

2021 Intersection Control Ranking System (ICRS) Report



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Washington
County

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Introduction

Background and Purpose

The Intersection Control Ranking System (ICRS) is a County Board approved policy for prioritizing the installation of traffic control improvements on roadways under Washington County's jurisdiction. Traffic control improvements primarily include the installation of traffic signals and roundabouts, but may also include all-way stops, turn restrictions, or other modifications to improve traffic operations. The policy was originally adopted on November 11, 1994, and revisions were approved by the County Board on July 21, 2015.

The policy was originally adopted because Washington County was experiencing rapid population growth in the early and mid-1990's, which led to increased traffic volumes and a growing number of requests to install traffic signals at intersections on the County roadway system. Since the County has limited funding and staff resources to deliver traffic signal projects, the ICRS was established to provide a data-driven process for identifying the intersections that were the highest priorities for traffic control projects. The ICRS continues to serve that same purpose today, providing a fair and consistent benchmark for evaluating and prioritizing traffic control improvements countywide.

How Intersections Are Chosen For Inclusion

Intersections that are included in the annual ICRS Report are selected by one of three methods:

- County staff may include intersections based on observations by staff, or upon request of elected officials, residents, or roadway users.
- Cities or townships request that an intersection be included based their observations (the County may request assistance from the city or township in collecting the traffic data necessary to analyze the intersection).
- County staff may include an intersection that has been counted by a city, township, or private developer as part of an area traffic study, to show where it ranks relative to the other intersections on the list.

Intersections that are selected to be included in the annual ICRS Report in any given year will not necessarily be included in future reports. For example, an intersection which is selected to be studied and included in the 2021 ICRS Report, but which ranks near the bottom of the prioritization list and does not meet traffic signal warrants, will likely not be included in the 2022 ICRS Report unless traffic volumes or patterns have changed significantly at that location. Intersections which are close to meeting traffic signal warrants will generally be kept on the list, but might not be counted every year.

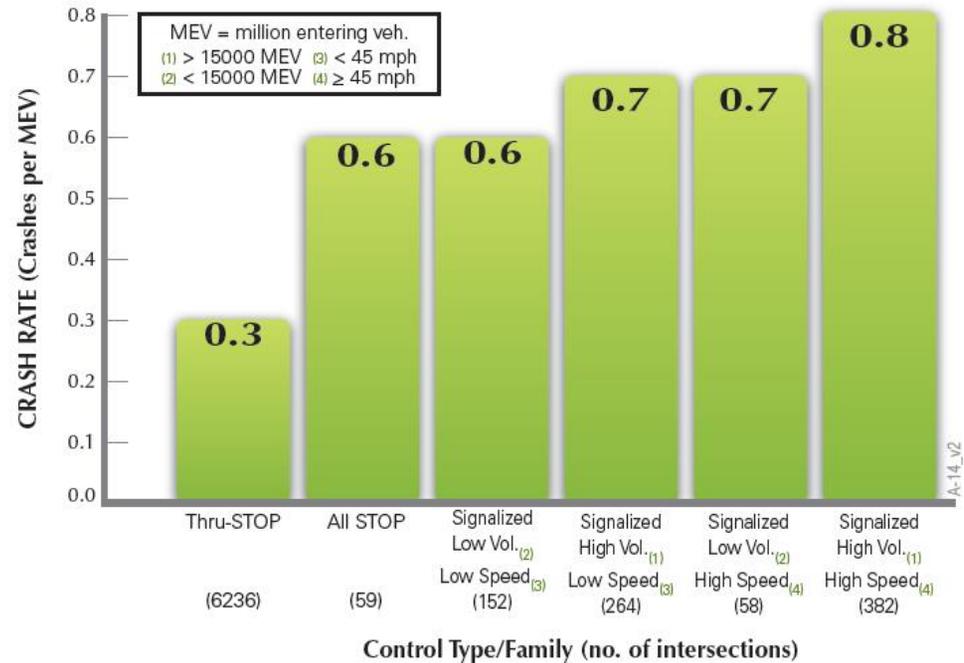
Contact Information

This report was published in February 2022 by Washington County Public Works Traffic Engineering staff.
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Traffic Signals Are Not Safety Devices

Although traffic signals are often perceived as a safety enhancement, statewide data shows that traffic signals actually tend to increase overall crash risk when installed at intersections. However, traffic signals are sometimes necessary to prevent unreasonable delays to certain traffic movements, or to ensure the orderly operation of unusually complex traffic patterns. Traffic signals do have the potential to reduce the occurrence of certain crash types, but the overall number of crashes, especially rear-end crashes, typically increases, so the expected benefits of the traffic signal must be carefully weighed against the expected increase in overall crashes.

For pedestrians, traffic signals can be useful devices to create gaps in vehicle traffic for pedestrians to cross when such gaps are unreasonably infrequent. However, although signals can limit delays for pedestrians to cross, the average delay to pedestrians often increases substantially, as pedestrians must wait for the signal to change even during periods of low traffic volume. A pedestrian who finds the wait time to be unreasonable might choose to cross illegally against the signal, with potentially deadly consequences. Even at traffic signals, pedestrians rely on drivers to obey the indications and to properly yield to pedestrians when turning, but drivers may not see pedestrians when their attention is focused on other parts of the intersection. Of the over 4,000 vehicle-pedestrian crashes at intersections in Minnesota from 2007-2011, 53 percent occurred at signalized intersections.^[1]



Note: Only for Trunk Highway Intersections

Intersection Crashes (1 of 2)

Source: 2004-2006 Minnesota TIS Crash Data

Source

[1] "Minnesota's Best Practices for Pedestrian/Bicyclist Safety". Minnesota Department of Transportation Office of Traffic, Safety and Technology. September 2013.

Traffic Signal Warrants Explained

Traffic signal warrants are prescribed by the Minnesota Manual on Uniform Traffic Control Devices (MnMUTCD), which is the document that provides a uniform policy for all traffic control devices on all public streets, roads, highways, and private streets that are open to public travel within the State of Minnesota. The MnMUTCD is referenced in Minnesota Statute 169.06, is adopted by the Minnesota Commissioner of Transportation and is binding on all county and city roadways. The MnMUTCD is the legal standard of care used by courts when the use, misuse, overuse, or lack of traffic control devices is the subject of litigation.

Because traffic signals often increase overall crash rates and overall delay to users, traffic signal warrants are used as benchmark thresholds, below which a traffic signal might be expected to do more harm than good. There are nine warrants listed in the MnMUTCD, though many of them apply only in very unusual cases and thus are not usually evaluated. Below is a summary of the four warrants which are analyzed within Washington County's Intersection Control Ranking System (ICRS):

Warrant 1: Eight-Hour Volume

Warrant 1 is most applicable to locations that have moderately high traffic throughout the entire day. Three categories are provided within this warrant, and each category provides a set of minimum traffic levels for the major and minor street, depending on the number of lanes. The minimum traffic must be met for eight hours within a given category for this warrant to be satisfied, though the eight hours need not be consecutive. This warrant is usually most applicable at the intersection of two regional roadways or entrances to commercial areas.

Warrant 2: Four-Hour Volume

Warrant 2 is usually most applicable at intersections with collector streets that see daily sustained periods of very heavy traffic, such as during morning and evening peak periods, even if traffic levels are low throughout the remainder of the day. This warrant is evaluated by plotting the traffic volumes for the intersection approaches for each hour of the day on a graph and determining which hours, if any, exceed a prescribed set of minimum values. For this warrant to be satisfied, at least four hours of the day must be plotted above the minimum values prescribed.

Warrant 3: Peak Hour Volume

Warrant 3 is usually most applicable at locations that have extremely high daily traffic peaks despite low volumes throughout the rest of the day. Metro agencies including Washington County do not normally consider this warrant alone to be sufficient justification to install a traffic signal, but it may be considered in combination with other factors including the severity of the peak delays and the availability of alternate routes. This warrant is evaluated by plotting the traffic volumes of the intersection approaches for each hour of the day on a graph and determining which hours, if any exceed a prescribed set of minimum values, which are higher than those used for evaluating Warrant 2. For this warrant to be satisfied, at least one hour of the day must be plotted above the minimum values prescribed.

Warrant 7: Crash Experience

This warrant is intended to capture unusual situations where a high number of crashes has already occurred and where a signal is determined to be an effective strategy to reduce such crashes. Only certain crash types can be considered for this warrant, including right-angle crashes and left turns into oncoming traffic. Other crash types such as rear-ends, deer crashes, and sideswipe crashes are unlikely to be reduced with the installation of a traffic signal and therefore are not included. This warrant first requires adequate trial of other remedial measures which might include improving signing, clearing sight corners, adding or reconfiguring lanes, or other such strategies.

All-Way Stop Control Warrants

The MnMUTCD also contains warrants for the installation of All-Way Stop control, which are also evaluated when such control might be an appropriate solution for the intersection.

Roundabouts in the ICRS

The MnMUTCD does not contain warrants for roundabout control; however, common engineering practice dictates that traffic signal warrants or all-way stop warrants may be applied.

MnMUTCD website link:

<http://www.dot.state.mn.us/trafficeng/publ/mutcd/index.html>



How the ICRS Works

How Points Are Assigned

The Intersection Control Ranking System (ICRS) utilizes four of the traffic signal warrants from the Minnesota Manual on Uniform Traffic Control Devices (MnMUTCD), along with traffic counts and recent crash data to prioritize intersections under County jurisdiction for traffic control improvements. As discussed on the previous page, traffic signal warrants define the minimum traffic conditions that should be present before a traffic signal is installed, to ensure that they are only installed in favorable situations that improve intersection operations. ICRS prioritization is based on the total number of points for each intersection, which are assigned as follows:

Traffic Signal Warrant Points

This value is based on the number of hours that an intersection satisfies the following traffic signal warrants:

Warrant 1: Eight-Hour Volume (Condition A, B, and A+B)

An intersection receives one point for each hour for which the traffic levels satisfy this warrant, up to a maximum of 12 points. Points are not cumulative across the three conditions. In other words, an intersection only receives the maximum points from Condition A, B, or A+B.

Warrant 2: Four-Hour Volume

An intersection receives one point for each hour for which the traffic levels satisfy this warrant, up to a maximum of 6 points.

Warrant 3: Peak Hour Volume

An intersection receives one point for each hour for which the traffic levels satisfy this warrant, up to a maximum of 4 points.

Crash History Points

This value is based on the most recent three years of correctable crash data at the intersection. Correctable crashes are crashes that are considered correctable by the installation of a traffic signal or roundabout. These typically include right-angle crashes (T-bone) and left turn crashes between vehicles traveling in opposing directions. Rear-end crashes, run-off-road crashes, deer crashes, and other types of crashes are typically not considered correctable, and are therefore excluded in this analysis.

An intersection receives one point for each correctable property damage or minor injury crash, and three points for each correctable fatal or serious injury crash during the three year period. The sum is then divided by three, to account for the three years of data.

The traffic signal warrant points and the crash history points are then added together for an intersection total, and the intersections are ranked by total points using a spreadsheet.

Further Analysis

Simply satisfying one or more traffic signal warrants or ranking highly on the ICRS prioritization list doesn't always mean that the installation of a traffic signal or roundabout is the best option at a particular location. For each intersection included in the ICRS, County staff evaluates the intersection for potential intersection improvements. Among the items the staff consider when analyzing intersections:

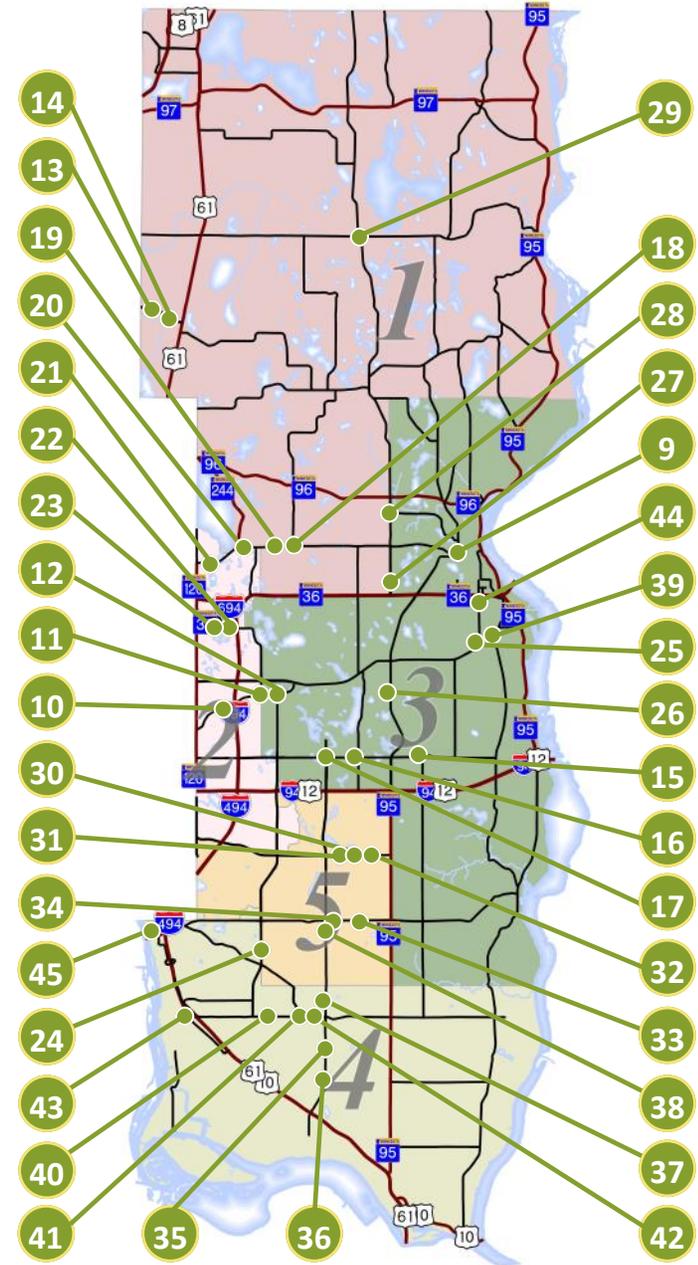
- Access spacing to adjacent intersections, and spacing from nearby traffic signals and/or roundabouts.
- Existing and future traffic volumes, and whether they're relatively balanced or unbalanced.
- Types of traffic control at nearby intersections.

Often times other alternatives to traffic signals or roundabouts, such as signing and/or striping improvements, geometric improvements, or turn restrictions, may actually be the best option to improve intersection safety and/or mobility.

The ICRS policy also doesn't mean that the County will automatically install a signal or roundabout every year. There may be years when there are no intersections that are a priority for traffic control improvements, and there may be years when County staff determines that more than one intersection is a priority for improvements. The ICRS simply provides a way to prioritize intersections in a fair and consistent manner. County staff may also advance or postpone potential projects based on the Capital Improvement Plan (CIP) or other factors.

Intersections Analyzed for 2021

A total of 37 intersections were included in the Intersection Control Ranking System (ICRS) Report for 2021. The following pages provide an in-depth look at each of the intersections that are included in the report. Because this report is prepared for the Washington County Board of Commissioners, the map located on the right side of this page shows the location of each of the intersections by Commissioner District, along with their corresponding page number.



CSAH 5 (Owens Street) & CSAH 12 (Myrtle Street)

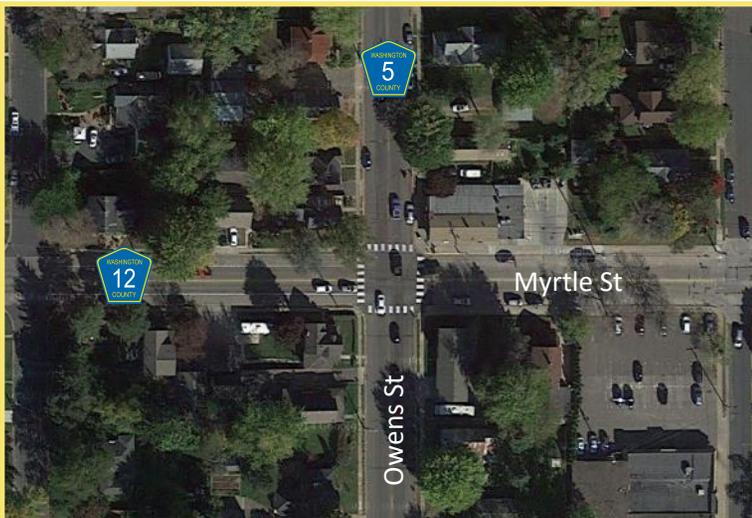
Existing Conditions

The intersection of CSAH 5 (Owens Street) & CSAH 12 (Myrtle Street) is located in the City of Stillwater, and is currently controlled by an all-way stop. The intersection experiences delays during the peak hours, and congestion on the northbound and southbound approaches can exceed several blocks during the PM peak hour. The intersection is included in the ICRS Report because County staff have concerns about these backups and their effect on the safety of nearby intersections, and because this intersection annually ranks at or near the top among intersections studied as part of the report.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **12 of 8 Required Hours**
Warrant 1B: **5 of 8 Required Hours**
Warrant 1(A+B): **11 of 8 Required Hours**
Warrant 2: **9 of 4 Required Hours**
Warrant 3: **3 of 1 Required Hours**
Warrant 7: **Not Met**

2021 ICRS Rank: 1st



Aerial Photo of Intersection

All-Way Stop Warrant, by the numbers:

All-Way Stop: **12 of 8 Required Hours**

This intersection currently operates as an all-way stop.

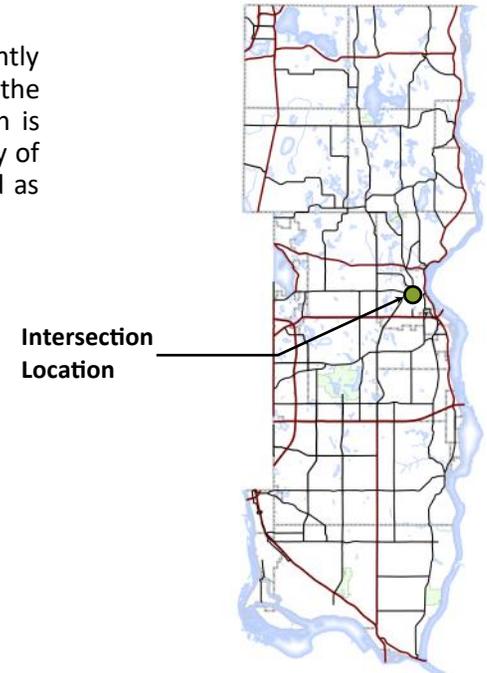
Traffic Count Conducted in **2018**

ICRS Recommendation

The intersection currently meets Warrant 1A (Eight-Hour Volume - Minimum Vehicular Volume), Warrant 1(A+B) (Combination of Warrants), Warrant 2 (Four-Hour Volume), and Warrant 3 (Peak Hour Volume) for traffic signal installation. However, even though this intersection clearly meets traffic signal warrants, the installation of a signal would pose numerous challenges:

- A traffic signal would increase speeds in the area when the lights are green.
- Narrow sidewalks and minimal right-of-way would make it difficult to install traffic signal poles and pedestrian push-buttons without obstructing the sidewalk.
- The existing intersection geometry would not function safely under traffic signal control, and modifying the lane arrangement would result in some loss of on-street parking.

County staff remain concerned about congestion in this area and its effect on safety, and remain ready to support an intersection improvement project at the CSAH 5 and CSAH 12 intersection if and when such a project is supported by the City. The County will continue to evaluate this intersection as traffic volumes continue to change as a result of growth and other area road projects.



CSAH 6 (Stillwater Boulevard) & Hadley Avenue

Existing Conditions

The intersection of CSAH 6 (Stillwater Boulevard) & Hadley Avenue is located in the City of Oakdale, and is currently controlled by an all-way stop. It experiences delays during peak hours. This intersection was included in the 2019 ICRS Report because local residents have observed congestion and crashes at this intersection, especially as traffic has been detoured through this intersection from nearby construction projects, and it has scored highly enough to remain in subsequent versions of the report.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **4 of 8 Required Hours**

Warrant 1B: **1 of 8 Required Hours**

Warrant 1(A+B): **4 of 8 Required Hours**

Warrant 2: **2 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hour**

Warrant 7: **Not Met**

2021 ICRS Rank: 10th



Aerial Photo of Intersection

All-Way Stop Warrant, by the numbers:

All-Way Stop: **14 of 8 Required Hours**

This intersection currently operates as an all-way stop.

Traffic Count Conducted in **2019**

ICRS Recommendation

In the 2020 ICRS, this intersection met Warrant 7 for traffic signal installation, which is for intersections that simultaneously meet both certain crash and volume thresholds. That is no longer the case in this year's version of the report, which includes crashes from 2018-2020. It is recommended that this intersection remain an all-way stop at this time for the following reasons:

- Modifying the intersection will require substantial right-of-way purchases and would encroach on existing residential parcels.
- Construction adjacent to this area along TH 120 (Century Ave) and at the CSAH 10/I-694 interchange might have caused unusually high traffic volumes in this area during the 2019 traffic counting period, particularly along Hadley Avenue.

In the MnMUTCD, one condition of Warrant 7 says that a traffic control signal shall be considered after "an adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency." A second stop sign was added to the southbound approach late in 2018 to improve the visibility of the traffic control devices to southbound drivers. That may have helped to provide a remedy for the crash issue.

Intersection
Location



CSAH 6 (Stillwater Boulevard) & CSAH 13 (Ideal Ave/Helmo Ave)

Existing Conditions

The intersection of CSAH 6 (Stillwater Boulevard) & CSAH 13 (Ideal Avenue)/Helmo Avenue is located on the border of the Cities of Oakdale and Lake Elmo, and is currently controlled by an all-way stop. It experiences minor delays during peak hours. This intersection is included in the ICRS Report because County staff have observed occasional but significant congestion on the southbound CSAH 13 approach during the PM peak hour in previous years.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **4 of 8 Required Hours**
Warrant 1B: **0 of 8 Required Hours**
Warrant 1(A+B): **1 of 8 Required Hours**
Warrant 2: **3 of 4 Required Hours**
Warrant 3: **0 of 1 Required Hour**
Warrant 7: **Not Met**

2021 ICRS Rank: 5th (Tie)



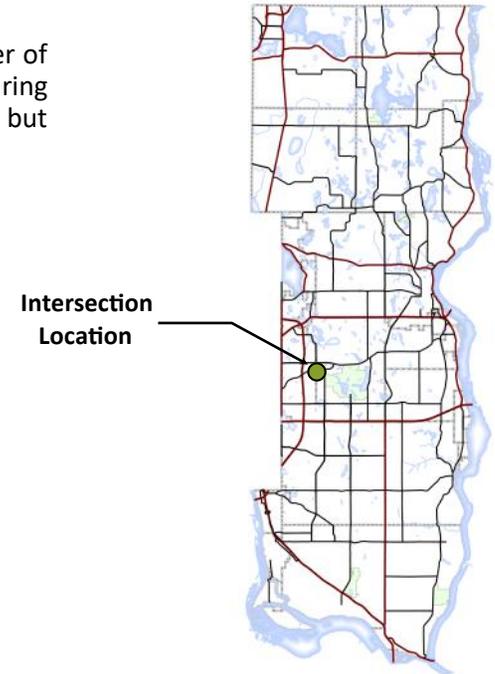
Aerial Photo of Intersection

All-Way Stop Warrant, by the numbers:

All-Way Stop: **9 of 8 Required Hours**

This intersection currently operates as an all-way stop.

Traffic Count Conducted in **2014**



ICRS Recommendation

The intersection currently does not meet any warrants for traffic signal installation, although it is close to meeting Warrant 2 (Four-Hour Volume). It is not recommended for intersection control changes at this time due to the following reasons:

- Although the intersection currently experiences some minor congestion during peak hours, and has occasional longer backups during the PM peak hour, it is operating efficiently during the majority of the day.
- The intersection is currently operating safely, with a crash rate around the average rate for similar intersections on county roads statewide. There were no injury crashes reported during the 3-year study period.
- Installing a traffic signal or roundabout would require significant geometric changes to the roadway, which would be costly. Any such modifications would likely require acquisition of private property, and might also impact a major sewer pump station that is located in the southwest quadrant of the intersection.

For these reasons, it is recommended that this intersection remain all-way stop controlled at this time.

CSAH 6 (Stillwater Boulevard) & CSAH 13 (Inwood Avenue)

Existing Conditions

The intersection of CSAH 6 (Stillwater Boulevard) & CSAH 13 (Inwood Avenue) is located in the City of Lake Elmo, and is currently controlled by an all-way stop. It experiences minor delays during peak hours on the northbound, westbound, and eastbound approaches. This intersection is included in the ICRS Report because it is located in an area of the County that is experiencing increased development and traffic growth, and County staff have been interested in evaluating the intersection to determine any operational issues.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **5 of 8 Required Hours**

Warrant 1B: **1 of 8 Required Hours**

Warrant 1(A+B): **3 of 8 Required Hours**

Warrant 2: **4 of 4 Required Hours**

Warrant 3: **2 of 1 Required Hours**

Warrant 7: **Not Met**

2021 ICRS Rank: 4th



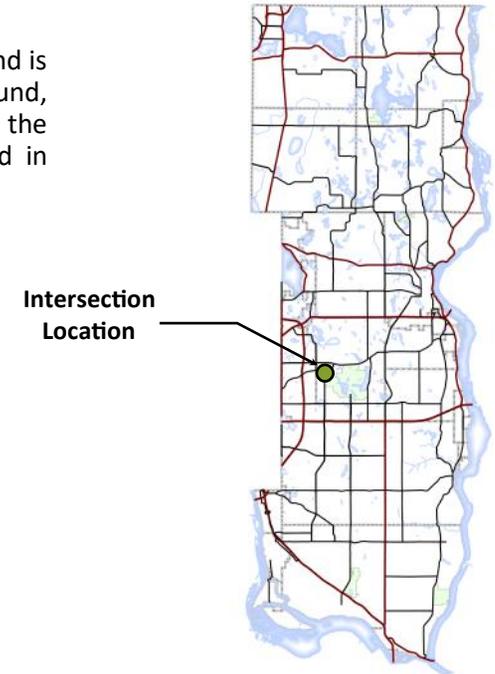
Aerial Photo of Intersection

All-Way Stop Warrant, by the numbers:

All-Way Stop: **12 of 8 Required Hours**

This intersection currently operates as an all-way stop.

Traffic Count Conducted in **2021**



ICRS Recommendation

Although the intersection currently meets Warrant 2 (Four-Hour Volume) and Warrant 3 (Peak Hour Volume) for traffic signal installation, it is not recommended for intersection control changes at this time due to the following reasons:

- Although the intersection currently experiences some minor congestion during peak hours, it is operating efficiently as an all-way stop during the majority of the day.
- Installing a traffic signal or roundabout would require significant geometric changes to the roadway, which would be costly. Any such modifications would also likely require acquisition of private property.

For these reasons, it is recommended that this intersection remain an all-way stop at this time. The intersection will continue to be monitored in the future, and will be reevaluated if there are significant changes to traffic patterns or volumes.

CSAH 8 (Frenchman Road) & Everton Avenue

Existing Conditions

The intersection of CSAH 8 (Frenchman Road) & Everton Avenue is located in the City of Hugo, and is currently controlled by sidestreet stop control. The northbound and southbound Everton Avenue approaches sometimes experience delays during peak hours. The intersection is included in the 2021 ICRS Report in response to concerns from the City of Hugo that increasing traffic volumes on CSAH 8 are making it more difficult to find gaps in traffic.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **0 of 8 Required Hours**

Warrant 1B: **0 of 8 Required Hours**

Warrant 1(A+B): **0 of 8 Required Hours**

Warrant 2: **0 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hour**

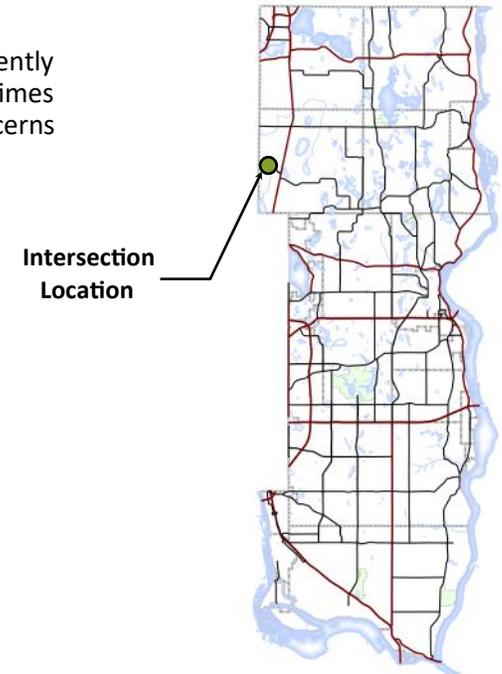
Warrant 7: **Not Met**

2021 ICRS Rank: 29th

All-Way Stop Warrant, by the numbers:

All-Way Stop: **1 of 8 Required Hours**

Traffic Count Conducted in **2021**



Aerial Photo of Intersection

ICRS Recommendation

The intersection currently does not meet any warrants for traffic signal installation. Therefore, it is recommended that the intersection remain sidestreet stop controlled at this time, for the following reasons:

- Although the Everton Avenue approaches sometimes experience delays during peak hours, the intersection is operating efficiently during the majority of the day.
- Residents both north and south of CSAH 8 have access to an existing signalized intersection at Victor Hugo Boulevard, which is located approximately 1/3 mile to the west.
- Under existing traffic volumes, the installation of a traffic signal would be expected to increase overall delay and increase the crash rate at the intersection.
- The installation of an all-way stop or roundabout would unduly hinder CSAH 8 traffic during all hours of the day, for the benefit of a relatively small number of vehicles on Everton Avenue during peak times of the day.

County staff will continue to monitor this intersection as development continues along this corridor.

CSAH 8 (Frenchman Road) & Oneka Parkway

Existing Conditions

The intersection of CSAH 8 (Frenchman Road) & Oneka Parkway is located in the City of Hugo, and is currently controlled by sidestreet stop control. Left turns from the northbound and southbound Oneka Parkway approaches sometimes experience delays during peak hours. The south leg of this intersection was added in late 2016, and serves as one of two access points to a new residential development that was recently completed to the south of the intersection. The intersection is included in the ICRS Report because County staff were interested in evaluating it after the south leg was added to verify that it was operating safely and efficiently, and in response to concerns from the City of Hugo.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **0 of 8 Required Hours**

Warrant 1B: **3 of 8 Required Hours**

Warrant 1(A+B): **1 of 8 Required Hours**

Warrant 2: **3 of 4 Required Hours**

Warrant 3: **1 of 1 Required Hour**

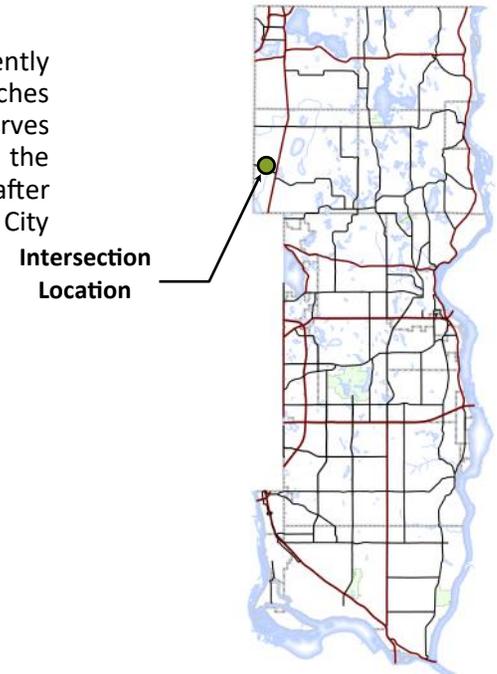
Warrant 7: **Not Met**

2021 ICRS Rank: 11th

All-Way Stop Warrant, by the numbers:

All-Way Stop: **2 of 8 Required Hours**

Traffic Count Conducted in **2019**



Aerial Photo of Intersection

ICRS Recommendation

As of 2019, the intersection met Warrant 3 (Peak Hour Volume) for traffic signal installation, and was close to meeting Warrant 2 (Four-Hour Volume).

In anticipation of continued growth along this corridor and due in part to its high ranking in the ICRS, the County and City have committed to installing a traffic signal at this intersection. There is a Capital Improvement Plan (CIP) project to do so programmed for construction in 2024; however, the County and City are in discussions to accelerate this timeline and potentially construct the signal in 2022.

The City of Hugo is planning to reconstruct the north and south legs of the intersection in 2022 in anticipation of the upcoming signal project.

CSAH 10 (10th Street N) & CR 71 (Neal Avenue)/12th Street N

Existing Conditions

The intersection of CSAH 10 (10th Street N) & CR 71 (Neal Avenue)/12th Street N is located in West Lakeland Township and is sidestreet stop controlled. This intersection is located within a curve along a relatively busy roadway. This intersection is included in the 2021 ICRS Report to determine if the existing sidestreet stop control is still appropriate.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **0 of 8 Required Hours**

Warrant 1B: **1 of 8 Required Hours**

Warrant 1(A+B): **0 of 8 Required Hours**

Warrant 2: **0 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hours**

Warrant 7: **Not Met**

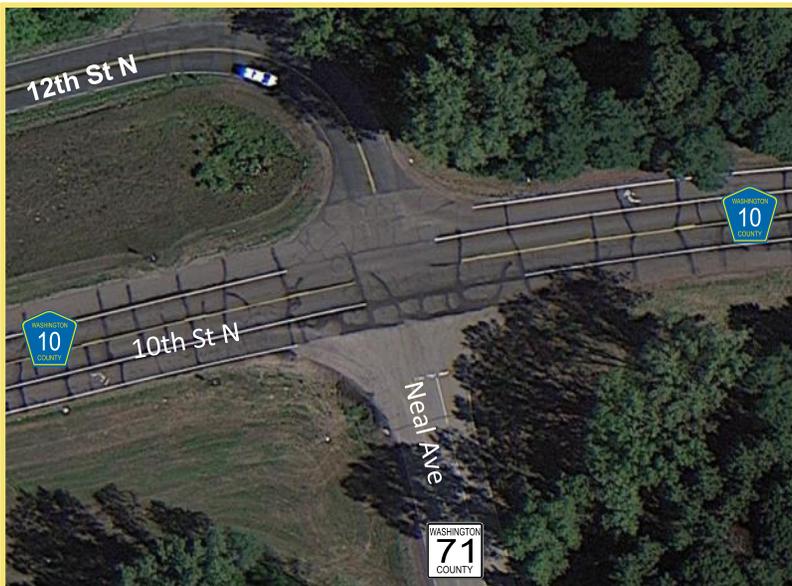
All-Way Stop Warrant, by the numbers:

All-Way Stop: **0 of 8 Required Hours**

This intersection currently operates as an all-way stop.

Traffic Count Conducted in **2021**

2021 ICRS Rank: **28th**



Aerial Photo of Intersection



Intersection
Location

ICRS Recommendation

The intersection currently does not meet any warrants for traffic signal installation, nor does it meet the warrant for an All-Way Stop. Thus, it is not recommended for intersection control changes at this time due to the following reasons:

- Although the intersection currently experiences some minor congestion during the PM peak hour, it operates efficiently during the majority of the day.
- Under existing traffic volumes, the installation of a traffic signal would be expected to increase overall delay and increase the crash rate at the intersection.

CSAH 10 (10th Street N) & CSAH 17/17B (Lake Elmo Avenue)

Existing Conditions

The intersection of CSAH 10 (10th Street N) & CSAH 17/17B (Lake Elmo Avenue) is located in the City of Lake Elmo and is controlled by an all-way stop. This intersection is located in an area of the County that is experiencing increased development and traffic growth, and it currently experiences delays during peak hours. This intersection was included in the 2020 ICRS Report to determine if all-way stop control is still appropriate, and because there was a notable “A” injury crash during the analysis period, and it scored highly enough to remain in this year’s report.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **0 of 8 Required Hours**

Warrant 1B: **0 of 8 Required Hours**

Warrant 1(A+B): **0 of 8 Required Hours**

Warrant 2: **0 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hours**

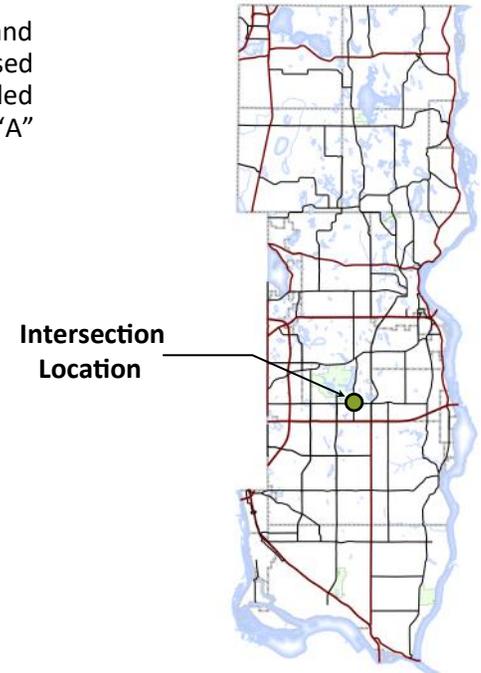
Warrant 7: **Not Met**

All-Way Stop Warrant, by the numbers:

All-Way Stop: **5 of 8 Required Hours**

This intersection currently operates as an all-way stop.

Traffic Count Conducted in **2020**



2021 ICRS Rank: **20th (Tie)**



Aerial Photo of Intersection

ICRS Recommendation

Even though this intersection didn’t meet the All-Way Stop Warrant according to the counts that were conducted in November 2020, it is presumed that the count volumes were depressed due to there being less traffic during the pandemic. This intersection will remain an all-way stop at this time due to the following reasons:

- The intersection is currently operating safely, with a crash rate around the average rate for similar intersections on county roads statewide.
- Although the intersection currently experiences congestion during peak hours, it operates efficiently for the majority of most days.
- Installing a traffic signal or roundabout would require significant geometric modifications to the roadway.

CSAH 10 (10th Street N) & CSAH 19 (Keats Avenue)

Existing Conditions

The intersection of CSAH 10 (10th Street N) & CSAH 19 (Keats Avenue) is located in the City of Lake Elmo, and is controlled by an all-way stop. It currently experiences delays during peak hours. The north leg of the intersection serves as the entrance and exit for Lake Elmo Park Reserve, so it can experience surges in traffic, particularly during holiday weekends or park events such as the annual Bluegrass Festival. This intersection is located in an area of the County that is experiencing increased development and traffic growth. This intersection is included in the 2021 ICRS Report because all-way stop controlled intersections with a large number of approach lanes similar to this one can sometimes have operational issues and/or create driver confusion, and because it has ranked highly on previous versions of this report.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **7 of 8 Required Hours**

Warrant 1B: **3 of 8 Required Hours**

Warrant 1(A+B): **4 of 8 Required Hours**

Warrant 2: **4 of 4 Required Hours**

Warrant 3: **3 of 1 Required Hours**

Warrant 7: **Not Met**

2021 ICRS Rank: 3rd

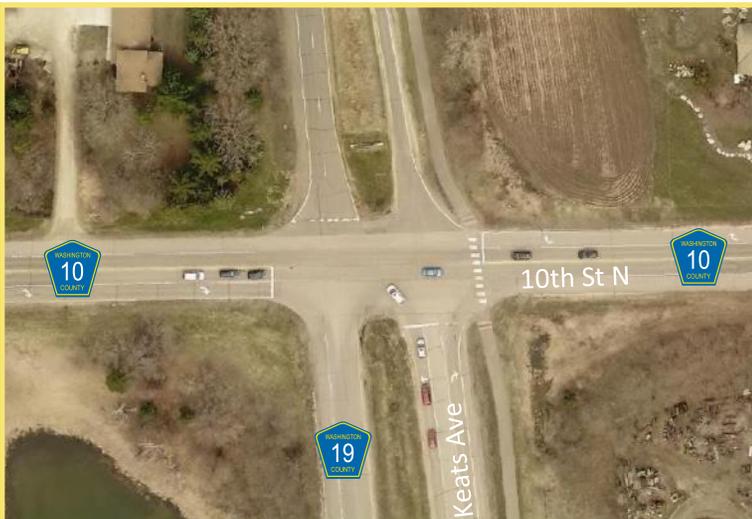
All-Way Stop Warrant, by the numbers:

All-Way Stop: **12 of 8 Required Hours**

This intersection currently operates as an all-way stop.

Traffic Count Conducted in **2018**

Intersection
Location



Aerial Photo of Intersection

ICRS Recommendation

Although the intersection currently meets Warrant 2 (Four-Hour Volume) and Warrant 3 (Peak Hour Volume) for traffic signal installation, it is planned to remain an all-way stop at this time due to the following reasons:

- The intersection is currently operating safely, with a crash rate around the average rate for similar intersections on county roads statewide.
- Although the intersection currently experiences congestion during peak hours, it is operating efficiently during the majority of the day.

However, County staff acknowledge that the intersection currently meets warrants and is ranked highly on the ICRS.

Installing a roundabout or traffic signal at this intersection will require significant road work, and should include addressing flooding issues west and south of the intersection. Therefore, it is recommended that this intersection be considered for a future Capital Improvement Plan (CIP) project.

CSAH 12 (75th Street N) & CSAH 9 (Jamaca Avenue)

Existing Conditions

The intersection of CSAH 12 (75th Street N) & CSAH 9 (Jamaca Avenue) is located in the City of Grant, and is currently controlled by sidestreet stop control. The intersection currently experiences delays and queuing issues for right turning vehicles on the southbound CSAH 9 approach during an approximately 10-15 minute period in the morning, when the nearby schools have their arrival times.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **0 of 8 Required Hours**

Warrant 1B: **2 of 8 Required Hours**

Warrant 1(A+B): **0 of 8 Required Hours**

Warrant 2: **0 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hour**

Warrant 7: **Not Met**

2021 ICRS Rank: 20th (Tie)



Aerial Photo of Intersection

All-Way Stop Warrant, by the numbers:

All-Way Stop: **11 of 8 Required Hours**

Traffic Count Conducted in **2019**

Intersection
Location



ICRS Recommendation

The intersection currently does not meet any warrants for traffic signal installation. It does meet the warrant for All-Way Stop. However, it is not recommended for intersection control changes at this time due to the following reasons:

- Though it meets the All-Way Stop Warrant, much of the minor street volume turns right. Requiring CSAH 12 traffic to stop would likely increase the crash rate on CSAH 12 while increasing delay to all movements.
- Although the intersection currently experiences some minor congestion on the southbound approach during the AM peak hour, the congestion typically lasts only 10-15 minutes and it is operating efficiently during the majority of the day.
- Under existing traffic volumes, the installation of a traffic signal would be expected to increase overall delay and increase the crash rate at the intersection.
- Installing a roundabout would require significant geometric modifications to the roadway, which would be costly. It would also likely require acquisition of private property.

It is recommended that this intersection remain sidestreet stop controlled at this time. County staff will continue to monitor this intersection as traffic growth occurs.

CSAH 12 (75th Street N) & Inwood Way/School Entrance

Existing Conditions

The intersection of CSAH 12 (75th Street N) & Inwood Way is located in the City of Grant, and is currently controlled by sidestreet stop control. The north leg of the intersection serves as the entrance to Wildwood Elementary School along with athletic fields and overflow parking for Mahtomedi High School. This intersection is included in the 2021 ICRS due to concerns expressed regarding delays for vehicles turning left from the minor approaches onto CSAH 12, as well as the safety of pedestrians and bicyclists who wish to cross this intersection.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **0 of 8 Required Hours**

Warrant 1B: **0 of 8 Required Hours**

Warrant 1(A+B): **0 of 8 Required Hours**

Warrant 2: **0 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hour**

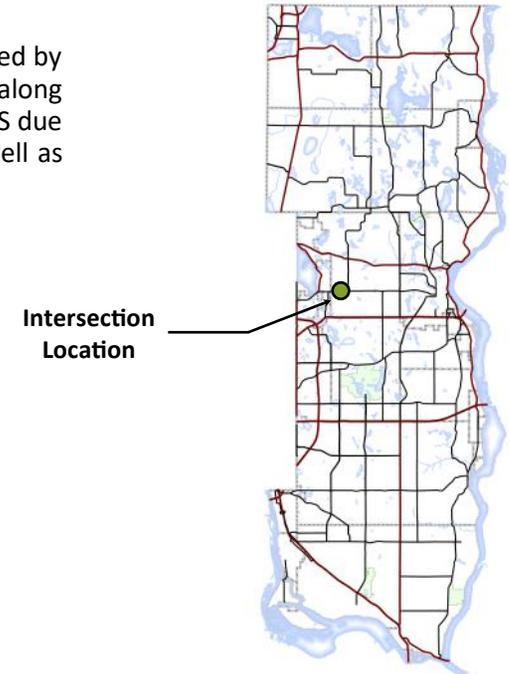
Warrant 7: **Not Met**

2021 ICRS Rank: 34th (Tie)

All-Way Stop Warrant, by the numbers:

All-Way Stop: **0 of 8 Required Hours**

Traffic Count Conducted in **2021**



Aerial Photo of Intersection

ICRS Recommendation

The intersection currently does not meet any warrants for traffic signal installation, or the warrant for an All-Way Stop. Thus, it is not recommended for intersection control changes at this time due to the following reasons:

- Under existing traffic volumes, the installation of a traffic signal would be expected to increase overall delay at the intersection and increase the crash rate at the intersection.
- Although the intersection currently experiences delay for left-turning vehicles from the minor approaches, it is currently operating safely. There were no crashes at this intersection during the 2018-2020 study period.
- Alternative routes are available for pedestrians wishing to cross CSAH 12 and for drivers wishing to turn left from the school site. Alternative routes are not available for left turns or through movements from Inwood Way, but the volume of these movements is very small.

CSAH 12 (Stillwater Road) & East Avenue/Hallam Avenue

Existing Conditions

The intersection of CSAH 12 (Stillwater Road) & East Avenue/Hallam Avenue is located in the City of Mahtomedi, and is currently controlled by sidestreet stop control. The southbound East Avenue approach currently experiences delays at several times of the day, particularly during peak hours, during the arrival and dismissal times for nearby Mahtomedi schools, and during church services at St. Andrews Church, which is located immediately northeast of the intersection. The intersection also serves as the primary crossing location across CSAH 12 for residents of a nearby apartment complex to walk to and from the convenience store located in the northwest quadrant of the intersection.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **0 of 8 Required Hours**

Warrant 1B: **5 of 8 Required Hours**

Warrant 1(A+B): **0 of 8 Required Hours**

Warrant 2: **3 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hour**

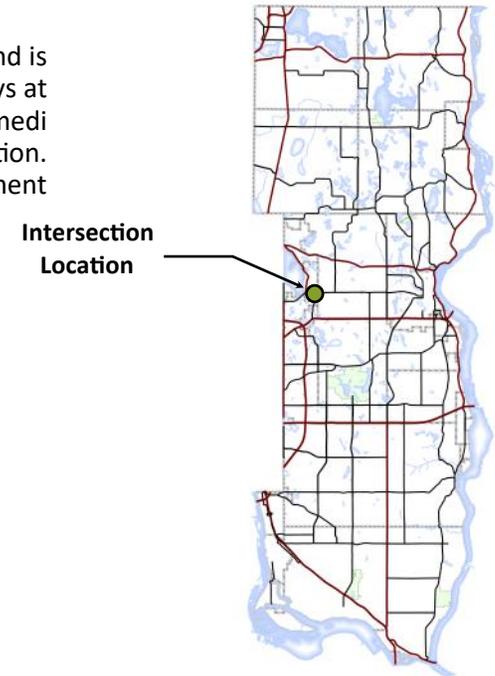
Warrant 7: **Not Met**

2021 ICRS Rank: 5th (Tie)

All-Way Stop Warrant, by the numbers:

All-Way Stop: **4 of 8 Required Hours**

Traffic Count Conducted in **2016**



Aerial Photo of Intersection

ICRS Recommendation

Although the intersection currently does not meet any warrants for traffic signal installation, it is close to meeting Warrant 2 (Four-Hour Volume) and expected to meet that warrant in the near future. The County is therefore planning for the installation of a traffic signal at this location due to the sometimes excessive delays on the southbound East Avenue approach, the significant number of pedestrian crossings at this location, and the uncontrolled pedestrian crossing, which has the potential for “multiple-threat” pedestrian crashes due to multiple lanes of approach from the west.

A traffic signal is planned to be installed at this location during Stage 2 of the Management and Safety Project programmed for 2024 on this segment of CSAH 12. As part of the project, there will be sidewalk, pedestrian ramp, turn lane, and crosswalk improvements for the benefit of pedestrians using the intersection, and the Hallam approach on the south leg will be widened to provide a dedicated right turn lane for the future signal.

CSAH 12 (Wildwood Road) & Wedgewood Drive

Existing Conditions

The intersection of CSAH 12 (Wildwood Road) & Wedgewood Drive is located in the City of Mahtomedi, and is currently controlled by sidestreet stop control. This segment of CSAH 12 was a state highway until jurisdiction was transferred to Washington County in 2019. This roadway was recommended for inclusion in the ICRS Report due to concerns regarding pedestrian safety and level of service for those crossing CSAH 12 at this intersection.

Note: The traffic count took place on March 3, 2020, prior to any pandemic impacts on intersection volumes.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **0 of 8 Required Hours**

Warrant 1B: **0 of 8 Required Hours**

Warrant 1(A+B): **0 of 8 Required Hours**

Warrant 2: **0 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hour**

Warrant 7: **Not Met**

2021 ICRS Rank: 34th (Tie)

All-Way Stop Warrant, by the numbers:

All-Way Stop: **0 of 8 Required Hours**

Traffic Count Conducted in **2020**

Intersection
Location



Aerial Photo of Intersection

ICRS Recommendation

This intersection does not meet any all-way stop or signal warrants under current traffic volumes. Nonetheless, the uncontrolled marked crosswalk on the west leg of the intersection combined with three lanes of eastbound approach and a posted speed of 45 miles per hour on CSAH 12 create elevated levels of risk for pedestrians using that crossing.

A traffic signal will be installed at this intersection as part of a Capital Improvement Plan (CIP) project currently programmed for construction in 2022, primarily to address these pedestrian-related concerns. Signalizing the intersection was considered to be a more acceptable solution than removing the existing crosswalk markings, and installing a rectangular rapid-flashing beacon (RRFB) or pedestrian hybrid beacon were not seen to be prudent options due to the prevailing speed on CSAH 12.

CSAH 13 (50th Street N) & Hadley Avenue - East Junction

Existing Conditions

The intersection of CSAH 13 (50th Street N) & Hadley Avenue is located in the City of Oakdale, and is currently controlled by sidestreet stop control. Left turns on the northbound Hadley Avenue approach sometimes experience delays during peak hours. The County was asked to evaluate this intersection as a part of the ICRS Report because the occasional delays on the northbound approach are becoming more frequent, and it scored highly enough last year to be examined again this year.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **5 of 8 Required Hours**

Warrant 1B: **3 of 8 Required Hours**

Warrant 1(A+B): **6 of 8 Required Hours**

Warrant 2: **3 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hour**

Warrant 7: **Not Met**

2021 ICRS Rank: 5th (Tie)

All-Way Stop Warrant, by the numbers:

All-Way Stop: **3 of 8 Required Hours**

Traffic Count Conducted in **2021**

Intersection
Location



Aerial Photo of Intersection

ICRS Recommendation

The nearby TH 36 & Hadley Avenue Interchange Project was completed in 2019. A turning movement count taken this year indicates that traffic volumes appear to have rebounded to prepandemic levels at this intersection, as this intersection was last counted in 2017.

Although the intersection currently meets Warrant 2 (Four-Hour Volume) for traffic signal installation, it is not recommended for intersection traffic control changes at this time. While left turns from the northbound Hadley Avenue approach often experience delays during peak hours, the delays are typically not excessive, and the intersection operates efficiently during the majority of the day. Also, the installation of a traffic signal would require the construction of a dedicated left-turn lane on CSAH 13.

This intersection might be a candidate for a roundabout in the future. In the meantime, it is recommended that this intersection remain sidestreet stop controlled.

CSAH 13 (Hadley Avenue) & 50th Street N - West Junction

Existing Conditions

The intersection of CSAH 13 (Hadley Avenue) & 50th Street N is located in the City of Oakdale, and is currently controlled by sidestreet stop control. Left turns on the eastbound 50th Street N approach sometimes experience delays during peak hours. This intersection is also adjacent to the Oakdale North Fire Station. The County has included this intersection as a part of the ICRS Report to evaluate the impact of construction at Hadley Avenue and TH 36 just north of this intersection, and because the nearby east junction of 50th Street N and Hadley Avenue is also being studied.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **0 of 8 Required Hours**

Warrant 1B: **1 of 8 Required Hours**

Warrant 1(A+B): **0 of 8 Required Hours**

Warrant 2: **0 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hour**

Warrant 7: **Not Met**

2021 ICRS Rank: 20th (Tie)

All-Way Stop Warrant, by the numbers:

All-Way Stop: **1 of 8 Required Hours**

Traffic Count Conducted in **2021**

Intersection
Location



Aerial Photo of Intersection

ICRS Recommendation

The intersection currently does not meet any warrants for traffic signal installation, nor does it meet the warrant for an All-Way Stop. It is not recommended for intersection control changes at this time due to the following reasons:

- Although the intersection currently experiences some minor congestion on the southbound approach during the morning and afternoon peak hours, the congestion typically lasts only 10-15 minutes and it is operating efficiently during the majority of the day.
- Under existing traffic volumes, the installation of a traffic signal would be expected to increase overall delay and the crash rate at the intersection.

This intersection may continue to be monitored by County staff in future years.

CSAH 13 (Radio Drive) & Dale Road

Existing Conditions

The intersection of CSAH 13 (Radio Drive) & Dale Road is located in the City of Woodbury, and is currently controlled by sidestreet stop control. Left turns from the Dale Road approach experience delays during peak hours, and the current bypass lane configuration may be inadequate given the high volume of through traffic and the growing number of left turns. The City of Woodbury requested that the County evaluate this intersection as part of the 2019 ICRS Report, and due to its high ranking it remains in the 2021 ICRS Report.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **0 of 8 Required Hours**

Warrant 1B: **4 of 8 Required Hours**

Warrant 1(A+B): **1 of 8 Required Hours**

Warrant 2: **2 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hour**

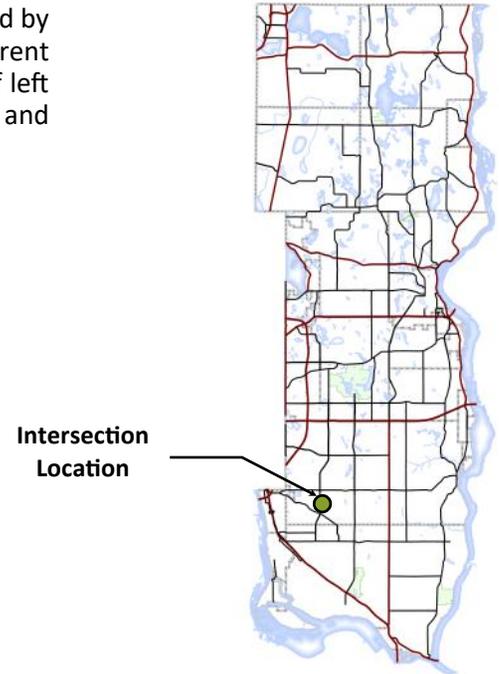
Warrant 7: **Not Met**

All-Way Stop Warrant, by the numbers:

All-Way Stop: **5 of 8 Required Hours**

Traffic Count Conducted in **2021**

2021 ICRS Rank: **12th**



Aerial Photo of Intersection

ICRS Recommendation

Although the traffic volume from the sidestreet is currently below the threshold to meet warrants for a traffic signal or an all-way stop, the prevailing speed and traffic volume on CSAH 13 combined with the increasing volume of southbound left turns has been a growing source of concern. A bypass lane is present for southbound traffic, but a bypass lane is not sufficient to handle high volumes of left turns, and this has led to safety issues at other similar locations in the past.

Construction of a dedicated left turn lane would address this safety issue. However, the current right-of-way corridor is insufficient to construct a left turn lane without acquiring additional adjacent right-of-way through negotiation or eminent domain. Doing so is not practical in advance of the anticipated future expansion of this corridor; right-of-way acquisition for this project is in the County's Capital Improvement Plan (CIP) for 2025, with construction expected to take place beginning in 2027 or 2028.

To proactively address these issues, the traffic control at this intersection is planned to be converted to an all-way stop in 2022 on an interim basis. The long-term traffic control at this intersection will be reevaluated as part of the CIP project.

CSAH 14/24 (Osgood Avenue) & CSAH 14 (47th Street N)

Existing Conditions

The intersection of CSAH 14/24 (Osgood Avenue) & CSAH 14 (47th Street N) is located in Baytown Township, and is currently controlled by a temporary all-way stop. A Union Pacific railroad track crosses CSAH 14 at-grade immediately south of the intersection. The existing temporary all-way stop was installed by the County in August of 2015 after a Union Pacific construction project created a severe bump on CSAH 14, and a temporary all-way stop was deemed to be the only viable and effective short-term solution to the problem. This intersection is included in the 2021 ICRS Report because the County currently has a project under design that would modify the grades of CSAH 14 and CSAH 24 in order to address the severe bump at the crossing. Since the temporary all-way stop would be removed as a part of the proposed project, the project team was interested in determining if the intersection meets any traffic signal warrants.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **0 of 8 Required Hours**

Warrant 1B: **1 of 8 Required Hours**

Warrant 1(A+B): **1 of 8 Required Hours**

Warrant 2: **0 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hour**

Warrant 7: **Not Met**

2021 ICRS Rank: 17th (Tied)

Traffic Count Conducted in **2018**



Aerial Photo of Intersection

All-Way Stop Warrant, by the numbers:

All-Way Stop: **8 of 8 Required Hours**

Although the intersection is currently being controlled by a temporary all-way stop that was installed as an interim measure, an all-way stop is not a viable long-term solution at this location due to safety issues associated with a stop condition being located this close to a railroad crossing.

ICRS Recommendation

As a part of the proposed intersection project that is listed in the County's Capital Improvement Plan for construction in 2023, the western end of 47th Street N will be realigned 100 feet to the north and the temporary all-way stop will be removed.

The MnMUTCD contains a traffic signal warrant, Warrant 9, which pertains to intersections near at-grade railroad crossings. County staff determined that the intersection **will** meet this warrant upon completion of the planned construction project. Thus, installing a traffic signal system has been added to the project, and the proposed signal operation will be coordinated with the operation of the railroad crossing gates.

Until this project is constructed, it is recommended that the intersection remain a temporary all-way stop, due to the large bump at the crossing.



Intersection Location

CSAH 15 (Manning Avenue) & 30th Street N

Existing Conditions

The intersection of CSAH 15 (Manning Avenue) & 30th Street N is located on the borders of the City of Lake Elmo, Baytown Township, and West Lakeland Township. It is currently controlled by sidestreet stop control. Left turns from both 30th Street N approaches currently experience delays during peak hours. This intersection is included in the ICRS Report because County staff have heard concerns that increasing traffic volumes on CSAH 15 are making it more difficult to find gaps in traffic during busy times of the day.

The west leg of the 32nd Street N intersection with CSAH 15 is planned to be closed in 2022, with traffic from that access being redirected to 30th Street N. Thus, when performing this analysis, a traffic count was conducted at both intersections, with the appropriate traffic figures added to the count at 30th Street N.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **0 of 8 Required Hours**

Warrant 1B: **0 of 8 Required Hours**

Warrant 1(A+B): **0 of 8 Required Hours**

Warrant 2: **0 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hour**

Warrant 7: **Not Met**

2021 ICRS Rank: 30th (Tie)

All-Way Stop Warrant, by the numbers:

All-Way Stop: **0 of 8 Required Hours**

Traffic Count Conducted in **2020**

Intersection
Location



Aerial Photo of Intersection

ICRS Recommendation

At the time the turning movement counts were conducted in 2020, the intersection did not meet any warrants for traffic signal installation, even when adding traffic from the 32nd Street N approach. However, since that time, rapid residential development continues to occur in this area, and the permanent closure of the 32nd Street N approach to CSAH 15 is expected to take place in 2022.

It is planned for a traffic signal to be installed at this intersection during the 2022 construction season. In the near future, this intersection is expected to meet Signal Warrant 1B: Eight-Hour Volume - Interruption of Continuous Traffic due to that residential development which has occurred since 2020 and is projected to continue nearby.

As part of this intersection traffic control change project, turn lanes will be constructed on both minor 30th Street N approaches. The traffic signal installation is planned to occur in such a way that it will accommodate a future four-lane expansion on CSAH 15.

CSAH 15 (Manning Avenue) & 62nd Street N

Existing Conditions

The intersection of CSAH 15 (Manning Avenue) & 62nd Street N is located on the border of the City of Grant and the City of Stillwater, and is currently controlled by sidestreet stop control. Left turns from the westbound 62nd Street approach currently experience delays during peak hours. These delays vary based on seasonal traffic, including traffic entering the adjacent apple orchard. This intersection is included in the ICRS Report because County staff have heard from residents that increasing traffic volumes on CSAH 15 are making it more difficult to find gaps in traffic during busy times of the day.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **1 of 8 Required Hours**

Warrant 1B: **4 of 8 Required Hours**

Warrant 1(A+B): **2 of 8 Required Hours**

Warrant 2: **3 of 4 Required Hours**

Warrant 3: **1 of 1 Required Hour**

Warrant 7: **Not Met**

2021 ICRS Rank: **9th**



Aerial Photo of Intersection

All-Way Stop Warrant, by the numbers:

All-Way Stop: **1 of 8 Required Hours**

Traffic Count Conducted in **2017**

Intersection
Location



ICRS Recommendation

The intersection currently meets Warrant 3 (Peak Hour Volume), and is close to meeting Warrant 2 (Four-Hour Volume), for traffic signal installation. However, it is not recommended for intersection control changes at this time. Under current volumes, the installation of an all-way stop or roundabout would unduly hinder CSAH 15 traffic during all hours of the day, for the benefit of a comparatively small number of vehicles on 62nd Street during peak times of the day.

It is expected that increasing traffic volumes and nearby development will cause this intersection to rank highly on the ICRS in the future. The east leg of this will likely be reconstructed in conjunction with adjacent development in the area. It is expected that a traffic signal will be warranted and installed at that time.

In addition, the construction of an interchange on TH 36 at Manning Avenue is ongoing with expected completion in 2022. County staff will continue to observe the impact that future adjacent interchange may have on this intersection in future years.

CSAH 15 (Manning Avenue) & CR 64 (McKusick Road)

Existing Conditions

The intersection of CSAH 15 (Manning Avenue) & CR 64 (McKusick Road) is located on the border of the City of Grant and the City of Stillwater, and is currently controlled by sidestreet stop control. The westbound CR 64 and eastbound McKusick Road approaches currently experience delays, particularly during peak hours. This intersection is included in the ICRS Report because increasing traffic volumes on CSAH 15 are making it difficult to find gaps in traffic during busy times of the day.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **0 of 8 Required Hours**

Warrant 1B: **3 of 8 Required Hours**

Warrant 1(A+B): **0 of 8 Required Hours**

Warrant 2: **1 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hour**

Warrant 7: **Not Met**

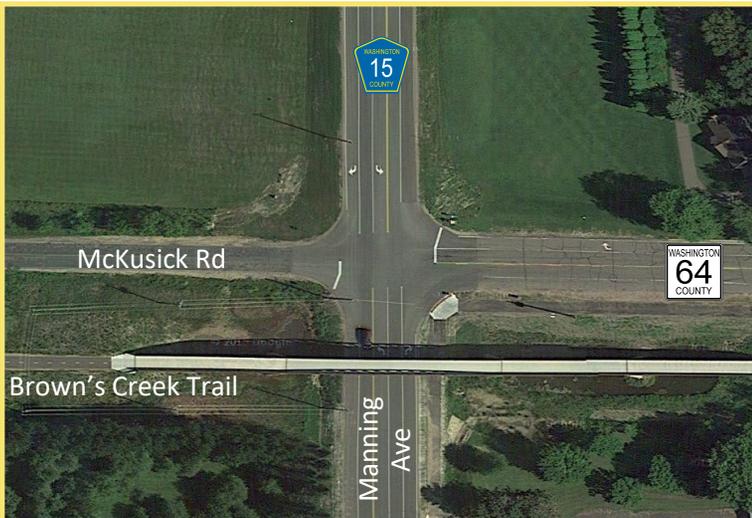
2021 ICRS Rank: 20th (Tie)

All-Way Stop Warrant, by the numbers:

All-Way Stop: **0 of 8 Required Hours**

Traffic Count Conducted in **2020**

Intersection
Location



Aerial Photo of Intersection

ICRS Recommendation

The intersection currently does not meet any warrants for traffic signal installation. It is therefore not recommended for intersection control changes at this time.

County staff expects that this intersection is a likely candidate for traffic signal installation in the future, and believes the relatively low ranking in this year's ICRS can be attributed in part to reduced traffic volumes due to the affects of the pandemic when the count took place. The Brown's Creek Trail Bridge was designed to accommodate a future traffic signal, and dedicated left turn lanes were installed on CSAH 15 in 2014 to improve safety and set up the CSAH 15 approaches to easily accommodate a future signal.

Installing a traffic signal would require extensive geometric modifications to the westbound and eastbound approaches, which would need to be widened to accommodate left and right turn lanes so that a potential traffic signal could operate efficiently and safely. This widening would also likely require acquisition of private property.

In the meantime, it is recommended that this intersection remain sidestreet stop controlled.

CSAH 15 (Manning Avenue) & CSAH 4 (170th Street N)

Existing Conditions

The intersection of CSAH 15 (Manning Avenue) & CSAH 4 (170th Street N) is located in May Township, and is currently controlled by an all-way stop. The intersection is in a rural area with high-speed approaches in all directions; the posted speed limit is 55 mph for both CSAH 4 and CSAH 15. This intersection was analyzed for the 2018 ICRS Report due to increasing congestion, as well as several crashes within the 2015-2017 crash analysis period. It has scored highly enough in subsequent years to remain in the 2021 ICRS Report.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **1 of 8 Required Hours**

Warrant 1B: **0 of 8 Required Hours**

Warrant 1(A+B): **0 of 8 Required Hours**

Warrant 2: **1 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hour**

Warrant 7: **Not Met**

2021 ICRS Rank: 17th (Tie)



Aerial Photo of Intersection

All-Way Stop Warrant, by the numbers:

All-Way Stop: **7 of 8 Required Hours**

This intersection currently operates as an all-way stop.

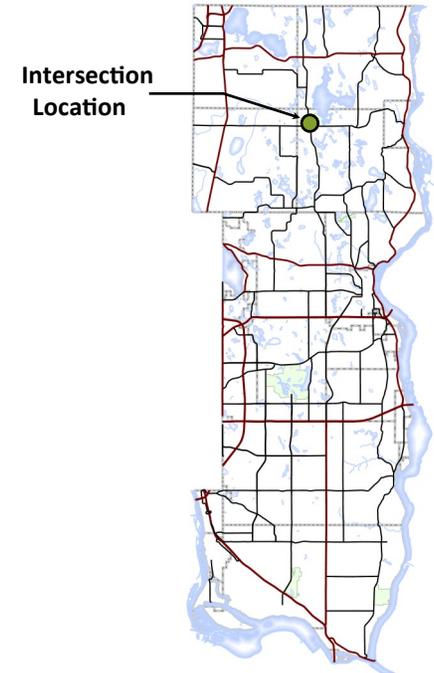
Traffic Count Conducted in **2018**

ICRS Recommendation

The intersection currently does not meet any warrants for traffic signal installation, and is currently an hour short of meeting the warrant for an all-way stop. However, this intersection is currently not recommended for intersection control changes at this time.

- Though the intersection does not currently meet the warrant for an all-way stop, it is within a few vehicles of meeting this warrant based on the most recent count. Also, traffic volumes are balanced among the approaches at this intersection.
- Installing a traffic signal or roundabout would require extensive geometric modifications to all four approaches. These modifications would have significant impacts to utilities and would also likely require the acquisition of private property.

In response to crashes at this intersection, county staff reviewed the crash records and the site and made changes to the southbound approach in 2016. These changes included the clearing of trees and improved sign placement. In 2019, County staff added red flashing beacons for the northbound and southbound approaches to increase the conspicuity of the intersection control to approaching motorists. There was only one crash during the 2018-2020 study period, so it appears this intersection is operating safely as an All-Way Stop.



CSAH 16 (Valley Creek Road) & Dancing Waters Pkwy/Woodcrest Dr

Existing Conditions

The intersection of CSAH 16 (Valley Creek Road) & Dancing Waters Parkway/Woodcrest Drive is located in the City of Woodbury, and is currently controlled by sidestreet stop control. This intersection was originally included in the 2018 ICRS Report because jurisdiction over this section of Valley Creek Road was transferred to Washington County, and due to the marked pedestrian crossing on the east leg. Safety research has demonstrated that providing crosswalk markings across multi-lane uncontrolled approaches, in the absence of other controls, significantly increases pedestrian crash risk. This intersection has scored highly enough to remain in the 2021 ICRS Report.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **1 of 8 Required Hours**

Warrant 1B: **2 of 8 Required Hours**

Warrant 1(A+B): **1 of 8 Required Hours**

Warrant 2: **1 of 4 Required Hours**

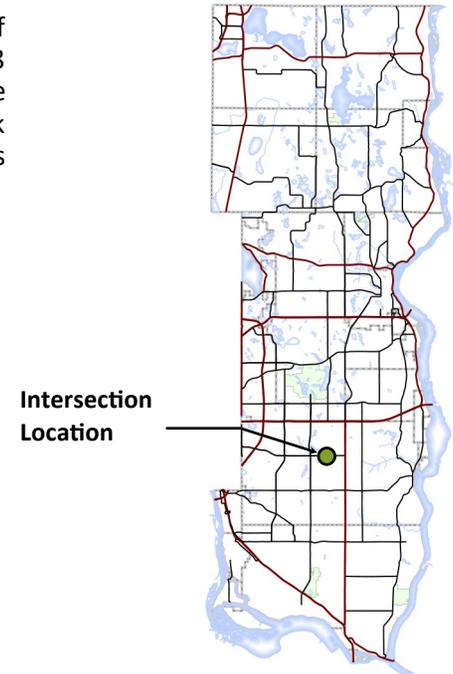
Warrant 3: **0 of 1 Required Hour**

Warrant 7: **Not Met**

All-Way Stop Warrant, by the numbers:

All-Way Stop: **7 of 8 Required Hours**

Traffic Count Conducted in **2018**



2021 ICRS Rank: **14th (Tie)**



Aerial Photo of Intersection

ICRS Recommendation

This intersection currently does not meet any warrants for traffic signal installation. It is however close to meeting the warrant for an all-way stop.

The intersection is currently operating safely, with a crash rate below the average rate for similar intersections on county roads statewide. Despite the concern with the marked multi-lane crosswalk on the east leg, there were zero pedestrian-related crashes during the 2018-2020 study period and only one crash in total.

Nonetheless, this in-place crosswalk serves a portion of the east-west pedestrian network in this area due to the lack of trails on the east leg of this intersection, and this is a challenging crossing given the speed of vehicles and number of lanes on Valley Creek Rd. Given those factors, a crosswalk beacon is likely an inadequate solution.

The City of Woodbury has indicated its support for installation of all-way stop control as an interim strategy in light of the traffic volume, the crosswalk issues, and anticipated continued growth in this area. County staff are preparing a proposal for all-way stop control at this intersection for County Board authorization in 2022.

CSAH 16 (Valley Creek Road) & Saint John's Drive

Existing Conditions

The intersection of CSAH 16 (Valley Creek Road) & Saint John's Drive is located in the City of Woodbury, and is currently controlled by sidestreet stop control. Jurisdiction over the section of Valley Creek Road between Woodbury Drive and Manning Avenue was transferred to Washington County in 2018. At the time this roadway was transferred, there was a marked pedestrian crossing across the uncontrolled east leg. Safety research has demonstrated that providing crosswalk markings across multi-lane uncontrolled approaches, in the absence of other controls, significantly increases pedestrian crash risk. This intersection was originally included in the 2018 ICRS Report due to concerns regarding that unmarked crossing. That marked crossing has since been discontinued, yet this intersection has still scored highly enough to remain in subsequent editions of the ICRS Report.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **0 of 8 Required Hours**

Warrant 1B: **2 of 8 Required Hours**

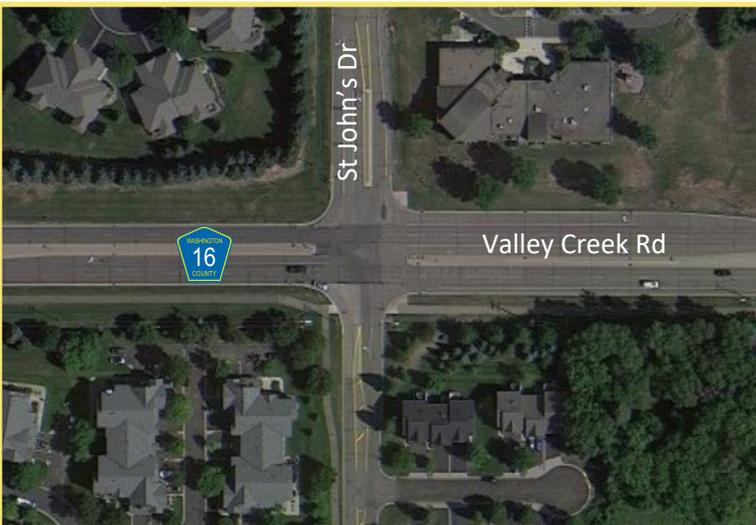
Warrant 1(A+B): **0 of 8 Required Hours**

Warrant 2: **1 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hour**

Warrant 7: **Not Met**

2021 ICRS Rank: 13th



Aerial Photo of Intersection

All-Way Stop Warrant, by the numbers:

All-Way Stop: **3 of 8 Required Hours**

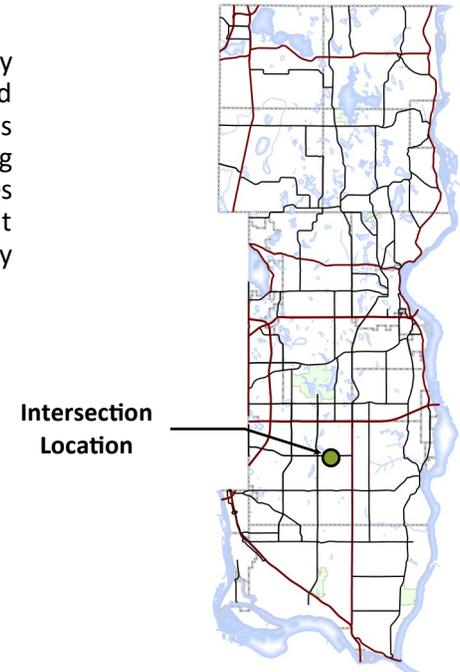
Traffic Count Conducted in **2018**

ICRS Recommendation

The intersection currently does not meet any warrants for traffic signal or all-way stop installation. However, there were three crashes during this study period that could have potentially been corrected by the presence of either an all-way stop or traffic signal, and all of those correctable crashes involved a northbound vehicle.

The County will likely install an additional stop sign on the left side of the northbound and southbound approaches to improve visibility of the stop signs. The County will also work with the City of Woodbury to explore additional options to reinforce to motorists approaching on the minor street that this is a two-way stop controlled intersection, as it is possible that there may be a misconception to some motorists that this is an all-way stop.

County staff will continue to monitor this intersection in future years.



CSAH 16 (Valley Creek Road) & Settlers Ridge Parkway

Existing Conditions

The intersection of CSAH 16 (Valley Creek Road) & Settlers Ridge Parkway is located in the City of Woodbury, and is currently controlled by all-way stop control. This intersection is included in the 2021 ICRS Report because jurisdiction over this section of Valley Creek Road was transferred to Washington County a few years ago, and this intersection is in an area that is adjacent to growing development.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **0 of 8 Required Hours**

Warrant 1B: **2 of 8 Required Hours**

Warrant 1(A+B): **0 of 8 Required Hours**

Warrant 2: **1 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hour**

Warrant 7: **Not Met**

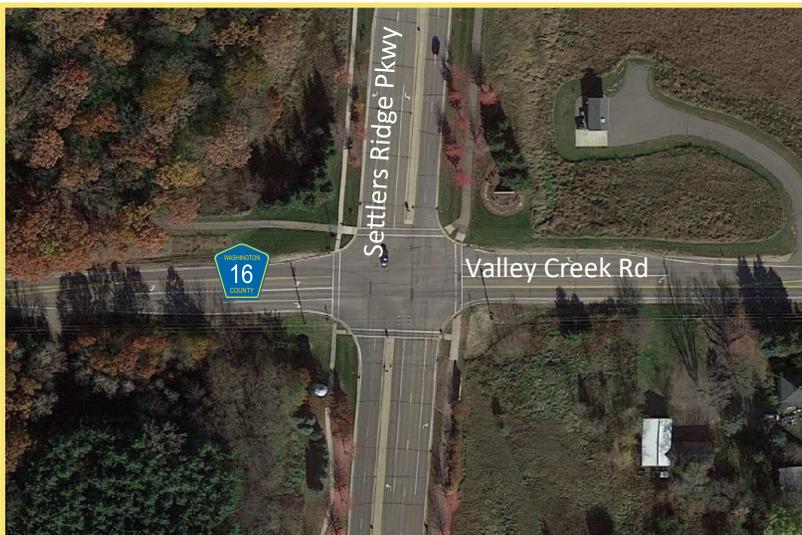
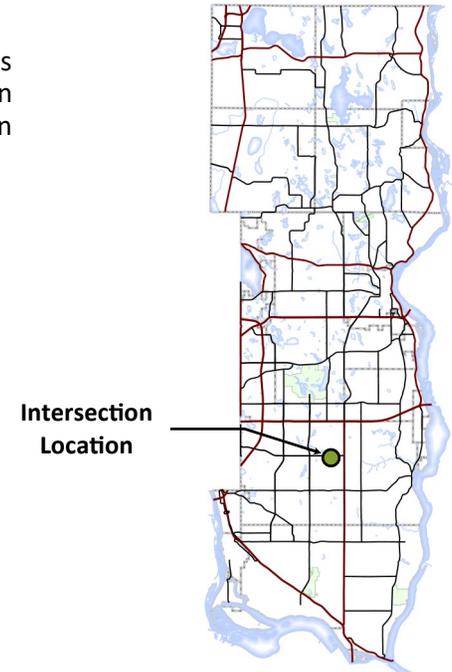
2021 ICRS Rank: **30th (Tie)**

All-Way Stop Warrant, by the numbers:

All-Way Stop: **3 of 8 Required Hours**

This intersection currently operates as an all-way stop.

Traffic Count Conducted in **2020**



Aerial Photo of Intersection

ICRS Recommendation

Even though this intersection didn't meet the All-Way Stop Warrant according to the counts that were conducted in November 2020, it is presumed that the count volumes were depressed due to there being less traffic during the pandemic. This intersection should remain an all-way stop at this time due to the following reasons:

- The intersection is currently operating safely, with a crash rate below the average rate for similar intersections on county roads statewide
- Converting the intersection to two-way stop control would likely induce new safety issues due to constrained sight lines, in-place multi-lane pedestrian crossings, and ingrained driver habits.

CSAH 18 (Bailey Road) & Cottage Grove Drive/Settlers Ridge Parkway

Existing Conditions

The intersection of CSAH 18 (Bailey Road) & Cottage Grove Drive/Settlers Ridge Parkway is located in the City of Woodbury, and is currently controlled by sidestreet stop control. This intersection is included in the 2021 ICRS Report because it is located in an area of the County that is experiencing increased development and traffic growth. In addition, several injury crashes occurred at this location in 2013 when CSAH 18 was being used as a detour route for a construction project on CSAH 19, which caused local residents to raise safety concerns about the intersection. County staff were interested in evaluating the intersection to verify that it was operating safely and efficiently.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **0 of 8 Required Hours**

Warrant 1B: **0 of 8 Required Hours**

Warrant 1(A+B): **0 of 8 Required Hours**

Warrant 2: **0 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hour**

Warrant 7: **Not Met**

2021 ICRS Rank: **20th (Tie)**



Aerial Photo of Intersection

All-Way Stop Warrant, by the numbers:

All-Way Stop: **12 of 8 Required Hours**

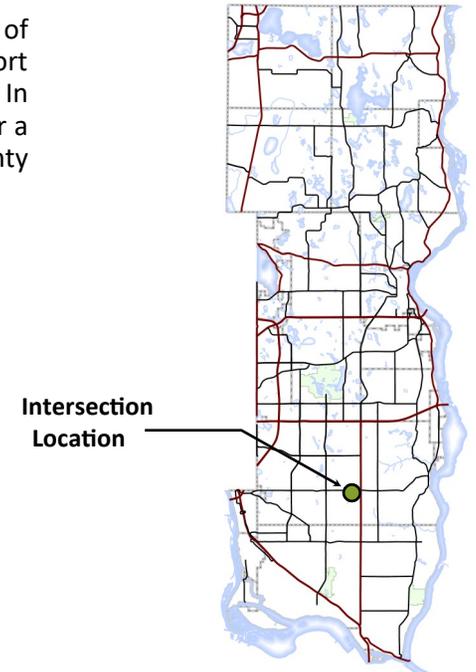
During the highest hour, average delay to minor street vehicles does not average at least 30 seconds per vehicle, which is a condition of this warrant. Thus, the all-way stop warrant is not met.

Traffic Count Conducted in **2019**

ICRS Recommendation

The intersection currently does not meet any warrants for traffic signal installation. However, there has been a consistent pattern of crashes involving southbound vehicles at this intersection, including a spate that occurred after the 2018-2020 study period and just before the release of this report. As a result, the County has worked with the City of Woodbury to enhance signing on the southbound approach.

This intersection is a candidate for a roundabout installation in the future, but such a project is not currently programmed. The City of Woodbury has indicated its support for installation of all-way stop control as an interim strategy in light of the crash history and anticipated continued growth in this area. County staff are preparing a proposal for all-way stop control for County Board authorization in 2022.



CSAH 18 (Bailey Road) & Monticello Drive

Existing Conditions

The intersection of CSAH 18 (Bailey Road) & Monticello Drive is located in the City of Woodbury, and is currently controlled by sidestreet stop control. The south leg of the intersection serves as one of two access points to St. Ambrose Church and School, which is located immediately southwest of the intersection. The northbound approach currently experiences delays during the AM drop-off and PM pick-up times for the school and before and after church services. Inbound vehicle movements into the St. Ambrose site also have limited capacity due to the short available weaving distance within the site, sometimes leading to queueing in the left turn lane.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **0 of 8 Required Hours**

Warrant 1B: **2 of 8 Required Hours**

Warrant 1(A+B): **1 of 8 Required Hours**

Warrant 2: **1 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hour**

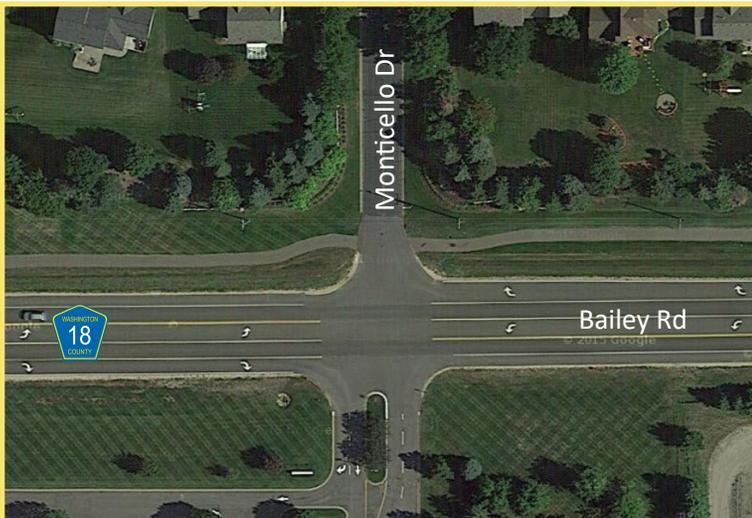
Warrant 7: **Not Met**

All-Way Stop Warrant, by the numbers:

All-Way Stop: **0 of 8 Required Hours**

Traffic Count Conducted in **2017**

2021 ICRS Rank: **14th (Tied)**



Aerial Photo of Intersection



Intersection Location

ICRS Recommendation

The intersection currently does not meet any warrants for traffic signal installation. It is therefore not recommended for intersection control changes at this time due to the following reasons:

- The intersection is currently operating safely, with a crash rate at or below the average rate for similar intersections in the Metro area. In fact, there were zero reported crashes during the 2018-2020 study period for this intersection.
- Although the intersection experiences congestion on the northbound approach during the peak times for the St. Ambrose site, the congestion lasts for only a short duration. The intersection is operating efficiently during the majority of the day on both weekdays and weekends.
- Under existing traffic volumes, the installation of a traffic signal would be expected to increase overall delay and increase the crash rate at the intersection.
- The installation of a traffic signal would not improve the inbound capacity into the site.

Due to the above reasons it is recommended that this intersection remain sidestreet stop controlled at this time.

CSAH 19 (Keats Avenue) & 80th Street S

Existing Conditions

The intersection of CSAH 19 (Keats Avenue) & 80th Street S is located in the City of Cottage Grove, and is currently controlled by an all-way stop. This intersection is included in the 2021 ICRS Report because it is located in an area of the County that is experiencing increased development and traffic growth, and the County has received comments from the City of Cottage Grove and from residents regarding vehicles sometimes failing to stop.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **2 of 8 Required Hours**

Warrant 1B: **4 of 8 Required Hours**

Warrant 1(A+B): **5 of 8 Required Hours**

Warrant 2: **4 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hour**

Warrant 7: **Not Met**

2021 ICRS Rank: **8th**



Aerial Photo of Intersection

All-Way Stop Warrant, by the numbers:

All-Way Stop: **7 of 8 Required Hours**

This intersection currently operates as an all-way stop.

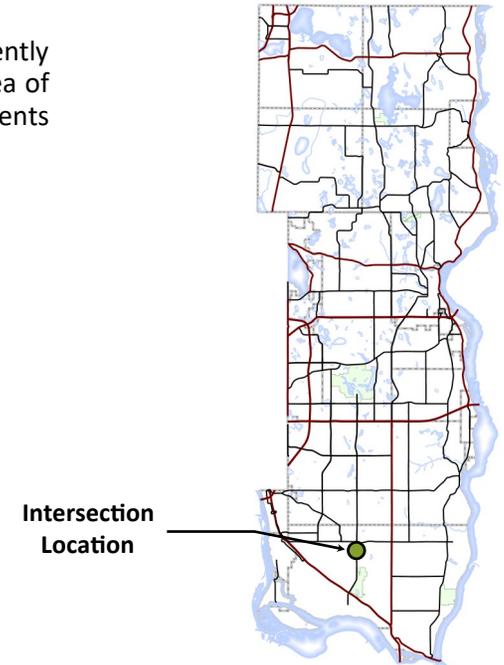
Traffic Count Conducted in **2018**

ICRS Recommendation

While this intersection didn't meet all required hours of the all-way stop warrant based on the 2018 traffic count, it likely would have if the count had taken place one hour longer into the evening. The intersection currently meets Warrant 2 (Four-Hour Volume) for traffic signal installation.

This intersection has a Capital Improvement Plan (CIP) project programmed for construction in 2026 in anticipation of traffic growth in the area. That project will likely involve the construction of a roundabout. Until then, intersection control changes are not recommended for to the following reasons:

- Although the intersection currently experiences some minor congestion during peak hours, it is operating efficiently during the majority of the day.
- In 2019, County staff added red flashing beacons for the northbound and southbound approaches to increase the conspicuity of the intersection control to approaching motorists and address concern that drivers were running the stop signs.
- The intersection is currently operating safely, with a crash rate below the average rate for similar intersections on county roads statewide, and only one total crash during the 2018-2020 study period.



CSAH 19 (Keats Avenue) & 90th Street S/Ravine Parkway - South Jct

Existing Conditions

The intersection of CSAH 19 (Keats Avenue) & 90th Street S/Ravine Parkway is located in the City of Cottage Grove, and is currently sidestreet stop controlled. This intersection is included in the 2021 ICRS Report because it is located in an area of the County that is experiencing increased development and traffic growth. Also, the County has received feedback in the past from area residents that this is a difficult intersection to navigate, particularly from the minor approaches, and that CSAH 19 is difficult to cross for vehicles, bicyclists, and pedestrians.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **0 of 8 Required Hours**

Warrant 1B: **2 of 8 Required Hours**

Warrant 1(A+B): **0 of 8 Required Hours**

Warrant 2: **0 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hour**

Warrant 7: **Not Met**

All-Way Stop Warrant, by the numbers:

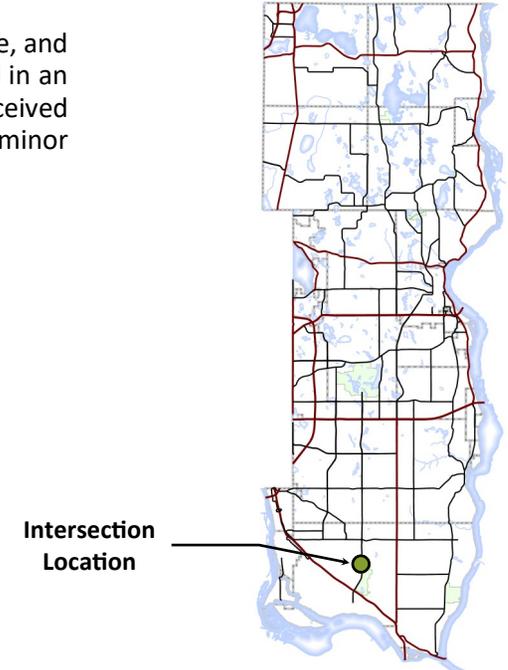
All-Way Stop: **0 of 8 Required Hours**

Traffic Count Conducted in **2019**

2021 ICRS Rank: **20th (Tie)**



Aerial Photo of Intersection



ICRS Recommendation

The intersection currently does not meet any warrants for traffic signal installation. It is therefore not recommended for intersection control changes at this time due to the following reasons:

- Although the westbound and eastbound approaches currently experience minor delays during portions of the day, the intersection is operating efficiently during the majority of the day.
- Under existing volumes, the installation of a traffic signal would be expected to increase overall delay and increase the crash rate at the intersection.

This intersection, as currently configured, can be difficult to negotiate for traffic on the minor approaches. County staff will continue to monitor crash patterns at this intersection in future years. In the meantime, it will remain sidestreet stop controlled.

CSAH 19 (Keats Avenue) & Ravine Parkway - North Junction

Existing Conditions

The intersection of CSAH 19 (Keats Avenue) & Ravine Parkway (North Junction) is located in the City of Cottage Grove, and is currently sidestreet stop controlled. Ravine Parkway was recently constructed between Jamaica and Keats Avenues, replacing Military Road that used to connect these routes nearby. This intersection is included in the ICRS Report because it is located in an area of the County that is experiencing increased development and traffic growth, and to observe how this new intersection is performing.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **0 of 8 Required Hours**

Warrant 1B: **0 of 8 Required Hours**

Warrant 1(A+B): **0 of 8 Required Hours**

Warrant 2: **0 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hour**

Warrant 7: **Not Met**

All-Way Stop Warrant, by the numbers:

All-Way Stop: **0 of 8 Required Hours**

Traffic Count Conducted in **2020**

2021 ICRS Rank: **34th (Tie)**



Aerial Photo of Intersection



Intersection
Location

ICRS Recommendation

This intersection currently does not meet any warrants for traffic signal installation or All-Way Stop control. The intersection is operating safely, with zero reported crashes during the 2018-2020 study period. It is therefore recommended that this intersection remain sidestreet stop controlled at this time.

CSAH 19 (Woodbury Drive) & Ambrose Road

Existing Conditions

The intersection of CSAH 19 (Woodbury Drive) & Ambrose Road is located in the City of Woodbury, and is currently controlled by sidestreet stop control. This intersection serves Saint Ambrose of Woodbury Catholic Church to the east, as well as an affiliated parochial school and early childhood education center. There has been recent residential development to the west, and more developments are currently being planned or are already under construction. In addition, Woodbury Drive is experiencing increasing traffic volumes along this corridor. This intersection is included in the 2021 ICRS Report because it is in an area of rapid development, and the County has recently completed a roadway expansion south of this intersection.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **0 of 8 Required Hours**

Warrant 1B: **0 of 8 Required Hours**

Warrant 1(A+B): **0 of 8 Required Hours**

Warrant 2: **0 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hour**

Warrant 7: **Not Met**

All-Way Stop Warrant, by the numbers:

All-Way Stop: **0 of 8 Required Hours**

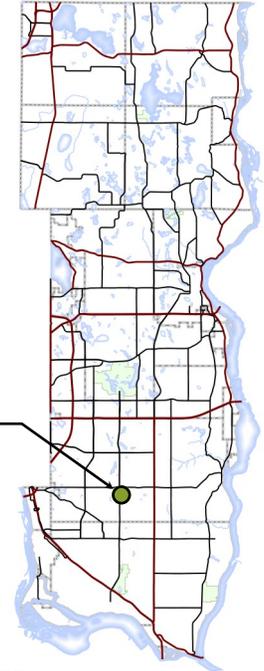
Traffic Count Conducted in **2021**

2021 ICRS Rank: 30th (Tie)



Aerial Photo of Intersection

**Intersection
Location**



ICRS Recommendation

Note: Saint Ambrose of Woodbury Catholic School was in session the day the traffic count took place, with all students attending in person.

It is recommended that this intersection remain sidestreet stop controlled at this time, for the following reasons:

- The intersection currently does not meet any warrants for traffic signal installation, nor does it meet the All-Way Stop Warrant.
- The intersection is currently operating safely, with a crash rate below the average rate for similar intersections on county roads statewide.
- Although the westbound and eastbound approaches currently experience minor congestion during portions of the day, those periods of congestion are typically short in duration. The intersection operates efficiently during the majority of the day.

This area will continue to be monitored and will require renewed study if and when a pedestrian connection is established into the St. Ambrose campus in this area. Currently, pedestrian connections from the St. Ambrose building to the county road do not exist.

CSAH 21/14 (Stagecoach Trail) & CSAH 14 (47th Street N)

Existing Conditions

The intersection of CSAH 21/14 (Stagecoach Trail) & CSAH 14 (47th Street N) is located in Baytown Township, and is currently controlled by sidestreet stop control. This intersection is located adjacent to areas of recent development, as well as a nearby school. This was included in the 2019 ICRS Report due to concerns regarding delay from the minor approach. It has scored highly enough in subsequent years to remain in the 2021 ICRS Report.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **1 of 8 Required Hours**

Warrant 1B: **0 of 8 Required Hours**

Warrant 1(A+B): **0 of 8 Required Hours**

Warrant 2: **1 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hour**

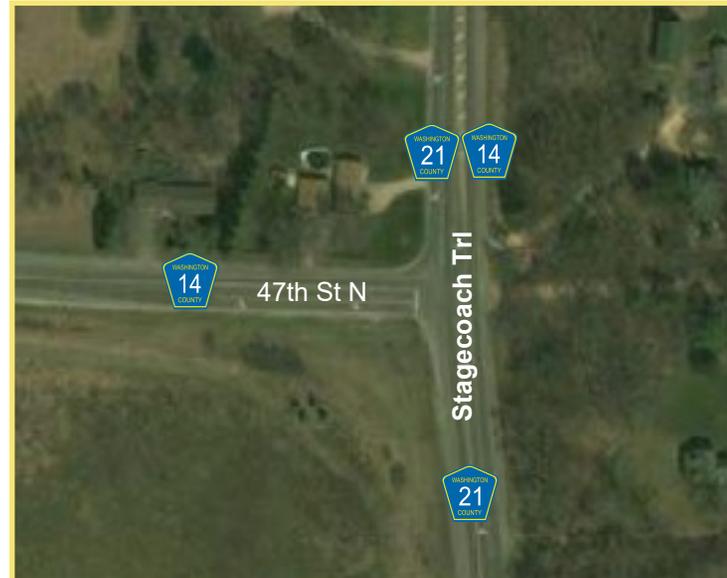
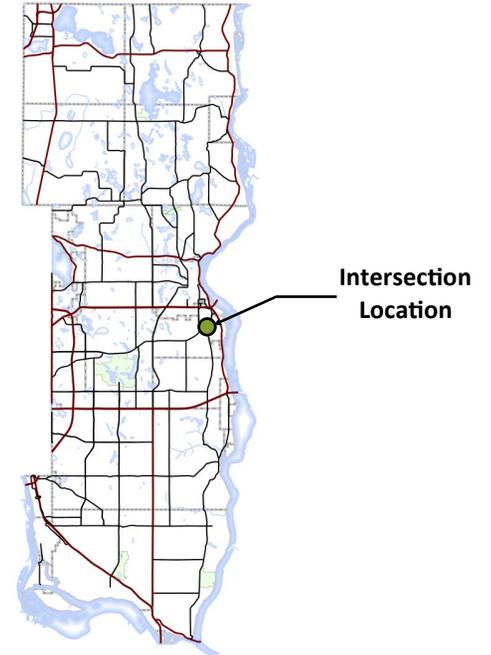
Warrant 7: **Not Met**

2021 ICRS Rank: 17th (Tied)

All-Way Stop Warrant, by the numbers:

All-Way Stop: **6 of 8 Required Hours**

Traffic Count Conducted in **2019**



Aerial Photo of Intersection

ICRS Recommendation

The intersection is not recommended for intersection control changes at this time due to the following reasons:

- This intersection does not meet any warrants for traffic signal installation. It also does not meet warrants for an All-Way Stop.
- Although the left turns from the northbound CSAH 21 and eastbound CSAH 14 approaches often experience delays during peak hours, the delays are typically not severe, and the intersection is operating efficiently during the majority of the day.
- The installation of an all-way stop would hinder CSAH 21 traffic during all hours of the day, and might increase rear end crashes.
- In 2017, left turn lanes were constructed for the northbound and southbound approaches to reduce rear end crash risk for traffic in those directions. This has also reduced delay for traffic making the eastbound-to-northbound movement.

CSAH 22 (70th Street S) & Idsen Avenue

Existing Conditions

The intersection of CSAH 22 (70th Street N) & Idsen Avenue is located in the City of Cottage Grove, and is currently controlled by sidestreet stop control. This intersection is located in an area that is undergoing rapid development. This intersection is included in the 2021 ICRS Report at the request of the City of Cottage Grove due to concerns regarding pedestrians crossing at this intersection to access the adjacent park and athletic fields on the north side of CSAH 22.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **0 of 8 Required Hours**

Warrant 1B: **0 of 8 Required Hours**

Warrant 1(A+B): **0 of 8 Required Hours**

Warrant 2: **0 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hour**

Warrant 7: **Not Met**

2021 ICRS Rank: 30th (Tie)

All-Way Stop Warrant, by the numbers:

All-Way Stop: **0 of 8 Required Hours**

Traffic Count Conducted in **2021**



Aerial Photo of Intersection

ICRS Recommendation

The intersection currently does not meet any warrants for traffic signal installation, nor does it meet the warrant for an All-Way Stop. Thus, it is not recommended for intersection control changes at this time due to the following reasons:

- Minor street traffic falls far short of meeting any traffic signal warrant for any hour.
- There were not any reported crashes involving pedestrians or bicyclists during the 2018-2020 study period.
- Under existing traffic volumes, the installation of a traffic signal would be expected to increase overall delay and increase the crash rate at the intersection.
- Construction of center left turn lanes on CSAH 22 and right turn lanes on Idsen Avenue would be required for a traffic signal to operate safely and efficiently.

Washington County and the City of Cottage Grove are exploring a potential proposal to install a pedestrian tunnel east of this intersection. In the meantime, it is recommended that this intersection remain sidestreet stop controlled.

CSAH 22 (70th Street S) & Jensen Avenue

Existing Conditions

The intersection of CSAH 22 (70th Street N) & Jensen Avenue is located in the City of Cottage Grove, and is currently controlled by sidestreet stop control. This intersection is located in an area that is undergoing steady growth, near numerous new housing developments. This intersection is included in the 2021 ICRS Report at the request of the City of Cottage Grove due to resident concerns about safety and wait times when crossing CSAH 22 as a pedestrian or bicyclist in this segment.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **0 of 8 Required Hours**

Warrant 1B: **0 of 8 Required Hours**

Warrant 1(A+B): **0 of 8 Required Hours**

Warrant 2: **0 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hour**

Warrant 7: **Not Met**

2021 ICRS Rank: 34th (Tie)

All-Way Stop Warrant, by the numbers:

All-Way Stop: **0 of 8 Required Hours**

Traffic Count Conducted in **2021**



Aerial Photo of Intersection

ICRS Recommendation

This intersection is not recommended for traffic control changes at this time due to the following reasons:

- The intersection currently does not meet any warrants for traffic signal installation, nor does it meet the warrant for an All-Way Stop.
- There were zero reported crashes at the intersection during the 2018-2020 study period.
- Under existing traffic volumes, the installation of a traffic signal would be expected to increase overall delay and increase the crash rate at the intersection.

It is recommended that this intersection remain sidestreet stop controlled at this time.

CSAH 22 (70th Street S) & Joliet Avenue

Existing Conditions

The intersection of CSAH 22 (70th Street N) & Joliet Avenue is located in the City of Cottage Grove, and is currently controlled by sidestreet stop control. This intersection is located in an area that is undergoing steady growth, near numerous new housing developments. This intersection is included in the 2021 ICRS Report at the request of the City of Cottage Grove due to resident concerns about safety and wait times when crossing CSAH 22 as a pedestrian or bicyclist.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **0 of 8 Required Hours**

Warrant 1B: **2 of 8 Required Hours**

Warrant 1(A+B): **0 of 8 Required Hours**

Warrant 2: **0 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hour**

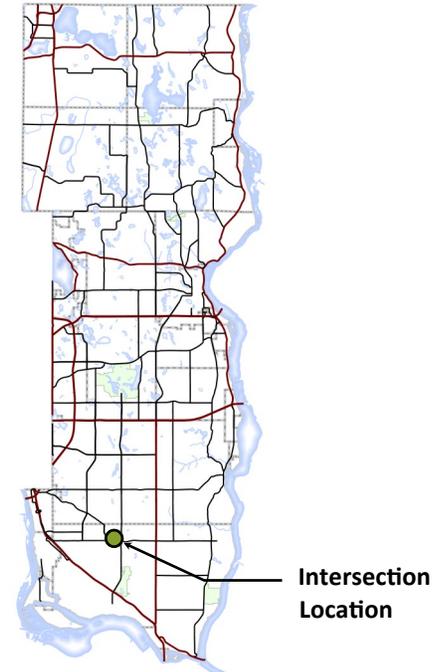
Warrant 7: **Not Met**

2021 ICRS Rank: 20th (Tie)

All-Way Stop Warrant, by the numbers:

All-Way Stop: **1 of 8 Required Hours**

Traffic Count Conducted in **2021**



Aerial Photo of Intersection

ICRS Recommendation

The traffic counts taken at this intersection in September 2021 indicate that it currently does not meet any warrants for traffic signal installation or all-way stop control. There were also zero reported crashes during the 2018-2020 study period.

This intersection provides a link in the area sidewalk and trail network; however, current pedestrian and bicycle crossings of CSAH 22 during favorable weather totaled only 29 per day, with a maximum observed rate of six crossings per hour. Current guidance would suggest that this location is not a suitable site for a pedestrian beacon or uncontrolled crosswalk due to the observed speed and number of lanes. Although a traffic signal can be useful to create gaps and limit delay for pedestrians, a traffic signal will also substantially increase typical pedestrian delay, and is not a proven strategy to reduce pedestrian crashes.

Washington County will continue to monitor this intersection in light of anticipated continued growth updated safety guidance with respect to pedestrian crossing treatment options. In the meantime, it is recommended that this intersection remain sidestreet stop controlled.

CSAH 22 (Summit Avenue) & Saint Paul Park Road

Existing Conditions

The intersection of CSAH 22 (Summit Avenue) & Saint Paul Park Road is located in the City of Saint Paul Park, and is currently controlled by sidestreet stop control. This intersection has been experiencing issues related to heavy truck traffic since truck access from the oil refinery to the Glen Road interchange was restricted in the early 2000's. The County has received requests for increased traffic control at this intersection over the years from residents and truck drivers, due to safety concerns related to the lack of gaps in traffic for loaded tanker trucks making left turns from St. Paul Park Road onto northbound CSAH 22.

Traffic Signal Warrants, by the numbers*:

Warrant 1A: **11 of 8 Required Hours**

Warrant 1B: **8 of 8 Required Hours**

Warrant 1(A+B): **13 of 8 Required Hours**

Warrant 2: **11 of 4 Required Hours**

Warrant 3: **2 of 1 Required Hour**

Warrant 7: **Not Met**

*NOTE Trucks counted as 3 equivalent passenger vehicles at this location due to the unusually high truck percentages, and their size and acceleration characteristics.

2021 ICRS Rank: 2nd



Aerial Photo of Intersection

All-Way Stop Warrant, by the numbers:

All-Way Stop: **9 of 8 Required Hours**

Not recommended, because the proximity to adjacent intersections would be problematic.

Traffic Count Conducted in **2018**

ICRS Recommendation

Prior to 2012, annual County analyses of this intersection did not indicate that the intersection was meeting traffic signal warrants. County staff took a different look at the intersection in late 2012, electing to count each semi truck as 3 equivalent passenger vehicles due to their size and acceleration characteristics. Using these criteria, the intersection meets several warrants for traffic signal installation. County staff now concur that the installation of a traffic signal could be beneficial at this location and could allow for the removal of the “no turn on red” restriction at the southbound exit ramp, which was installed to create gaps in traffic at St. Paul Park Road.

However, the City of St. Paul Park withheld support for a traffic signal at this location in early 2013, and asked that the County instead try and improve the operation of the traffic signals at the US 61/10 & CSAH 22 interchange¹. The County subsequently completed a traffic signal improvement project in the interchange area in late 2016.

County staff remain ready to support proceeding with a traffic signal design and programming a signal installation at the CSAH 22 & Saint Paul Park Road intersection if and when such a project is supported by the City.

1.) https://www.republicaneagle.com/news/government/st-paul-park-city-council-opposes-fourth-stoplight-near-hwy-61-summit-avenue/article_e34b9938-38ce-5f1f-bf48-8a458f13cf79.html



Intersection Location

CSAH 24 (Osgood Avenue) & CSAH 26 (59th Street N)

Existing Conditions

The intersection of CSAH 24 (Osgood Avenue) & CSAH 26 (59th Street N) is located in the City of Oak Park Heights, and is currently controlled by sidestreet stop control. The east leg of this intersection was added in 2016 when CSAH 26 (60th Street, or the TH 36 South Frontage Road) was closed to the east of CSAH 24, and realigned to the south to connect to CSAH 24 at this location. The intersection is included in the ICRS Report because County staff have been interested in evaluating it following the frontage road realignment to determine if there are any operational or safety issues.

Traffic Signal Warrants, by the numbers:

Warrant 1A: **0 of 8 Required Hours**

Warrant 1B: **1 of 8 Required Hours**

Warrant 1(A+B): **0 of 8 Required Hours**

Warrant 2: **0 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hour**

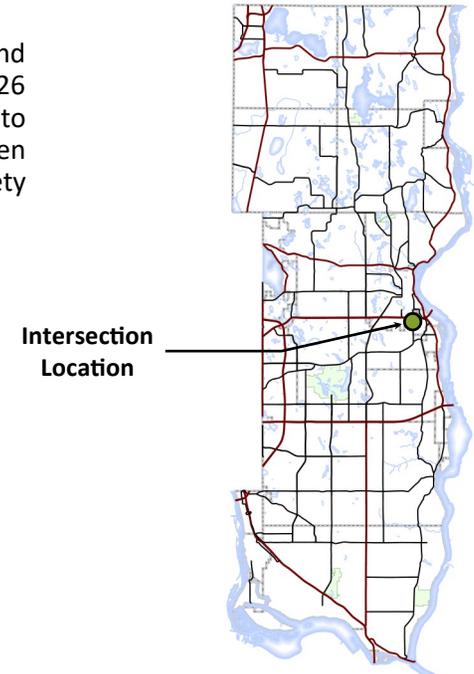
Warrant 7: **Not Met**

2021 ICRS Rank: 20th (Tie)

All-Way Stop Warrant, by the numbers:

All-Way Stop: **1 of 8 Required Hours**

Traffic Count Conducted in **2016**



Aerial Photo of Intersection

ICRS Recommendation

The intersection currently does not meet any warrants for traffic signal installation. It is therefore not recommended for intersection control changes at this time due to the following reasons:

- Although the westbound and eastbound 59th Street approaches currently experience minor delays during portions of the day, the intersection is operating efficiently during the majority of the day.
- Under existing volumes, the installation of a traffic signal would be expected to increase overall delay and increase the crash rate at the intersection.
- The southbound left-turn lane as currently constructed is insufficient to support signalized operation.

The County has secured funding to realign the south frontage road of TH 36 west of CSAH 24 (Osgood Avenue). Construction of this work is programmed for 2022.

This intersection will remain sidestreet stop controlled both now and after completion of the project. However, County staff will continue to monitor this intersection, as it is a possible candidate for traffic signal installation in the future.

CR 38 (Maxwell Avenue) & Red Rock Road

Existing Conditions

The intersection of CR 38 (Maxwell Avenue) & Red Rock Road is located in the City of Newport, and is currently controlled by sidestreet stop control. Traffic on the eastbound Red Rock Road approach sometimes experiences delays during peak hours due to southbound congestion extending from the I-494 interchange. The County was asked to evaluate this intersection as a part of the 2018 ICRS Report due to difficulty for vehicles on the Red Rock Road approach finding gaps, particularly due to the high volume of truck traffic in the area, as well as safety concerns, and it has scored well enough to remain included in subsequent reports.

Traffic Signal Warrants, by the numbers*:

Warrant 1A: **0 of 8 Required Hours**

Warrant 1B: **2 of 8 Required Hours**

Warrant 1(A+B): **2 of 8 Required Hours**

Warrant 2: **0 of 4 Required Hours**

Warrant 3: **0 of 1 Required Hour**

Warrant 7: **Not Met**

*NOTE Trucks counted as 3 equivalent passenger vehicles at this location due to the unusually high truck percentages, and their size and acceleration characteristics.

2021 ICRS Rank: 14th (Tie)



Aerial Photo of Intersection

All-Way Stop Warrant, by the numbers:

All-Way Stop: **5 of 8 Required Hours**

Traffic Count Conducted in **2018**

Intersection
Location



ICRS Recommendation

County staff elected to count each semi truck as 3 equivalent passenger vehicles due to their size and acceleration characteristics when evaluating this intersection. Though this intersection sometimes experiences congestion during the morning peak hours, it is not recommended for intersection traffic control changes at this time due to the following reasons:

- Under existing traffic volumes, the installation of a traffic signal would be expected to increase overall delay and increase the crash rate at the intersection.
- Although the installation of an all-way stop would reduce delays on the eastbound approach during peak traffic times, the overall delay at the intersection would be expected to be significantly worse than existing conditions due to the congestion that an all-way stop would cause on CR 38.

The Minnesota Department of Transportation recently completed a two-year project to improve capacity on westbound I-494 west of the Wakota Bridge over the Mississippi River. This project, as well as changes in commuting patterns as a result of the pandemic, may have alleviated some of the congestion at the CR 38 and Red Rock Road intersection during peak hours. County staff will monitor traffic levels at this intersection in the future.

Summary

Of the 37 intersections that were included in the 2021 Intersection Control Ranking System (ICRS) Report, 8 met one or more of the MnMUTCD traffic signal warrants. The chart below summarizes each of the 8 intersections, including their rank in the ICRS, the warrants that were met at each location, and how each of the intersections is being addressed by the Public Works Department.

The remaining intersections not listed in this table do not meet any traffic signal warrants. County staff will continue to monitor those remaining intersections, paying particular attention to ones that rank highly and are close to meeting warrants. Full ranking information can be found on the following page.

ICRS Rank	Intersection	City and/or Township	Warrants Met	Status
1	CSAH 5 (Owens St) & CSAH 12 (Myrtle St)	Stillwater	8-Hour, 4-Hour, Peak Hour	County staff remain ready to support an intersection improvement project if and when such a project is supported by the City.
2	CSAH 22 (Summit Ave) & Saint Paul Park Rd	Saint Paul Park	8-Hour, 4-Hour, Peak Hour	County staff remain ready to support a traffic signal if supported by the City.
3	CSAH 10 (10th St N) & CSAH 19 (Keats Ave)	Lake Elmo	4-Hour, Peak Hour	This intersection will remain all-way stop controlled at this time. However, County staff acknowledges that this intersection meets warrants and ranks highly, and recommends it be considered for a future Capital Improvement Plan (CIP) project.
4	CSAH 6 (Stillwater Blvd) & CSAH 13 (Inwood Ave)	Lake Elmo	4-Hour, Peak Hour	This intersection is recommended to remain an all-way stop at this time. County staff will continue to monitor this intersection, and it may be a candidate for a future CIP project.
8	CSAH 19 (Keats Ave) & 80th St S	Cottage Grove	4-Hour	This intersection will remain all-way stop controlled at this time. The intersection may be a candidate for a future CIP project as funding becomes available.
9	CSAH 15 (Manning Ave) & 62nd St N	Grant/ Stillwater	Peak Hour	A traffic signal will likely be installed at this location when adjacent development occurs and the east leg is reconstructed. It is assumed that this intersection will meet other warrants in addition to the one-hour peak hour volume warrant at that time.
11	CSAH 8 (Frenchman Rd) & Oneka Pkwy	Hugo	Peak Hour	A traffic signal is programmed to be installed as part of a Capital Improvement Plan (CIP) project in 2024, though the County and City are in discussions to move the project up to 2022. In the meantime, this intersection will remain sidestreet stop controlled.
17 (Tie)	CSAH 14/24 (Osgood Avenue) & CSAH 14 (47th Street N)	Baytown Township	Intersection Near a Grade Crossing	A traffic signal will be installed as part of an upcoming project programmed in 2023 that will realign the intersection northward and address the bump at the railroad crossing.

2021 Washington County Intersection Control Ranking System (ICRS)

2021 Rank	Intersection	Year Data Collected	MN MUTCD Traffic Volume Warrants (Hours Met)					Warrant Points	2018-2020 Correctable Crashes		Crash Points	Total ICRS Points
			Warrant 1A	Warrant 1B	Warrant 1(A+B)	Warrant 2	Warrant 3		K & A	B, C, & PDO		
1	CSAH 5 (Owens St) & CSAH 12 (Myrtle St)	2018	12	5	11	6	3	21	0	4	1.3	22.3
2	CSAH 22 (Summit Ave) & St. Paul Park Rd	2018	11	8	12	6	2	20	0	3	1.0	21.0
3	CSAH 10 (10th St N) & CSAH 19 (Keats Ave)	2018	7	3	4	4	3	14	0	0	0.0	14.0
4	CSAH 6 (Stillwater Blvd) & CSAH 13 (Inwood Ave)	2021	5	1	3	4	2	11	0	1	0.3	11.3
8	CSAH 19 (Keats Ave) & 80th St S	(1) 2018	2	4	5	4	0	9	0	1	0.3	9.3
9	CSAH 15 (Manning Ave) & 62nd St N	(1) 2017	1	4	2	3	1	8	0	1	0.3	8.3
11	CSAH 8 (Frenchman Rd) & Oneka Pkwy	(1) 2019	0	3	1	3	1	7	0	2	0.7	7.7
T17	CSAH 14/24 (Osgood Ave) & CSAH 14 (47th St N)	(1,2) 2018	0	1	1	1	0	2	0	1	0.3	2.3
T5	CSAH 6 (Stillwater Blvd) & CSAH 13 (Ideal Ave)/Helmo Ave	2014	4	0	1	3	0	7	1	5	2.7	9.7
T5	CSAH 12 (Stillwater Rd) & East Ave/Hallam Ave	2016	0	5	0	3	0	8	0	5	1.7	9.7
T5	CSAH 13 (50th St N) & Hadley Ave - East Junction	2021	5	3	6	3	0	9	0	2	0.7	9.7
10	CSAH 6 (Stillwater Blvd) & Hadley Ave	2019	4	1	4	2	0	6	0	6	2.0	8.0
12	CSAH 13 (Radio Dr) & Dale Rd	2021	0	4	1	2	0	6	0	1	0.3	6.3
13	CSAH 16 (Valley Creek Rd) & Saint John's Drive	2018	0	2	0	1	0	3	0	3	1.0	4.0
T14	CSAH 16 (Valley Creek Rd) & Dancing Waters/Woodcrest Dr	2018	1	2	1	1	0	3	0	0	0.0	3.0
T14	CSAH 18 (Bailey Rd) & Monticello Dr	2017	0	2	1	1	0	3	0	0	0.0	3.0
T14	CR 38 (Maxwell Ave) & Red Rock Road	2018	0	2	2	0	0	2	0	3	1.0	3.0
T17	CSAH 15 (Manning Ave) & CSAH 4 (170th St N)	2018	1	0	0	1	0	2	0	1	0.3	2.3
T17	CSAH 21/14 (Stagecoach Trl N) & CSAH 14 (47th St N)	2019	1	0	0	1	0	2	0	1	0.3	2.3
T20	CSAH 13 (Hadley Ave) & 50th St N - West Junction	2021	0	1	0	0	0	1	0	3	1.0	2.0
T20	CSAH 22 (70th St S) & Joliet Ave	2021	0	2	0	0	0	2	0	0	0.0	2.0
T20	CSAH 10 (10th St N) & CSAH 17/17B (Lake Elmo Ave)	2020	0	0	0	0	0	0	1	3	2.0	2.0
T20	CSAH 12 (75th St N) & CSAH 9 (Jamaca Ave)	2019	0	2	0	0	0	2	0	0	0.0	2.0
T20	CSAH 15 (Manning Ave) & CR 64 (McKusick Rd)	2020	0	0	0	0	0	0	1	3	2.0	2.0
T20	CSAH 18 (Bailey Rd) & Cottage Grove Dr/Settlers Ridge Pkwy	2019	0	0	0	0	0	0	0	6	2.0	2.0
T20	CSAH 19 (Keats Ave) & 90th St S/Ravine Pkwy	2019	0	2	0	0	0	2	0	0	0.0	2.0
T20	CSAH 24 (Osgood Ave) & CSAH 26 (59th St N)	2016	0	1	0	0	0	1	0	3	1.0	2.0
28	CSAH 10 (10th Street N) at CR 71 (Neal Ave)	2021	0	1	0	0	0	1	0	2	0.7	1.7
29	CSAH 8 (Frenchman Road) at Everton Avenue	2021	0	0	0	0	0	0	0	3	1.0	1.0
T30	CSAH 22 (70th St S) & Idsen Ave	2021	0	0	0	0	0	0	0	1	0.3	0.3
T30	CSAH 15 (Manning Ave) & 30th St N	2020	0	0	0	0	0	0	0	1	0.3	0.3
T30	CSAH 16 (Valley Creek Rd) & Settlers Ridge Pkwy	2020	0	0	0	0	0	0	0	1	0.3	0.3
T30	CSAH 19 (Woodbury Dr) & Ambrose Rd	2021	0	0	0	0	0	0	0	1	0.3	0.3
T34	CSAH 12 (75th Street North) at Inwood Way	2021	0	0	0	0	0	0	0	0	0.0	0.0
T34	CSAH 22 (70th St S) & Jensen Ave	2021	0	0	0	0	0	0	0	0	0.0	0.0
T34	CSAH 12 (County Road E) & Wedgewood Dr	2020	0	0	0	0	0	0	0	0	0.0	0.0
T34	CSAH 19 (Keats Ave) & Ravine Pkwy	2020	0	0	0	0	0	0	0	0	0.0	0.0

MEETS WARRANTS

MEETS A ONE-HOUR WARRANT

DOES NOT MEET WARRANTS

- NOTES:** A.) Warrants 1A (Eight-Hour Volume, Minimum Vehicular Volume), 1B (Eight-Hour Volume, Interruption of Continuous Traffic), and 1(A+B) (Combination of Eight-Hour Warrants) receive 1 point for each hour met, up to a maximum of 12 points. Warrant 1A, 1B, and 1(A+B) are not cumulative; the highest of these values is added to the total.
- B.) Warrant 2 (Four-Hour Volume) receives 1 point for each hour met, up to a maximum of 6 points.
- C.) Warrant 3 (Peak Hour Volume) receives 1 point for each hour met, up to a maximum of 4 points.
- D.) Warrant 7 (Crash Experience) receives 1 point per 3 years for each correctable crash over a 3 year study period, except for correctable fatal and "A" injury crashes which receive 3 points. The total is then divided by 3 to provide a value per year of data.
- 1) These intersections meet warrants, and were therefore moved above the dividing line, even though other intersections listed below rank higher in points.
- 2) This intersection meets Warrant 9: Intersection Near a Grade Crossing.