



Traffic Guidelines Manual

ORIGINATOR Director, Bureau of Traffic Operations		13-26-5
CHAPTER	13	Traffic Regulations
SECTION	26	Intersection Control
SUBJECT	5	All-Way Stop

A. Purpose

This policy describes WisDOT's philosophy regarding the use of all-way stop control (AWSC) as a permanent method of traffic control at State Trunk Highway (STH) intersections that are under WisDOT jurisdiction or State Trunk Highway intersections under local jurisdiction as a Connecting STH. (WisDOT maintains statutory approval authority for any stop controls implemented on Connecting STHs).

B. Guidance

Refer to MUTCD 2B.07, Multiway Stop Applications, for further detail.

WisDOT has maintained a philosophy that emphasizes minimal use All Way Stop Control (AWSC) as a permanent traffic control method. This philosophy is based on the concept of maintaining mobility by allowing traffic to "free-flow" as much as possible. Also, all STHs in Wisconsin are statutorily designated as "through" highways, and typically *should not* be stopped without strong justification. AWSC *should* be considered only after other less restrictive options have been evaluated and determined not to be feasible.

C. Evaluation Criteria

MUTCD 2B.07 describes several criteria that *should* be considered in an engineering study for a multi-way stop sign installation. These guidance criteria include the need for interim traffic control, crash history, and traffic volume. MUTCD 2B.07 also describes additional criteria that *may* be considered in an engineering study. These optional criteria include the need to control left turn conflicts, pedestrian conflicts, sight restriction, and the intersection of two residential neighborhood collector streets.

All the criteria in MUTCD 2B.07, both guidance and optional, **shall** be considered when evaluating whether AWSC is an appropriate method control for intersections on the STH system. In addition, the following supplemental criteria **shall** also be considered:

1. Functional Highway Classification - There are five levels of functional highway classes used by WisDOT: principal arterial, minor arterial, major collector, minor collector, and local roads. For desirable AWSC, the intersecting roadways *should* have the same or similar functional class on at least three approaches. Similar functional class would be only one level of difference between intersecting highways. For example, a minor arterial and major collector would be considered similar functional class, but a principal arterial and major collector would not be considered similar.
2. Average Daily Traffic (ADT) - For AWSC, it is highly desirable for the intersecting roadways to have closely balanced ADTs on at least 3 approaches. Closely balanced ADTs would be considered as the volume of at least one of the minor roadway approaches (stop controlled on a 2-way stop) being not less than 70% of the higher volume of the two approaches on the major roadway (through STH).
3. Crash History - AWSC *should* be considered if it is expected to correct a significant number of intersection crashes that have occurred in the last 5 years (that are susceptible to correction by a multi-way stop installation), and/or expected to significantly reduce the overall severity of future crashes from what previously occurred. AWSC, while typically reducing severe right angle crashes, *may* increase less severe rear-end crashes.
4. Alternatives - Improvement alternatives that are less restrictive than AWSC **shall** be considered and evaluated. See section D below.
5. Mobility Impact - Evaluate the ramifications of stopping the existing “through” STH, including the average vehicle delay and queue length. Perform an AWSC capacity analysis and compare it to the existing two-way stop control capacity analysis. Will the high-volume of existing “through” STH traffic experience significant delays for the benefit of reducing delays for a low-volume side street?
6. Right turn inclusion - Similar to signal warrant evaluation, the inclusion of right turns from the minor approach(es) in the AWSC warrant analysis *should* be evaluated. See the WisDOT Traffic Signal Design Manual (TSDM) 2-3-2.

D. Alternatives to AWSC

Similar to MUTCD Section 4B.04, Alternatives to Traffic Control Signals, consideration **shall** be given to providing less restrictive alternatives to AWSC even if one or more of the warranting factors in the MUTCD is satisfied.

These alternatives *may* include, but are not limited to, the following:

1. Adding a dedicated right turn lane (with optional “pork-chop” channelizing island) on the stop-controlled minor roadway approach(es) to separate the minor roadway right turns from minor roadway left turn / through movements and reduce the delay for a high-volume right turn.

2. Remove or relocate vision corner obstructions such as utilities, vegetation, parking, or other sight restrictions that are impeding the side street traffic from finding reasonable gaps in the “through” highway. Utilize local government setback ordinances as enforcement when these impediments are located outside the highway right-of-way.
3. Restrict, relocate, or consolidate driveway access that *may* be interfering with intersection operation.
4. Installing a roundabout intersection.
5. Relocating the stop line on the minor approach to improve the sight distance.
6. Installing warning signs and / or supplemental flashing beacons advance of the intersection. (See TGM 4-5-1 Beacons Policy).
7. Improve pedestrian crossing ability by providing a mid-crossing refuge island or decreasing the crossing distance by using curb bumpouts.
8. Improve sight distance for the minor roadway to see vehicles approaching on the through roadway by modifying a vertical crest in the through profile or modification of the horizontal curve.
9. Restricting turning movements if alternate access points are nearby.