤ xx < 800	-
Lane Width (ft):	11	< 12	★
Shoulder Type:	Gravel	None, Gravel, Composite	★
Total Cross Section Width (ft)	34	28 ≤ xx < 34	★
Adjacent Intersection:	Intersection	Roadway or Railroad Crossing	★
Visual Trap:	None	Present	-
Outside Edge Risk:	3	2S or 3 deficiencies	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Clear Zone Enhancements:	Proactive	$100,000	Per curve	0	$0
High Friction Surface Treatment:	Proactive	$30/sq yd	Per sq yd	0	$0
Reconstruct TT to Single T:	Proactive	$400,000	Per curve	0	$0
Lighting:	Proactive	$15,000	Per light/curve	0	$0
Curve Warning Sign:	Proactive	$1,000	Per curve	0	$0
Speed Advisory Signs:	Proactive	$1,000	Per curve	0	$0
Chevrons/Arrow Board:	Proactive	$2,500	Per curve	1	$2,500
				Total Estimated Project Cost:	$2,500

Systemic Project	√

County Completed - Curve Warning Sign

Project Page #:	11
Segment ID:	9.010
Date:	3/30/2023

Curve along Otchipwe Ave N (Co Hwy 11)

Roadway Information

Segment Start:	Square Lake Trail N
Segment End:	120th St N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	11
Curve Length (ft):	240.27
Curve Radius (ft):	204.64
Traffic Volume (vpd):	550
Lane Width (ft):	11
Shoulder Type:	Paved
Shoulder Width (ft):	3



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	1	0	1	0
Density (per mile per yr):	0.2	0	0.2	0
Rate (per MVM):	1	0	1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Radius (ft):	204.64	500 ≤ xx < 1400	★
ADT (vpd):	550	200 ≤ xx < 800	★
Lane Width (ft):	11	< 12	★
Shoulder Type:	Paved	None, Gravel, Composite	-
Total Cross Section Width (ft)	30	28 ≤ xx < 34	★
Adjacent Intersection:	None	Roadway or Railroad Crossing	-
Visual Trap:	None	Present	-
Outside Edge Risk:	3	2S or 3 deficiencies	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Clear Zone Enhancements:	Proactive	$100,000	Per curve	1	$100,000
High Friction Surface Treatment:	Proactive	$30/sq yd	Per sq yd	0	$0
Reconstruct TT to Single T:	Proactive	$400,000	Per curve	0	$0
Lighting:	Proactive	$15,000	Per light/curve	0	$0
Curve Warning Sign:	Proactive	$1,000	Per curve	0	$0
Speed Advisory Signs:	Proactive	$1,000	Per curve	0	$0
Chevrons/Arrow Board:	Proactive	$2,500	Per curve	0	$0
				Total Estimated Project Cost:	$100,000

Systemic Project	√

County Completed - Curve Warning Sign

Project Page #:	55
Segment ID:	11.010
Date:	3/30/2023

Curve along St Croix Trail S (Co Hwy 21)

Roadway Information

Segment Start:	200 ft South of 90th St S
Segment End:	Point Douglas Dr S
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	21
Curve Length (ft):	837.69
Curve Radius (ft):	398.68
Traffic Volume (vpd):	1050
Lane Width (ft):	10
Shoulder Type:	Composite
Shoulder Width (ft):	6



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	2	0	1	0
Density (per mile per yr):	0.4	0	0.2	0
Rate (per MVM):	1.04	0	0.52	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Radius (ft):	398.68	500 ≤ xx < 1400	★
ADT (vpd):	1050	200 ≤ xx < 800	-
Lane Width (ft):	10	< 12	★
Shoulder Type:	Composite	None, Gravel, Composite	★
Total Cross Section Width (ft)	30	28 ≤ xx < 34	★
Adjacent Intersection:	Intersection	Roadway or Railroad Crossing	★
Visual Trap:	None	Present	-
Outside Edge Risk:	2C	2S or 3 deficiencies	-
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Clear Zone Enhancements:	Proactive	$100,000	Per curve	1	$100,000
High Friction Surface Treatment:	Proactive	$30/sq yd	Per sq yd	0	$0
Reconstruct TT to Single T:	Proactive	$400,000	Per curve	0	$0
Lighting:	Proactive	$15,000	Per light/curve	0	$0
Curve Warning Sign:	Proactive	$1,000	Per curve	0	$0
Speed Advisory Signs:	Proactive	$1,000	Per curve	0	$0
Chevrons/Arrow Board:	Proactive	$2,500	Per curve	0	$0
				Total Estimated Project Cost:	$100,000

Systemic Project	√

Project Page #: 58
Segment ID: 21.008
Date: 3/30/2023

Curve along Stagecoach Trail S (Co Hwy 21)

Roadway Information

Segment Start:	10th St N
Segment End:	St Croix Trail S
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	21
Curve Length (ft):	496.4
Curve Radius (ft):	365.46
Traffic Volume (vpd):	640
Lane Width (ft):	9
Shoulder Type:	None
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	2	0	2	0
Density (per mile per yr):	0.4	0	0.4	0
Rate (per MVM):	1.71	0	1.71	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Radius (ft):	365.46	500 ≤ xx < 1400	★
ADT (vpd):	640	200 ≤ xx < 800	★
Lane Width (ft):	9	< 12	★
Shoulder Type:	None	None, Gravel, Composite	★
Total Cross Section Width (ft)	18	28 ≤ xx < 34	-
Adjacent Intersection:	None	Roadway or Railroad Crossing	-
Visual Trap:	None	Present	-
Outside Edge Risk:	3	2S or 3 deficiencies	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Clear Zone Enhancements:	Proactive	$100,000	Per curve	1	$100,000
High Friction Surface Treatment:	Proactive	$30/sq yd	Per sq yd	0	$0
Reconstruct TT to Single T:	Proactive	$400,000	Per curve	0	$0
Lighting:	Proactive	$15,000	Per light/curve	0	$0
Curve Warning Sign:	Proactive	$1,000	Per curve	0	$0
Speed Advisory Signs:	Proactive	$1,000	Per curve	0	$0
Chevrons/Arrow Board:	Proactive	$2,500	Per curve	0	$0
				Total Estimated Project Cost:	$100,000

Systemic Project	√

Project Page #:	32
Segment ID:	21.035
Date:	3/30/2023

Curve along Stagecoach Trail S (Co Hwy 21)

Roadway Information

Segment Start:	10th St N
Segment End:	St Croix Trail S
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	21
Curve Length (ft):	416.83
Curve Radius (ft):	593.37
Traffic Volume (vpd):	640
Lane Width (ft):	9
Shoulder Type:	Gravel
Shoulder Width (ft):	3



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	1	0	1	0
Density (per mile per yr):	0.2	0	0.2	0
Rate (per MVM):	0.86	0	0.86	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Radius (ft):	593.37	500 ≤ xx < 1400	-
ADT (vpd):	640	200 ≤ xx < 800	★
Lane Width (ft):	9	< 12	★
Shoulder Type:	Gravel	None, Gravel, Composite	★
Total Cross Section Width (ft)	18	28 ≤ xx < 34	-
Adjacent Intersection:	Intersection	Roadway or Railroad Crossing	★
Visual Trap:	None	Present	-
Outside Edge Risk:	3	2S or 3 deficiencies	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Clear Zone Enhancements:	Proactive	$100,000	Per curve	1	$100,000
High Friction Surface Treatment:	Proactive	$30/sq yd	Per sq yd	0	$0
Reconstruct TT to Single T:	Proactive	$400,000	Per curve	0	$0
Lighting:	Proactive	$15,000	Per light/curve	0	$0
Curve Warning Sign:	Proactive	$1,000	Per curve	0	$0
Speed Advisory Signs:	Proactive	$1,000	Per curve	0	$0
Chevrons/Arrow Board:	Proactive	$2,500	Per curve	0	$0
				Total Estimated Project Cost:	$100,000

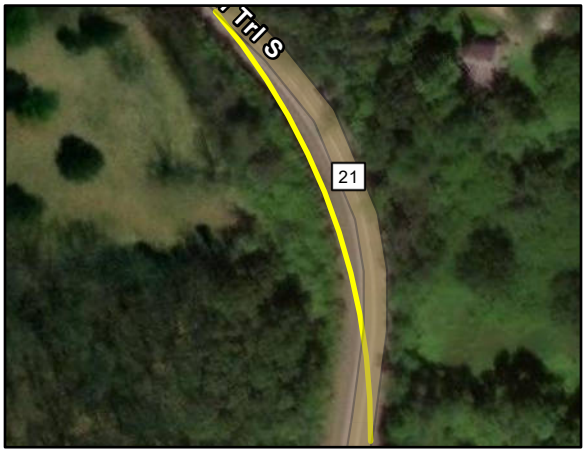
Systemic Project	√

Project Page #: 36
Segment ID: 21.043
Date: 3/30/2023

Curve along Stagecoach Trail S (Co Hwy 21)

Roadway Information

Segment Start:	10th St N
Segment End:	St Croix Trail S
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	21
Curve Length (ft):	405.47
Curve Radius (ft):	171.03
Traffic Volume (vpd):	640
Lane Width (ft):	9
Shoulder Type:	Gravel
Shoulder Width (ft):	3



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	2	0	1	0
Density (per mile per yr):	0.4	0	0.2	0
Rate (per MVM):	1.71	0	0.86	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Radius (ft):	171.03	500 ≤ xx < 1400	★
ADT (vpd):	640	200 ≤ xx < 800	★
Lane Width (ft):	9	< 12	★
Shoulder Type:	Gravel	None, Gravel, Composite	★
Total Cross Section Width (ft)	18	28 ≤ xx < 34	-
Adjacent Intersection:	None	Roadway or Railroad Crossing	-
Visual Trap:	None	Present	-
Outside Edge Risk:	3	2S or 3 deficiencies	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Clear Zone Enhancements:	Proactive	$100,000	Per curve	1	$100,000
High Friction Surface Treatment:	Proactive	$30/sq yd	Per sq yd	0	$0
Reconstruct TT to Single T:	Proactive	$400,000	Per curve	0	$0
Lighting:	Proactive	$15,000	Per light/curve	0	$0
Curve Warning Sign:	Proactive	$1,000	Per curve	0	$0
Speed Advisory Signs:	Proactive	$1,000	Per curve	0	$0
Chevrons/Arrow Board:	Proactive	$2,500	Per curve	0	$0
				Total Estimated Project Cost:	$100,000

Systemic Project	√

Project Page #: 37
Segment ID: 21.044
Date: 3/30/2023

Curve along 200th St N/202nd St N/Keystone Ave N/192nd St N (Co Rd 50)

Roadway Information

Segment Start:	Harrow Ave N
Segment End:	Manning Trail N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	50
Curve Length (ft):	381.84
Curve Radius (ft):	137.71
Traffic Volume (vpd):	570
Lane Width (ft):	11
Shoulder Type:	None
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	0	0	0	0
Density (per mile per yr):	0	0	0	0
Rate (per MVM):	0	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Radius (ft):	137.71	500 ≤ xx < 1400	-
ADT (vpd):	570	200 ≤ xx < 800	★
Lane Width (ft):	11	< 12	★
Shoulder Type:	None	None, Gravel, Composite	★
Total Cross Section Width (ft)	22	28 ≤ xx < 34	-
Adjacent Intersection:	Intersection	Roadway or Railroad Crossing	★
Visual Trap:	None	Present	-
Outside Edge Risk:	2S	2S or 3 deficiencies	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Clear Zone Enhancements:	Proactive	$100,000	Per curve	0	$0
High Friction Surface Treatment:	Proactive	$30/sq yd	Per sq yd	0	$0
Reconstruct TT to Single T:	Proactive	$400,000	Per curve	0	$0
Lighting:	Proactive	$15,000	Per light/curve	0	$0
Curve Warning Sign:	Proactive	$1,000	Per curve	1	$1,000
Speed Advisory Signs:	Proactive	$1,000	Per curve	1	$1,000
Chevrons/Arrow Board:	Proactive	$2,500	Per curve	1	$2,500
				Total Estimated Project Cost:	$4,500

Systemic Project	√

Curve along Jeffrey Ave N/152nd St N/Keystone Ave N/Keller Ave N (Co Rd 57)

Roadway Information

Segment Start:	170th St N
Segment End:	122nd St N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CR
Segment Route No:	57
Curve Length (ft):	438.13
Curve Radius (ft):	190.06
Traffic Volume (vpd):	530
Lane Width (ft):	11
Shoulder Type:	Gravel
Shoulder Width (ft):	3



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	0	0	0	0
Density (per mile per yr):	0	0	0	0
Rate (per MVM):	0	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Radius (ft):	190.06	500 ≤ xx < 1400	★
ADT (vpd):	530	200 ≤ xx < 800	★
Lane Width (ft):	11	< 12	★
Shoulder Type:	Gravel	None, Gravel, Composite	★
Total Cross Section Width (ft)	22	28 ≤ xx < 34	-
Adjacent Intersection:	Intersection	Roadway or Railroad Crossing	★
Visual Trap:	None	Present	-
Outside Edge Risk:	3	2S or 3 deficiencies	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Clear Zone Enhancements:	Proactive	$100,000	Per curve	0	$0
High Friction Surface Treatment:	Proactive	$30/sq yd	Per sq yd	0	$0
Reconstruct TT to Single T:	Proactive	$400,000	Per curve	0	$0
Lighting:	Proactive	$15,000	Per light/curve	0	$0
Curve Warning Sign:	Proactive	$1,000	Per curve	0	$0
Speed Advisory Signs:	Proactive	$1,000	Per curve	1	$1,000
Chevrons/Arrow Board:	Proactive	$2,500	Per curve	0	$0
			Total Estimated Project Cost:		$1,000

Systemic Project	√

County Completed - Curve Warning Sign and Chevrons or Arrow Board

Curve along Jeffrey Ave N/152nd St N/Keystone Ave N/Keller Ave N (Co Rd 57)

Roadway Information

Segment Start:	170th St N
Segment End:	122nd St N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CR
Segment Route No:	57
Curve Length (ft):	302.12
Curve Radius (ft):	262.05
Traffic Volume (vpd):	255
Lane Width (ft):	11
Shoulder Type:	Gravel
Shoulder Width (ft):	3



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	0	0	0	0
Density (per mile per yr):	0	0	0	0
Rate (per MVM):	0	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Radius (ft):	262.05	500 ≤ xx < 1400	★
ADT (vpd):	255	200 ≤ xx < 800	★
Lane Width (ft):	11	< 12	★
Shoulder Type:	Gravel	None, Gravel, Composite	★
Total Cross Section Width (ft)	22	28 ≤ xx < 34	-
Adjacent Intersection:	None	Roadway or Railroad Crossing	-
Visual Trap:	None	Present	-
Outside Edge Risk:	3	2S or 3 deficiencies	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Clear Zone Enhancements:	Proactive	$100,000	Per curve	0	$0
High Friction Surface Treatment:	Proactive	$30/sq yd	Per sq yd	0	$0
Reconstruct TT to Single T:	Proactive	$400,000	Per curve	0	$0
Lighting:	Proactive	$15,000	Per light/curve	0	$0
Curve Warning Sign:	Proactive	$1,000	Per curve	1	$1,000
Speed Advisory Signs:	Proactive	$1,000	Per curve	0	$0
Chevrons/Arrow Board:	Proactive	$2,500	Per curve	0	$0
				Total Estimated Project Cost:	$1,000

Systemic Project	√

Project Page #:	45
Segment ID:	57.007
Date:	3/30/2023

Curve along Jeffrey Ave N/152nd St N/Keystone Ave N/Keller Ave N (Co Rd 57)

Roadway Information

Segment Start:	170th St N
Segment End:	122nd St N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	57
Curve Length (ft):	303.15
Curve Radius (ft):	211.24
Traffic Volume (vpd):	255
Lane Width (ft):	11
Shoulder Type:	Gravel
Shoulder Width (ft):	3



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	0	0	0	0
Density (per mile per yr):	0	0	0	0
Rate (per MVM):	0	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Radius (ft):	211.24	500 ≤ xx < 1400	★
ADT (vpd):	255	200 ≤ xx < 800	★
Lane Width (ft):	11	< 12	★
Shoulder Type:	Gravel	None, Gravel, Composite	★
Total Cross Section Width (ft)	22	28 ≤ xx < 34	-
Adjacent Intersection:	None	Roadway or Railroad Crossing	-
Visual Trap:	None	Present	-
Outside Edge Risk:	3	2S or 3 deficiencies	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Clear Zone Enhancements:	Proactive	$100,000	Per curve	0	$0
High Friction Surface Treatment:	Proactive	$30/sq yd	Per sq yd	0	$0
Reconstruct TT to Single T:	Proactive	$400,000	Per curve	0	$0
Lighting:	Proactive	$15,000	Per light/curve	0	$0
Curve Warning Sign:	Proactive	$1,000	Per curve	1	$1,000
Speed Advisory Signs:	Proactive	$1,000	Per curve	1	$1,000
Chevrons/Arrow Board:	Proactive	$2,500	Per curve	0	$0
			Total Estimated Project Cost:		$2,000

Systemic Project	√

Curve along Jeffrey Ave N/152nd St N/Keystone Ave N/Keller Ave N (Co Rd 57)

Roadway Information

Segment Start:	170th St N
Segment End:	122nd St N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	57
Curve Length (ft):	332.03
Curve Radius (ft):	186.74
Traffic Volume (vpd):	255
Lane Width (ft):	11
Shoulder Type:	Gravel
Shoulder Width (ft):	3



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	0	0	0	0
Density (per mile per yr):	0	0	0	0
Rate (per MVM):	0	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Radius (ft):	186.74	500 ≤ xx < 1400	★
ADT (vpd):	255	200 ≤ xx < 800	★
Lane Width (ft):	11	< 12	★
Shoulder Type:	Gravel	None, Gravel, Composite	★
Total Cross Section Width (ft)	22	28 ≤ xx < 34	-
Adjacent Intersection:	None	Roadway or Railroad Crossing	-
Visual Trap:	None	Present	-
Outside Edge Risk:	2S	2S or 3 deficiencies	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Clear Zone Enhancements:	Proactive	$100,000	Per curve	0	$0
High Friction Surface Treatment:	Proactive	$30/sq yd	Per sq yd	0	$0
Reconstruct TT to Single T:	Proactive	$400,000	Per curve	0	$0
Lighting:	Proactive	$15,000	Per light/curve	0	$0
Curve Warning Sign:	Proactive	$1,000	Per curve	1	$1,000
Speed Advisory Signs:	Proactive	$1,000	Per curve	1	$1,000
Chevrons/Arrow Board:	Proactive	$2,500	Per curve	0	$0
				Total Estimated Project Cost:	$2,000

Systemic Project	√

Curve along Jeffrey Ave N/152nd St N/Keystone Ave N/Keller Ave N (Co Rd 57)

Roadway Information

Segment Start:	170th St N
Segment End:	122nd St N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CR
Segment Route No:	57
Curve Length (ft):	178.06
Curve Radius (ft):	264.56
Traffic Volume (vpd):	255
Lane Width (ft):	11
Shoulder Type:	Gravel
Shoulder Width (ft):	3



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	0	0	0	0
Density (per mile per yr):	0	0	0	0
Rate (per MVM):	0	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Radius (ft):	264.56	500 ≤ xx < 1400	★
ADT (vpd):	255	200 ≤ xx < 800	★
Lane Width (ft):	11	< 12	★
Shoulder Type:	Gravel	None, Gravel, Composite	★
Total Cross Section Width (ft)	22	28 ≤ xx < 34	-
Adjacent Intersection:	None	Roadway or Railroad Crossing	-
Visual Trap:	None	Present	-
Outside Edge Risk:	2S	2S or 3 deficiencies	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Clear Zone Enhancements:	Proactive	$100,000	Per curve	0	$0
High Friction Surface Treatment:	Proactive	$30/sq yd	Per sq yd	0	$0
Reconstruct TT to Single T:	Proactive	$400,000	Per curve	0	$0
Lighting:	Proactive	$15,000	Per light/curve	0	$0
Curve Warning Sign:	Proactive	$1,000	Per curve	1	$1,000
Speed Advisory Signs:	Proactive	$1,000	Per curve	0	$0
Chevrons/Arrow Board:	Proactive	$2,500	Per curve	0	$0
				Total Estimated Project Cost:	$1,000

Systemic Project	√

Curve along 120th St N/Myeron Rd N (Co Rd 61)

Roadway Information

Segment Start:	Manning Trail N
Segment End:	Norell Ave N
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	61
Curve Length (ft):	344.94
Curve Radius (ft):	156.85
Traffic Volume (vpd):	530
Lane Width (ft):	11
Shoulder Type:	Gravel
Shoulder Width (ft):	6



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	0	0	0	0
Density (per mile per yr):	0	0	0	0
Rate (per MVM):	0	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Radius (ft):	156.85	500 ≤ xx < 1400	★
ADT (vpd):	530	200 ≤ xx < 800	★
Lane Width (ft):	11	< 12	★
Shoulder Type:	Gravel	None, Gravel, Composite	★
Total Cross Section Width (ft)	32	28 ≤ xx < 34	★
Adjacent Intersection:	None	Roadway or Railroad Crossing	-
Visual Trap:	None	Present	-
Outside Edge Risk:	1	2S or 3 deficiencies	-
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Clear Zone Enhancements:	Proactive	$100,000	Per curve	0	$0
High Friction Surface Treatment:	Proactive	$30/sq yd	Per sq yd	0	$0
Reconstruct TT to Single T:	Proactive	$400,000	Per curve	0	$0
Lighting:	Proactive	$15,000	Per light/curve	0	$0
Curve Warning Sign:	Proactive	$1,000	Per curve	1	$1,000
Speed Advisory Signs:	Proactive	$1,000	Per curve	1	$1,000
Chevrons/Arrow Board:	Proactive	$2,500	Per curve	0	$0
				Total Estimated Project Cost:	$2,000

Systemic Project	√

Curve along Grey Cloud Island Dr S (Co Rd 75)

Roadway Information

Segment Start:	14th Ave
Segment End:	105th St S
Area Type:	Rural
County:	Washington
Context Zone:	Agriculture
Segment Route System:	CR
Segment Route No:	75
Curve Length (ft):	203.25
Curve Radius (ft):	85.78
Traffic Volume (vpd):	1550
Lane Width (ft):	11
Shoulder Type:	None
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	0	0	0	0
Density (per mile per yr):	0	0	0	0
Rate (per MVM):	0	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Radius (ft):	85.78	500 ≤ xx < 1400	-
ADT (vpd):	1550	200 ≤ xx < 800	-
Lane Width (ft):	11	< 12	★
Shoulder Type:	None	None, Gravel, Composite	★
Total Cross Section Width (ft)	30	28 ≤ xx < 34	★
Adjacent Intersection:	Intersection	Roadway or Railroad Crossing	★
Visual Trap:	Present	Present	★
Outside Edge Risk:	3	2S or 3 deficiencies	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Clear Zone Enhancements:	Proactive	$100,000	Per curve	0	$0
High Friction Surface Treatment:	Proactive	$30/sq yd	Per sq yd	0	$0
Reconstruct TT to Single T:	Proactive	$400,000	Per curve	0	$0
Lighting:	Proactive	$15,000	Per light/curve	0	$0
Curve Warning Sign:	Proactive	$1,000	Per curve	0	$0
Speed Advisory Signs:	Proactive	$1,000	Per curve	0	$0
Chevrons/Arrow Board:	Proactive	$2,500	Per curve	1	$2,500
				Total Estimated Project Cost:	$2,500

Systemic Project	√

County Completed - Curve Warning Sign and Speed Advisory Sign

Project Page #:	16
Segment ID:	75.004
Date:	3/30/2023

Rural Intersection on CSAH 7 (Square Lake Tr N)

Roadway Information

Description:	CSAH 7 (Square Lake Tr N) & CSAH 3 (Norell Ave N)
County:	Washington
Area Type:	Rural
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	3
Design Type:	Traditional
Configuration:	T
Traffic Control Device:	Thru-Stop
Street Lights:	None
Flasher:	None
Major ADT:	1,950
Minor ADT:	490
Total Entering ADT:	2,440



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	1	0	0	0
Density (per mile per yr):	0.2	0	0	0
Rate (per MVM):	0.2	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Major Approach Speed Limit (mph):	55	≥60	-
Context Zone:	Agriculture	Commercial, Industrial, Mixed Use, Residential	-
Entering ADT(vpd):	2,440	≥2,000	★
OR Traffic Volume Cross Product:	955,500	≥1,000,000	
Leg Configuration:	T	X	-
Alignment Skew(degrees):	0	≥10	-
Adjacent Curve:	Horizontal	Horizontal,	★
Adjacent Development:	None	Vertical, Both	-
Adjacent RR Crossing:	1	Present	-
Previous Stop:	<5	Present	-
1st Major Approach Turn Lane Configuration:	1	> 5 Miles LTTR or TB	★
		Total Stars:	★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Reconstruct TT to Single T:	Proactive	$400,000	Per Intersection	0	$0
Roundabout:	Proactive	$2,500,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
LED Stop Sign:	Proactive	$2,000-6,000	Each	0	$0
Thru-Stop to All Way Stop/Yield:	Proactive	$3,000	Per Intersection	0	$0
Left-Turn Lanes on Major Road:	Proactive	$250,000	Each	0	$0
Lighting:	Proactive	$15,000	Each	1	$15,000
Review Signs and Markings:	Proactive	$0	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$1,500	Per Intersection	0	$0
				Total Estimated Project Cost	$15,000

Systemic Project	√

Project Page #: 52
Segment ID: 3.001
Date: 3/31/2023

Rural Intersection on CSAH 5 (Stone Bridge Tr N)

Roadway Information

Description:	CSAH 5 (Stone Bridge Tr N) & CSAH 11 (Otchipwe Ave N)
County:	Washington
Area Type:	Rural
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	5
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	All-Way Stop
Street Lights:	None
Flasher:	None
Major ADT:	1,645
Minor ADT:	1,175
Total Entering ADT:	2,820



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	2	0	1	0
Density (per mile per yr):	0.4	0	0.2	0
Rate (per MVM):	0.4	0	0.2	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Major Approach Speed Limit (mph):	45	≥60	-
Context Zone:	Agriculture	Commercial, Industrial, Mixed Use, Residential	-
Entering ADT(vpd):	2,820	≥2,000	★
OR Traffic Volume Cross Product:	1,932,875	≥1,000,000	
Leg Configuration:	X	X	★
Alignment Skew(degrees):	45	≥10	★
Adjacent Curve:	None	Horizontal,	-
Adjacent Development:	None	Vertical, Both	-
Adjacent RR Crossing:	2	Present	-
Previous Stop:	<5	Present	-
1st Major Approach Turn Lane Configuration:	2	> 5 Miles LTTR or TB	-
		Total Stars:	★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Reconstruct TT to Single T:	Proactive	$400,000	Per Intersection	0	$0
Roundabout:	Proactive	$2,500,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
LED Stop Sign:	Proactive	$2,000-6,000	Each	0	$0
Thru-Stop to All Way Stop/Yield:	Proactive	$3,000	Per Intersection	0	$0
Left-Turn Lanes on Major Road:	Proactive	$250,000	Each	0	$0
Lighting:	Proactive	$15,000	Each	1	$15,000
Review Signs and Markings:	Proactive	$0	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$1,500	Per Intersection	0	$0
				Total Estimated Project Cost	$15,000

Systemic Project	√

Project Page #: 57
Segment ID: 5.012
Date: 3/31/2023

Rural Intersection on CSAH 7 (122nd ST N)

Roadway Information

Description:	CSAH 7 (122nd ST N) & CSAH 8 (Jody AVE N)
County:	Washington
Area Type:	Rural
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	7
Design Type:	Traditional
Configuration:	T
Traffic Control Device:	Thru-Stop
Street Lights:	None
Flasher:	None
Major ADT:	1,700
Minor ADT:	430
Total Entering ADT:	2,130



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	0	0	0	0
Density (per mile per yr):	0	0	0	0
Rate (per MVM):	0	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Major Approach Speed Limit (mph):	50	≥60	-
Context Zone:	Agriculture	Commercial, Industrial, Mixed Use, Residential	-
Entering ADT(vpd):	2,130	≥2,000	★
OR Traffic Volume Cross Product:	731,000	≥1,000,000	
Leg Configuration:	T	X	-
Alignment Skew(degrees):	0	≥10	-
Adjacent Curve:	Horizontal	Horizontal,	★
Adjacent Development:	None	Vertical, Both	-
Adjacent RR Crossing:	0	Present	-
Previous Stop:	>5	Present	★
1st Major Approach Turn Lane Configuration:	0	> 5 Miles LTTR or TB	-
		Total Stars:	★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Reconstruct TT to Single T:	Proactive	$400,000	Per Intersection	0	$0
Roundabout:	Proactive	$2,500,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
LED Stop Sign:	Proactive	$2,000-6,000	Each	0	$0
Thru-Stop to All Way Stop/Yield:	Proactive	$3,000	Per Intersection	0	$0
Left-Turn Lanes on Major Road:	Proactive	$250,000	Each	0	$0
Lighting:	Proactive	$15,000	Each	1	$15,000
Review Signs and Markings:	Proactive	$0	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$1,500	Per Intersection	0	$0
				Total Estimated Project Cost	$15,000

Systemic Project	√

Project Page #: 61
Segment ID: 7.002
Date: 3/31/2023

Rural Intersection on CSAH 7 (Square Lake Tr N)

Roadway Information

Description:	CSAH 7 (Square Lake Tr N) & CR 55 (Norell Ave N)
County:	Washington
Area Type:	Rural
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	7
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Thru-Stop
Street Lights:	None
Flasher:	None
Major ADT:	2,050
Minor ADT:	695
Total Entering ADT:	2,745



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	0	0	0	0
Density (per mile per yr):	0	0	0	0
Rate (per MVM):	0	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Major Approach Speed Limit (mph):	55	≥60	-
Context Zone:	Agriculture	Commercial, Industrial, Mixed Use, Residential	-
Entering ADT(vpd):	2,745	≥2,000	★
OR Traffic Volume Cross Product:	1,424,750	≥1,000,000	
Leg Configuration:	X	X	★
Alignment Skew(degrees):	0	≥10	-
Adjacent Curve:	Horizontal	Horizontal, Vertical, Both	★
Adjacent Development:	None	Present	-
Adjacent RR Crossing:	0	Present	-
Previous Stop:	<5	> 5 Miles	-
1st Major Approach Turn Lane Configuration:	0	LTTR or TB	-
		Total Stars:	★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Reconstruct TT to Single T:	Proactive	$400,000	Per Intersection	0	$0
Roundabout:	Proactive	$2,500,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
LED Stop Sign:	Proactive	$2,000-6,000	Each	0	$0
Thru-Stop to All Way Stop/Yield:	Proactive	$3,000	Per Intersection	0	$0
Left-Turn Lanes on Major Road:	Proactive	$250,000	Each	0	$0
Lighting:	Proactive	$15,000	Each	1	$15,000
Review Signs and Markings:	Proactive	$0	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$1,500	Per Intersection	0	$0
				Total Estimated Project Cost	$15,000

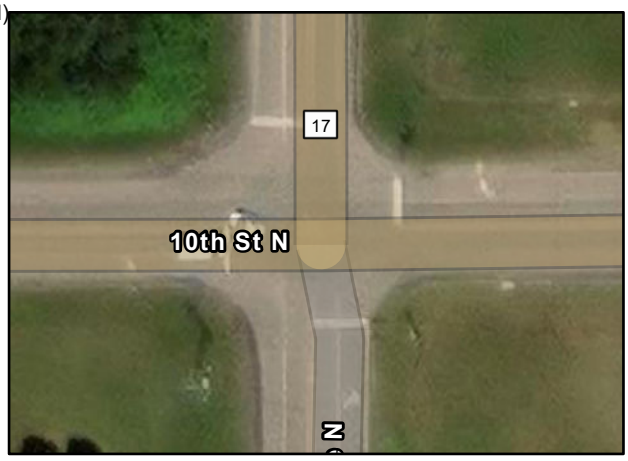
Systemic Project	√

Project Page #: 64
Segment ID: 7.007
Date: 3/31/2023

Rural Intersection on CSAH 10 (10th ST N)

Roadway Information

Description:	CSAH 10 (10th ST N) & CSAH 17 (Lake Elmo Ave N)
County:	Washington
Area Type:	Rural
Context Zone:	Residential
Segment Route System:	CSAH
Segment Route No:	10
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	All-Way Stop
Street Lights:	None
Flasher:	None
Major ADT:	5,525
Minor ADT:	3,625
Total Entering ADT:	9,150



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	7	1	5	1
Density (per mile per yr):	1.4	0.2	1	0.2
Rate (per MVM):	0.4	0.1	0.3	0.1

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Major Approach Speed Limit (mph):	55	≥60	-
Context Zone:	Residential	Commercial, Industrial, Mixed Use, Residential	★
Entering ADT(vpd):	9,150	≥2,000	★
OR Traffic Volume Cross Product:	20,028,125	≥1,000,000	
Leg Configuration:	X	X	★
Alignment Skew(degrees):	0	≥10	-
Adjacent Curve:	None	Horizontal,	-
Adjacent Development:	None	Vertical, Both	-
Adjacent RR Crossing:	7	Present	-
Previous Stop:	<5	Present	-
1st Major Approach Turn Lane Configuration:	7	> 5 Miles LTTR or TB	-
		Total Stars:	★★★

Priority Location	√

List of Strategies Considered

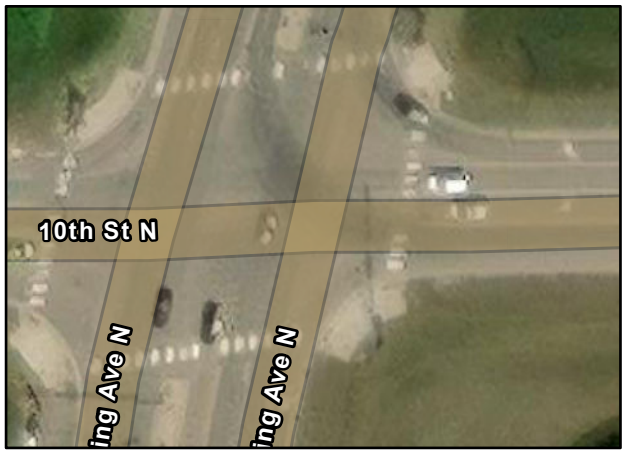
	Type	Unit Cost	Unit	Quantity	Total Cost
Reconstruct TT to Single T:	Proactive	$400,000	Per Intersection	0	$0
Roundabout:	Proactive	$2,500,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	1	$1,000,000
LED Stop Sign:	Proactive	$2,000-6,000	Each	0	$0
Thru-Stop to All Way Stop/Yield:	Proactive	$3,000	Per Intersection	0	$0
Left-Turn Lanes on Major Road:	Proactive	$250,000	Each	0	$0
Lighting:	Proactive	$15,000	Each	0	$0
Review Signs and Markings:	Proactive	$0	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$1,500	Per Intersection	0	$0
			Total Estimated Project Cost		$1,000,000

Systemic Project	√

Rural Intersection on CSAH 15 (Manning Ave N)

Roadway Information

Description:	CSAH 15 (Manning Ave N) & CSAH 10 (10th St N)
County:	Washington
Area Type:	Rural
Context Zone:	Campus
Segment Route System:	CSAH
Segment Route No:	10
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	All-Way Stop
Street Lights:	Present
Flasher:	Overhead
Major ADT:	13,550
Minor ADT:	5,275
Total Entering ADT:	18,825



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	11	1	5	0
Density (per mile per yr):	2.2	0.2	1	0
Rate (per MVM):	0.3	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Major Approach Speed Limit (mph):	55	≥60	-
Context Zone:	Campus	Commercial, Industrial, Mixed Use, Residential	-
Entering ADT(vpd):	18,825	≥2,000	★
OR Traffic Volume Cross Product:	71,476,250	≥1,000,000	
Leg Configuration:	X	X	★
Alignment Skew(degrees):	20	≥10	★
Adjacent Curve:	Horizontal	Horizontal, Vertical, Both	★
Adjacent Development:	None	Present	-
Adjacent RR Crossing:	11	Present	-
Previous Stop:	<5	> 5 Miles	-
1st Major Approach Turn Lane Configuration:	11	LTTR or TB	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Reconstruct TT to Single T:	Proactive	$400,000	Per Intersection	0	$0
Roundabout:	Proactive	$2,500,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	1	$1,000,000
LED Stop Sign:	Proactive	$2,000-6,000	Each	0	$0
Thru-Stop to All Way Stop/Yield:	Proactive	$3,000	Per Intersection	0	$0
Left-Turn Lanes on Major Road:	Proactive	$250,000	Each	0	$0
Lighting:	Proactive	$15,000	Each	0	$0
Review Signs and Markings:	Proactive	$0	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$1,500	Per Intersection	0	$0
				Total Estimated Project Cost	$1,000,000

Systemic Project	√

Rural Intersection on CSAH 14 (Osgood Ave N)

Roadway Information

Description:	CSAH 14 (Osgood Ave N) & CSAH 24 (Osgood Ave N)
County:	Washington
Area Type:	Rural
Context Zone:	Recreational
Segment Route System:	CSAH
Segment Route No:	14
Design Type:	Traditional
Configuration:	T
Traffic Control Device:	Thru-Stop
Street Lights:	None
Flasher:	None
Major ADT:	4,175
Minor ADT:	3,000
Total Entering ADT:	7,175



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	1	0	0	0
Density (per mile per yr):	0.2	0	0	0
Rate (per MVM):	0.1	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Major Approach Speed Limit (mph):	45	≥60	-
Context Zone:	Recreational	Commercial, Industrial, Mixed Use, Residential	-
Entering ADT(vpd):	7,175	≥2,000	★
OR Traffic Volume Cross Product:	12,525,000	≥1,000,000	
Leg Configuration:	T	X	-
Alignment Skew(degrees):	20	≥10	★
Adjacent Curve:	None	Horizontal,	-
Adjacent Development:	None	Vertical, Both	-
Adjacent RR Crossing:	1	Present	★
Previous Stop:	<5	Present	-
1st Major Approach Turn Lane Configuration:	1	> 5 Miles LTTR or TB	-
		Total Stars:	★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Reconstruct TT to Single T:	Proactive	$400,000	Per Intersection	0	$0
Roundabout:	Proactive	$2,500,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
LED Stop Sign:	Proactive	$2,000-6,000	Each	0	$0
Thru-Stop to All Way Stop/Yield:	Proactive	$3,000	Per Intersection	1	$3,000
Left-Turn Lanes on Major Road:	Proactive	$250,000	Each	0	$0
Lighting:	Proactive	$15,000	Each	0	$0
Review Signs and Markings:	Proactive	$0	Per Intersection	1	$0
Upgrade Signs & Markings:	Proactive	$1,500	Per Intersection	0	$0
				Total Estimated Project Cost	$3,000

Systemic Project	√

Project Page #: 37
Segment ID: 14.013
Date: 3/31/2023

Rural Intersection on MN 36

Roadway Information

Description:	MN 36 & CSAH 17 (Lake Elmo Ave N)
County:	Washington
Area Type:	Rural
Context Zone:	Commercial
Segment Route System:	CSAH
Segment Route No:	17
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	38,500
Minor ADT:	4,875
Total Entering ADT:	43,375



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	88	1	12	0
Density (per mile per yr):	17.6	0.2	2.4	0
Rate (per MVM):	1.1	0	0.2	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Major Approach Speed Limit (mph):	65	≥60	★
Context Zone:	Commercial	Commercial, Industrial, Mixed Use, Residential	★
Entering ADT(vpd):	43,375	≥2,000	★
OR Traffic Volume Cross Product:	187,687,500	≥1,000,000	
Leg Configuration:	X	X	★
Alignment Skew(degrees):	0	≥10	-
Adjacent Curve:	None	Horizontal,	-
Adjacent Development:	None	Vertical, Both	-
Adjacent RR Crossing:	88	Present	-
Previous Stop:	>5	Present	★
1st Major Approach Turn Lane Configuration:	88	> 5 Miles	★
		LTTR or TB	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Reconstruct TT to Single T:	Proactive	$400,000	Per Intersection	0	$0
Roundabout:	Proactive	$2,500,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	1	$1,000,000
LED Stop Sign:	Proactive	$2,000-6,000	Each	0	$0
Thru-Stop to All Way Stop/Yield:	Proactive	$3,000	Per Intersection	0	$0
Left-Turn Lanes on Major Road:	Proactive	$250,000	Each	0	$0
Lighting:	Proactive	$15,000	Each	0	$0
Review Signs and Markings:	Proactive	$0	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$1,500	Per Intersection	0	$0
				Total Estimated Project Cost	$1,000,000

Systemic Project	√

Rural Intersection on MSAS 120 (Hudson Blvd)

Roadway Information

Description:	MSAS 120 (Hudson Blvd) & CR 17B (Lake Elmo Ave N)
County:	Washington
Area Type:	Rural
Context Zone:	Agriculture
Segment Route System:	CR
Segment Route No:	17
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Thru-Stop
Street Lights:	None
Flasher:	None
Major ADT:	1,565
Minor ADT:	3,400
Total Entering ADT:	4,965



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	8	1	6	1
Density (per mile per yr):	1.6	0.2	1.2	0.2
Rate (per MVM):	0.9	0.1	0.7	0.1

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Major Approach Speed Limit (mph):	55	≥60	-
Context Zone:	Agriculture	Commercial, Industrial, Mixed Use, Residential	-
Entering ADT(vpd):	4,965	≥2,000	★
OR Traffic Volume Cross Product:	5,321,000	≥1,000,000	
Leg Configuration:	X	X	★
Alignment Skew(degrees):	0	≥10	-
Adjacent Curve:	Horizontal	Horizontal, Vertical, Both	★
Adjacent Development:	None	Present	-
Adjacent RR Crossing:	8	Present	-
Previous Stop:	<5	> 5 Miles	-
1st Major Approach Turn Lane Configuration:	8	LTTR or TB	-
		Total Stars:	★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Reconstruct TT to Single T:	Proactive	$400,000	Per Intersection	0	$0
Roundabout:	Proactive	$2,500,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
LED Stop Sign:	Proactive	$2,000-6,000	Each	0	$0
Thru-Stop to All Way Stop/Yield:	Proactive	$3,000	Per Intersection	0	$0
Left-Turn Lanes on Major Road:	Proactive	$250,000	Each	0	$0
Lighting:	Proactive	$15,000	Each	1	$15,000
Review Signs and Markings:	Proactive	$0	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$1,500	Per Intersection	0	$0
				Total Estimated Project Cost	$15,000

Systemic Project	√

Project Page #: 43
Segment ID: 17.002
Date: 3/31/2023

Rural Intersection on CR 55 (Norell Ave N)

Roadway Information

Description:	CR 55 (Norell Ave N) & CR 61 (Myeron Rd N)
County:	Washington
Area Type:	Rural
Context Zone:	Residential
Segment Route System:	CR
Segment Route No:	55
Design Type:	Traditional
Configuration:	T
Traffic Control Device:	Thru-Stop
Street Lights:	None
Flasher:	None
Major ADT:	1,825
Minor ADT:	265
Total Entering ADT:	2,090



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	0	0	0	0
Density (per mile per yr):	0	0	0	0
Rate (per MVM):	0	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Major Approach Speed Limit (mph):	55	≥60	-
Context Zone:	Residential	Commercial, Industrial, Mixed Use, Residential	★
Entering ADT(vpd):	2,090	≥2,000	★
OR Traffic Volume Cross Product:	483,625	≥1,000,000	
Leg Configuration:	T	X	-
Alignment Skew(degrees):	0	≥10	-
Adjacent Curve:	None	Horizontal,	-
Adjacent Development:	None	Vertical, Both	-
Adjacent RR Crossing:	0	Present	-
Previous Stop:	<5	Present	-
1st Major Approach Turn Lane Configuration:	0	> 5 Miles LTTR or TB	★
		Total Stars:	★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Reconstruct TT to Single T:	Proactive	$400,000	Per Intersection	0	$0
Roundabout:	Proactive	$2,500,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
LED Stop Sign:	Proactive	$2,000-6,000	Each	0	$0
Thru-Stop to All Way Stop/Yield:	Proactive	$3,000	Per Intersection	0	$0
Left-Turn Lanes on Major Road:	Proactive	$250,000	Each	0	$0
Lighting:	Proactive	$15,000	Each	1	$15,000
Review Signs and Markings:	Proactive	$0	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$1,500	Per Intersection	0	$0
				Total Estimated Project Cost	$15,000

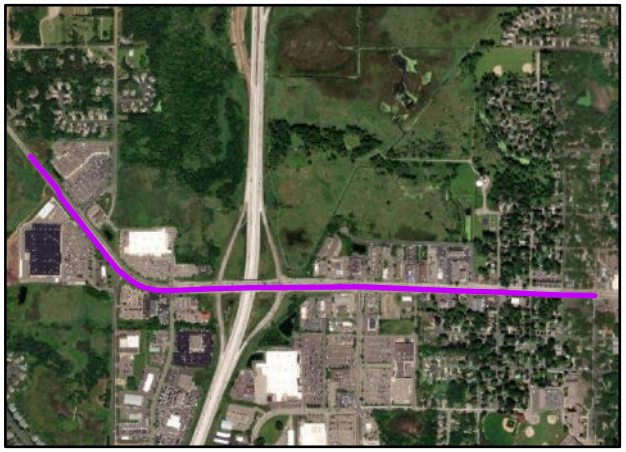
Systemic Project	√

Project Page #: 58
Segment ID: 55.001
Date: 3/31/2023

Urban Segment Project on CSAH 2

Roadway Information

Segment Start:	420 ft SouthEast of Ethan Ct N
Segment End:	NW 4th St
Area Type:	Suburban
County:	Washington
Context Zone:	Mixed Use
Segment Route System:	CSAH
Segment Route No:	2
Facility Type:	4-Lane
Segment Length (mile):	1.29
Traffic Volume (vpd):	21750
Lane Width (ft):	11
Shoulder Type:	Curb & Gutter
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	173	3	37	37
Density (per mile per yr):	26.87	0.47	5.75	0.31
Rate (per MVM):	3.38	0.06	0.72	0.04

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	40	≥ 50	-
Traffic Volume (vpd):	21750	4,000 ≥ xx ≤ 14,000	-
Access Density (access per mile):	37.27	15 ≥ xx ≤ 25	-
Context Zone:	Mixed Use	Commercial, Mixed Use	★
Edgeline Striping:	Present	None	-
Lane Width (ft):	11	10 - 11.5 feet	-
Parking:	None	Present	-
Cross Section and Design:	4-Lane	Multi-lane	★
Edge Risk:	3	3 Deficiencies	★
Shoulder Width (ft):	0	< 3 Feet	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Divided Roadway:	Proactive	$5,000,000	per mile	0	$0
Access Management:	Proactive	$360,000	per mile	1	$463,633.5
Road Diet:	Proactive	$25,000 - 40,000	per mile	0	$0
Vehicle Speed Feedback Signs:	Proactive	$30,000	per segment	0	$0
Sidewalk:	Proactive	$80,000	per mile	0	$0
				Total Estimated Project Cost	$463,633.50

Systemic Project	√

Urban Segment Project on CSAH 5

Roadway Information

Segment Start:	MN 36
Segment End:	230 ft NorthEast of Autumn Way
Area Type:	Suburban
County:	Washington
Context Zone:	Mixed Use
Segment Route System:	CSAH
Segment Route No:	5
Facility Type:	4-Lane
Segment Length (mile):	0.99
Traffic Volume (vpd):	20100
Lane Width (ft):	12
Shoulder Type:	Curb & Gutter
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	28	0	5	5
Density (per mile per yr):	5.66	0	1.01	0
Rate (per MVM):	0.77	0	0.14	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	45	≥ 50	-
Traffic Volume (vpd):	20100	4,000 ≥ xx ≤ 14,000	-
Access Density (access per mile):	20.22	15 ≥ xx ≤ 25	★
Context Zone:	Mixed Use	Commercial, Mixed Use	★
Edgeline Striping:	Present	None	-
Lane Width (ft):	12	10 - 11.5 feet	-
Parking:	None	Present	-
Cross Section and Design:	4-Lane	Multi-lane	★
Edge Risk:	3	3 Deficiencies	★
Shoulder Width (ft):	0	< 3 Feet	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

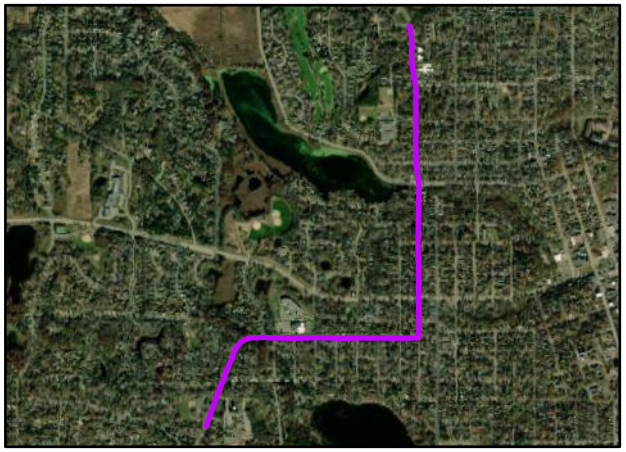
	Type	Unit Cost	Unit	Quantity	Total Cost
Divided Roadway:	Proactive	$5,000,000	per mile	0	$0
Access Management:	Proactive	$360,000	per mile	1	$356,080.35
Road Diet:	Proactive	$25,000 - 40,000	per mile	0	$0
Vehicle Speed Feedback Signs:	Proactive	$30,000	per segment	0	$0
Sidewalk:	Proactive	$80,000	per mile	0	$0
				Total Estimated Project Cost	$356,080.35

Systemic Project	√

Urban Segment Project on CSAH 5

Roadway Information

Segment Start:	Owens St N
Segment End:	230 ft NorthEast of Autumn Way
Area Type:	Suburban
County:	Washington
Context Zone:	Residential
Segment Route System:	CSAH
Segment Route No:	5
Facility Type:	2-Lane
Segment Length (mile):	1.87
Traffic Volume (vpd):	8667
Lane Width (ft):	11
Shoulder Type:	Curb & Gutter
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	38	1	7	7
Density (per mile per yr):	4.07	0.11	0.75	0.11
Rate (per MVM):	1.29	0.03	0.24	0.03

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	30	≥ 50	-
Traffic Volume (vpd):	8667	4,000 ≥ xx ≤ 14,000	★
Access Density (access per mile):	79.21	15 ≥ xx ≤ 25	-
Context Zone:	Residential	Commercial, Mixed Use	-
Edgeline Striping:	None	None	★
Lane Width (ft):	11	10 - 11.5 feet	★
Parking:	Both Sides Parallel	Present	★
Cross Section and Design:	2-Lane	Multi-lane	-
Edge Risk:	3	3 Deficiencies	★
Shoulder Width (ft):	0	< 3 Feet	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Divided Roadway:	Proactive	$5,000,000	per mile	0	$0
Access Management:	Proactive	$360,000	per mile	1	$672,619.89
Road Diet:	Proactive	$25,000 - 40,000	per mile	0	$0
Vehicle Speed Feedback Signs:	Proactive	$30,000	per segment	0	$0
Sidewalk:	Proactive	$80,000	per mile	0	$0
				Total Estimated Project Cost	$672,619.89

Systemic Project	√

Urban Segment Project on CSAH 8

Roadway Information

Segment Start:	Main St
Segment End:	Forest Blvd N
Area Type:	Suburban
County:	Washington
Context Zone:	Mixed Use
Segment Route System:	CSAH
Segment Route No:	8
Facility Type:	4-Lane
Segment Length (mile):	1.41
Traffic Volume (vpd):	16600
Lane Width (ft):	12
Shoulder Type:	Curb & Gutter
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	38	1	7	7
Density (per mile per yr):	5.39	0.14	0.99	0.14
Rate (per MVM):	0.89	0.02	0.16	0.02

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	45	≥ 50	-
Traffic Volume (vpd):	16600	4,000 ≥ xx ≤ 14,000	-
Access Density (access per mile):	12.77	15 ≥ xx ≤ 25	-
Context Zone:	Mixed Use	Commercial, Mixed Use	★
Edgeline Striping:	Present	None	-
Lane Width (ft):	12	10 - 11.5 feet	-
Parking:	Both Sides Parallel	Present	★
Cross Section and Design:	4-Lane	Multi-lane	★
Edge Risk:	3	3 Deficiencies	★
Shoulder Width (ft):	0	< 3 Feet	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Divided Roadway:	Proactive	$5,000,000	per mile	0	$0
Access Management:	Proactive	$360,000	per mile	0	$0
Road Diet:	Proactive	$25,000 - 40,000	per mile	0	$0
Vehicle Speed Feedback Signs:	Proactive	$30,000	per segment	0	$0
Sidewalk:	Proactive	$80,000	per mile	1	$225,531.4
				Total Estimated Project Cost	$225,531.40

Systemic Project	√

Project Page #:	26
Segment ID:	8.001
Date:	3/31/2023

Urban Segment Project on CSAH 12

Roadway Information

Segment Start:	Wildwood Rd
Segment End:	Ideal Ave N
Area Type:	Suburban
County:	Washington
Context Zone:	Mixed Use
Segment Route System:	CSAH
Segment Route No:	12
Facility Type:	2-Lane
Segment Length (mile):	0.81
Traffic Volume (vpd):	8600
Lane Width (ft):	11
Shoulder Type:	Curb & Gutter
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	36	0	6	6
Density (per mile per yr):	8.91	0	1.49	0
Rate (per MVM):	2.84	0	0.47	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	35	≥ 50	-
Traffic Volume (vpd):	8600	4,000 ≥ xx ≤ 14,000	★
Access Density (access per mile):	53.22	15 ≥ xx ≤ 25	-
Context Zone:	Mixed Use	Commercial, Mixed Use	★
Edgeline Striping:	None	None	★
Lane Width (ft):	11	10 - 11.5 feet	★
Parking:	Both Sides Parallel	Present	★
Cross Section and Design:	2-Lane	Multi-lane	-
Edge Risk:	3	3 Deficiencies	★
Shoulder Width (ft):	0	< 3 Feet	★
		Total Stars:	★★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Divided Roadway:	Proactive	$5,000,000	per mile	0	$0
Access Management:	Proactive	$360,000	per mile	1	$290,893.42
Road Diet:	Proactive	$25,000 - 40,000	per mile	0	$0
Vehicle Speed Feedback Signs:	Proactive	$30,000	per segment	0	$0
Sidewalk:	Proactive	$80,000	per mile	1	$64,642.98
				Total Estimated Project Cost	$355,536.40

Systemic Project	√

Project Page #: 1
Segment ID: 12.001
Date: 3/31/2023

Urban Segment Project on CSAH 13

Roadway Information

Segment Start:	69th St S
Segment End:	70th St S
Area Type:	Suburban
County:	Washington
Context Zone:	Mixed Use
Segment Route System:	CSAH
Segment Route No:	13
Facility Type:	5-Lane
Segment Length (mile):	0.14
Traffic Volume (vpd):	6000
Lane Width (ft):	12
Shoulder Type:	Curb & Gutter
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	9	0	0	0
Density (per mile per yr):	12.89	0	0	0
Rate (per MVM):	5.89	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	30	≥ 50	-
Traffic Volume (vpd):	6000	4,000 ≥ xx ≤ 14,000	★
Access Density (access per mile):	28.65	15 ≥ xx ≤ 25	-
Context Zone:	Mixed Use	Commercial, Mixed Use	★
Edgeline Striping:	Present	None	-
Lane Width (ft):	12	10 - 11.5 feet	-
Parking:	None	Present	-
Cross Section and Design:	5-Lane	Multi-lane	★
Edge Risk:	3	3 Deficiencies	★
Shoulder Width (ft):	0	< 3 Feet	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Divided Roadway:	Proactive	$5,000,000	per mile	1	$698,113.2
Access Management:	Proactive	$360,000	per mile	0	$0
Road Diet:	Proactive	$25,000 - 40,000	per mile	0	$0
Vehicle Speed Feedback Signs:	Proactive	$30,000	per segment	0	$0
Sidewalk:	Proactive	$80,000	per mile	0	$0
				Total Estimated Project Cost	$698,113.20

Systemic Project	√

Urban Segment Project on CSAH 13

Roadway Information

Segment Start:	Intersection of Stillwater Blvd N
Segment End:	Intersection of 34th St N
Area Type:	Suburban
County:	Washington
Context Zone:	Mixed Use
Segment Route System:	CSAH
Segment Route No:	13
Facility Type:	3-Lane
Segment Length (mile):	0.45
Traffic Volume (vpd):	5200
Lane Width (ft):	12
Shoulder Type:	Curb & Gutter
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	11	0	1	1
Density (per mile per yr):	4.92	0	0.45	0
Rate (per MVM):	2.59	0	0.24	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	40	≥ 50	-
Traffic Volume (vpd):	5200	4,000 ≥ xx ≤ 14,000	★
Access Density (access per mile):	22.35	15 ≥ xx ≤ 25	★
Context Zone:	Mixed Use	Commercial, Mixed Use	★
Edgeline Striping:	Present	None	-
Lane Width (ft):	12	10 - 11.5 feet	-
Parking:	None	Present	-
Cross Section and Design:	3-Lane	Multi-lane	-
Edge Risk:	3	3 Deficiencies	★
Shoulder Width (ft):	0	< 3 Feet	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Divided Roadway:	Proactive	$5,000,000	per mile	0	$0
Access Management:	Proactive	$360,000	per mile	1	$161,089.53
Road Diet:	Proactive	$25,000 - 40,000	per mile	0	$0
Vehicle Speed Feedback Signs:	Proactive	$30,000	per segment	0	$0
Sidewalk:	Proactive	$80,000	per mile	1	$35,797.67
				Total Estimated Project Cost	$196,887.20

Systemic Project	√

Urban Segment Project on CSAH 15

Roadway Information

Segment Start:	1386 North of 75th St N
Segment End:	MN 36
Area Type:	Suburban
County:	Washington
Context Zone:	Residential
Segment Route System:	CSAH
Segment Route No:	15
Facility Type:	4-Lane
Segment Length (mile):	1.79
Traffic Volume (vpd):	17650
Lane Width (ft):	12
Shoulder Type:	Curb & Gutter
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	27	0	3	3
Density (per mile per yr):	3.02	0	0.34	0
Rate (per MVM):	0.47	0	0.05	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 50	★
Traffic Volume (vpd):	17650	4,000 ≥ xx ≤ 14,000	-
Access Density (access per mile):	17.33	15 ≥ xx ≤ 25	★
Context Zone:	Residential	Commercial, Mixed Use	-
Edgeline Striping:	Present	None	-
Lane Width (ft):	12	10 - 11.5 feet	-
Parking:	Both Sides Parallel	Present	★
Cross Section and Design:	4-Lane	Multi-lane	★
Edge Risk:	3	3 Deficiencies	★
Shoulder Width (ft):	0	< 3 Feet	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Divided Roadway:	Proactive	$5,000,000	per mile	0	$0
Access Management:	Proactive	$360,000	per mile	0	$0
Road Diet:	Proactive	$25,000 - 40,000	per mile	0	$0
Vehicle Speed Feedback Signs:	Proactive	$30,000	per segment	0	$0
Sidewalk:	Proactive	$80,000	per mile	1	$143,132.88
				Total Estimated Project Cost	$143,132.88

Systemic Project	√

Urban Segment Project on CSAH 17

Roadway Information

Segment Start:	Stillwater Blve N
Segment End:	80 ft North of 33rd St N
Area Type:	Suburban
County:	Washington
Context Zone:	Mixed Use
Segment Route System:	CSAH
Segment Route No:	17
Facility Type:	2-Lane
Segment Length (mile):	0.25
Traffic Volume (vpd):	4500
Lane Width (ft):	11
Shoulder Type:	Curb & Gutter
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	3	1	1	1
Density (per mile per yr):	2.39	0.8	0.8	0.8
Rate (per MVM):	1.46	0.49	0.49	0.49

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	30	≥ 50	-
Traffic Volume (vpd):	4500	4,000 ≥ xx ≤ 14,000	★
Access Density (access per mile):	83.82	15 ≥ xx ≤ 25	-
Context Zone:	Mixed Use	Commercial, Mixed Use	★
Edgeline Striping:	None	None	★
Lane Width (ft):	11	10 - 11.5 feet	★
Parking:	Both Sides Parallel	Present	★
Cross Section and Design:	2-Lane	Multi-lane	-
Edge Risk:	3	3 Deficiencies	★
Shoulder Width (ft):	0	< 3 Feet	★
		Total Stars:	★★★★★★★

Priority Location	√

List of Strategies Considered

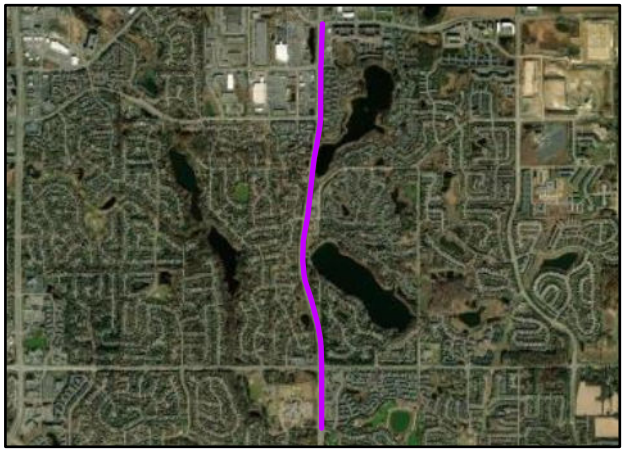
	Type	Unit Cost	Unit	Quantity	Total Cost
Divided Roadway:	Proactive	$5,000,000	per mile	0	$0
Access Management:	Proactive	$360,000	per mile	1	$90,190.81
Road Diet:	Proactive	$25,000 - 40,000	per mile	0	$0
Vehicle Speed Feedback Signs:	Proactive	$30,000	per segment	0	$0
Sidewalk:	Proactive	$80,000	per mile	0	$0
				Total Estimated Project Cost	$90,190.81

Systemic Project	√

Urban Segment Project on CSAH 19

Roadway Information

Segment Start:	Hudson Rd
Segment End:	Park Crossing
Area Type:	Suburban
County:	Washington
Context Zone:	Residential
Segment Route System:	CSAH
Segment Route No:	19
Facility Type:	4-Lane
Segment Length (mile):	2.04
Traffic Volume (vpd):	21500
Lane Width (ft):	11
Shoulder Type:	Curb & Gutter
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	83	1	12	12
Density (per mile per yr):	8.12	0.1	1.17	0
Rate (per MVM):	1.03	0.01	0.15	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	55	≥ 50	★
Traffic Volume (vpd):	21500	4,000 ≥ xx ≤ 14,000	-
Access Density (access per mile):	7.34	15 ≥ xx ≤ 25	-
Context Zone:	Residential	Commercial, Mixed Use	-
Edgeline Striping:	Present	None	-
Lane Width (ft):	11	10 - 11.5 feet	★
Parking:	None	Present	-
Cross Section and Design:	4-Lane	Multi-lane	★
Edge Risk:	3	3 Deficiencies	★
Shoulder Width (ft):	0	< 3 Feet	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Divided Roadway:	Proactive	$5,000,000	per mile	0	$0
Access Management:	Proactive	$360,000	per mile	0	$0
Road Diet:	Proactive	$25,000 - 40,000	per mile	0	$0
Vehicle Speed Feedback Signs:	Proactive	$30,000	per segment	0	$0
Sidewalk:	Proactive	$80,000	per mile	1	$327,174.45
				Total Estimated Project Cost	$327,174.45

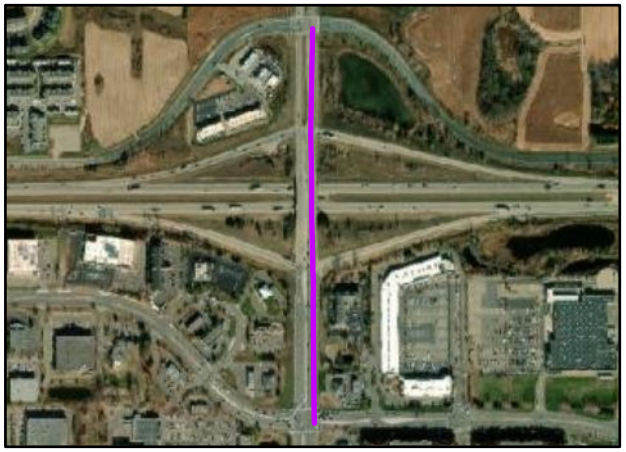
Systemic Project	√

Project Page #:	12
Segment ID:	19.005
Date:	3/31/2023

Urban Segment Project on CSAH 19

Roadway Information

Segment Start:	Hudson Blvd
Segment End:	Hudson Rd
Area Type:	Suburban
County:	Washington
Context Zone:	Commercial
Segment Route System:	CSAH
Segment Route No:	19
Facility Type:	6-Lane
Segment Length (mile):	0.45
Traffic Volume (vpd):	23950
Lane Width (ft):	11
Shoulder Type:	Paved
Shoulder Width (ft):	6



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	51	1	9	9
Density (per mile per yr):	22.44	0.44	3.96	0.44
Rate (per MVM):	2.57	0.05	0.45	0.05

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	50	≥ 50	★
Traffic Volume (vpd):	23950	4,000 ≥ xx ≤ 14,000	-
Access Density (access per mile):	13.2	15 ≥ xx ≤ 25	-
Context Zone:	Commercial	Commercial, Mixed Use	★
Edgeline Striping:	Present	None	-
Lane Width (ft):	11	10 - 11.5 feet	★
Parking:	None	Present	-
Cross Section and Design:	6-Lane	Multi-lane	★
Edge Risk:	3	3 Deficiencies	★
Shoulder Width (ft):	6	< 3 Feet	-
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Divided Roadway:	Proactive	$5,000,000	per mile	0	$0
Access Management:	Proactive	$360,000	per mile	0	$0
Road Diet:	Proactive	$25,000 - 40,000	per mile	0	$0
Vehicle Speed Feedback Signs:	Proactive	$30,000	per segment	0	$0
Sidewalk:	Proactive	$80,000	per mile	1	$36,363.52
				Total Estimated Project Cost	$36,363.52

Systemic Project	√

Project Page #:	13
Segment ID:	19.006
Date:	3/31/2023

Urban Segment Project on CSAH 21

Roadway Information

Segment Start:	Intersection of Stagecoach Trail S
Segment End:	170 ft North of 37th St
Area Type:	Suburban
County:	Washington
Context Zone:	Mixed Use
Segment Route System:	CSAH
Segment Route No:	21
Facility Type:	2-Lane
Segment Length (mile):	0.64
Traffic Volume (vpd):	2350
Lane Width (ft):	12
Shoulder Type:	Curb & Gutter
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	1	0	0	0
Density (per mile per yr):	0.31	0	0	0
Rate (per MVM):	0.37	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	30	≥ 50	-
Traffic Volume (vpd):	2350	4,000 ≥ xx ≤ 14,000	-
Access Density (access per mile):	31.36	15 ≥ xx ≤ 25	-
Context Zone:	Mixed Use	Commercial, Mixed Use	★
Edgeline Striping:	None	None	★
Lane Width (ft):	12	10 - 11.5 feet	★
Parking:	Both Sides Parallel	Present	★
Cross Section and Design:	2-Lane	Multi-lane	-
Edge Risk:	3	3 Deficiencies	★
Shoulder Width (ft):	0	< 3 Feet	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Divided Roadway:	Proactive	$5,000,000	per mile	0	$0
Access Management:	Proactive	$360,000	per mile	0	$0
Road Diet:	Proactive	$25,000 - 40,000	per mile	0	$0
Vehicle Speed Feedback Signs:	Proactive	$30,000	per segment	1	$30,000
Sidewalk:	Proactive	$80,000	per mile	0	$0
				Total Estimated Project Cost	$30,000

Systemic Project	√

Project Page #:	16
Segment ID:	21.005
Date:	3/31/2023

Urban Segment Project on CSAH 22

Roadway Information

Segment Start:	Intersection of Broadway Ave
Segment End:	1075 ft West of Goodview Ave S
Area Type:	Suburban
County:	Washington
Context Zone:	Residential
Segment Route System:	CSAH
Segment Route No:	22
Facility Type:	4-Lane
Segment Length (mile):	0.69
Traffic Volume (vpd):	13650
Lane Width (ft):	12
Shoulder Type:	Curb & Gutter
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	46	1	8	8
Density (per mile per yr):	13.3	0.29	2.31	0.29
Rate (per MVM):	2.67	0.06	0.46	0.06

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	35	≥ 50	-
Traffic Volume (vpd):	13650	4,000 ≥ xx ≤ 14,000	★
Access Density (access per mile):	18.79	15 ≥ xx ≤ 25	★
Context Zone:	Residential	Commercial, Mixed Use	-
Edgeline Striping:	Present	None	-
Lane Width (ft):	12	10 - 11.5 feet	-
Parking:	None	Present	-
Cross Section and Design:	4-Lane	Multi-lane	★
Edge Risk:	3	3 Deficiencies	★
Shoulder Width (ft):	0	< 3 Feet	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Divided Roadway:	Proactive	$5,000,000	per mile	0	$0
Access Management:	Proactive	$360,000	per mile	0	$0
Road Diet:	Proactive	$25,000 - 40,000	per mile	0	$0
Vehicle Speed Feedback Signs:	Proactive	$30,000	per segment	0	$0
Sidewalk:	Proactive	$80,000	per mile	1	$55,358.6
				Total Estimated Project Cost	$55,358.60

Systemic Project	√

Project Page #:	17
Segment ID:	22.001
Date:	3/31/2023

Urban Segment Project on CSAH 23

Roadway Information

Segment Start:	Willard St W
Segment End:	Chestnut St E
Area Type:	Suburban
County:	Washington
Context Zone:	Mixed Use
Segment Route System:	CSAH
Segment Route No:	23
Facility Type:	2-Lane
Segment Length (mile):	0.37
Traffic Volume (vpd):	4100
Lane Width (ft):	12
Shoulder Type:	Curb & Gutter
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	7	0	0	0
Density (per mile per yr):	3.76	0	0	0
Rate (per MVM):	2.51	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	30	≥ 50	-
Traffic Volume (vpd):	4100	4,000 ≥ xx ≤ 14,000	★
Access Density (access per mile):	53.71	15 ≥ xx ≤ 25	-
Context Zone:	Mixed Use	Commercial, Mixed Use	★
Edgeline Striping:	Present	None	-
Lane Width (ft):	12	10 - 11.5 feet	-
Parking:	Both Sides Parallel	Present	★
Cross Section and Design:	2-Lane	Multi-lane	-
Edge Risk:	3	3 Deficiencies	★
Shoulder Width (ft):	0	< 3 Feet	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Divided Roadway:	Proactive	$5,000,000	per mile	0	$0
Access Management:	Proactive	$360,000	per mile	0	$0
Road Diet:	Proactive	$25,000 - 40,000	per mile	0	$0
Vehicle Speed Feedback Signs:	Proactive	$30,000	per segment	1	$30,000
Sidewalk:	Proactive	$80,000	per mile	0	$0
				Total Estimated Project Cost	$30,000

Systemic Project	√

Project Page #:	18
Segment ID:	23.003
Date:	3/31/2023

Urban Segment Project on CSAH 24

Roadway Information

Segment Start:	CSAH24/Upper 56th St
Segment End:	740 ft North of State Route 36
Area Type:	Suburban
County:	Washington
Context Zone:	Commercial
Segment Route System:	CSAH
Segment Route No:	24
Facility Type:	4-Lane
Segment Length (mile):	0.47
Traffic Volume (vpd):	12050
Lane Width (ft):	11
Shoulder Type:	Curb & Gutter
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	45	0	3	3
Density (per mile per yr):	19.16	0	1.28	0
Rate (per MVM):	4.36	0	0.29	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	30	≥ 50	-
Traffic Volume (vpd):	12050	4,000 ≥ xx ≤ 14,000	★
Access Density (access per mile):	40.45	15 ≥ xx ≤ 25	-
Context Zone:	Commercial	Commercial, Mixed Use	★
Edgeline Striping:	Present	None	-
Lane Width (ft):	11	10 - 11.5 feet	★
Parking:	None	Present	-
Cross Section and Design:	4-Lane	Multi-lane	★
Edge Risk:	3	3 Deficiencies	★
Shoulder Width (ft):	0	< 3 Feet	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

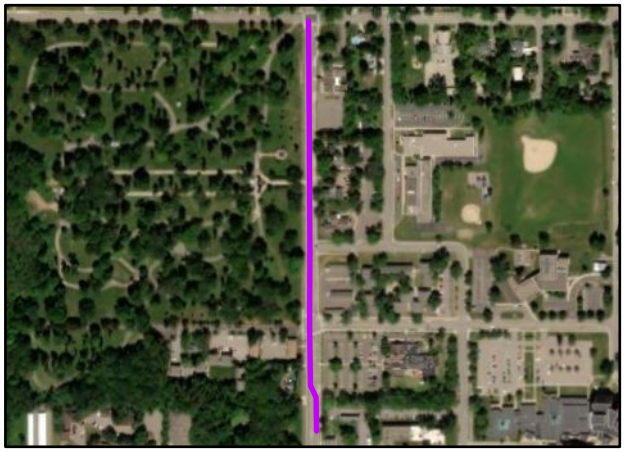
	Type	Unit Cost	Unit	Quantity	Total Cost
Divided Roadway:	Proactive	$5,000,000	per mile	0	$0
Access Management:	Proactive	$360,000	per mile	1	$169,105.09
Road Diet:	Proactive	$25,000 - 40,000	per mile	0	$0
Vehicle Speed Feedback Signs:	Proactive	$30,000	per segment	0	$0
Sidewalk:	Proactive	$80,000	per mile	1	$37,578.91
				Total Estimated Project Cost	$206,683.99

Systemic Project	√

Urban Segment Project on CSAH 24

Roadway Information

Segment Start:	Intersection of Orleans St W
Segment End:	440 ft South of 62nd St N
Area Type:	Suburban
County:	Washington
Context Zone:	Residential
Segment Route System:	CSAH
Segment Route No:	24
Facility Type:	2-Lane
Segment Length (mile):	0.34
Traffic Volume (vpd):	12900
Lane Width (ft):	11
Shoulder Type:	Curb & Gutter
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	1	0	0	0
Density (per mile per yr):	0.59	0	0	0
Rate (per MVM):	0.13	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	35	≥ 50	-
Traffic Volume (vpd):	12900	4,000 ≥ xx ≤ 14,000	★
Access Density (access per mile):	44.35	15 ≥ xx ≤ 25	-
Context Zone:	Residential	Commercial, Mixed Use	-
Edgeline Striping:	Present	None	-
Lane Width (ft):	11	10 - 11.5 feet	-
Parking:	Both Sides Parallel	Present	★
Cross Section and Design:	2-Lane	Multi-lane	-
Edge Risk:	3	3 Deficiencies	★
Shoulder Width (ft):	0	< 3 Feet	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Divided Roadway:	Proactive	$5,000,000	per mile	0	$0
Access Management:	Proactive	$360,000	per mile	1	$121,755.18
Road Diet:	Proactive	$25,000 - 40,000	per mile	0	$0
Vehicle Speed Feedback Signs:	Proactive	$30,000	per segment	0	$0
Sidewalk:	Proactive	$80,000	per mile	1	$27,056.71
				Total Estimated Project Cost	$148,811.89

Systemic Project	√

Project Page #:	19
Segment ID:	24.004
Date:	3/31/2023

Urban Segment Project on CSAH 25

Roadway Information

Segment Start:	Brookview Dr E
Segment End:	Lake Rd
Area Type:	Suburban
County:	Washington
Context Zone:	Mixed Use
Segment Route System:	CSAH
Segment Route No:	25
Facility Type:	4-Lane
Segment Length (mile):	1.88
Traffic Volume (vpd):	13367
Lane Width (ft):	12
Shoulder Type:	Curb & Gutter
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	73	1	15	15
Density (per mile per yr):	7.78	0.11	1.6	0
Rate (per MVM):	1.6	0.02	0.33	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	45	≥ 50	-
Traffic Volume (vpd):	13367	4,000 ≥ xx ≤ 14,000	★
Access Density (access per mile):	21.32	15 ≥ xx ≤ 25	★
Context Zone:	Mixed Use	Commercial, Mixed Use	★
Edgeline Striping:	None	None	★
Lane Width (ft):	12	10 - 11.5 feet	-
Parking:	None	Present	-
Cross Section and Design:	4-Lane	Multi-lane	★
Edge Risk:	3	3 Deficiencies	★
Shoulder Width (ft):	0	< 3 Feet	★
		Total Stars:	★★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Divided Roadway:	Proactive	$5,000,000	per mile	0	$0
Access Management:	Proactive	$360,000	per mile	1	$675,402.97
Road Diet:	Proactive	$25,000 - 40,000	per mile	0	$0
Vehicle Speed Feedback Signs:	Proactive	$30,000	per segment	0	$0
Sidewalk:	Proactive	$80,000	per mile	0	$0
				Total Estimated Project Cost	$675,402.97

Systemic Project	√

Urban Segment Project on CSAH 38

Roadway Information

Segment Start:	Baily Rd
Segment End:	I-494
Area Type:	Suburban
County:	Washington
Context Zone:	Commercial
Segment Route System:	CSAH
Segment Route No:	38
Facility Type:	5-Lane
Segment Length (mile):	0.55
Traffic Volume (vpd):	10900
Lane Width (ft):	12
Shoulder Type:	Curb & Gutter
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	19	1	3	3
Density (per mile per yr):	6.95	0.37	1.1	0
Rate (per MVM):	1.75	0.09	0.28	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	40	≥ 50	-
Traffic Volume (vpd):	10900	4,000 ≥ xx ≤ 14,000	★
Access Density (access per mile):	12.81	15 ≥ xx ≤ 25	-
Context Zone:	Commercial	Commercial, Mixed Use	★
Edgeline Striping:	Present	None	-
Lane Width (ft):	12	10 - 11.5 feet	-
Parking:	None	Present	-
Cross Section and Design:	5-Lane	Multi-lane	★
Edge Risk:	3	3 Deficiencies	★
Shoulder Width (ft):	0	< 3 Feet	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Divided Roadway:	Proactive	$5,000,000	per mile	0	$0
Access Management:	Proactive	$360,000	per mile	0	$0
Road Diet:	Proactive	$25,000 - 40,000	per mile	0	$0
Vehicle Speed Feedback Signs:	Proactive	$30,000	per segment	0	$0
Sidewalk:	Proactive	$80,000	per mile	1	$43,728.19
				Total Estimated Project Cost	$43,728.19

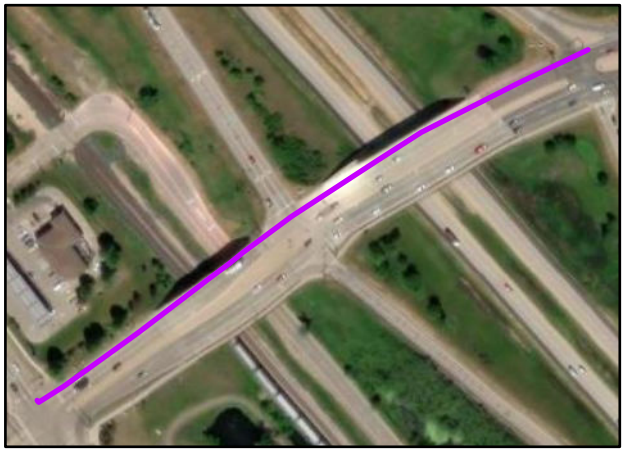
Systemic Project	√

Project Page #:	23
Segment ID:	38.006
Date:	3/31/2023

Urban Segment Project on CSAH 39

Roadway Information

Segment Start:	Intersection of Hadley Ave S
Segment End:	1300 ft West of Hardwood Ave S
Area Type:	Suburban
County:	Washington
Context Zone:	Commercial
Segment Route System:	CSAH
Segment Route No:	39
Facility Type:	5-Lane
Segment Length (mile):	0.22
Traffic Volume (vpd):	17200
Lane Width (ft):	12
Shoulder Type:	Curb & Gutter
Shoulder Width (ft):	0



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe Crash Count	Total Lane Departure	Severe Lane Departure
Crash Frequency:	39	1	4	4
Density (per mile per yr):	36.09	0.93	3.7	0
Rate (per MVM):	5.75	0.15	0.59	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Speed Limit (mph):	30	≥ 50	-
Traffic Volume (vpd):	17200	4,000 ≥ xx ≤ 14,000	-
Access Density (access per mile):	18.51	15 ≥ xx ≤ 25	★
Context Zone:	Commercial	Commercial, Mixed Use	★
Edgeline Striping:	Present	None	-
Lane Width (ft):	12	10 - 11.5 feet	-
Parking:	None	Present	-
Cross Section and Design:	5-Lane	Multi-lane	★
Edge Risk:	3	3 Deficiencies	★
Shoulder Width (ft):	0	< 3 Feet	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Divided Roadway:	Proactive	$5,000,000	per mile	0	$0
Access Management:	Proactive	$360,000	per mile	0	$0
Road Diet:	Proactive	$25,000 - 40,000	per mile	0	$0
Vehicle Speed Feedback Signs:	Proactive	$30,000	per segment	0	$0
Sidewalk:	Proactive	$80,000	per mile	1	$34,580.26
				Total Estimated Project Cost	$34,580.26

Systemic Project	√

Project Page #:	24
Segment ID:	39.001
Date:	3/31/2023

Urban (Vehicle) Intersection on CSAH 2 (Broadway Ave W)

Roadway Information

Description:	CSAH 2 (Broadway Ave W) & MSAS 142 (19th St SW)
County:	Washington
Area Type:	Suburban
Context Zone:	Commercial
Segment Route System:	CSAH
Segment Route No:	2
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	20,200
Minor ADT:	2,220
Total Entering ADT:	22,420



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	6	0	3	0
Density (per mile per yr):	1.2	0	0.6	0
Rate (per MVM):	0.1	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Commercial	Commercial	
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	22,420	≥12,000	★
OR Total Traffic Cross Product:	44,844,000	> 20,000,000	★
Leg Configuration:	X	X	
Major Division Type:	Curb	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	Present	Present	-
Major Approach Speed Limit (mph):	40	≥40	★
OR Minor Approach Speed Limit (mph):	30	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	★
			★
		Total Stars:	★★★★★★★★★

Priority Location	√

List of Strategies Considered

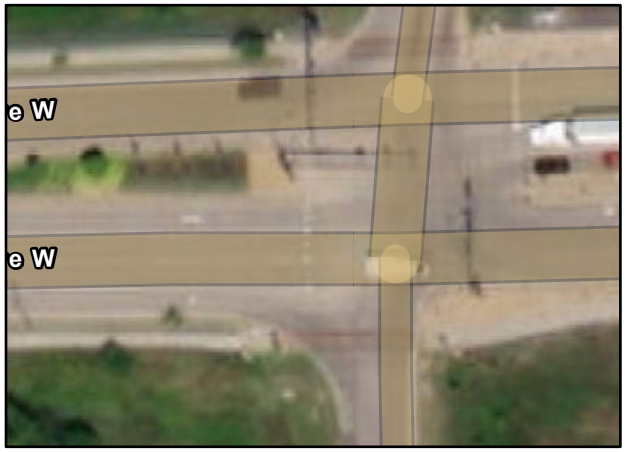
	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
			Total Estimated Project Cost		$1,500

Systemic Project	√

Urban (Vehicle) Intersection on CSAH 2 (Broadway Ave)

Roadway Information

Description:	CSAH 2 (Broadway Ave) & I 35 (Ramp)
County:	Washington
Area Type:	Suburban
Context Zone:	Industrial
Segment Route System:	CSAH
Segment Route No:	2
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	None
Flasher:	None
Major ADT:	21,750
Minor ADT:	5,650
Total Entering ADT:	67,733



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	40	0	20	0
Density (per mile per yr):	8	0	4	0
Rate (per MVM):	0.3	0	0.2	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Industrial	Commercial	-
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	67,733	≥12,000	★
OR Total Traffic Cross Product:	122,887,500	> 20,000,000	
Leg Configuration:	X	X	
Major Division Type:	Divided	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	None	Present	-
Major Approach Speed Limit (mph):	60	≥40	-
OR Minor Approach Speed Limit (mph):	50	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	★
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	1	$1,500,000
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
			Total Estimated Project Cost		$1,501,500

Systemic Project	√

AJ

Project Page #: 53
Segment ID: 2.005
Date: 3/30/2023

Urban (Vehicle) Intersection on CSAH 2 (Broadway Ave)

Roadway Information

Description:	CSAH 2 (Broadway Ave) & MSAS 102 (12th St SW)
County:	Washington
Area Type:	Suburban
Context Zone:	Commercial
Segment Route System:	CSAH
Segment Route No:	2
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	23,300
Minor ADT:	15,000
Total Entering ADT:	38,300



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	35	1	12	0
Density (per mile per yr):	7	0.2	2.4	0
Rate (per MVM):	0.5	0	0.2	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Commercial	Commercial	
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	38,300	≥12,000	★
OR Total Traffic Cross Product:	349,500,000	> 20,000,000	★
Leg Configuration:	X	X	
Major Division Type:	Curb	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	Present	Present	-
Major Approach Speed Limit (mph):	35	≥40	★
OR Minor Approach Speed Limit (mph):	30	≥35	-
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	★
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★★★★

Priority Location	√

List of Strategies Considered

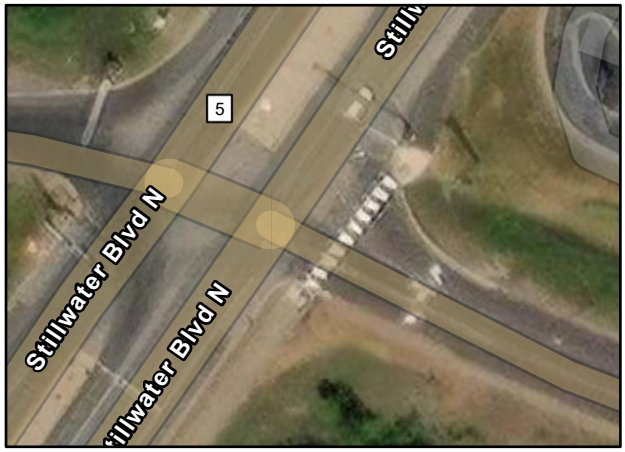
	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	1	$1,500,000
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
			Total Estimated Project Cost		$1,501,500

Systemic Project	√

Urban (Vehicle) Intersection on CSAH 5 (Stillwater Blvd N)

Roadway Information

Description:	CSAH 5 (Stillwater Blvd N) & Westbound TH 36 (Ramp)
County:	Washington
Area Type:	Suburban
Context Zone:	Commercial
Segment Route System:	CSAH
Segment Route No:	5
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	21,600
Minor ADT:	2,544
Total Entering ADT:	24,144



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	10	0	5	0
Density (per mile per yr):	2	0	1	0
Rate (per MVM):	0.2	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Commercial	Commercial	
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	24,144	≥12,000	★
OR Total Traffic Cross Product:	54,950,400	> 20,000,000	★
Leg Configuration:	X	X	
Major Division Type:	Barrier	Divided	★
Alignment Skew(degrees):	10	≥10	★
Adjacent Development:	Present	Present	-
Major Approach Speed Limit (mph):	45	≥40	★
OR Minor Approach Speed Limit (mph):	60	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	
1st Major Approach Turn Lane Configuration:	TTR	≥2 Left Turn, ≥2 Thru Lane	★
			★
		Total Stars:	★★★★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
			Total Estimated Project Cost		$1,500

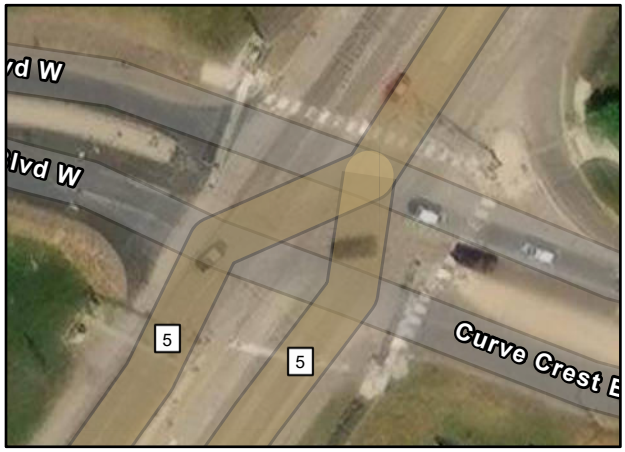
Systemic Project	√

Project Page #: 13
Segment ID: 5.001
Date: 3/30/2023

Urban (Vehicle) Intersection on CSAH 5 (Stillwater Blvd N)

Roadway Information

Description:	CSAH 5 (Stillwater Blvd N) & MSAS 112 (Curve Crest Blvd)
County:	Washington
Area Type:	Suburban
Context Zone:	Commercial
Segment Route System:	CSAH
Segment Route No:	5
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	17,350
Minor ADT:	6,500
Total Entering ADT:	23,850



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	14	0	6	0
Density (per mile per yr):	2.8	0	1.2	0
Rate (per MVM):	0.3	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Commercial	Commercial	
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	23,850	≥12,000	★
OR Total Traffic Cross Product:	112,775,000	> 20,000,000	★
Leg Configuration:	X	X	
Major Division Type:	Curb	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	Present	Present	-
Major Approach Speed Limit (mph):	45	≥40	★
OR Minor Approach Speed Limit (mph):	30	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	★
			★
		Total Stars:	★★★★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
			Total Estimated Project Cost		$1,500

Systemic Project	√

Urban (Vehicle) Intersection on CSAH 5 (Stillwater Blvd N)

Roadway Information

Description:	CSAH 5 (Stillwater Blvd N) & MSAS 119 (Orleans St)
County:	Washington
Area Type:	Suburban
Context Zone:	Mixed Use
Segment Route System:	CSAH
Segment Route No:	5
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	14,600
Minor ADT:	3,595
Total Entering ADT:	18,195



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	10	1	5	0
Density (per mile per yr):	2	0.2	1	0
Rate (per MVM):	0.3	0	0.2	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Mixed Use	Commercial	-
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	18,195	≥12,000	★
OR Total Traffic Cross Product:	52,487,000	> 20,000,000	
Leg Configuration:	X	X	
Major Division Type:	Curb	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	None	Present	-
Major Approach Speed Limit (mph):	45	≥40	-
OR Minor Approach Speed Limit (mph):	30	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	★
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★★★

Priority Location	√

List of Strategies Considered

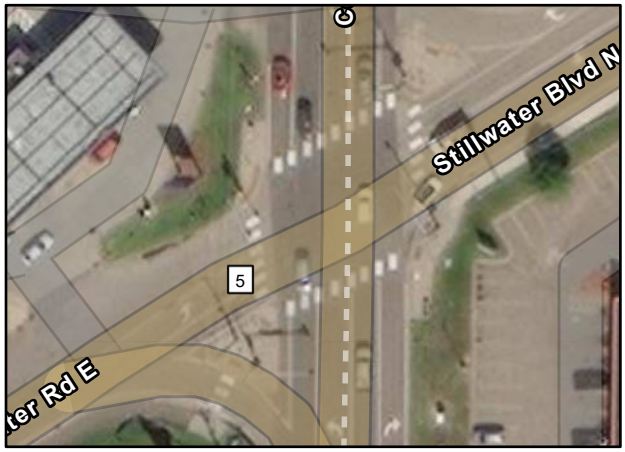
	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
				Total Estimated Project Cost	$1,500

Systemic Project	√

Urban (Vehicle) Intersection on MN 120 (Century Ave N)

Roadway Information

Description:	MN 120 (Century Ave N) & MN 5 (Stillwater Rd)
County:	Washington
Area Type:	Suburban
Context Zone:	Commercial
Segment Route System:	CSAH
Segment Route No:	6
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	13,300
Minor ADT:	5,550
Total Entering ADT:	18,850



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	27	0	15	0
Density (per mile per yr):	5.4	0	3	0
Rate (per MVM):	0.8	0	0.4	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Commercial	Commercial	
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	18,850	≥12,000	★
OR Total Traffic Cross Product:	73,815,000	> 20,000,000	★
Leg Configuration:	X	X	
Major Division Type:	Undivided	Divided	★
Alignment Skew(degrees):	35	≥10	-
Adjacent Development:	Present	Present	★
Major Approach Speed Limit (mph):	40	≥40	★
OR Minor Approach Speed Limit (mph):	40	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	
1st Major Approach Turn Lane Configuration:	LTR	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
				Total Estimated Project Cost	$1,500

Systemic Project	√

Project Page #:	33
Segment ID:	6.001
Date:	3/30/2023

Urban (Vehicle) Intersection on CSAH 8 (Frenchman Rd N)

Roadway Information

Description:	CSAH 8 (Frenchman Rd N) & MSAS 117 (Everton AVE N)
County:	Washington
Area Type:	Suburban
Context Zone:	Mixed Use
Segment Route System:	CSAH
Segment Route No:	8
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Thru-Stop
Street Lights:	Present
Flasher:	None
Major ADT:	16,600
Minor ADT:	1,120
Total Entering ADT:	17,720



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	5	0	1	0
Density (per mile per yr):	1	0	0.2	0
Rate (per MVM):	0.2	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Mixed Use	Commercial	-
Traffic Control Device:	Thru-Stop	Signal	-
Entering ADT(vpd):	17,720	≥12,000	★
OR Total Traffic Cross Product:	18,592,000	> 20,000,000	
Leg Configuration:	X	X	
Major Division Type:	Depressed	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	None	Present	-
Major Approach Speed Limit (mph):	45	≥40	-
OR Minor Approach Speed Limit (mph):	10	≥35	★
Major Approach Left Turn Lane Phasing:	NA	Permitted, Permitted/Protected	-
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	1	$3,500
Confirmation Lights:	Proactive	$1,500	Per Intersection	0	$0
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
			Total Estimated Project Cost		$3,500

Systemic Project	√

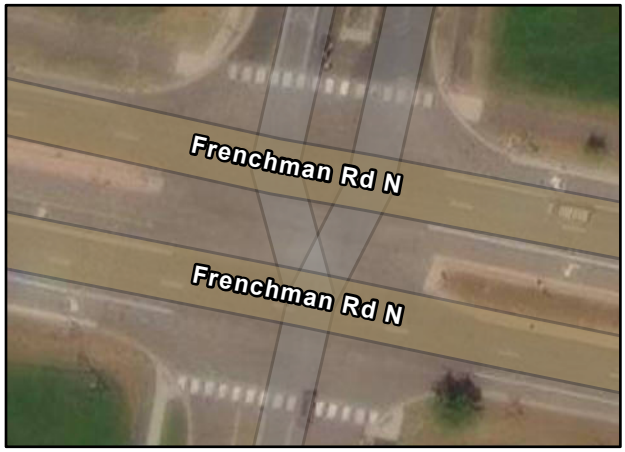
AJ

Project Page #: 89
Segment ID: 8.002
Date: 3/30/2023

Urban (Vehicle) Intersection on CSAH 8 (Frenchman Rd N)

Roadway Information

Description:	CSAH 8 (Frenchman Rd N) & MSAS 111 (Oneka PKWY N)
County:	Washington
Area Type:	Suburban
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	8
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Thru-Stop
Street Lights:	Present
Flasher:	None
Major ADT:	16,600
Minor ADT:	1,395
Total Entering ADT:	17,995



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	4	0	1	0
Density (per mile per yr):	0.8	0	0.2	0
Rate (per MVM):	0.1	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Agriculture	Commercial	-
Traffic Control Device:	Thru-Stop	Signal	-
Entering ADT(vpd):	17,995	≥12,000	★
OR Total Traffic Cross Product:	23,157,000	> 20,000,000	
Leg Configuration:	X	X	
Major Division Type:	Depressed	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	None	Present	-
Major Approach Speed Limit (mph):	45	≥40	-
OR Minor Approach Speed Limit (mph):	30	≥35	★
Major Approach Left Turn Lane Phasing:	NA	Permitted, Permitted/Protected	-
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	1	$3,500
Confirmation Lights:	Proactive	$1,500	Per Intersection	0	$0
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
			Total Estimated Project Cost		$3,500

Systemic Project	√

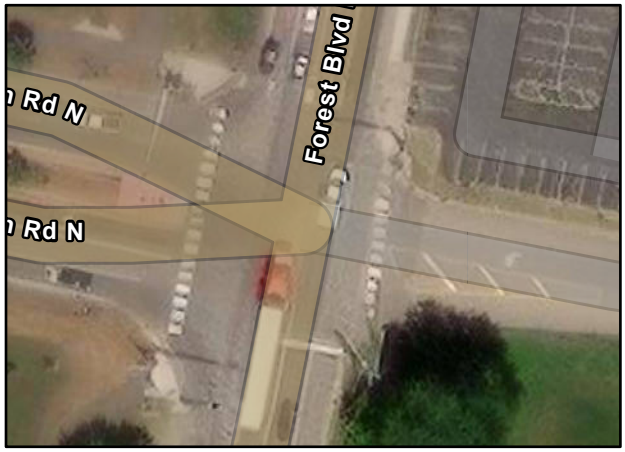
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Project Page #: 90
Segment ID: 8.003
Date: 3/30/2023

Urban (Vehicle) Intersection on US 61

Roadway Information

Description:	US 61 & CSAH 8 (Frenchman Rd N)
County:	Washington
Area Type:	Suburban
Context Zone:	Residential
Segment Route System:	CSAH
Segment Route No:	8
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	16,200
Minor ADT:	8,345
Total Entering ADT:	24,545



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	30	1	5	0
Density (per mile per yr):	6	0.2	1	0
Rate (per MVM):	0.7	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Residential	Commercial	-
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	24,545	≥12,000	★
OR Total Traffic Cross Product:	135,189,000	> 20,000,000	
Leg Configuration:	X	X	
Major Division Type:	Depressed	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	None	Present	-
Major Approach Speed Limit (mph):	45	≥40	-
OR Minor Approach Speed Limit (mph):	35	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	★
1st Major Approach Turn Lane Configuration:	LTR	≥2 Left Turn, ≥2 Thru Lane	-
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	1	$50,000
			Total Estimated Project Cost		$51,500

Systemic Project	√

Urban (Vehicle) Intersection on US 61 (Forest Blvd)

Roadway Information

Description:	US 61 (Forest Blvd) & CSAH 8 (Jody AVE N)
County:	Washington
Area Type:	Suburban
Context Zone:	Mixed Use
Segment Route System:	CSAH
Segment Route No:	8
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	16,050
Minor ADT:	3,525
Total Entering ADT:	19,575



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	14	0	3	0
Density (per mile per yr):	2.8	0	0.6	0
Rate (per MVM):	0.4	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Mixed Use	Commercial	-
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	19,575	≥12,000	★
OR Total Traffic Cross Product:	56,576,250	> 20,000,000	
Leg Configuration:	X	X	
Major Division Type:	Undivided	Divided	★
Alignment Skew(degrees):	15	≥10	-
Adjacent Development:	None	Present	★
Major Approach Speed Limit (mph):	45	≥40	-
OR Minor Approach Speed Limit (mph):	35	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	★
1st Major Approach Turn Lane Configuration:	LTR	≥2 Left Turn, ≥2 Thru Lane	-
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
				Total Estimated Project Cost	$1,500

Systemic Project	√

Urban (Vehicle) Intersection on MN 120 (Century Ave N)

Roadway Information

Description: MN 120 (Century Ave N) & CSAH 34 (Minnehaha Ave E)

County: Washington

Area Type: Suburban

Context Zone: Commercial

Segment Route System: CSAH

Segment Route No: 10

Design Type: Traditional

Configuration: X

Traffic Control Device: Signal

Street Lights: Present

Flasher: None

Major ADT: 13,600

Minor ADT: 10,200

Total Entering ADT: 23,800



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	38	0	16	0
Density (per mile per yr):	7.6	0	3.2	0
Rate (per MVM):	0.9	0	0.4	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Commercial	Commercial	
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	23,800	≥12,000	★
OR Total Traffic Cross Product:	138,720,000	> 20,000,000	★
Leg Configuration:	X	X	
Major Division Type:	Undivided	Divided	★
Alignment Skew(degrees):	0	≥10	-
Adjacent Development:	Present	Present	-
Major Approach Speed Limit (mph):	40	≥40	★
OR Minor Approach Speed Limit (mph):	40	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	
1st Major Approach Turn Lane Configuration:	LTR	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	1	$50,000
				Total Estimated Project Cost	$51,500

Systemic Project	√

Project Page #: 35

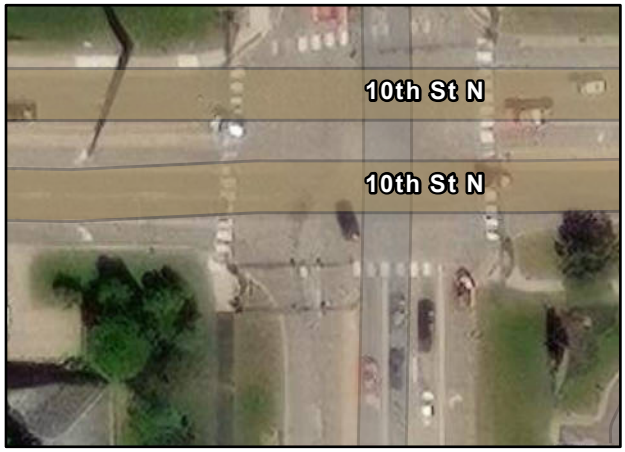
Segment ID: 10.001

Date: 3/30/2023

Urban (Vehicle) Intersection on CSAH 10 (10th ST N)

Roadway Information

Description: CSAH 10 (10th ST N) & MSAS 121 (Hadley Ave N)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 10
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 19,500
Minor ADT: 10,500
Total Entering ADT: 30,000



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	53	0	19	0
Density (per mile per yr):	10.6	0	3.8	0
Rate (per MVM):	1	0	0.3	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Commercial	Commercial	
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	30,000	≥12,000	★
OR Total Traffic Cross Product:	204,750,000	> 20,000,000	★
Leg Configuration:	X	X	
Major Division Type:	Curb	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	Present	Present	-
Major Approach Speed Limit (mph):	40	≥40	★
OR Minor Approach Speed Limit (mph):	35	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	★
			★
		Total Stars:	★★★★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	1	$50,000
				Total Estimated Project Cost	$51,500

Systemic Project	√

this is the same intersection as 10.004

Project Page #: 3
Segment ID: 10.003
Date: 3/30/2023

Urban (Vehicle) Intersection on CSAH 10 (10th ST N)

Roadway Information

Description:	CSAH 10 (10th ST N) & SB I-694 (Ramp)
County:	Washington
Area Type:	Suburban
Context Zone:	Commercial
Segment Route System:	CSAH
Segment Route No:	10
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	25,500
Minor ADT:	3,925
Total Entering ADT:	29,425



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	47	1	20	1
Density (per mile per yr):	9.4	0.2	4	0.2
Rate (per MVM):	0.9	0	0.4	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Commercial	Commercial	
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	29,425	≥12,000	★
OR Total Traffic Cross Product:	100,087,500	> 20,000,000	★
Leg Configuration:	X	X	
Major Division Type:	Curb	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	Present	Present	-
Major Approach Speed Limit (mph):	45	≥40	★
OR Minor Approach Speed Limit (mph):	45	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	
1st Major Approach Turn Lane Configuration:	TTR	≥2 Left Turn, ≥2 Thru Lane	★
			★
		Total Stars:	★★★★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
			Total Estimated Project Cost		$1,500

Systemic Project	√

Urban (Vehicle) Intersection on CSAH 13 (Inwood Ave N)

Roadway Information

Description: CSAH 13 (Inwood Ave N) & CSAH 10 (10th ST N)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 10
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 11,300
Minor ADT: 10,300
Total Entering ADT: 21,600



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	6	0	4	0
Density (per mile per yr):	1.2	0	0.8	0
Rate (per MVM):	0.2	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Residential	Commercial	-
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	21,600	≥12,000	★
OR Total Traffic Cross Product:	116,390,000	> 20,000,000	
Leg Configuration:	X	X	
Major Division Type:	Curb	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	None	Present	-
Major Approach Speed Limit (mph):	55	≥40	-
OR Minor Approach Speed Limit (mph):	55	≥35	★
Major Approach Left Turn Lane Phasing:	Protected	Permitted, Permitted/Protected	-
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★★

Priority Location | √

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	1	$50,000
				Total Estimated Project Cost	$51,500

Systemic Project | √

Project Page #: 59
Segment ID: 10.009
Date: 3/30/2023

Urban (Vehicle) Intersection on CSAH 13 (Radio DR)

Roadway Information

Description:	CSAH 13 (Radio DR) & MSAS 141 (Hingis PKWY)
County:	Washington
Area Type:	Suburban
Context Zone:	Campus
Segment Route System:	CSAH
Segment Route No:	13
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	9,500
Minor ADT:	3,900
Total Entering ADT:	13,400



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	16	0	7	0
Density (per mile per yr):	3.2	0	1.4	0
Rate (per MVM):	0.7	0	0.3	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Campus	Commercial	-
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	13,400	≥12,000	★
OR Total Traffic Cross Product:	37,050,000	> 20,000,000	
Leg Configuration:	X	X	★
Major Division Type:	Depressed	Divided	★
Alignment Skew(degrees):	0	≥10	-
Adjacent Development:	None	Present	-
Major Approach Speed Limit (mph):	55	≥40	★
OR Minor Approach Speed Limit (mph):	30	≥35	
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	★
1st Major Approach Turn Lane Configuration:	LLTTR	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
				Total Estimated Project Cost	$1,500

Systemic Project	√

Project Page #: 37
Segment ID: 13.006
Date: 3/30/2023

Urban (Vehicle) Intersection on CSAH 13 (Radio DR)

Roadway Information

Description:	CSAH 13 (Radio DR) & MSAS 105 (Tower Dr)
County:	Washington
Area Type:	Suburban
Context Zone:	Residential
Segment Route System:	CSAH
Segment Route No:	13
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Thru-Stop
Street Lights:	Present
Flasher:	None
Major ADT:	14,400
Minor ADT:	1,570
Total Entering ADT:	15,970



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	1	0	1	0
Density (per mile per yr):	0.2	0	0.2	0
Rate (per MVM):	0	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Residential	Commercial	-
Traffic Control Device:	Thru-Stop	Signal	-
Entering ADT(vpd):	15,970	≥12,000	★
OR Total Traffic Cross Product:	22,608,000	> 20,000,000	
Leg Configuration:	X	X	
Major Division Type:	Depressed	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	None	Present	-
Major Approach Speed Limit (mph):	50	≥40	-
OR Minor Approach Speed Limit (mph):	20	≥35	★
Major Approach Left Turn Lane Phasing:	NA	Permitted, Permitted/Protected	-
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	1	$3,500
Confirmation Lights:	Proactive	$1,500	Per Intersection	0	$0
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
				Total Estimated Project Cost	$3,500

Systemic Project	√

Project Page #: 77
Segment ID: 13.011
Date: 3/30/2023

Urban (Vehicle) Intersection on CSAH 13 (Radio DR)

Roadway Information

Description:	CSAH 13 (Radio DR) & MSAS 126 (City Centre DR)
County:	Washington
Area Type:	Suburban
Context Zone:	Commercial
Segment Route System:	CSAH
Segment Route No:	13
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	25,500
Minor ADT:	2,395
Total Entering ADT:	27,895



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	12	0	5	0
Density (per mile per yr):	2.4	0	1	0
Rate (per MVM):	0.2	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Commercial	Commercial	
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	27,895	≥12,000	★
OR Total Traffic Cross Product:	61,072,500	> 20,000,000	★
Leg Configuration:	X	X	
Major Division Type:	Depressed	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	Present	Present	-
Major Approach Speed Limit (mph):	50	≥40	★
OR Minor Approach Speed Limit (mph):	30	≥35	★
Major Approach Left Turn Lane Phasing:	Protected	Permitted, Permitted/Protected	
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	-
			★
		Total Stars:	★★★★★★★★

Priority Location	√

List of Strategies Considered

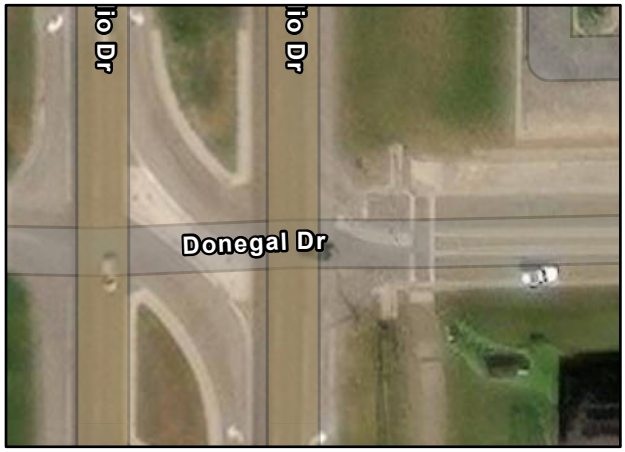
	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
			Total Estimated Project Cost		$1,500

Systemic Project	√

Urban (Vehicle) Intersection on CSAH 13 (Radio DR)

Roadway Information

Description:	CSAH 13 (Radio DR) & MSAS 132 (Donegal Dr)
County:	Washington
Area Type:	Suburban
Context Zone:	Residential
Segment Route System:	CSAH
Segment Route No:	13
Design Type:	RCI
Configuration:	X
Traffic Control Device:	Thru-Stop
Street Lights:	Present
Flasher:	None
Major ADT:	25,500
Minor ADT:	2,395
Total Entering ADT:	27,895



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	6	0	4	0
Density (per mile per yr):	1.2	0	0.8	0
Rate (per MVM):	0.1	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Residential	Commercial	-
Traffic Control Device:	Thru-Stop	Signal	-
Entering ADT(vpd):	27,895	≥12,000	★
OR Total Traffic Cross Product:	61,072,500	> 20,000,000	
Leg Configuration:	X	X	
Major Division Type:	Depressed	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	None	Present	-
Major Approach Speed Limit (mph):	50	≥40	-
OR Minor Approach Speed Limit (mph):	30	≥35	★
Major Approach Left Turn Lane Phasing:	NA	Permitted, Permitted/Protected	-
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	1	$3,500
Confirmation Lights:	Proactive	$1,500	Per Intersection	0	$0
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
				Total Estimated Project Cost	$3,500

Systemic Project	√

Urban (Vehicle) Intersection on CSAH 13 (Radio DR)

Roadway Information

Description:	CSAH 13 (Radio DR) & MSAS 139 (Seasons Pkwy)
County:	Washington
Area Type:	Suburban
Context Zone:	Mixed Use
Segment Route System:	CSAH
Segment Route No:	13
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	25,500
Minor ADT:	2,845
Total Entering ADT:	28,345



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	20	1	10	0
Density (per mile per yr):	4	0.2	2	0
Rate (per MVM):	0.4	0	0.2	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Mixed Use	Commercial	-
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	28,345	≥12,000	★
OR Total Traffic Cross Product:	72,547,500	> 20,000,000	
Leg Configuration:	X	X	
Major Division Type:	Depressed	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	None	Present	-
Major Approach Speed Limit (mph):	45	≥40	-
OR Minor Approach Speed Limit (mph):	30	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	★
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★★★

Priority Location	√

List of Strategies Considered

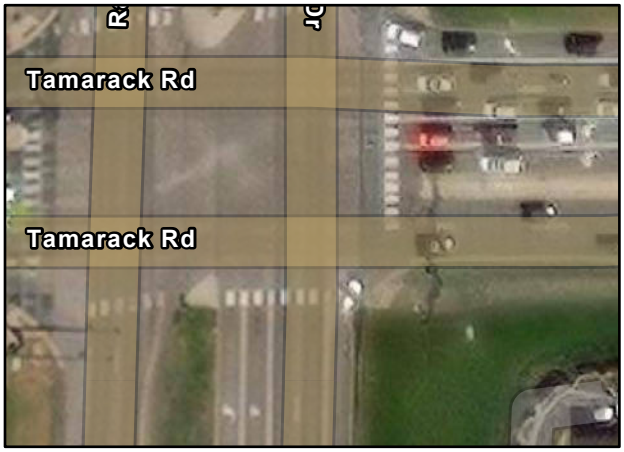
	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
				Total Estimated Project Cost	$1,500

Systemic Project	√

Urban (Vehicle) Intersection on CSAH 13 (Radio DR)

Roadway Information

Description:	CSAH 13 (Radio DR) & MSAS 102 (Tamarack Rd)
County:	Washington
Area Type:	Suburban
Context Zone:	Commercial
Segment Route System:	CSAH
Segment Route No:	13
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	27,250
Minor ADT:	14,850
Total Entering ADT:	42,100



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	22	0	8	0
Density (per mile per yr):	4.4	0	1.6	0
Rate (per MVM):	0.3	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Commercial	Commercial	
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	42,100	≥12,000	★
OR Total Traffic Cross Product:	404,662,500	> 20,000,000	★
Leg Configuration:	X	X	
Major Division Type:	Depressed	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	Present	Present	-
Major Approach Speed Limit (mph):	45	≥40	★
OR Minor Approach Speed Limit (mph):	35	≥35	★
Major Approach Left Turn Lane Phasing:	Protected	Permitted, Permitted/Protected	
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	-
			★
		Total Stars:	★★★★★★★★

Priority Location	√

List of Strategies Considered

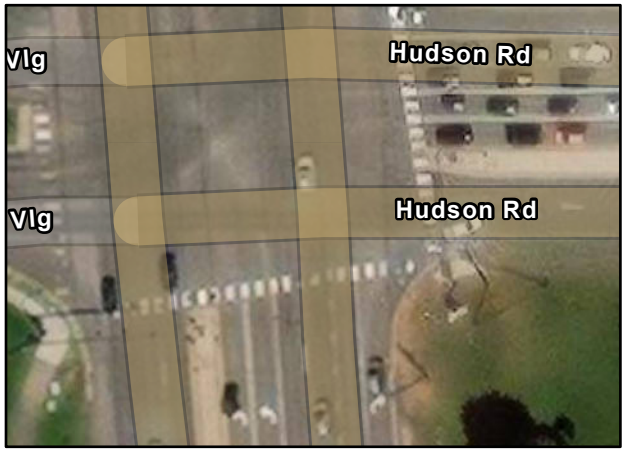
	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	1	$1,500,000
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
			Total Estimated Project Cost		$1,501,500

Systemic Project	√

Urban (Vehicle) Intersection on CSAH 13 (Radio DR)

Roadway Information

Description: CSAH 13 (Radio DR) & MSAS 117 (Hudson RD)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 13
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 32,750
Minor ADT: 6,895
Total Entering ADT: 39,645



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	18	0	4	0
Density (per mile per yr):	3.6	0	0.8	0
Rate (per MVM):	0.2	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Commercial	Commercial	
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	39,645	≥12,000	★
OR Total Traffic Cross Product:	225,811,250	> 20,000,000	★
Leg Configuration:	X	X	
Major Division Type:	Depressed	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	Present	Present	-
Major Approach Speed Limit (mph):	45	≥40	★
OR Minor Approach Speed Limit (mph):	45	≥35	★
Major Approach Left Turn Lane Phasing:	Protected	Permitted, Permitted/Protected	
1st Major Approach Turn Lane Configuration:	LLTTTR	≥2 Left Turn, ≥2 Thru Lane	-
			★
		Total Stars:	★★★★★★★★

Priority Location	√

List of Strategies Considered

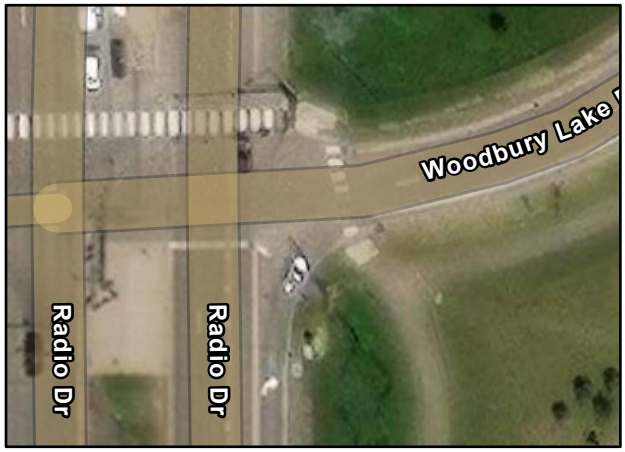
	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	1	$1,500,000
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
			Total Estimated Project Cost		$1,501,500

Systemic Project	√

Urban (Vehicle) Intersection on CSAH 13 (Radio DR)

Roadway Information

Description:	CSAH 13 (Radio DR) & MSAS 142 (Woodbury Lakes RD)
County:	Washington
Area Type:	Suburban
Context Zone:	Commercial
Segment Route System:	CSAH
Segment Route No:	13
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	36,500
Minor ADT:	3,695
Total Entering ADT:	40,195



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	46	0	11	0
Density (per mile per yr):	9.2	0	2.2	0
Rate (per MVM):	0.6	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Commercial	Commercial	
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	40,195	≥12,000	★
OR Total Traffic Cross Product:	134,867,500	> 20,000,000	★
Leg Configuration:	X	X	
Major Division Type:	Depressed	Divided	★
Alignment Skew(degrees):	15	≥10	★
Adjacent Development:	Present	Present	★
Major Approach Speed Limit (mph):	45	≥40	★
OR Minor Approach Speed Limit (mph):	30	≥35	★
Major Approach Left Turn Lane Phasing:	Protected	Permitted, Permitted/Protected	★
1st Major Approach Turn Lane Configuration:	TTTR	≥2 Left Turn, ≥2 Thru Lane	-
			★
		Total Stars:	★★★★★★★★★

Priority Location	√

List of Strategies Considered

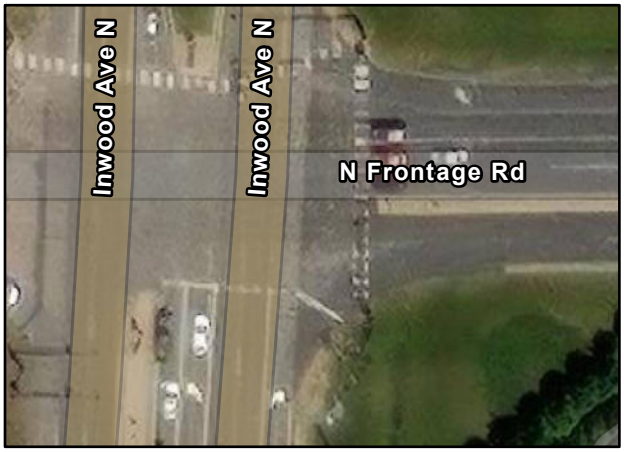
	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
			Total Estimated Project Cost		$1,500

Systemic Project	√

Urban (Vehicle) Intersection on CSAH 13 (Inwood AVE N)

Roadway Information

Description:	CSAH 13 (Inwood AVE N) & MSAS 239 (4th St N)
County:	Washington
Area Type:	Suburban
Context Zone:	Commercial
Segment Route System:	CSAH
Segment Route No:	13
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	17,350
Minor ADT:	3,450
Total Entering ADT:	13,700



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	11	0	2	0
Density (per mile per yr):	2.2	0	0.4	0
Rate (per MVM):	0.4	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Commercial	Commercial	
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	13,700	≥12,000	★
OR Total Traffic Cross Product:	59,857,500	> 20,000,000	★
Leg Configuration:	X	X	
Major Division Type:	Depressed	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	Present	Present	-
Major Approach Speed Limit (mph):	55	≥40	★
OR Minor Approach Speed Limit (mph):	40	≥35	★
Major Approach Left Turn Lane Phasing:	Protected	Permitted, Permitted/Protected	
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	-
			★
		Total Stars:	★★★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
				Total Estimated Project Cost	$1,500

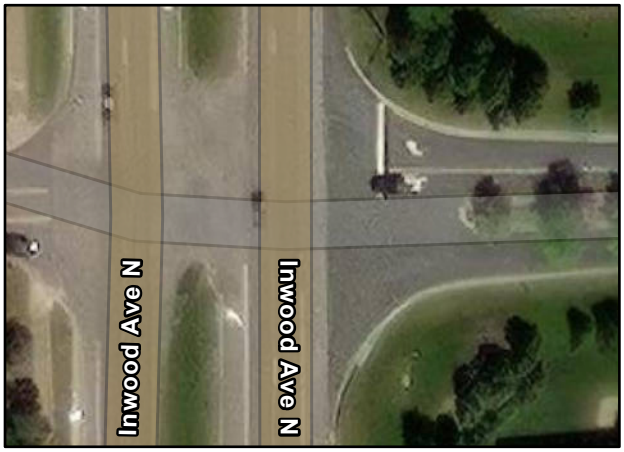
Systemic Project	√

Project Page #: 20
Segment ID: 13.028
Date: 3/30/2023

Urban (Vehicle) Intersection on CSAH 13 (Inwood AVE N)

Roadway Information

Description:	CSAH 13 (Inwood AVE N) & MSAS 112 (Eagle Point Blvd)
County:	Washington
Area Type:	Suburban
Context Zone:	Commercial
Segment Route System:	CSAH
Segment Route No:	13
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Thru-Stop
Street Lights:	Present
Flasher:	None
Major ADT:	14,200
Minor ADT:	995
Total Entering ADT:	15,195



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	5	0	3	0
Density (per mile per yr):	1	0	0.6	0
Rate (per MVM):	0.2	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Commercial	Commercial	★
Traffic Control Device:	Thru-Stop	Signal	-
Entering ADT(vpd):	15,195	≥12,000	★
OR Total Traffic Cross Product:	14,129,000	> 20,000,000	
Leg Configuration:	X	X	★
Major Division Type:	Curb	Divided	★
Alignment Skew(degrees):	0	≥10	-
Adjacent Development:	Present	Present	★
Major Approach Speed Limit (mph):	55	≥40	★
OR Minor Approach Speed Limit (mph):	35	≥35	
Major Approach Left Turn Lane Phasing:	NA	Permitted, Permitted/Protected	-
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	1	$3,500
Confirmation Lights:	Proactive	$1,500	Per Intersection	0	$0
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
			Total Estimated Project Cost		$3,500

Systemic Project	√

Urban (Vehicle) Intersection on MN 36

Roadway Information

Description:	MN 36 & CSAH 15 (Manning AVE N)
County:	Washington
Area Type:	Suburban
Context Zone:	Agriculture
Segment Route System:	CSAH
Segment Route No:	15
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	33,000
Minor ADT:	9,950
Total Entering ADT:	42,950



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	42	0	6	0
Density (per mile per yr):	8.4	0	1.2	0
Rate (per MVM):	0.5	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Agriculture	Commercial	-
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	42,950	≥12,000	★
OR Total Traffic Cross Product:	328,350,000	> 20,000,000	
Leg Configuration:	X	X	
Major Division Type:	Depressed	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	None	Present	-
Major Approach Speed Limit (mph):	60	≥40	-
OR Minor Approach Speed Limit (mph):	55	≥35	★
Major Approach Left Turn Lane Phasing:	Protected	Permitted, Permitted/Protected	-
1st Major Approach Turn Lane Configuration:	LLTTR	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	1	$1,500,000
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
				Total Estimated Project Cost	$1,501,500

Systemic Project	√

Urban (Vehicle) Intersection on CSAH 15 (Manning AVE N)

Roadway Information

Description: CSAH 15 (Manning AVE N) & MSAS 121 (62nd ST N)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 15
Design Type: Traditional
Configuration: X
Traffic Control Device: Thru-Stop
Street Lights: None
Flasher: None
Major ADT: 19,900
Minor ADT: 2,150
Total Entering ADT: 22,050



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	4	0	2	0
Density (per mile per yr):	0.8	0	0.4	0
Rate (per MVM):	0.1	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Residential	Commercial	-
Traffic Control Device:	Thru-Stop	Signal	-
Entering ADT(vpd):	22,050	≥12,000	★
OR Total Traffic Cross Product:	42,785,000	> 20,000,000	
Leg Configuration:	X	X	
Major Division Type:	Curb	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	None	Present	-
Major Approach Speed Limit (mph):	60	≥40	-
OR Minor Approach Speed Limit (mph):	55	≥35	★
Major Approach Left Turn Lane Phasing:	NA	Permitted, Permitted/Protected	-
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	1	$15,000
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	1	$3,500
Confirmation Lights:	Proactive	$1,500	Per Intersection	0	$0
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
				Total Estimated Project Cost	$18,500

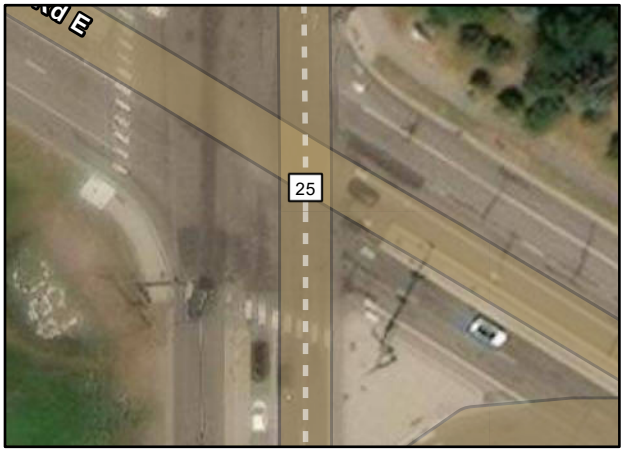
Systemic Project	√

Project Page #: 80
Segment ID: 15.008
Date: 3/30/2023

Urban (Vehicle) Intersection on CSAH 16 (Valley Creek Rd)

Roadway Information

Description:	CSAH 16 (Valley Creek Rd) & CSAH 25 (Century Ave)
County:	Washington
Area Type:	Suburban
Context Zone:	Residential
Segment Route System:	CSAH
Segment Route No:	16
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	8,800
Minor ADT:	11,400
Total Entering ADT:	20,200



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	29	0	9	0
Density (per mile per yr):	5.8	0	1.8	0
Rate (per MVM):	0.8	0	0.2	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Residential	Commercial	-
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	20,200	≥12,000	★
OR Total Traffic Cross Product:	100,320,000	> 20,000,000	
Leg Configuration:	X	X	
Major Division Type:	Curb	Divided	★
Alignment Skew(degrees):	45	≥10	★
Adjacent Development:	None	Present	★
Major Approach Speed Limit (mph):	50	≥40	-
OR Minor Approach Speed Limit (mph):	50	≥35	★
Major Approach Left Turn Lane Phasing:	Protected	Permitted, Permitted/Protected	
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	-
			★
		Total Stars:	★★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	1	$50,000
				Total Estimated Project Cost	$51,500

Systemic Project	√

Urban (Vehicle) Intersection on CSAH 16 (Valley Creek Rd)

Roadway Information

Description:	CSAH 16 (Valley Creek Rd) & MSAS 101 (Weir Dr)
County:	Washington
Area Type:	Suburban
Context Zone:	Commercial
Segment Route System:	CSAH
Segment Route No:	16
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	16,300
Minor ADT:	8,900
Total Entering ADT:	25,200



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	20	1	7	0
Density (per mile per yr):	4	0.2	1.4	0
Rate (per MVM):	0.4	0	0.2	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Commercial	Commercial	
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	25,200	≥12,000	★
OR Total Traffic Cross Product:	145,070,000	> 20,000,000	★
Leg Configuration:	X	X	
Major Division Type:	Curb	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	Present	Present	-
Major Approach Speed Limit (mph):	40	≥40	★
OR Minor Approach Speed Limit (mph):	30	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	★
			★
		Total Stars:	★★★★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	1	$50,000
			Total Estimated Project Cost		$51,500

Systemic Project	√

Project Page #: 8
Segment ID: 16.002
Date: 3/30/2023

Urban (Vehicle) Intersection on CSAH 16 (Valley Creek Rd)

Roadway Information

Description:	CSAH 16 (Valley Creek Rd) & I 494 (Ramp)
County:	Washington
Area Type:	Suburban
Context Zone:	Commercial
Segment Route System:	CSAH
Segment Route No:	16
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	None
Flasher:	None
Major ADT:	29,100
Minor ADT:	6,050
Total Entering ADT:	20,200



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	38	1	15	1
Density (per mile per yr):	7.6	0.2	3	0.2
Rate (per MVM):	1	0	0.4	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Commercial	Commercial	
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	20,200	≥12,000	★
OR Total Traffic Cross Product:	176,055,000	> 20,000,000	★
Leg Configuration:	X	X	
Major Division Type:	Divided	Divided	★
Alignment Skew(degrees):	15	≥10	★
Adjacent Development:	None	Present	★
Major Approach Speed Limit (mph):	65	≥40	-
OR Minor Approach Speed Limit (mph):	45	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted	Permitted, Permitted/Protected	
1st Major Approach Turn Lane Configuration:	LLTTT	≥2 Left Turn, ≥2 Thru Lane	★
			★
		Total Stars:	★★★★★★★★★

Priority Location	√

List of Strategies Considered

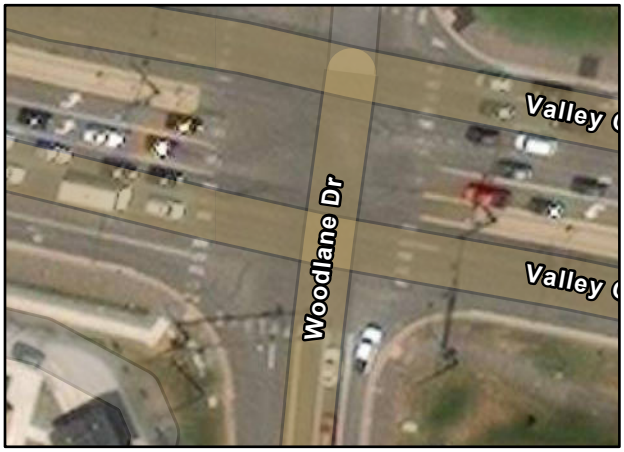
	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	1	$1,500,000
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
			Total Estimated Project Cost		$1,501,500

Systemic Project	√

Urban (Vehicle) Intersection on CSAH 16 (Valley Creek Rd)

Roadway Information

Description:	CSAH 16 (Valley Creek Rd) & MSAS 109 (Woodlane DR)
County:	Washington
Area Type:	Suburban
Context Zone:	Commercial
Segment Route System:	CSAH
Segment Route No:	16
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	31,200
Minor ADT:	10,650
Total Entering ADT:	41,850



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	33	0	9	0
Density (per mile per yr):	6.6	0	1.8	0
Rate (per MVM):	0.4	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Commercial	Commercial	
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	41,850	≥12,000	★
OR Total Traffic Cross Product:	332,280,000	> 20,000,000	★
Leg Configuration:	X	X	
Major Division Type:	Curb	Divided	★
Alignment Skew(degrees):	5	≥10	★
Adjacent Development:	Present	Present	-
Major Approach Speed Limit (mph):	40	≥40	★
OR Minor Approach Speed Limit (mph):	30	≥35	★
Major Approach Left Turn Lane Phasing:	Protected	Permitted, Permitted/Protected	
1st Major Approach Turn Lane Configuration:	LLTTTR	≥2 Left Turn, ≥2 Thru Lane	-
			★
		Total Stars:	★★★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	1	$1,500,000
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
			Total Estimated Project Cost		$1,501,500

Systemic Project	√

Urban (Vehicle) Intersection on CSAH 16 (Valley Creek Rd)

Roadway Information

Description:	CSAH 16 (Valley Creek Rd) & MSAS 105 (Tower Dr)
County:	Washington
Area Type:	Suburban
Context Zone:	Residential
Segment Route System:	CSAH
Segment Route No:	16
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	23,400
Minor ADT:	3,145
Total Entering ADT:	26,545



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	10	0	5	0
Density (per mile per yr):	2	0	1	0
Rate (per MVM):	0.2	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Residential	Commercial	-
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	26,545	≥12,000	★
OR Total Traffic Cross Product:	73,593,000	> 20,000,000	
Leg Configuration:	X	X	★
Major Division Type:	Depressed	Divided	★
Alignment Skew(degrees):	20	≥10	★
Adjacent Development:	Present	Present	★
Major Approach Speed Limit (mph):	50	≥40	★
OR Minor Approach Speed Limit (mph):	40	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	★
			★
		Total Stars:	★★★★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
			Total Estimated Project Cost		$1,500

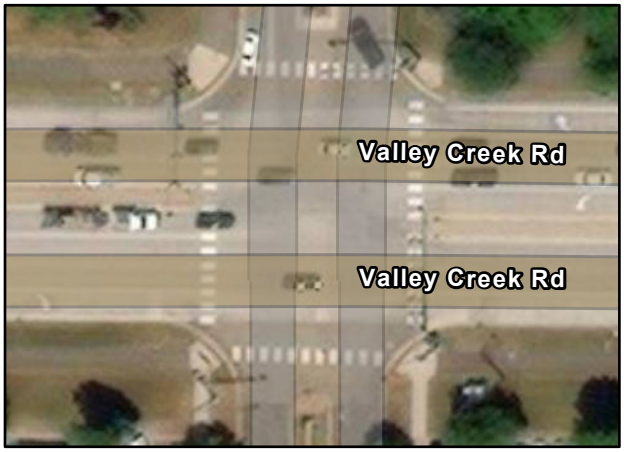
Systemic Project	√

Project Page #:	10
Segment ID:	16.007
Date:	3/30/2023

Urban (Vehicle) Intersection on CSAH 16 (Valley Creek Rd)

Roadway Information

Description: CSAH 16 (Valley Creek Rd) & MSAS 126 (City Centre DR)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 16
Design Type: Traditional
Configuration: X
Traffic Control Device: Thru-Stop
Street Lights: None
Flasher: None
Major ADT: 23,400
Minor ADT: 2,395
Total Entering ADT: 25,795



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	15	0	10	0
Density (per mile per yr):	3	0	2	0
Rate (per MVM):	0.3	0	0.2	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Commercial	Commercial	★
Traffic Control Device:	Thru-Stop	Signal	-
Entering ADT(vpd):	25,795	≥12,000	★
OR Total Traffic Cross Product:	56,043,000	> 20,000,000	
Leg Configuration:	X	X	★
Major Division Type:	Depressed	Divided	★
Alignment Skew(degrees):	0	≥10	-
Adjacent Development:	Present	Present	★
Major Approach Speed Limit (mph):	50	≥40	★
OR Minor Approach Speed Limit (mph):	30	≥35	
Major Approach Left Turn Lane Phasing:	NA	Permitted, Permitted/Protected	-
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★★★

Priority Location	√

List of Strategies Considered

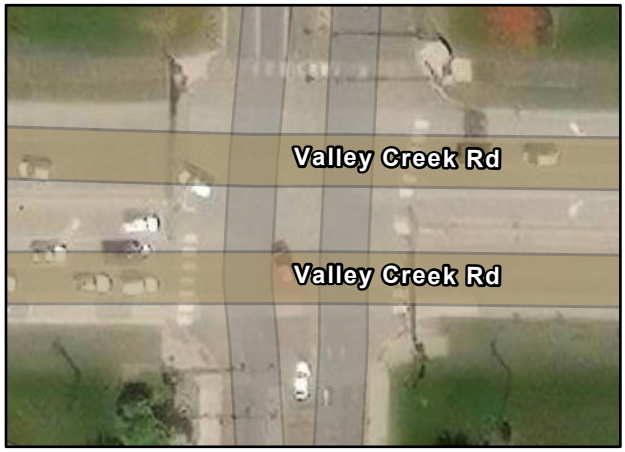
	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	1	$15,000
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	1	$3,500
Confirmation Lights:	Proactive	$1,500	Per Intersection	0	$0
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
				Total Estimated Project Cost	$18,500

Systemic Project	√

Urban (Vehicle) Intersection on CSAH 16 (Valley Creek Rd)

Roadway Information

Description: CSAH 16 (Valley Creek Rd) & MSAS 132 (Donegal Dr)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 16
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 23,500
Minor ADT: 2,395
Total Entering ADT: 25,895



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	18	0	5	0
Density (per mile per yr):	3.6	0	1	0
Rate (per MVM):	0.4	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Commercial	Commercial	
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	25,895	≥12,000	★
OR Total Traffic Cross Product:	56,282,500	> 20,000,000	★
Leg Configuration:	X	X	
Major Division Type:	Curb	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	None	Present	-
Major Approach Speed Limit (mph):	50	≥40	-
OR Minor Approach Speed Limit (mph):	50	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	★
			★
		Total Stars:	★★★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
				Total Estimated Project Cost	$1,500

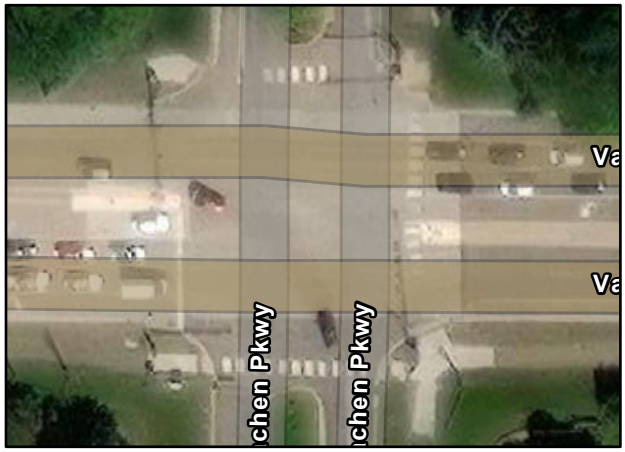
Systemic Project	√

Project Page #: 24
Segment ID: 16.009
Date: 3/30/2023

Urban (Vehicle) Intersection on CSAH 16 (Valley Creek Rd)

Roadway Information

Description:	CSAH 16 (Valley Creek Rd) & MSAS 120 (Interlachen PKWY)
County:	Washington
Area Type:	Suburban
Context Zone:	Residential
Segment Route System:	CSAH
Segment Route No:	16
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	21,950
Minor ADT:	2,875
Total Entering ADT:	24,825



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	8	0	5	0
Density (per mile per yr):	1.6	0	1	0
Rate (per MVM):	0.2	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Residential	Commercial	-
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	24,825	≥12,000	★
OR Total Traffic Cross Product:	63,106,250	> 20,000,000	
Leg Configuration:	X	X	
Major Division Type:	Curb	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	None	Present	-
Major Approach Speed Limit (mph):	50	≥40	-
OR Minor Approach Speed Limit (mph):	30	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	★
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
				Total Estimated Project Cost	$1,500

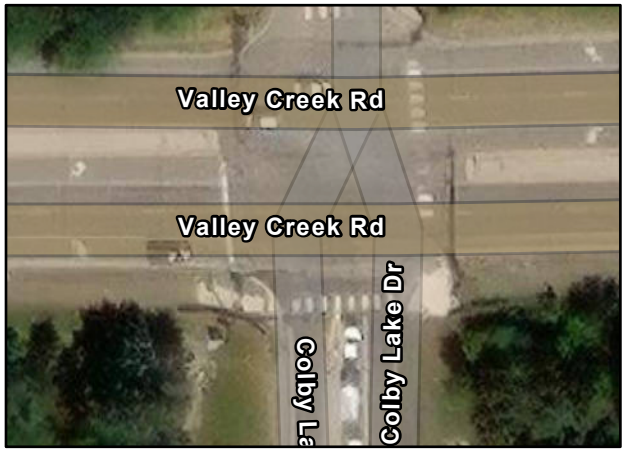
Systemic Project	√

Project Page #: 45
Segment ID: 16.010
Date: 3/30/2023

Urban (Vehicle) Intersection on CSAH 16 (Valley Creek Rd)

Roadway Information

Description:	CSAH 16 (Valley Creek Rd) & MSAS 133 (Colby Lake Dr)
County:	Washington
Area Type:	Suburban
Context Zone:	Residential
Segment Route System:	CSAH
Segment Route No:	16
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	18,500
Minor ADT:	745
Total Entering ADT:	19,245



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	13	0	3	0
Density (per mile per yr):	2.6	0	0.6	0
Rate (per MVM):	0.4	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Residential	Commercial	-
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	19,245	≥12,000	★
OR Total Traffic Cross Product:	13,782,500	> 20,000,000	
Leg Configuration:	X	X	
Major Division Type:	Curb	Divided	★
Alignment Skew(degrees):	45	≥10	★
Adjacent Development:	None	Present	★
Major Approach Speed Limit (mph):	50	≥40	-
OR Minor Approach Speed Limit (mph):	50	≥35	★
Major Approach Left Turn Lane Phasing:	Protected	Permitted, Permitted/Protected	
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	-
			★
		Total Stars:	★★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
			Total Estimated Project Cost		$1,500

Systemic Project	√

Project Page #: 46
Segment ID: 16.011
Date: 3/30/2023

Urban (Vehicle) Intersection on CSAH 16 (Valley Creek Rd)

Roadway Information

Description:	CSAH 16 (Valley Creek Rd) & CSAH 19 (Woodbury Dr)
County:	Washington
Area Type:	Suburban
Context Zone:	Residential
Segment Route System:	CSAH
Segment Route No:	16
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	21,500
Minor ADT:	16,300
Total Entering ADT:	37,800



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	30	1	9	0
Density (per mile per yr):	6	0.2	1.8	0
Rate (per MVM):	0.4	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Residential	Commercial	-
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	37,800	≥12,000	★
OR Total Traffic Cross Product:	350,450,000	> 20,000,000	
Leg Configuration:	X	X	
Major Division Type:	Curb	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	None	Present	-
Major Approach Speed Limit (mph):	55	≥40	-
OR Minor Approach Speed Limit (mph):	50	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	★
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	1	$1,500,000
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
				Total Estimated Project Cost	$1,501,500

Systemic Project	√

Urban (Vehicle) Intersection on CSAH 18 (Bailey RD)

Roadway Information

Description:	CSAH 18 (Bailey RD) & MSAS 109 (Woodlane DR)
County:	Washington
Area Type:	Suburban
Context Zone:	Residential
Segment Route System:	CSAH
Segment Route No:	18
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	12,400
Minor ADT:	4,700
Total Entering ADT:	17,100



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	16	0	7	0
Density (per mile per yr):	3.2	0	1.4	0
Rate (per MVM):	0.5	0	0.2	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Residential	Commercial	-
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	17,100	≥12,000	★
OR Total Traffic Cross Product:	58,280,000	> 20,000,000	
Leg Configuration:	X	X	
Major Division Type:	Undivided	Divided	★
Alignment Skew(degrees):	20	≥10	-
Adjacent Development:	None	Present	★
Major Approach Speed Limit (mph):	55	≥40	-
OR Minor Approach Speed Limit (mph):	40	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	★
1st Major Approach Turn Lane Configuration:	LTR	≥2 Left Turn, ≥2 Thru Lane	-
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
			Total Estimated Project Cost		$1,500

Systemic Project	√

Project Page #: 67
Segment ID: 18.002
Date: 3/30/2023

Urban (Vehicle) Intersection on CSAH 18 (Bailey RD)

Roadway Information

Description:	CSAH 18 (Bailey RD) & MSAS 107 (Pioneer DR)
County:	Washington
Area Type:	Suburban
Context Zone:	Residential
Segment Route System:	CSAH
Segment Route No:	18
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	12,400
Minor ADT:	4,450
Total Entering ADT:	16,850



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	13	0	3	0
Density (per mile per yr):	2.6	0	0.6	0
Rate (per MVM):	0.4	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Residential	Commercial	-
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	16,850	≥12,000	★
OR Total Traffic Cross Product:	55,180,000	> 20,000,000	
Leg Configuration:	X	X	
Major Division Type:	Undivided	Divided	★
Alignment Skew(degrees):	0	≥10	-
Adjacent Development:	None	Present	-
Major Approach Speed Limit (mph):	55	≥40	-
OR Minor Approach Speed Limit (mph):	40	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	★
1st Major Approach Turn Lane Configuration:	LTR	≥2 Left Turn, ≥2 Thru Lane	-
		Total Stars:	★★★★★

Priority Location | √

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
				Total Estimated Project Cost	$1,500

Systemic Project | √

Project Page #: 81
Segment ID: 18.003
Date: 3/30/2023

Urban (Vehicle) Intersection on CSAH 19 (Woodbury DR)

Roadway Information

Description:	CSAH 19 (Woodbury DR) & MSAS 108 (Lake RD)
County:	Washington
Area Type:	Suburban
Context Zone:	Residential
Segment Route System:	CSAH
Segment Route No:	19
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Yield
Street Lights:	Present
Flasher:	None
Major ADT:	9,700
Minor ADT:	8,450
Total Entering ADT:	18,150



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	19	0	4	0
Density (per mile per yr):	3.8	0	0.8	0
Rate (per MVM):	0.6	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Residential	Commercial	-
Traffic Control Device:	Yield	Signal	-
Entering ADT(vpd):	18,150	≥12,000	★
OR Total Traffic Cross Product:	81,965,000	> 20,000,000	
Leg Configuration:	X	X	
Major Division Type:	Depressed	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	None	Present	-
Major Approach Speed Limit (mph):	55	≥40	-
OR Minor Approach Speed Limit (mph):	40	≥35	★
Major Approach Left Turn Lane Phasing:	NA	Permitted, Permitted/Protected	-
1st Major Approach Turn Lane Configuration:	TT	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	1	$3,500
Confirmation Lights:	Proactive	$1,500	Per Intersection	0	$0
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
			Total Estimated Project Cost		$3,500

Systemic Project	√

Project Page #:	82
Segment ID:	19.009
Date:	3/30/2023

Urban (Vehicle) Intersection on CSAH 19 (Woodbury Dr)

Roadway Information

Description:	CSAH 19 (Woodbury Dr) & MSAS 137 (Eagle Valley Rd)
County:	Washington
Area Type:	Suburban
Context Zone:	Residential
Segment Route System:	CSAH
Segment Route No:	19
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	14,850
Minor ADT:	2,745
Total Entering ADT:	17,595



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	18	1	5	0
Density (per mile per yr):	3.6	0.2	1	0
Rate (per MVM):	0.6	0	0.2	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Residential	Commercial	-
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	17,595	≥12,000	★
OR Total Traffic Cross Product:	40,763,250	> 20,000,000	
Leg Configuration:	X	X	
Major Division Type:	Depressed	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	None	Present	-
Major Approach Speed Limit (mph):	55	≥40	-
OR Minor Approach Speed Limit (mph):	30	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	★
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★★★

Priority Location	√

List of Strategies Considered

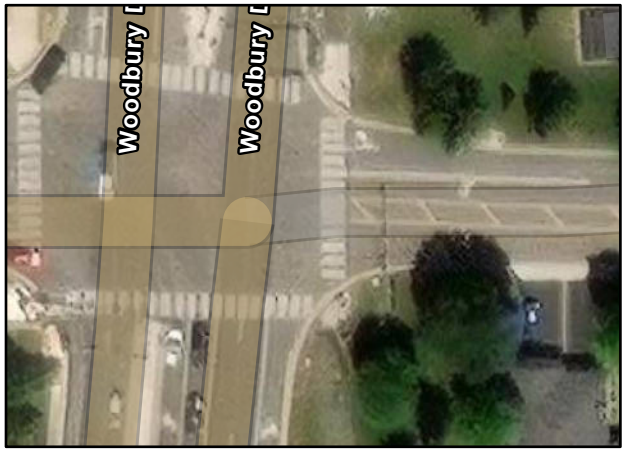
	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
				Total Estimated Project Cost	$1,500

Systemic Project	√

Urban (Vehicle) Intersection on CSAH 19 (Woodbury Dr)

Roadway Information

Description:	CSAH 19 (Woodbury Dr) & MSAS 102 (Tamarack Rd)
County:	Washington
Area Type:	Suburban
Context Zone:	Mixed Use
Segment Route System:	CSAH
Segment Route No:	19
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	23,000
Minor ADT:	4,195
Total Entering ADT:	27,195



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	41	1	19	1
Density (per mile per yr):	8.2	0.2	3.8	0.2
Rate (per MVM):	0.8	0	0.4	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Mixed Use	Commercial	-
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	27,195	≥12,000	★
OR Total Traffic Cross Product:	96,485,000	> 20,000,000	
Leg Configuration:	X	X	
Major Division Type:	Curb	Divided	★
Alignment Skew(degrees):	5	≥10	★
Adjacent Development:	Present	Present	-
Major Approach Speed Limit (mph):	55	≥40	★
OR Minor Approach Speed Limit (mph):	45	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	
1st Major Approach Turn Lane Configuration:	LLTTR	≥2 Left Turn, ≥2 Thru Lane	★
			★
		Total Stars:	★★★★★★★★

Priority Location	√

List of Strategies Considered

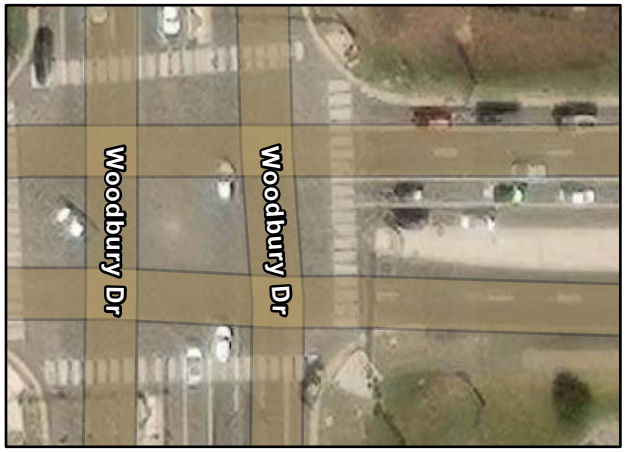
	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
				Total Estimated Project Cost	$1,500

Systemic Project	√

Urban (Vehicle) Intersection on CSAH 19 (Woodbury Dr)

Roadway Information

Description:	CSAH 19 (Woodbury Dr) & MSAS 117 (Hudson Rd)
County:	Washington
Area Type:	Suburban
Context Zone:	Commercial
Segment Route System:	CSAH
Segment Route No:	19
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	29,750
Minor ADT:	17,550
Total Entering ADT:	47,300



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	55	1	9	0
Density (per mile per yr):	11	0.2	1.8	0
Rate (per MVM):	0.6	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Commercial	Commercial	
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	47,300	≥12,000	★
OR Total Traffic Cross Product:	522,112,500	> 20,000,000	★
Leg Configuration:	X	X	
Major Division Type:	Depressed	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	Present	Present	-
Major Approach Speed Limit (mph):	55	≥40	★
OR Minor Approach Speed Limit (mph):	50	≥35	★
Major Approach Left Turn Lane Phasing:	Protected	Permitted, Permitted/Protected	
1st Major Approach Turn Lane Configuration:	LLTTTR	≥2 Left Turn, ≥2 Thru Lane	-
			★
		Total Stars:	★★★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	1	$1,500,000
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
			Total Estimated Project Cost		$1,501,500

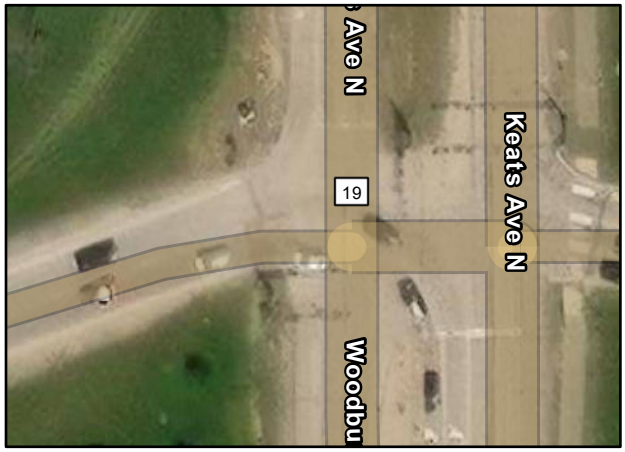
Systemic Project	√

Project Page #: 26
Segment ID: 19.014
Date: 3/30/2023

Urban (Vehicle) Intersection on CSAH 19 (Keats Ave N)

Roadway Information

Description:	CSAH 19 (Keats Ave N) & I 94 (Ramp)
County:	Washington
Area Type:	Suburban
Context Zone:	Commercial
Segment Route System:	CSAH
Segment Route No:	19
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	None
Flasher:	None
Major ADT:	23,950
Minor ADT:	6,125
Total Entering ADT:	36,500



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	47	0	7	0
Density (per mile per yr):	9.4	0	1.4	0
Rate (per MVM):	0.7	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Commercial	Commercial	
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	36,500	≥12,000	★
OR Total Traffic Cross Product:	146,693,750	> 20,000,000	★
Leg Configuration:	X	X	
Major Division Type:	Divided	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	None	Present	-
Major Approach Speed Limit (mph):	65	≥40	-
OR Minor Approach Speed Limit (mph):	45	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted	Permitted, Permitted/Protected	
1st Major Approach Turn Lane Configuration:	LLTT	≥2 Left Turn, ≥2 Thru Lane	★
			★
		Total Stars:	★★★★★★★★

Priority Location	√

List of Strategies Considered

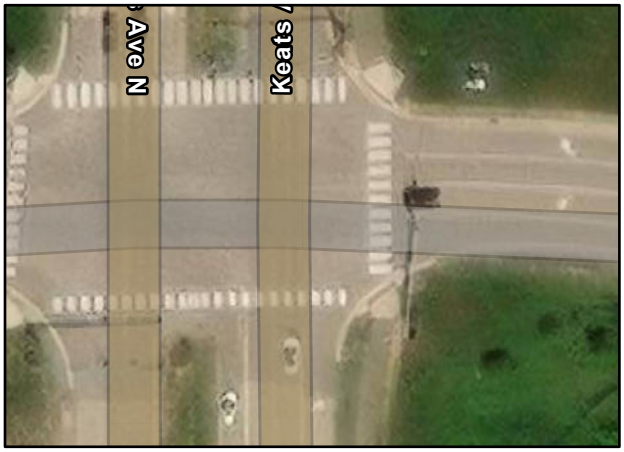
	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	1	$1,500,000
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
				Total Estimated Project Cost	$1,501,500

Systemic Project	√

Urban (Vehicle) Intersection on CSAH 19 (Keats Ave N)

Roadway Information

Description: CSAH 19 (Keats Ave N) & MSAS 120 (Hudson Blvd)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 19
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: None
Flasher: None
Major ADT: 9,850
Minor ADT: 4,125
Total Entering ADT: 13,975



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	13	0	8	0
Density (per mile per yr):	2.6	0	1.6	0
Rate (per MVM):	0.5	0	0.3	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Residential	Commercial	-
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	13,975	≥12,000	★
OR Total Traffic Cross Product:	40,631,250	> 20,000,000	
Leg Configuration:	X	X	
Major Division Type:	Depressed	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	None	Present	-
Major Approach Speed Limit (mph):	55	≥40	-
OR Minor Approach Speed Limit (mph):	50	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	★
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★★★

Priority Location | √

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
			Total Estimated Project Cost		$1,500

Systemic Project | √

Project Page #: 51
Segment ID: 19.016
Date: 3/30/2023

Urban (Vehicle) Intersection on CSAH 20 (Jamaica AVE S)

Roadway Information

Description:	CSAH 20 (Jamaica AVE S) & CSAH 22 (70th ST S)
County:	Washington
Area Type:	Suburban
Context Zone:	Residential
Segment Route System:	CSAH
Segment Route No:	22
Design Type:	Roundabout
Configuration:	X
Traffic Control Device:	Yield
Street Lights:	Present
Flasher:	None
Major ADT:	5,950
Minor ADT:	5,375
Total Entering ADT:	11,325



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	9	0	2	0
Density (per mile per yr):	1.8	0	0.4	0
Rate (per MVM):	0.4	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Residential	Commercial	-
Traffic Control Device:	Yield	Signal	-
Entering ADT(vpd):	11,325	≥12,000	★
OR Total Traffic Cross Product:	31,981,250	> 20,000,000	
Leg Configuration:	X	X	
Major Division Type:	Curb	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	None	Present	-
Major Approach Speed Limit (mph):	50	≥40	-
OR Minor Approach Speed Limit (mph):	45	≥35	★
Major Approach Left Turn Lane Phasing:	NA	Permitted, Permitted/Protected	-
1st Major Approach Turn Lane Configuration:	TT	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	1	$3,500
Confirmation Lights:	Proactive	$1,500	Per Intersection	0	$0
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
				Total Estimated Project Cost	$3,500

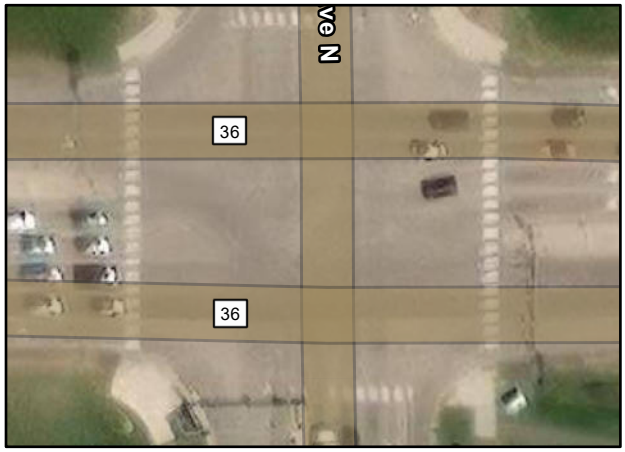
Systemic Project	√

Project Page #:	84
Segment ID:	22.008
Date:	3/30/2023

Urban (Vehicle) Intersection on MN 36

Roadway Information

Description:	MN 36 & CSAH 24 (Osgood Ave N)
County:	Washington
Area Type:	Suburban
Context Zone:	Commercial
Segment Route System:	CSAH
Segment Route No:	24
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	29,215
Minor ADT:	12,050
Total Entering ADT:	41,265



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	67	0	21	0
Density (per mile per yr):	13.4	0	4.2	0
Rate (per MVM):	0.9	0	0.3	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Commercial	Commercial	
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	41,265	≥12,000	★
OR Total Traffic Cross Product:	352,040,750	> 20,000,000	★
Leg Configuration:	X	X	
Major Division Type:	Curb	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	Present	Present	-
Major Approach Speed Limit (mph):	50	≥40	★
OR Minor Approach Speed Limit (mph):	35	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	
1st Major Approach Turn Lane Configuration:	LLTTR	≥2 Left Turn, ≥2 Thru Lane	★
			★
		Total Stars:	★★★★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	1	$1,500,000
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
			Total Estimated Project Cost		$1,501,500

Systemic Project	√

Urban (Vehicle) Intersection on CSAH 24 (Osgood Ave N)

Roadway Information

Description: CSAH 24 (Osgood Ave N) & CSAH 26 (60th ST N)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 24
Design Type: Traditional
Configuration: X
Traffic Control Device: Thru-Stop
Street Lights: None
Flasher: None
Major ADT: 11,200
Minor ADT: 890
Total Entering ADT: 12,090



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	4	0	3	0
Density (per mile per yr):	0.8	0	0.6	0
Rate (per MVM):	0.2	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Commercial	Commercial	★
Traffic Control Device:	Thru-Stop	Signal	-
Entering ADT(vpd):	12,090	≥12,000	★
OR Total Traffic Cross Product:	9,968,000	> 20,000,000	
Leg Configuration:	X	X	★
Major Division Type:	Curb	Divided	★
Alignment Skew(degrees):	0	≥10	-
Adjacent Development:	None	Present	-
Major Approach Speed Limit (mph):	35	≥40	-
OR Minor Approach Speed Limit (mph):	30	≥35	
Major Approach Left Turn Lane Phasing:	Permitted	Permitted, Permitted/Protected	★
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★★

Priority Location √

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	1	$15,000
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	1	$3,500
Confirmation Lights:	Proactive	$1,500	Per Intersection	0	$0
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
			Total Estimated Project Cost		$18,500

Systemic Project √

Project Page #: 71
Segment ID: 24.005
Date: 3/30/2023

Urban (Vehicle) Intersection on CSAH 72 (Century Ave)

Roadway Information

Description:	CSAH 72 (Century Ave) & MSAS 114 (Upper Afton Rd)
County:	Washington
Area Type:	Suburban
Context Zone:	Mixed Use
Segment Route System:	CSAH
Segment Route No:	25
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	14,350
Minor ADT:	3,800
Total Entering ADT:	18,150



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	24	0	8	0
Density (per mile per yr):	4.8	0	1.6	0
Rate (per MVM):	0.7	0	0.2	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Mixed Use	Commercial	-
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	18,150	≥12,000	★
OR Total Traffic Cross Product:	54,530,000	> 20,000,000	
Leg Configuration:	X	X	
Major Division Type:	Undivided	Divided	★
Alignment Skew(degrees):	25	≥10	-
Adjacent Development:	None	Present	★
Major Approach Speed Limit (mph):	45	≥40	-
OR Minor Approach Speed Limit (mph):	30	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	★
1st Major Approach Turn Lane Configuration:	LTT	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
			Total Estimated Project Cost		$1,500

Systemic Project	√

Urban (Vehicle) Intersection on MN 120 (Century Ave N)

Roadway Information

Description:	MN 120 (Century Ave N) & CSAH 72 (Century Ave)
County:	Washington
Area Type:	Suburban
Context Zone:	Commercial
Segment Route System:	CSAH
Segment Route No:	25
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Thru-Stop
Street Lights:	Present
Flasher:	None
Major ADT:	17,050
Minor ADT:	400
Total Entering ADT:	17,450



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	12	1	7	1
Density (per mile per yr):	2.4	0.2	1.4	0.2
Rate (per MVM):	0.4	0	0.2	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Commercial	Commercial	
Traffic Control Device:	Thru-Stop	Signal	★
Entering ADT(vpd):	17,450	≥12,000	-
OR Total Traffic Cross Product:	6,820,000	> 20,000,000	★
Leg Configuration:	X	X	
Major Division Type:	Mixed	Divided	★
Alignment Skew(degrees):	10	≥10	★
Adjacent Development:	None	Present	-
Major Approach Speed Limit (mph):	45	≥40	-
OR Minor Approach Speed Limit (mph):	30	≥35	★
Major Approach Left Turn Lane Phasing:	NA	Permitted, Permitted/Protected	-
1st Major Approach Turn Lane Configuration:	LTT	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	1	$3,500
Confirmation Lights:	Proactive	$1,500	Per Intersection	0	$0
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
				Total Estimated Project Cost	$3,500

Systemic Project	√

Project Page #: 72
Segment ID: 25.007
Date: 3/30/2023

Urban (Vehicle) Intersection on MN 120 (Century Ave)

Roadway Information

Description:	MN 120 (Century Ave) & CSAH 15 (County Rd E)
County:	Washington
Area Type:	Urban
Context Zone:	Commercial
Segment Route System:	CSAH
Segment Route No:	27
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	10,650
Minor ADT:	10,650
Total Entering ADT:	21,300



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	60	1	13	0
Density (per mile per yr):	12	0.2	2.6	0
Rate (per MVM):	1.5	0	0.3	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Commercial	Commercial	
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	21,300	≥12,000	★
OR Total Traffic Cross Product:	113,422,500	> 20,000,000	★
Leg Configuration:	X	X	
Major Division Type:	Undivided	Divided	★
Alignment Skew(degrees):	0	≥10	-
Adjacent Development:	Present	Present	-
Major Approach Speed Limit (mph):	45	≥40	★
OR Minor Approach Speed Limit (mph):	35	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	
1st Major Approach Turn Lane Configuration:	LTR	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	1	$50,000
				Total Estimated Project Cost	$51,500

Systemic Project	√

Urban (Vehicle) Intersection on US 61 (Forest Blvd N)

Roadway Information

Description:	US 61 (Forest Blvd N) & CSAH 32 (11th Ave SW)
County:	Washington
Area Type:	Suburban
Context Zone:	Commercial
Segment Route System:	CSAH
Segment Route No:	32
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	17,450
Minor ADT:	7,750
Total Entering ADT:	25,200



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	12	0	4	0
Density (per mile per yr):	2.4	0	0.8	0
Rate (per MVM):	0.3	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Commercial	Commercial	
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	25,200	≥12,000	★
OR Total Traffic Cross Product:	135,237,500	> 20,000,000	★
Leg Configuration:	X	X	
Major Division Type:	Depressed	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	None	Present	-
Major Approach Speed Limit (mph):	50	≥40	-
OR Minor Approach Speed Limit (mph):	40	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted	Permitted, Permitted/Protected	
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	★
			★
		Total Stars:	★★★★★★★★

Priority Location	√

List of Strategies Considered

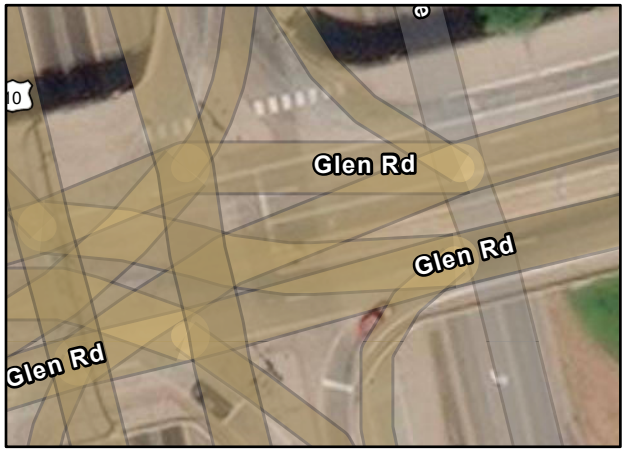
	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	1	$50,000
				Total Estimated Project Cost	$51,500

Systemic Project	√

Urban (Vehicle) Intersection on CSAH 38 (Glen Rd)

Roadway Information

Description:	CSAH 38 (Glen Rd) & US 61 (Ramp)
County:	Washington
Area Type:	Suburban
Context Zone:	Residential
Segment Route System:	CSAH
Segment Route No:	38
Design Type:	SPI
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	3,850
Minor ADT:	2,424
Total Entering ADT:	6,274



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	22	0	6	0
Density (per mile per yr):	4.4	0	1.2	0
Rate (per MVM):	1.9	0	0.5	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Residential	Commercial	-
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	6,274	≥12,000	-
OR Total Traffic Cross Product:	9,332,400	> 20,000,000	
Leg Configuration:	X	X	★
Major Division Type:	Curb	Divided	★
Alignment Skew(degrees):	0	≥10	-
Adjacent Development:	None	Present	-
Major Approach Speed Limit (mph):	30	≥40	★
OR Minor Approach Speed Limit (mph):	55	≥35	
Major Approach Left Turn Lane Phasing:	Protected	Permitted, Permitted/Protected	-
1st Major Approach Turn Lane Configuration:	LTTR	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

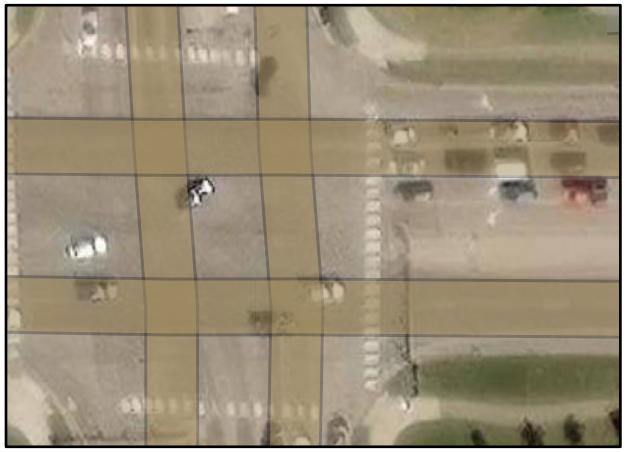
	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	0	$0
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
			Total Estimated Project Cost		$1,500

Systemic Project	√

Urban (Vehicle) Intersection on MN 36

Roadway Information

Description:	MN 36 & CR 66 (Greeley ST)
County:	Washington
Area Type:	Suburban
Context Zone:	Mixed Use
Segment Route System:	CR
Segment Route No:	66
Design Type:	Traditional
Configuration:	X
Traffic Control Device:	Signal
Street Lights:	Present
Flasher:	None
Major ADT:	31,512
Minor ADT:	8,550
Total Entering ADT:	40,062



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	20	0	5	0
Density (per mile per yr):	4	0	1	0
Rate (per MVM):	0.3	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Context Zone:	Mixed Use	Commercial	-
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	40,062	≥12,000	★
OR Total Traffic Cross Product:	269,427,600	> 20,000,000	
Leg Configuration:	X	X	
Major Division Type:	Curb	Divided	★
Alignment Skew(degrees):	0	≥10	★
Adjacent Development:	None	Present	-
Major Approach Speed Limit (mph):	55	≥40	-
OR Minor Approach Speed Limit (mph):	30	≥35	★
Major Approach Left Turn Lane Phasing:	Permitted/Protected	Permitted, Permitted/Protected	★
1st Major Approach Turn Lane Configuration:	LLTTR	≥2 Left Turn, ≥2 Thru Lane	★
		Total Stars:	★★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Lighting:	Proactive	$15,000	Each	0	$0
Roundabout:	Proactive	$3,000,000	Per Intersection	0	$0
J-Turn:	Proactive	$1,000,000	Per Intersection	0	$0
Signalized J-Turn:	Proactive	$1,500,000	Per Intersection	1	$1,500,000
Thru-Stop to All-Way Stop/Yield:	Proactive	$7,500	Per Intersection	0	$0
Upgrade Signs & Markings:	Proactive	$3,500	Per Intersection	0	$0
Confirmation Lights:	Proactive	$1,500	Per Intersection	1	$1,500
Upgrade Signal Hardware:	Proactive	$50,000	Per Intersection	0	$0
			Total Estimated Project Cost		$1,501,500

Systemic Project	√

Urban (Bike/Ped) Intersection on CSAH 2 (Broadway Ave)

Roadway Information

Description: CSAH 2 (Broadway Ave) & MSAS 137 (Everton Ave N)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 2
Design Type: Traditional
Configuration: T
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 13,900
Minor ADT: 850
Total Entering ADT: 14,750



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	7	0	3	0
Density (per mile per yr):	1.4	0	0.6	0
Rate (per MVM):	0.3	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	14,750	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	5	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	1	$10,000
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$28,000

Systemic Project	√

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Project Page #: 1
Segment ID: 2.002
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 2 (W Broadway Ave)

Roadway Information

Description: CSAH 2 (W Broadway Ave) & CSAH 33 (Everton Ave N)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 2
Design Type: Traditional
Configuration: T
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 20,200
Minor ADT: 2,280
Total Entering ADT: 22,480



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	0	0	0	0
Density (per mile per yr):	0	0	0	0
Rate (per MVM):	0	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	22,480	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	5	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	1	$25,000
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$43,000

Systemic Project	√

Project Page #: 2
Segment ID: 2.003
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 2 (Broadway Ave W)

Roadway Information

Description: CSAH 2 (Broadway Ave W) & MSAS 142 (19th St SW)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 2
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 20,200
Minor ADT: 2,220
Total Entering ADT: 22,420



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	6	0	3	0
Density (per mile per yr):	1.2	0	0.6	0
Rate (per MVM):	0.1	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	22,420	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	1	$25,000
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$31,000

Systemic Project	√

Project Page #: 3
Segment ID: 2.004
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 2 (Broadway Ave)

Roadway Information

Description: CSAH 2 (Broadway Ave) & MSAS 102 (12th St SW)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 2
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 23,300
Minor ADT: 15,000
Total Entering ADT: 38,300



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	35	1	12	0
Density (per mile per yr):	7	0.2	2.4	0
Rate (per MVM):	0.5	0	0.2	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	38,300	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$6,000

Systemic Project	√

Project Page #: 4
Segment ID: 2.006
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 2 (Broadway Ave)

Roadway Information

Description: CSAH 2 (Broadway Ave) & MSAS 104 (4th St SW)
County: Washington
Area Type: Urban
Context Zone: Mixed Use
Segment Route System: CSAH
Segment Route No: 2
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 18,750
Minor ADT: 3,700
Total Entering ADT: 22,450



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	6	0	3	0
Density (per mile per yr):	1.2	0	0.6	0
Rate (per MVM):	0.1	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	22,450	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	5	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	1	$25,000
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$31,000

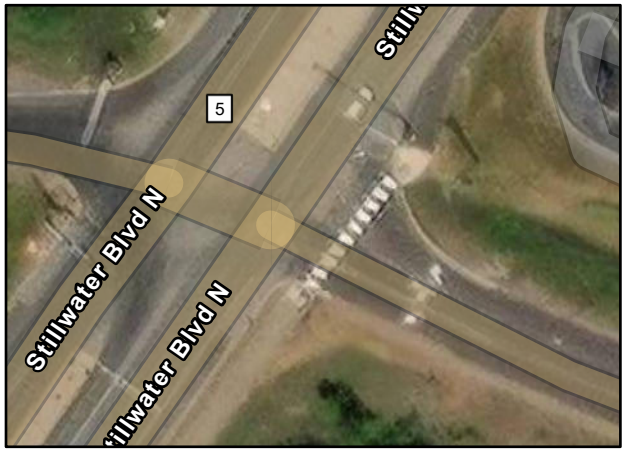
Systemic Project	√

Project Page #: 27
Segment ID: 2.007
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 5 (Stillwater Blvd N)

Roadway Information

Description: CSAH 5 (Stillwater Blvd N) & Westbound TH 36 (Ramp)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 5
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 21,600
Minor ADT: 2,544
Total Entering ADT: 24,144



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	10	0	5	0
Density (per mile per yr):	2	0	1	0
Rate (per MVM):	0.2	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	24,144	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	5	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	1	$25,000
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$43,000

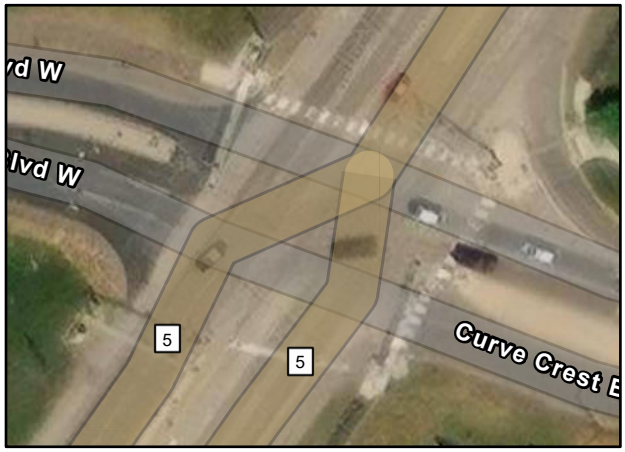
Systemic Project	√

Project Page #: 5
Segment ID: 5.001
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 5 (Stillwater Blvd N)

Roadway Information

Description: CSAH 5 (Stillwater Blvd N) & MSAS 112 (Curve Crest Blvd)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 5
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 17,350
Minor ADT: 6,500
Total Entering ADT: 23,850



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	14	0	6	0
Density (per mile per yr):	2.8	0	1.2	0
Rate (per MVM):	0.3	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	23,850	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$6,000

Systemic Project	√

Project Page #: 6
Segment ID: 5.002
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 5 (Stillwater Blvd N)

Roadway Information

Description: CSAH 5 (Stillwater Blvd N) & MSAS 119 (Orleans St)
County: Washington
Area Type: Suburban
Context Zone: Mixed Use
Segment Route System: CSAH
Segment Route No: 5
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 14,600
Minor ADT: 3,595
Total Entering ADT: 18,195



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	10	1	5	0
Density (per mile per yr):	2	0.2	1	0
Rate (per MVM):	0.3	0	0.2	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	18,195	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$6,000

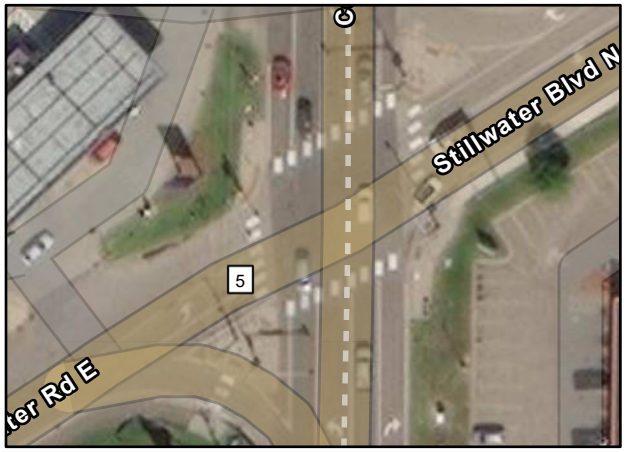
Systemic Project	√

Project Page #: 28
Segment ID: 5.003
Date: 3/30/2023

Urban (Bike/Ped) Intersection on MN 120 (Century Ave N)

Roadway Information

Description: MN 120 (Century Ave N) & MN 5 (Stillwater Rd)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 6
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 13,300
Minor ADT: 5,550
Total Entering ADT: 18,850



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	27	0	15	0
Density (per mile per yr):	5.4	0	3	0
Rate (per MVM):	0.8	0	0.4	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	18,850	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	4	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	1	$10,000
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$16,000

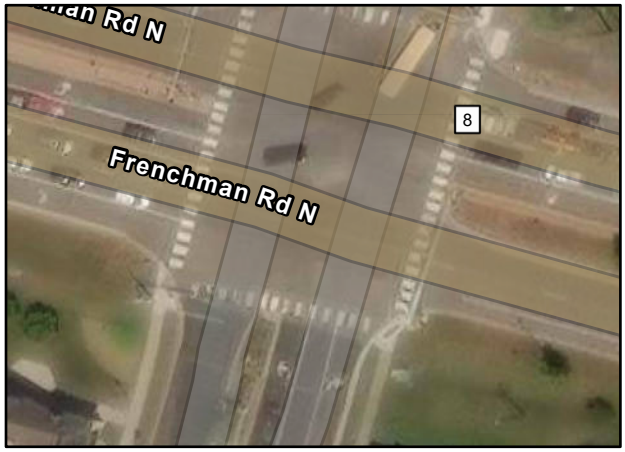
Systemic Project	√

Project Page #: 7
Segment ID: 6.001
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 8 (Frenchman Rd N)

Roadway Information

Description: CSAH 8 (Frenchman Rd N) & MSAS 116 (Victor Hugo Blvd)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 8
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 16,600
Minor ADT: 90
Total Entering ADT: 16,690



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	12	1	2	0
Density (per mile per yr):	2.4	0.2	0.4	0
Rate (per MVM):	0.4	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	16,690	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	7	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$6,000

Systemic Project	√

Project Page #: 26
Segment ID: 8.001
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 8 (Frenchman Rd N)

Roadway Information

Description: CSAH 8 (Frenchman Rd N) & MSAS 117 (Everton AVE N)
County: Washington
Area Type: Suburban
Context Zone: Mixed Use
Segment Route System: CSAH
Segment Route No: 8
Design Type: Traditional
Configuration: X
Traffic Control Device: Thru-Stop
Street Lights: Present
Flasher: None
Major ADT: 16,600
Minor ADT: 1,120
Total Entering ADT: 17,720



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	5	0	1	0
Density (per mile per yr):	1	0	0.2	0
Rate (per MVM):	0.2	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Thru-Stop	Signal	-
Entering ADT(vpd):	17,720	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	1	$75,000
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	0	$0
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	0	$0
				Total Estimated Project Cost	$75,000

Systemic Project	√

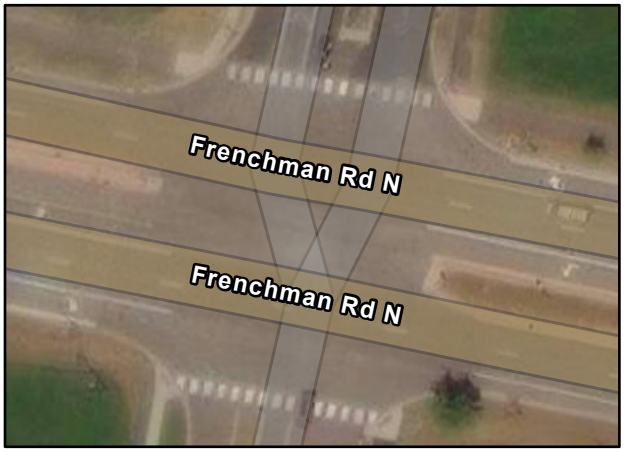
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Project Page #: 62
Segment ID: 8.002
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 8 (Frenchman Rd N)

Roadway Information

Description: CSAH 8 (Frenchman Rd N) & MSAS 111 (Oneka PKWY N)
County: Washington
Area Type: Suburban
Context Zone: Agriculture
Segment Route System: CSAH
Segment Route No: 8
Design Type: Traditional
Configuration: X
Traffic Control Device: Thru-Stop
Street Lights: Present
Flasher: None
Major ADT: 16,600
Minor ADT: 1,395
Total Entering ADT: 17,995



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	4	0	1	0
Density (per mile per yr):	0.8	0	0.2	0
Rate (per MVM):	0.1	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Thru-Stop	Signal	-
Entering ADT(vpd):	17,995	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	1	$75,000
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	0	$0
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	0	$0
				Total Estimated Project Cost	$75,000

Systemic Project	√

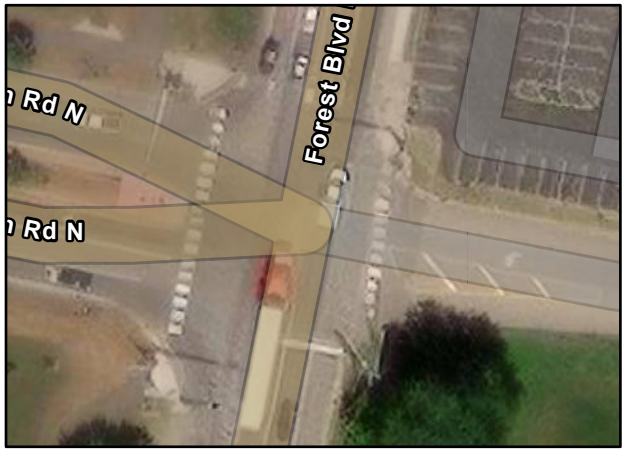
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Project Page #: 63
Segment ID: 8.003
Date: 3/30/2023

Urban (Bike/Ped) Intersection on US 61

Roadway Information

Description: US 61 & CSAH 8 (Frenchman Rd N)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 8
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 16,200
Minor ADT: 8,345
Total Entering ADT: 24,545



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	30	1	5	0
Density (per mile per yr):	6	0.2	1	0
Rate (per MVM):	0.7	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	24,545	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	5	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	1	$25,000
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$43,000

Systemic Project	√

Project Page #: 29
Segment ID: 8.004
Date: 3/30/2023

Urban (Bike/Ped) Intersection on US 61 (Forest Blvd)

Roadway Information

Description: US 61 (Forest Blvd) & CSAH 8 (Jody AVE N)
County: Washington
Area Type: Suburban
Context Zone: Mixed Use
Segment Route System: CSAH
Segment Route No: 8
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 16,050
Minor ADT: 3,525
Total Entering ADT: 19,575



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	14	0	3	0
Density (per mile per yr):	2.8	0	0.6	0
Rate (per MVM):	0.4	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	19,575	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	4	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	1	$10,000
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$16,000

Systemic Project	√

Project Page #: 30
Segment ID: 8.005
Date: 3/30/2023

Urban (Bike/Ped) Intersection on MN 120 (Century Ave N)

Roadway Information

Description: MN 120 (Century Ave N) & CSAH 34 (Minnehaha Ave E)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 10
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 13,600
Minor ADT: 10,200
Total Entering ADT: 23,800



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	38	0	16	0
Density (per mile per yr):	7.6	0	3.2	0
Rate (per MVM):	0.9	0	0.4	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	23,800	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	4	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	1	$10,000
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$28,000

Systemic Project	√

Project Page #: 8
Segment ID: 10.001
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 10 (10th ST N)

Roadway Information

Description: CSAH 10 (10th ST N) & MSAS 236 (Greenway Ave)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 10
Design Type: Traditional
Configuration: T
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 13,500
Minor ADT: 1,875
Total Entering ADT: 15,375



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	7	0	0	0
Density (per mile per yr):	1.4	0	0	0
Rate (per MVM):	0.2	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	15,375	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	3	≥4	-
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	1	$10,000
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$16,000

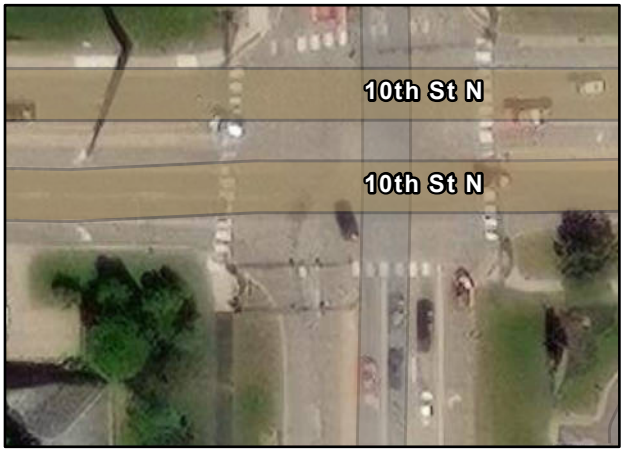
Systemic Project	√

Project Page #: 64
Segment ID: 10.002
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 10 (10th ST N)

Roadway Information

Description: CSAH 10 (10th ST N) & MSAS 121 (Hadley Ave N)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 10
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 19,500
Minor ADT: 10,500
Total Entering ADT: 30,000



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	53	0	19	0
Density (per mile per yr):	10.6	0	3.8	0
Rate (per MVM):	1	0	0.3	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	30,000	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$18,000

Systemic Project	√

this is the same intersection as 10.004

Project Page #: 9
Segment ID: 10.003
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 10 (10th ST N)

Roadway Information

Description: CSAH 10 (10th ST N) & SB I-694 (Ramp)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 10
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 25,500
Minor ADT: 3,925
Total Entering ADT: 29,425



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	47	1	20	1
Density (per mile per yr):	9.4	0.2	4	0.2
Rate (per MVM):	0.9	0	0.4	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	29,425	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	4	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	1	$10,000
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$28,000

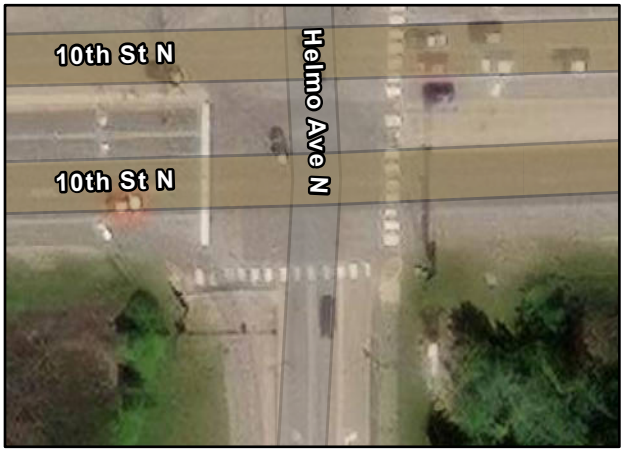
Systemic Project	√

Project Page #: 10
Segment ID: 10.005
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 10 (10th ST N)

Roadway Information

Description: CSAH 10 (10th ST N) & MSAS 237 (Helmo AVE N)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 10
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 16,050
Minor ADT: 6,650
Total Entering ADT: 22,700



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	17	0	2	0
Density (per mile per yr):	3.4	0	0.4	0
Rate (per MVM):	0.4	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	22,700	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	7	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$6,000

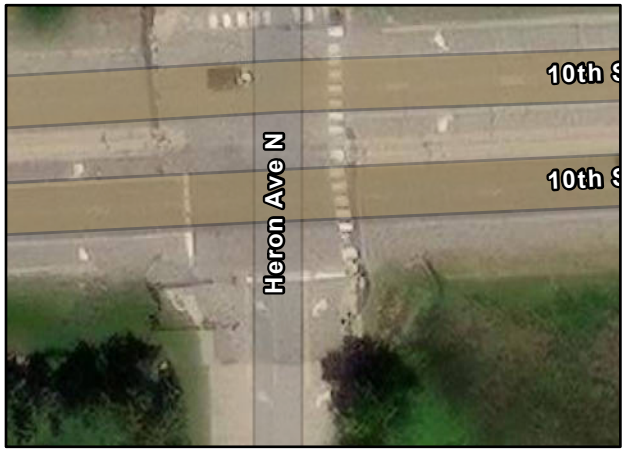
Systemic Project	√

Project Page #: 11
Segment ID: 10.007
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 10 (10th ST N)

Roadway Information

Description: CSAH 10 (10th ST N) & M 457 (Heron Ave N)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 10
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 11,300
Minor ADT: 90
Total Entering ADT: 11,390



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	4	0	2	0
Density (per mile per yr):	0.8	0	0.4	0
Rate (per MVM):	0.2	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	11,390	≥12,000	-
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	1	$10,000
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$16,000

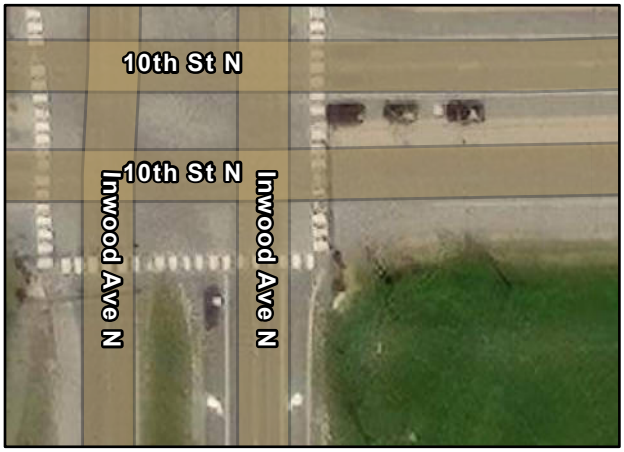
Systemic Project	√

Project Page #: 79
Segment ID: 10.008
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 13 (Inwood Ave N)

Roadway Information

Description: CSAH 13 (Inwood Ave N) & CSAH 10 (10th ST N)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 10
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 11,300
Minor ADT: 10,300
Total Entering ADT: 21,600



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	6	0	4	0
Density (per mile per yr):	1.2	0	0.8	0
Rate (per MVM):	0.2	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	21,600	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$18,000

Systemic Project	√

Project Page #: 31
Segment ID: 10.009
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 12 (Stillwater Rd)

Roadway Information

Description: CSAH 12 (Stillwater Rd) & CSAH 29 (Hilton TRL N)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 12
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 8,600
Minor ADT: 3,397
Total Entering ADT: 13,696



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	4	0	1	0
Density (per mile per yr):	0.8	0	0.2	0
Rate (per MVM):	0.2	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	13,696	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	4	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	1	$10,000
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$28,000

Systemic Project	√

Project Page #: 32
Segment ID: 12.004
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 22 (70th St S)

Roadway Information

Description: CSAH 22 (70th St S) & CSAH 13 (Hinton AVE S)
County: Washington
Area Type: Suburban
Context Zone: Mixed Use
Segment Route System: CSAH
Segment Route No: 13
Design Type: Roundabout
Configuration: X
Traffic Control Device: Yield
Street Lights: None
Flasher: None
Major ADT: 7,600
Minor ADT: 6,400
Total Entering ADT: 14,000



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	23	1	8	0
Density (per mile per yr):	4.6	0.2	1.6	0
Rate (per MVM):	0.9	0	0.3	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Yield	Signal	-
Entering ADT(vpd):	14,000	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	5	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	1	$25,000
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	1	$10,000
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	0	$0
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	0	$0
				Total Estimated Project Cost	$35,000

Systemic Project	√

Project Page #: 33
Segment ID: 13.001
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 13 (Radio DR)

Roadway Information

Description: CSAH 13 (Radio DR) & MSAS 141 (Hingis PKWY)
County: Washington
Area Type: Suburban
Context Zone: Campus
Segment Route System: CSAH
Segment Route No: 13
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 9,500
Minor ADT: 3,900
Total Entering ADT: 13,400



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	16	0	7	0
Density (per mile per yr):	3.2	0	1.4	0
Rate (per MVM):	0.7	0	0.3	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	13,400	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	7	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$6,000

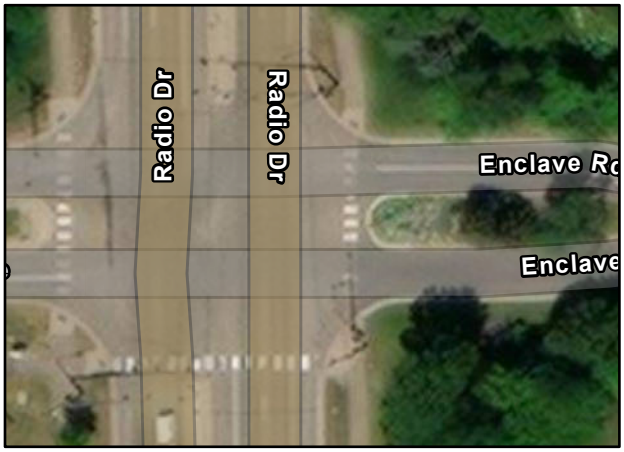
Systemic Project	√

Project Page #: 34
Segment ID: 13.006
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 13 (Radio DR)

Roadway Information

Description: CSAH 13 (Radio DR) & M 645 (Commonwealth Ave)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 13
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 11,400
Minor ADT: 90
Total Entering ADT: 11,490



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	2	0	0	0
Density (per mile per yr):	0.4	0	0	0
Rate (per MVM):	0.1	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	11,490	≥12,000	-
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$6,000

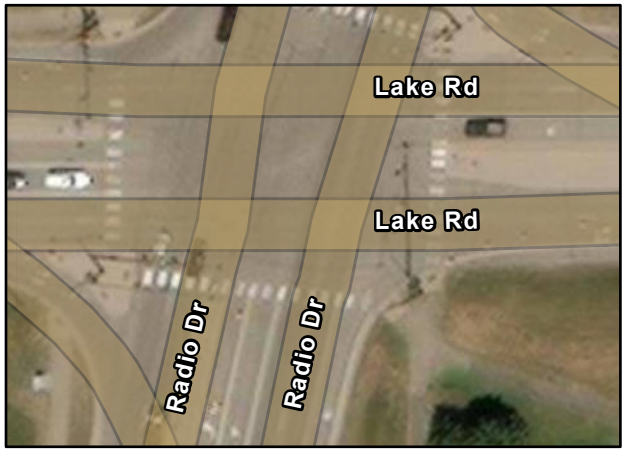
Systemic Project	√

Project Page #: 80
Segment ID: 13.008
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 13 (Radio DR)

Roadway Information

Description: CSAH 13 (Radio DR) & MSAS 108 (Lake RD)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 13
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 12,900
Minor ADT: 8,900
Total Entering ADT: 21,800



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	6	0	1	0
Density (per mile per yr):	1.2	0	0.2	0
Rate (per MVM):	0.2	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	21,800	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	7	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$18,000

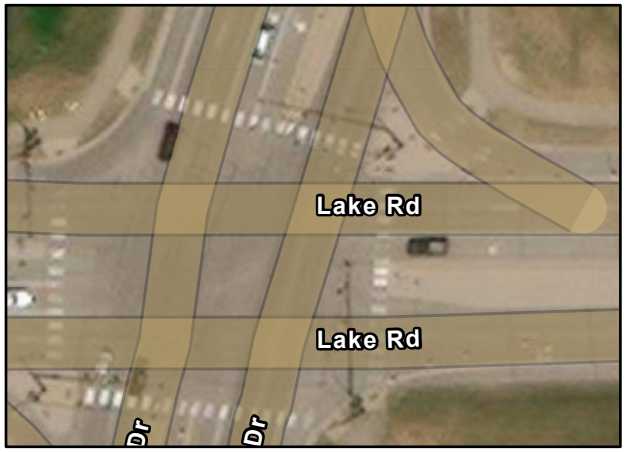
Systemic Project	√

Project Page #: 35
Segment ID: 13.009
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 13 (Radio Dr)

Roadway Information

Description: CSAH 13 (Radio Dr) & MSAS 108 (Lake Rd)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 13
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT:
Minor ADT:
Total Entering ADT: 0



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	0	0	0	0
Density (per mile per yr):	0	0	0	0
Rate (per MVM):				

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	0	≥12,000	-
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	7	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$18,000

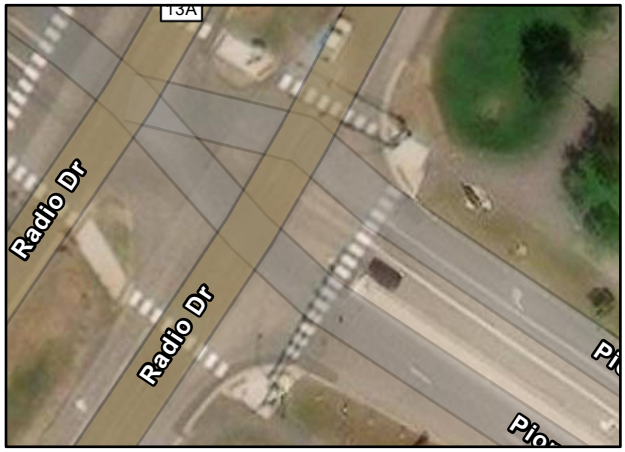
Systemic Project	√

Project Page #: 65
Segment ID: 13.010
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 13 (Radio DR)

Roadway Information

Description: CSAH 13 (Radio DR) & MSAS 107 (Pioneer DR)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 13
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 16,700
Minor ADT: 4,650
Total Entering ADT: 21,350



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	5	0	1	0
Density (per mile per yr):	1	0	0.2	0
Rate (per MVM):	0.1	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	21,350	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	None	Markings	-
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$18,000

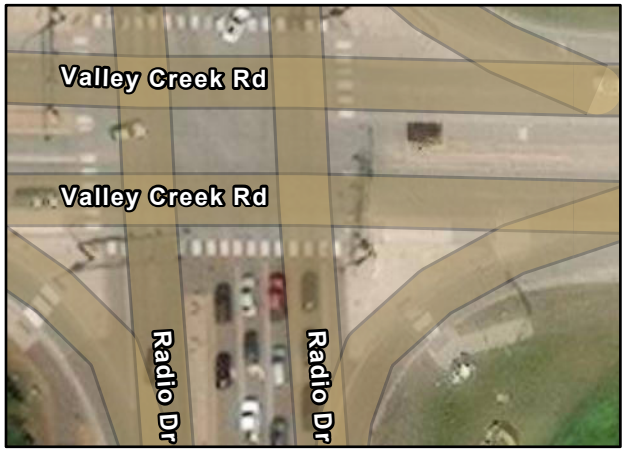
Systemic Project	√

Project Page #: 66
Segment ID: 13.012
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 13 (Radio DR)

Roadway Information

Description: CSAH 13 (Radio DR) & CSAH 16 (Valley Creek Rd)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 13
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 22,250
Minor ADT: 23,450
Total Entering ADT: 45,700



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	31	0	5	0
Density (per mile per yr):	6.2	0	1	0
Rate (per MVM):	0.4	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	45,700	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	7	≥4	★
Presence of Sidewalk:	All	Some, None	-
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$6,000

Systemic Project	√

Project Page #: 36
Segment ID: 13.013
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 13 (Radio DR)

Roadway Information

Description: CSAH 13 (Radio DR) & MSAS 126 (City Centre DR)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 13
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 25,500
Minor ADT: 2,395
Total Entering ADT: 27,895



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	12	0	5	0
Density (per mile per yr):	2.4	0	1	0
Rate (per MVM):	0.2	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	27,895	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$18,000

Systemic Project	√

Project Page #: 12
Segment ID: 13.014
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 13 (Radio DR)

Roadway Information

Description: CSAH 13 (Radio DR) & MSAS 139 (Seasons Pkwy)
County: Washington
Area Type: Suburban
Context Zone: Mixed Use
Segment Route System: CSAH
Segment Route No: 13
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 25,500
Minor ADT: 2,845
Total Entering ADT: 28,345



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	20	1	10	0
Density (per mile per yr):	4	0.2	2	0
Rate (per MVM):	0.4	0	0.2	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	28,345	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$18,000

Systemic Project	√

Project Page #: 37
Segment ID: 13.017
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 13 (Radio Dr)

Roadway Information

Description: CSAH 13 (Radio Dr) & MSAS 139 (Seasons Pkwy)
County: Washington
Area Type: Suburban
Context Zone: Mixed Use
Segment Route System: CSAH
Segment Route No: 13
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT:
Minor ADT:
Total Entering ADT: 0



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	0	0	0	0
Density (per mile per yr):	0	0	0	0
Rate (per MVM):				

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	0	≥12,000	-
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$18,000

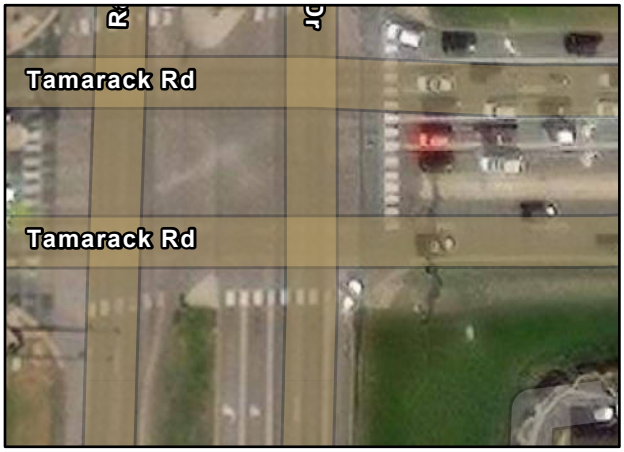
Systemic Project	√

Project Page #: 67
Segment ID: 13.018
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 13 (Radio DR)

Roadway Information

Description: CSAH 13 (Radio DR) & MSAS 102 (Tamarack Rd)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 13
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 27,250
Minor ADT: 14,850
Total Entering ADT: 42,100



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	22	0	8	0
Density (per mile per yr):	4.4	0	1.6	0
Rate (per MVM):	0.3	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	42,100	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	7	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$18,000

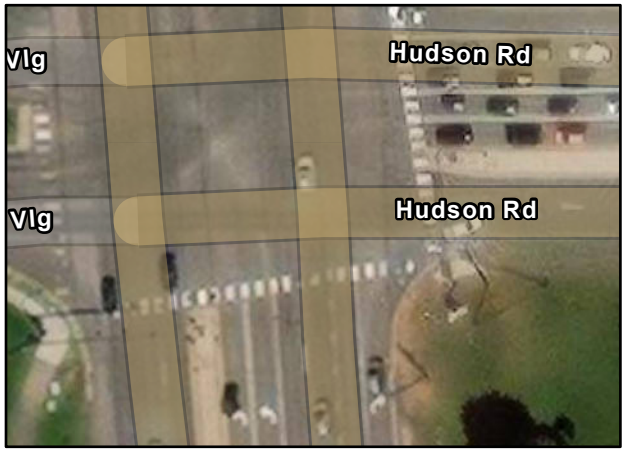
Systemic Project	√

Project Page #: 13
Segment ID: 13.019
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 13 (Radio DR)

Roadway Information

Description: CSAH 13 (Radio DR) & MSAS 117 (Hudson RD)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 13
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 32,750
Minor ADT: 6,895
Total Entering ADT: 39,645



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	18	0	4	0
Density (per mile per yr):	3.6	0	0.8	0
Rate (per MVM):	0.2	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	39,645	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	9	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$6,000

Systemic Project	√

Project Page #: 14
Segment ID: 13.021
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 13 (Radio Dr)

Roadway Information

Description: CSAH 13 (Radio Dr) & MSAS 117 (Hudson Rd)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 13
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT:
Minor ADT:
Total Entering ADT: 0



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	0	0	0	0
Density (per mile per yr):	0	0	0	0
Rate (per MVM):				

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	0	≥12,000	-
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	9	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$6,000

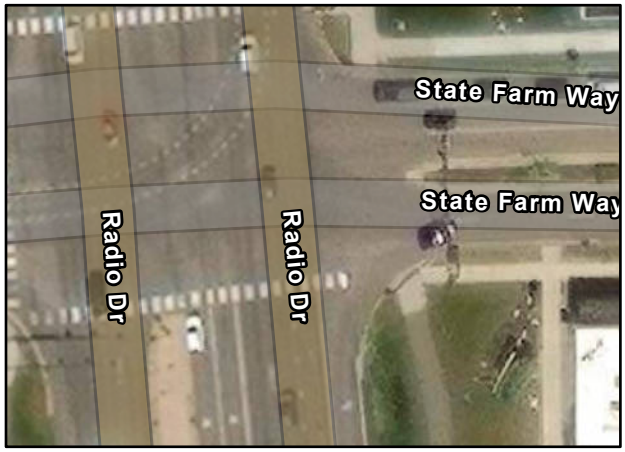
Systemic Project	√

Project Page #: 38
Segment ID: 13.022
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 13 (Radio DR)

Roadway Information

Description: CSAH 13 (Radio DR) & MSAS 117 (Hudson Ave)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 13
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 36,500
Minor ADT: 6,845
Total Entering ADT: 43,345



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	15	0	2	0
Density (per mile per yr):	3	0	0.4	0
Rate (per MVM):	0.2	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	43,345	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	9	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$6,000

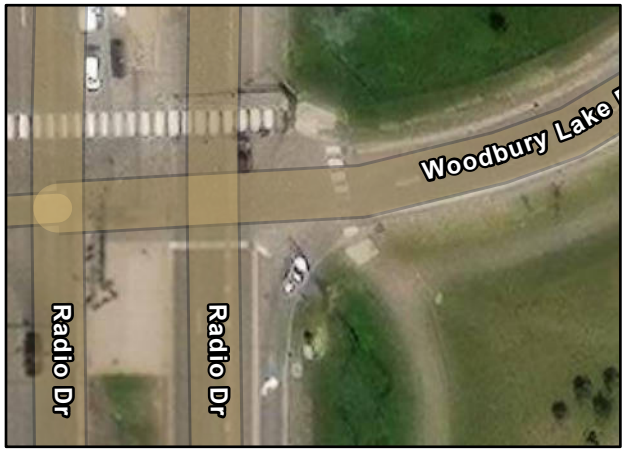
Systemic Project	√

Project Page #: 15
Segment ID: 13.023
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 13 (Radio DR)

Roadway Information

Description: CSAH 13 (Radio DR) & MSAS 142 (Woodbury Lakes RD)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 13
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 36,500
Minor ADT: 3,695
Total Entering ADT: 40,195



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	46	0	11	0
Density (per mile per yr):	9.2	0	2.2	0
Rate (per MVM):	0.6	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	40,195	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$6,000

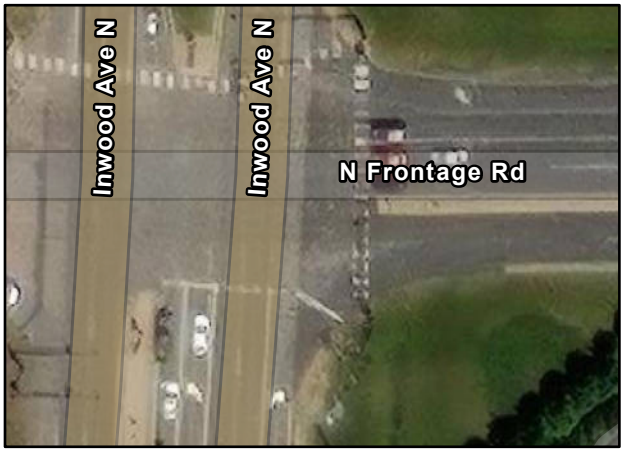
Systemic Project	√

Project Page #: 16
Segment ID: 13.025
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 13 (Inwood AVE N)

Roadway Information

Description: CSAH 13 (Inwood AVE N) & MSAS 239 (4th St N)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 13
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 17,350
Minor ADT: 3,450
Total Entering ADT: 13,700



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	11	0	2	0
Density (per mile per yr):	2.2	0	0.4	0
Rate (per MVM):	0.4	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	13,700	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	7	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$18,000

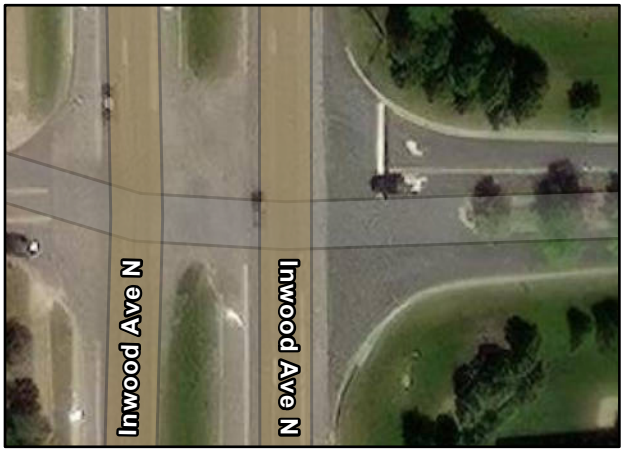
Systemic Project	√

Project Page #: 17
Segment ID: 13.028
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 13 (Inwood AVE N)

Roadway Information

Description: CSAH 13 (Inwood AVE N) & MSAS 112 (Eagle Point Blvd)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 13
Design Type: Traditional
Configuration: X
Traffic Control Device: Thru-Stop
Street Lights: Present
Flasher: None
Major ADT: 14,200
Minor ADT: 995
Total Entering ADT: 15,195



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	5	0	3	0
Density (per mile per yr):	1	0	0.6	0
Rate (per MVM):	0.2	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Thru-Stop	Signal	-
Entering ADT(vpd):	15,195	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	None	Markings	-
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	1	$25,000
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	1	$10,000
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	0	$0
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	0	$0
				Total Estimated Project Cost	$35,000

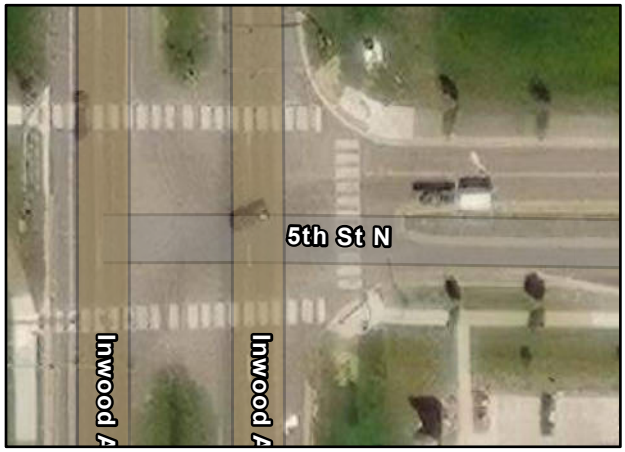
Systemic Project	√

Project Page #: 68
Segment ID: 13.030
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 13 (Ironwood Ave N)

Roadway Information

Description: CSAH 13 (Ironwood Ave N) & 5th St N
County: Washington
Area Type: Suburban
Context Zone: Recreational
Segment Route System: CSAH
Segment Route No: 13
Design Type: Traditional
Configuration: T
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 14,200
Minor ADT: 550
Total Entering ADT: 14,750



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	0	0	0	0
Density (per mile per yr):	0	0	0	0
Rate (per MVM):	0	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	14,750	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	5	≥4	★
Presence of Sidewalk:	Both Sides	Some, None	-
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$6,000

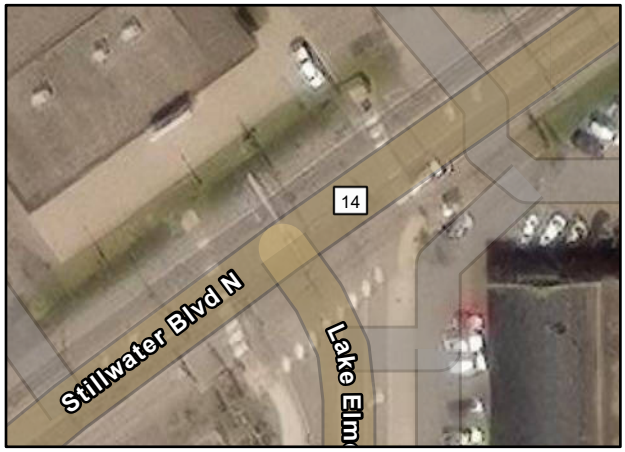
Systemic Project	√

Project Page #: 61
Segment ID: 13.036
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 14 (Stillwater Blvd N)

Roadway Information

Description: CSAH 14 (Stillwater Blvd N) & CSAH 17 (Lake Elmo Ave N)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 14
Design Type: Traditional
Configuration: T
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 7,625
Minor ADT: 2,250
Total Entering ADT: 9,875



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	5	1	0	0
Density (per mile per yr):	1	0.2	0	0
Rate (per MVM):	0.3	0.1	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	9,875	≥12,000	-
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	4	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	1	$10,000
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$16,000

Systemic Project	√

Project Page #: 69
Segment ID: 14.006
Date: 3/30/2023

Urban (Bike/Ped) Intersection on MN 36

Roadway Information

Description: MN 36 & CSAH 15 (Manning AVE N)
County: Washington
Area Type: Suburban
Context Zone: Agriculture
Segment Route System: CSAH
Segment Route No: 15
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 33,000
Minor ADT: 9,950
Total Entering ADT: 42,950



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	42	0	6	0
Density (per mile per yr):	8.4	0	1.2	0
Rate (per MVM):	0.5	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	42,950	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	7	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$6,000

Systemic Project	√

Project Page #: 39
Segment ID: 15.007
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 15 (Manning AVE N)

Roadway Information

Description: CSAH 15 (Manning AVE N) & MSAS 121 (62nd ST N)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 15
Design Type: Traditional
Configuration: X
Traffic Control Device: Thru-Stop
Street Lights: None
Flasher: None
Major ADT: 19,900
Minor ADT: 2,150
Total Entering ADT: 22,050



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	4	0	2	0
Density (per mile per yr):	0.8	0	0.4	0
Rate (per MVM):	0.1	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Thru-Stop	Signal	-
Entering ADT(vpd):	22,050	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	1	$75,000
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	0	$0
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	0	$0
				Total Estimated Project Cost	$75,000

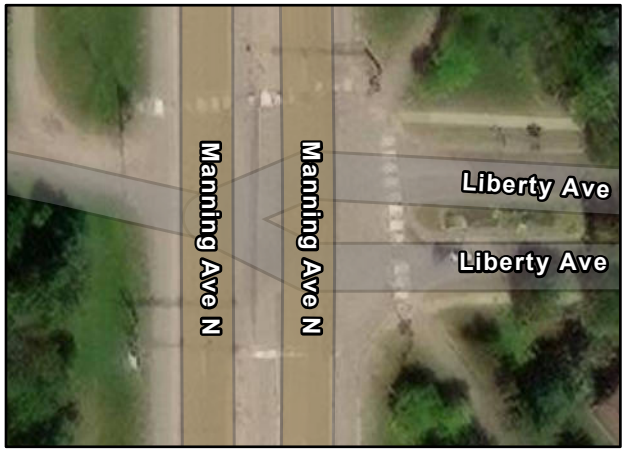
Systemic Project	√

Project Page #: 70
Segment ID: 15.008
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 15 (Manning AVE N)

Roadway Information

Description: CSAH 15 (Manning AVE N) & M 374 (Liberty Ave)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 15
Design Type: Traditional
Configuration: T
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 19,900
Minor ADT: 90
Total Entering ADT: 19,990



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	3	0	1	0
Density (per mile per yr):	0.6	0	0.2	0
Rate (per MVM):	0.1	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	19,990	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$6,000

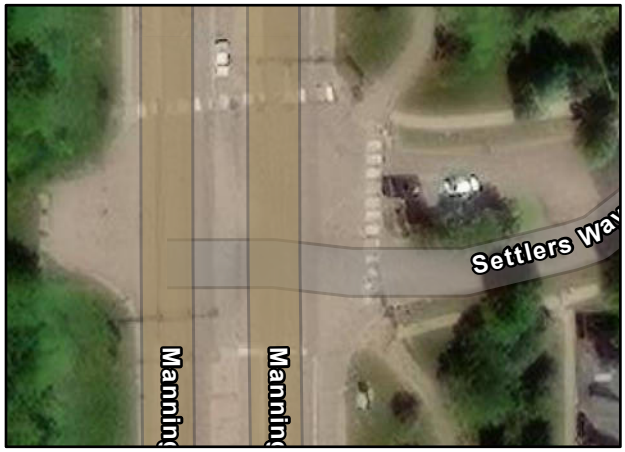
Systemic Project	√

Project Page #: 59
Segment ID: 15.009
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 15 (Manning AVE N)

Roadway Information

Description: CSAH 15 (Manning AVE N) & M 415 (Settlers Way)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 15
Design Type: Traditional
Configuration: T
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 19,900
Minor ADT: 45
Total Entering ADT: 19,945



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	4	0	3	0
Density (per mile per yr):	0.8	0	0.6	0
Rate (per MVM):	0.1	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	19,945	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	5	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$6,000

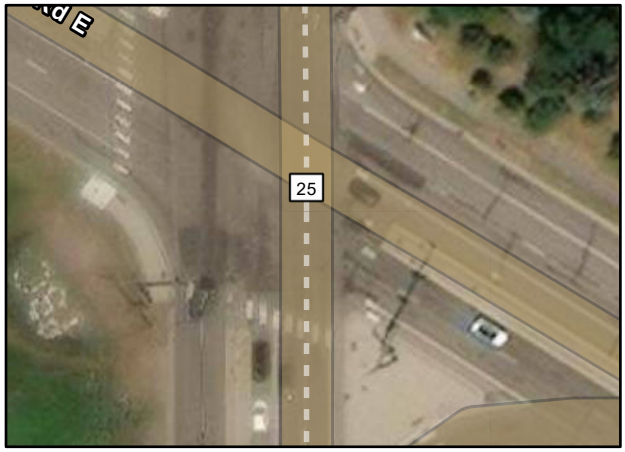
Systemic Project	√

Project Page #: 58
Segment ID: 15.010
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 16 (Valley Creek Rd)

Roadway Information

Description: CSAH 16 (Valley Creek Rd) & CSAH 25 (Century Ave)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 16
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 8,800
Minor ADT: 11,400
Total Entering ADT: 20,200



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	29	0	9	0
Density (per mile per yr):	5.8	0	1.8	0
Rate (per MVM):	0.8	0	0.2	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	20,200	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$6,000

Systemic Project	√

Project Page #: 40
Segment ID: 16.001
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 16 (Valley Creek Rd)

Roadway Information

Description: CSAH 16 (Valley Creek Rd) & MSAS 101 (Weir Dr)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 16
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 16,300
Minor ADT: 8,900
Total Entering ADT: 25,200



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	20	1	7	0
Density (per mile per yr):	4	0.2	1.4	0
Rate (per MVM):	0.4	0	0.2	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	25,200	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	1	$2,400
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$20,400

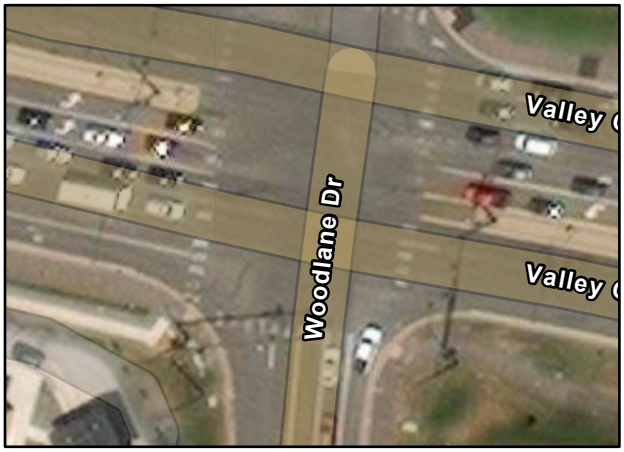
Systemic Project	√

Project Page #: 18
Segment ID: 16.002
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 16 (Valley Creek Rd)

Roadway Information

Description: CSAH 16 (Valley Creek Rd) & MSAS 109 (Woodlane DR)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 16
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 31,200
Minor ADT: 10,650
Total Entering ADT: 41,850



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	33	0	9	0
Density (per mile per yr):	6.6	0	1.8	0
Rate (per MVM):	0.4	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	41,850	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	8	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$18,000

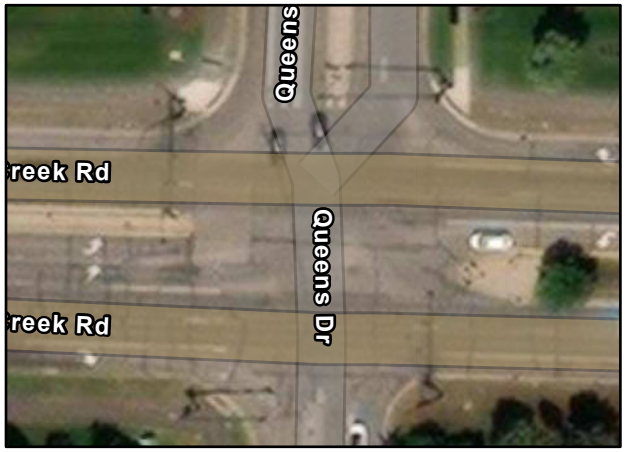
Systemic Project	√

Project Page #: 19
Segment ID: 16.004
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 16 (Valley Creek Rd)

Roadway Information

Description: CSAH 16 (Valley Creek Rd) & MSAS 122 (Queens Dr)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 16
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 24,400
Minor ADT: 3,195
Total Entering ADT: 27,595



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	17	0	5	0
Density (per mile per yr):	3.4	0	1	0
Rate (per MVM):	0.3	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	27,595	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	7	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$6,000

Systemic Project	√

Project Page #: 20
Segment ID: 16.005
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 16 (Valley Creek Rd)

Roadway Information

Description: CSAH 16 (Valley Creek Rd) & MSAS 105 (Tower Dr)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 16
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 23,400
Minor ADT: 3,145
Total Entering ADT: 26,545



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	10	0	5	0
Density (per mile per yr):	2	0	1	0
Rate (per MVM):	0.2	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	26,545	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	1	$25,000
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$31,000

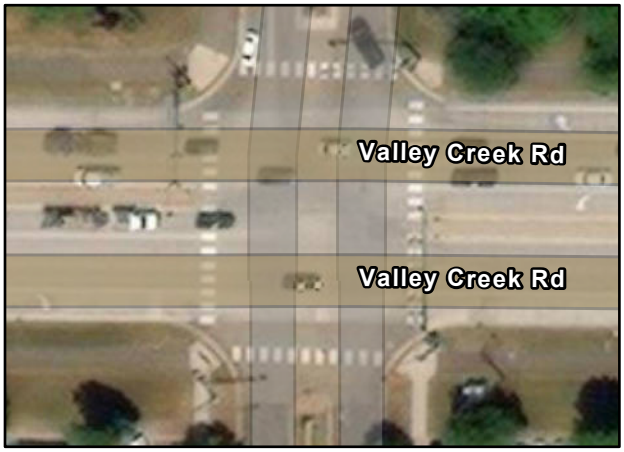
Systemic Project	√

Project Page #: 21
Segment ID: 16.007
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 16 (Valley Creek Rd)

Roadway Information

Description: CSAH 16 (Valley Creek Rd) & MSAS 126 (City Centre DR)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 16
Design Type: Traditional
Configuration: X
Traffic Control Device: Thru-Stop
Street Lights: None
Flasher: None
Major ADT: 23,400
Minor ADT: 2,395
Total Entering ADT: 25,795



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	15	0	10	0
Density (per mile per yr):	3	0	2	0
Rate (per MVM):	0.3	0	0.2	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Thru-Stop	Signal	-
Entering ADT(vpd):	25,795	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	None	Some, None	★
Pedestrian Crossing Type:	None	Markings	-
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	1	$120,000
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	0	$0
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	0	$0
				Total Estimated Project Cost	$120,000

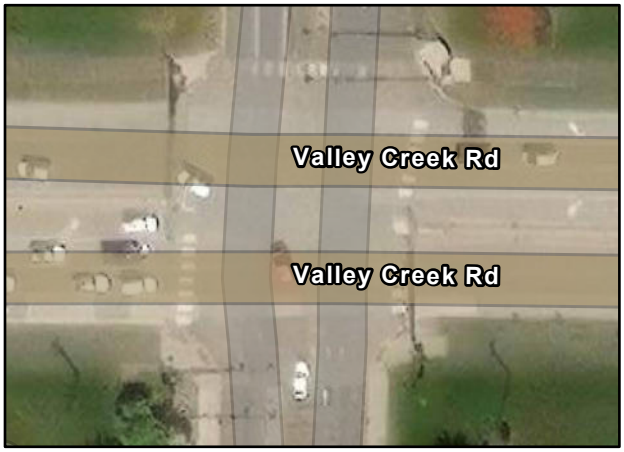
Systemic Project	√

Project Page #: 71
Segment ID: 16.008
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 16 (Valley Creek Rd)

Roadway Information

Description: CSAH 16 (Valley Creek Rd) & MSAS 132 (Donegal Dr)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 16
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 23,500
Minor ADT: 2,395
Total Entering ADT: 25,895



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	18	0	5	0
Density (per mile per yr):	3.6	0	1	0
Rate (per MVM):	0.4	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	25,895	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$6,000

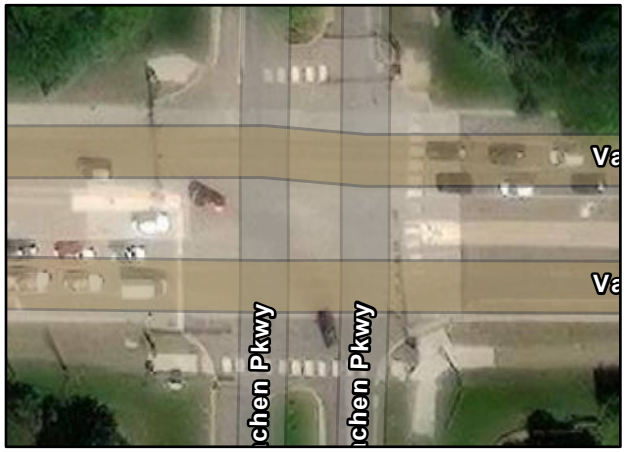
Systemic Project	√

Project Page #: 41
Segment ID: 16.009
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 16 (Valley Creek Rd)

Roadway Information

Description: CSAH 16 (Valley Creek Rd) & MSAS 120 (Interlachen PKWY)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 16
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 21,950
Minor ADT: 2,875
Total Entering ADT: 24,825



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	8	0	5	0
Density (per mile per yr):	1.6	0	1	0
Rate (per MVM):	0.2	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	24,825	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$6,000

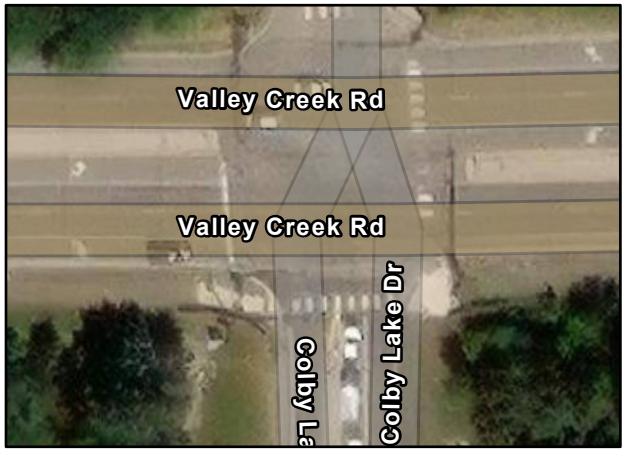
Systemic Project	√

Project Page #: 42
Segment ID: 16.010
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 16 (Valley Creek Rd)

Roadway Information

Description: CSAH 16 (Valley Creek Rd) & MSAS 133 (Colby Lake Dr)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 16
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 18,500
Minor ADT: 745
Total Entering ADT: 19,245



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	13	0	3	0
Density (per mile per yr):	2.6	0	0.6	0
Rate (per MVM):	0.4	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	19,245	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$6,000

Systemic Project	√

Project Page #: 60
Segment ID: 16.011
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 16 (Valley Creek Rd)

Roadway Information

Description: CSAH 16 (Valley Creek Rd) & CSAH 19 (Woodbury Dr)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 16
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 21,500
Minor ADT: 16,300
Total Entering ADT: 37,800



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	30	1	9	0
Density (per mile per yr):	6	0.2	1.8	0
Rate (per MVM):	0.4	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	37,800	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$6,000

Systemic Project	√

Project Page #: 43
Segment ID: 16.012
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 18 (Bailey RD)

Roadway Information

Description: CSAH 18 (Bailey RD) & MSAS 109 (Woodlane DR)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 18
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 12,400
Minor ADT: 4,700
Total Entering ADT: 17,100



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	16	0	7	0
Density (per mile per yr):	3.2	0	1.4	0
Rate (per MVM):	0.5	0	0.2	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	17,100	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	5	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	1	$10,000
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$28,000

Systemic Project	√

Project Page #: 44
Segment ID: 18.002
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 18 (Bailey RD)

Roadway Information

Description: CSAH 18 (Bailey RD) & MSAS 107 (Pioneer DR)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 18
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 12,400
Minor ADT: 4,450
Total Entering ADT: 16,850



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	13	0	3	0
Density (per mile per yr):	2.6	0	0.6	0
Rate (per MVM):	0.4	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	16,850	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	5	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	1	$10,000
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$16,000

Systemic Project	√

Project Page #: 45
Segment ID: 18.003
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 19 (Woodbury Dr)

Roadway Information

Description: CSAH 19 (Woodbury Dr) & MSAS 137 (Eagle Valley Rd)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 19
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 14,850
Minor ADT: 2,745
Total Entering ADT: 17,595



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	18	1	5	0
Density (per mile per yr):	3.6	0.2	1	0
Rate (per MVM):	0.6	0	0.2	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	17,595	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	1	$2,400
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$8,400

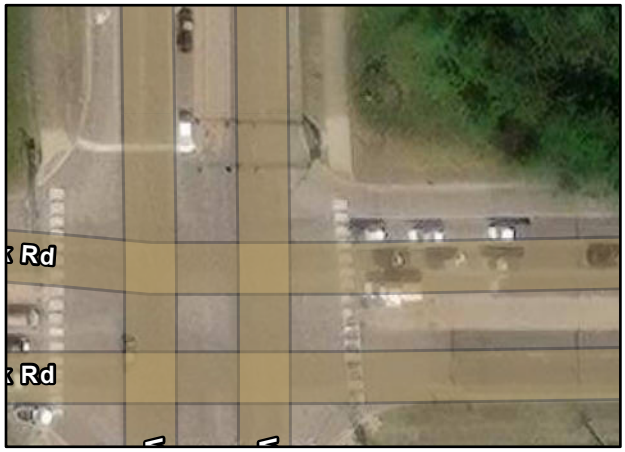
Systemic Project	√

Project Page #: 46
Segment ID: 19.010
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 19 (Woodbury Dr)

Roadway Information

Description: CSAH 19 (Woodbury Dr) & CSAH 16 (Valley Creek Rd)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 19
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 21,500
Minor ADT: 16,300
Total Entering ADT: 37,800



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	0	0	0	0
Density (per mile per yr):	0	0	0	0
Rate (per MVM):	0	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	37,800	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$6,000

Systemic Project	√

Project Page #: 47
Segment ID: 19.011
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 19 (Woodbury Dr)

Roadway Information

Description: CSAH 19 (Woodbury Dr) & Fox Run Rd
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 19
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 23,000
Minor ADT: 2,220
Total Entering ADT: 25,220



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	4	0	3	0
Density (per mile per yr):	0.8	0	0.6	0
Rate (per MVM):	0.1	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	25,220	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$6,000

Systemic Project	√

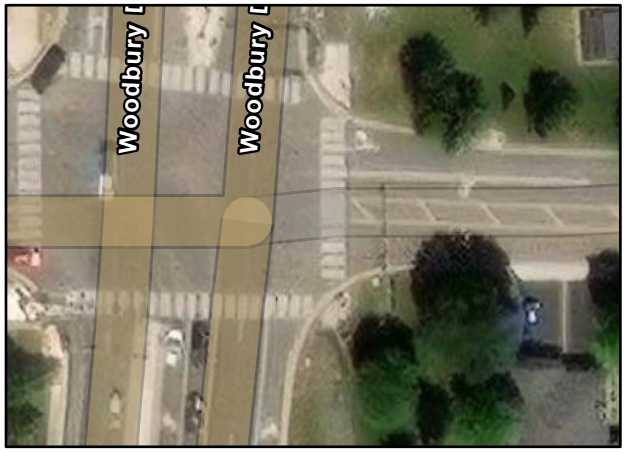
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Project Page #: 48
Segment ID: 19.012
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 19 (Woodbury Dr)

Roadway Information

Description: CSAH 19 (Woodbury Dr) & MSAS 102 (Tamarack Rd)
County: Washington
Area Type: Suburban
Context Zone: Mixed Use
Segment Route System: CSAH
Segment Route No: 19
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 23,000
Minor ADT: 4,195
Total Entering ADT: 27,195



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	41	1	19	1
Density (per mile per yr):	8.2	0.2	3.8	0.2
Rate (per MVM):	0.8	0	0.4	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	27,195	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	1	$25,000
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$43,000

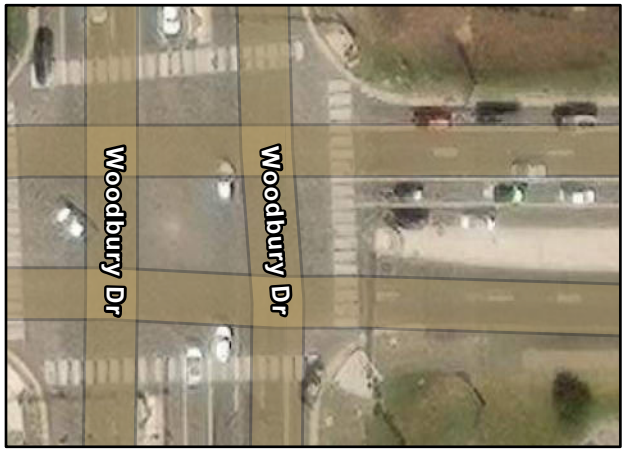
Systemic Project	√

Project Page #: 22
Segment ID: 19.013
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 19 (Woodbury Dr)

Roadway Information

Description: CSAH 19 (Woodbury Dr) & MSAS 117 (Hudson Rd)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 19
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 29,750
Minor ADT: 17,550
Total Entering ADT: 47,300



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	55	1	9	0
Density (per mile per yr):	11	0.2	1.8	0
Rate (per MVM):	0.6	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	47,300	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	7	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$18,000

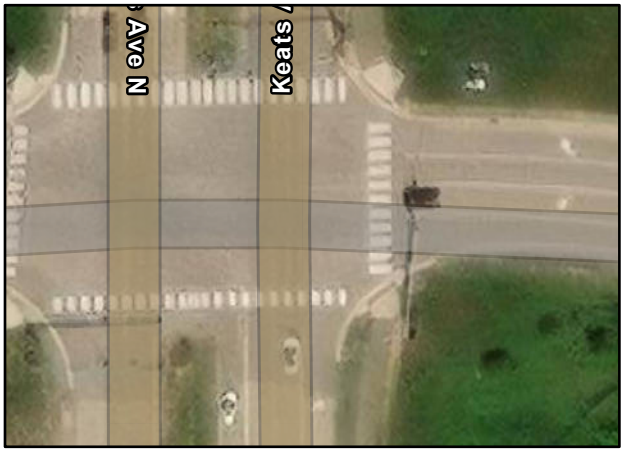
Systemic Project	√

Project Page #: 23
Segment ID: 19.014
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 19 (Keats Ave N)

Roadway Information

Description: CSAH 19 (Keats Ave N) & MSAS 120 (Hudson Blvd)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 19
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: None
Flasher: None
Major ADT: 9,850
Minor ADT: 4,125
Total Entering ADT: 13,975



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	13	0	8	0
Density (per mile per yr):	2.6	0	1.6	0
Rate (per MVM):	0.5	0	0.3	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	13,975	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	None	Markings	-
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	1	$10,000
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$28,000

Systemic Project	√

Project Page #: 72
Segment ID: 19.016
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 20 (Bailey RD)

Roadway Information

Description: CSAH 20 (Bailey RD) & I 494 (Ramp)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 20
Design Type: Traditional
Configuration: T
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 14,200
Minor ADT: 850
Total Entering ADT: 15,050



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	17	0	6	0
Density (per mile per yr):	3.4	0	1.2	0
Rate (per MVM):	0.6	0	0.2	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	15,050	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	None	Some, None	★
Pedestrian Crossing Type:	None	Markings	-
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	1	$10,000
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$28,000

Systemic Project	√

Project Page #: 73
Segment ID: 20.002
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 20 (Bailey RD)

Roadway Information

Description: CSAH 20 (Bailey RD) & M 8 (Hastings Ave)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 20
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 14,200
Minor ADT: 13,050
Total Entering ADT: 27,250



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	11	0	2	0
Density (per mile per yr):	2.2	0	0.4	0
Rate (per MVM):	0.2	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	27,250	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	1	$25,000
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$43,000

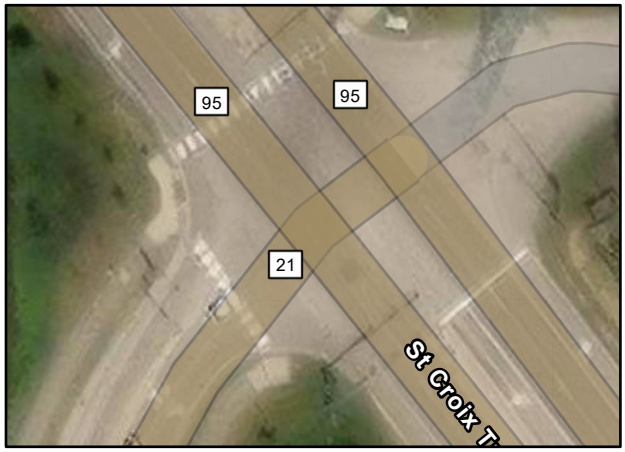
Systemic Project	√

Project Page #: 49
Segment ID: 20.003
Date: 3/30/2023

Urban (Bike/Ped) Intersection on MN 95 (Saint Croix Tr N)

Roadway Information

Description: MN 95 (Saint Croix Tr N) & CSAH 21 (56th ST N)
County: Washington
Area Type: Suburban
Context Zone: Industrial
Segment Route System: CSAH
Segment Route No: 21
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 11,300
Minor ADT: 1,095
Total Entering ADT: 12,395



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	3	0	0	0
Density (per mile per yr):	0.6	0	0	0
Rate (per MVM):	0.1	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	12,395	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	1	$10,000
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$16,000

Systemic Project	√

Project Page #: 50
Segment ID: 21.012
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 22 (70th ST S)

Roadway Information

Description: CSAH 22 (70th ST S) & CSAH 38 (65th St S)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 22
Design Type: Traditional
Configuration: T
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 10,700
Minor ADT: 1,575
Total Entering ADT: 12,275



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	3	0	0	0
Density (per mile per yr):	0.6	0	0	0
Rate (per MVM):	0.1	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	12,275	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	5	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	1	$10,000
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$28,000

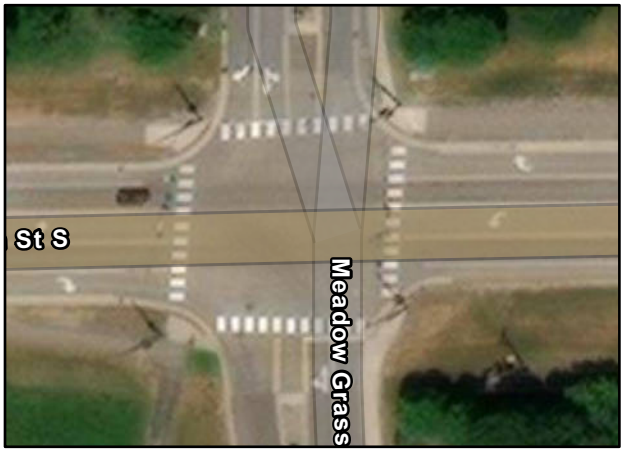
Systemic Project	√

Project Page #: 51
Segment ID: 22.004
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 22 (70th ST S)

Roadway Information

Description: CSAH 22 (70th ST S) & M 880 (Meadow Grass Ave)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 22
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 7,300
Minor ADT: 90
Total Entering ADT: 7,390



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	4	0	1	0
Density (per mile per yr):	0.8	0	0.2	0
Rate (per MVM):	0.3	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	7,390	≥12,000	-
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	4	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	1	$10,000
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$16,000

Systemic Project	√

Project Page #: 81
Segment ID: 22.005
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 22 (70th ST S)

Roadway Information

Description: CSAH 22 (70th ST S) & MSAS 112 (Hardwood AVE S)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 22
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 7,300
Minor ADT: 2,145
Total Entering ADT: 9,445



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	10	0	3	0
Density (per mile per yr):	2	0	0.6	0
Rate (per MVM):	0.6	0	0.2	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	9,445	≥12,000	-
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	4	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	1	$10,000
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$28,000

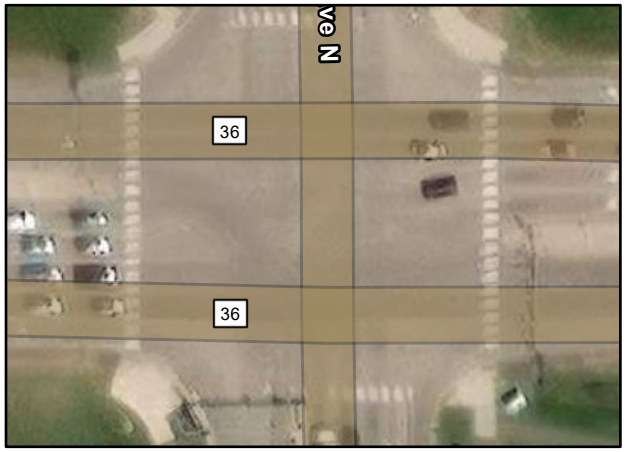
Systemic Project	√

Project Page #: 74
Segment ID: 22.006
Date: 3/30/2023

Urban (Bike/Ped) Intersection on MN 36

Roadway Information

Description: MN 36 & CSAH 24 (Osgood Ave N)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 24
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 29,215
Minor ADT: 12,050
Total Entering ADT: 41,265



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	67	0	21	0
Density (per mile per yr):	13.4	0	4.2	0
Rate (per MVM):	0.9	0	0.3	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	41,265	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	7	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$6,000

Systemic Project	√

Project Page #: 24
Segment ID: 24.003
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 24 (Osgood Ave N)

Roadway Information

Description: CSAH 24 (Osgood Ave N) & M 51 (62nd St N)
County: Washington
Area Type: Suburban
Context Zone: Mixed Use
Segment Route System: CSAH
Segment Route No: 24
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 12,900
Minor ADT: 90
Total Entering ADT: 12,990



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	1	0	0	0
Density (per mile per yr):	0.2	0	0	0
Rate (per MVM):	0	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	12,990	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	4	≥4	★
Presence of Sidewalk:	Both Sides	Some, None	-
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	1	$10,000
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$28,000

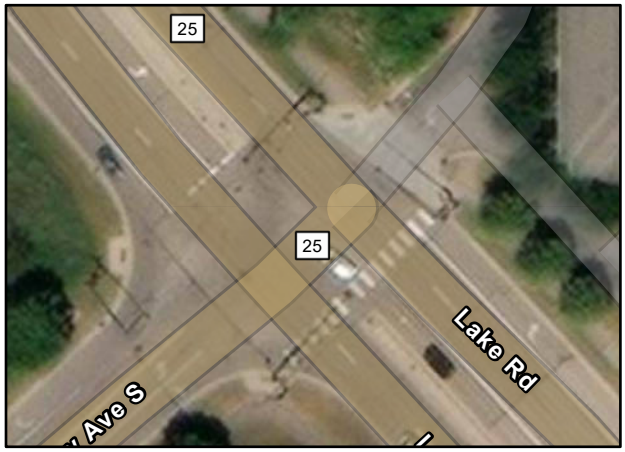
Systemic Project	√

Project Page #: 82
Segment ID: 24.006
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 25 (Century Ave)

Roadway Information

Description: CSAH 25 (Century Ave) & Century Ave S
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 25
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 11,450
Minor ADT: 2,650
Total Entering ADT: 14,100



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	9	0	4	0
Density (per mile per yr):	1.8	0	0.8	0
Rate (per MVM):	0.3	0	0.2	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	14,100	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	1	$10,000
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$16,000

Systemic Project	√

Project Page #: 56
Segment ID: 25.004
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 72 (Century Ave)

Roadway Information

Description: CSAH 72 (Century Ave) & MSAS 114 (Upper Afton Rd)
County: Washington
Area Type: Suburban
Context Zone: Mixed Use
Segment Route System: CSAH
Segment Route No: 25
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 14,350
Minor ADT: 3,800
Total Entering ADT: 18,150



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	24	0	8	0
Density (per mile per yr):	4.8	0	1.6	0
Rate (per MVM):	0.7	0	0.2	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	18,150	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	5	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	1	$10,000
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$16,000

Systemic Project	√

Project Page #: 57
Segment ID: 25.006
Date: 3/30/2023

Urban (Bike/Ped) Intersection on MN 120 (Century Ave)

Roadway Information

Description: MN 120 (Century Ave) & CSAH 15 (County Rd E)
County: Washington
Area Type: Urban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 27
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 10,650
Minor ADT: 10,650
Total Entering ADT: 21,300



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	60	1	13	0
Density (per mile per yr):	12	0.2	2.6	0
Rate (per MVM):	1.5	0	0.3	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	21,300	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	5	≥4	★
Presence of Sidewalk:	All	Some, None	-
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	1	$25,000
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	1	$2,400
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$45,400

Systemic Project	√

Project Page #: 52
Segment ID: 27.001
Date: 3/30/2023

Urban (Bike/Ped) Intersection on US 61 (Forest Blvd N)

Roadway Information

Description: US 61 (Forest Blvd N) & CSAH 32 (11th Ave SW)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 32
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 17,450
Minor ADT: 7,750
Total Entering ADT: 25,200



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	12	0	4	0
Density (per mile per yr):	2.4	0	0.8	0
Rate (per MVM):	0.3	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	25,200	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	1	$25,000
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$43,000

Systemic Project	√

Project Page #: 53
Segment ID: 32.008
Date: 3/30/2023

Urban (Bike/Ped) Intersection on US 61

Roadway Information

Description: US 61 & CSAH 38 (Glen Rd)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 38
Design Type: SPI
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT:
Minor ADT:
Total Entering ADT: 0



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	0	0	0	0
Density (per mile per yr):	0	0	0	0
Rate (per MVM):				

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	0	≥12,000	-
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	None	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	1	$10,000
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$16,000

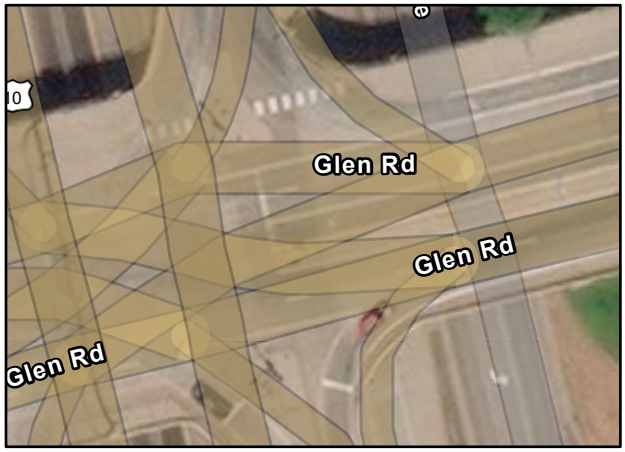
Systemic Project	√

Project Page #: 76
Segment ID: 38.002
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 38 (Glen Rd)

Roadway Information

Description: CSAH 38 (Glen Rd) & US 61 (Ramp)
County: Washington
Area Type: Suburban
Context Zone: Residential
Segment Route System: CSAH
Segment Route No: 38
Design Type: SPI
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 3,850
Minor ADT: 2,424
Total Entering ADT: 6,274



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	22	0	6	0
Density (per mile per yr):	4.4	0	1.2	0
Rate (per MVM):	1.9	0	0.5	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	6,274	≥12,000	-
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	None	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	1	$10,000
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$16,000

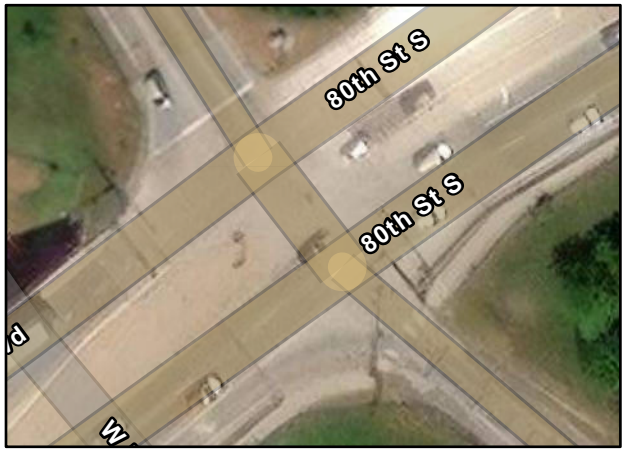
Systemic Project	√

Project Page #: 75
Segment ID: 38.003
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 39 (80th ST S)

Roadway Information

Description: CSAH 39 (80th ST S) & US 61 (Ramp)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 39
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 17,200
Minor ADT: 1,670
Total Entering ADT: 18,870



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	19	0	4	0
Density (per mile per yr):	3.8	0	0.8	0
Rate (per MVM):	0.6	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	18,870	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Signs & Markings	Markings	-
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	1	$10,000
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$16,000

Systemic Project	√

Project Page #: 55
Segment ID: 39.001
Date: 3/30/2023

Urban (Bike/Ped) Intersection on MSAS 102 (80th St S)

Roadway Information

Description: MSAS 102 (80th St S) & US 61 (Ramp)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 39
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 20,650
Minor ADT: 5,575
Total Entering ADT: 26,225



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	11	1	5	1
Density (per mile per yr):	2.2	0.2	1	0.2
Rate (per MVM):	0.2	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	26,225	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	6	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Signs & Markings	Markings	-
		Total Stars:	★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	1	$25,000
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$31,000

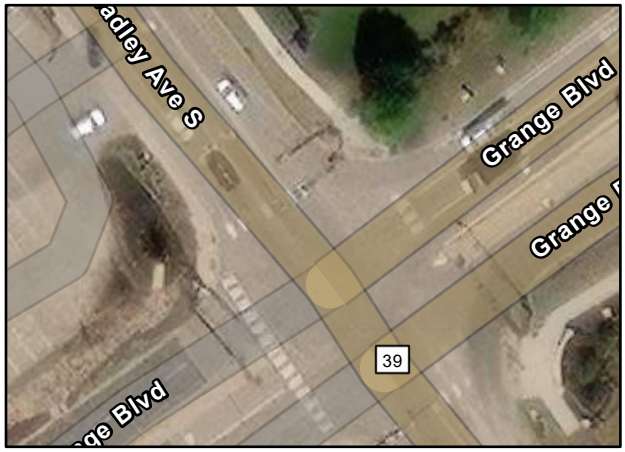
Systemic Project	√

Project Page #: 54
Segment ID: 39.002
Date: 3/30/2023

Urban (Bike/Ped) Intersection on CSAH 39 (80th ST S)

Roadway Information

Description: CSAH 39 (80th ST S) & MSAS 107 (Hadley AVE S)
County: Washington
Area Type: Suburban
Context Zone: Commercial
Segment Route System: CSAH
Segment Route No: 39
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 10,825
Minor ADT: 5,900
Total Entering ADT: 16,725



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	18	0	10	0
Density (per mile per yr):	3.6	0	2	0
Rate (per MVM):	0.6	0	0.3	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	16,725	≥12,000	★
Adjacent Development:	Present	Present	★
Max Number of Lanes Crossed:	5	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	1	$10,000
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$16,000

Systemic Project	√

Project Page #: 25
Segment ID: 39.003
Date: 3/30/2023

Urban (Bike/Ped) Intersection on MN 36

Roadway Information

Description: MN 36 & CR 66 (Greeley ST)
County: Washington
Area Type: Suburban
Context Zone: Mixed Use
Segment Route System: CR
Segment Route No: 66
Design Type: Traditional
Configuration: X
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 31,512
Minor ADT: 8,550
Total Entering ADT: 40,062



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Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	20	0	5	0
Density (per mile per yr):	4	0	1	0
Rate (per MVM):	0.3	0	0.1	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	40,062	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	7	≥4	★
Presence of Sidewalk:	All	Some, None	-
Pedestrian Crossing Type:	Marking	Markings	★
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	0	$0
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	1	$12,000
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$18,000

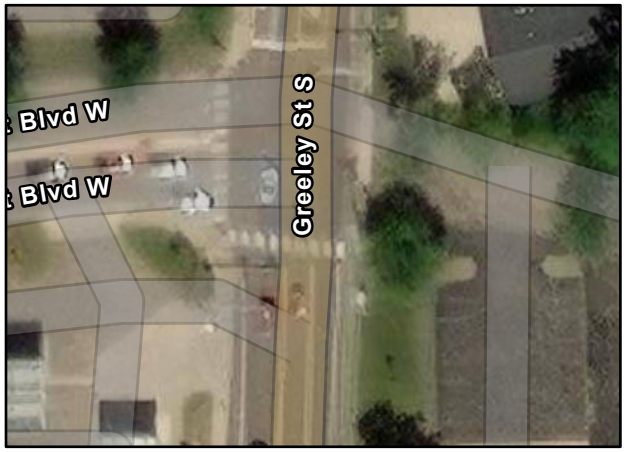
Systemic Project	√

Project Page #: 77
Segment ID: 66.001
Date: 3/30/2023

Urban (Bike/Ped) Intersection on MSAS 108 (Greeley St)

Roadway Information

Description: MSAS 108 (Greeley St) & MSAS 112 (Curve Crest Blvd)
County: Washington
Area Type: Suburban
Context Zone: Mixed Use
Segment Route System: CR
Segment Route No: 66
Design Type: Traditional
Configuration: T
Traffic Control Device: Signal
Street Lights: Present
Flasher: None
Major ADT: 12,450
Minor ADT: 4,600
Total Entering ADT: 17,050



Click to View in Google Maps

Crash Information

5-year Crash History (2016 - 2020)

	Total	Severe	Total Right Angle	Severe Right Angle
Crash Frequency:	3	0	1	0
Density (per mile per yr):	0.6	0	0.2	0
Rate (per MVM):	0.1	0	0	0

Systemic Safety Risk Factors

	Value	Threshold	Star Assignment
Traffic Control Device:	Signal	Signal	★
Entering ADT(vpd):	17,050	≥12,000	★
Adjacent Development:	None	Present	-
Max Number of Lanes Crossed:	4	≥4	★
Presence of Sidewalk:	Some	Some, None	★
Pedestrian Crossing Type:	None	Markings	-
		Total Stars:	★★★★

Priority Location	√

List of Strategies Considered

	Type	Unit Cost	Unit	Quantity	Total Cost
Mini Roundabout:	Proactive	$500,000	Each	0	$0
Median Refuge Island:	Proactive	$25,000-50,000	Each	0	$0
RRFB:	Proactive	$60,000	Per Intersection	0	$0
RRFB w/ Refuge Island:	Proactive	$75,000	Each	0	$0
Pedestrian Hybrid Beacon:	Proactive	$120,000	Per Intersection	0	$0
No Right Turn on Red Sign (Static or Black out):	Proactive	$2,400	Per Intersection	0	$0
Curb Extension:	Proactive	$10,000	Per Intersection	1	$10,000
Leading Pedestrian Interval:	Proactive	$1,000	Per Intersection	1	$1,000
Pedestrian Countdown Timers:	Proactive	$12,000	Each	0	$0
Upgrade Signal Hardware and Review and Revise Signal Timing and Operations:	Proactive	$5,000	Each	1	$5,000
				Total Estimated Project Cost	$16,000

Systemic Project	√

Project Page #: 78
Segment ID: 66.002
Date: 3/30/2023