



Traffic Engineering, Operations & Safety Manual

Chapter 13 Traffic Regulations

Section 1 Through Highway Declarations

13-1-1 Statutory Authority

October 1995

The fundamental principle of the Through Highway Declarations is that no STOP sign **shall** be erected facing traffic on a state trunk highway nor **shall** traffic on any non-state trunk highway be permitted to enter a state trunk highway without stopping, unless specifically provided for in the Declarations.

AUTHORITY

[Section 349.07](#), Wis. Stats., provides the Department with the authority to "...declare any state trunk highway or connecting highway or portion thereof to be a through highway."

A "through highway" is defined in s. [340.01\(67\)](#), Wis. Stats., as:

"...every highway or portion thereof which has been declared by the state or local authorities pursuant to s. 349.07 to be a through highway and at the entrances to which vehicular traffic from intersecting highways is required by traffic control signals or stop signs to stop."

On November 30, 1950, the Highway Commission took action pursuant to the existing statutory authority and implemented a systematic method for establishing and documenting all of its declared through highways. This action was as follow:

"The Commission took up for consideration the matter of declaring all state trunk highways to be arteries for through traffic. Attention was directed to the fact that many state trunk highways are now arterials, that it will be necessary to coordinate the old and new arterial declarations, and that all highways cannot immediately be signed as arterials."

"It was moved, seconded, and carried that all state trunk highways and the urban extensions thereof (designated by the statutes as 'connecting streets') be declared arteries for through traffic pursuant to Section 85.68, Wisconsin Statutes, and that arterial STOP signs be erected stopping traffic on all county trunk highways, town roads, and local city and village street entering said state trunk highway routes unless specifically excepted in this or subsequent actions of the Commission."

"It was further moved, seconded, and carried that traffic on any state trunk highway (and connecting street) **shall not** be required to stop at the intersection with any other state trunk highway (or connecting street), or at the intersection with a county trunk highway, town road, or local city or village street unless specifically required to stop at such intersection by this or subsequent actions of the Commission..."

Following these brief introductory paragraphs was the listing of the highways declared as arteries for through traffic and the descriptive paragraphs delineating the exceptions to each. These descriptive paragraphs (the exceptions) defined all instances where traffic on a state trunk highway was required to stop and where traffic on other streets/highways was permitted to enter a state trunk highway without stopping.

On November 13, 1962, the Highway Commission delegated its statutory authority to declare and regulate through highways to the Chief Traffic Engineer, and established the Chief Traffic Engineer as being responsible for maintaining the official records.

Since that time, the title of Chief Traffic Engineer has been changed to Director, Bureau of Traffic Operations. The Director has notified the Regions that, as of October 16, 1995, the approval authority for Through Highway Declarations is delegated to the Regions. The Regional Transportation Directors were requested to appoint an approval authority and inform the Director of BTO as to the appointment.

13-1-2 Approval Process

October 1995

CHANGES TO THE DECLARATIONS

From time to time, it becomes necessary to make changes in the Declarations. Changes *may* be required due to additions to the state trunk system, deletions from the system, rerouting or renumbering of highways, reconstruction of intersections, or changes in traffic conditions.

Since the exceptions are arranged in geographic order it is desirable that the exceptions for concurrent routes be listed under each appropriate highway number, not just the lowest numbered route. Intersecting state trunk

highways must be investigated and exceptions corrected where necessary, under each appropriate highway number.

THE APPROVAL PROCESS

Whether a proposal involves creation of a new exception paragraph, or the revision or deletion of an existing paragraph, the Region prepares their recommended exception paragraphs for each through highway route and intersection involved. The authority for approval resides with the designated Region approval authority. A copy of the approved declaration is to be sent to the Central Office of Traffic to serve as information for others, and to provide a backup record.

TEMPORARY CHANGES DUE TO CONSTRUCTION

Where construction activities result in necessary temporary changes in arterial arrangements, it is suggested that the Regional office write the changes in the form of declarations as a memo to file. It is not necessary to send a copy to the Central Office.

13-1-5 Declaration Format

April 1996

NUMBERING OF THE DECLARATIONS

The delegation of the authority to approve through highway declarations also carries with it the responsibility for numbering the exception paragraphs in a uniform and sensible manner. The following is a recommendation on a uniform system of numbering which *should* give all the information necessary to find the paragraphs, keep them in order and identify the location to ourselves and others.

An example of the first page of each highway's declarations is given below:

Through Highway Declarations - State Trunk Highway System

Northcentral Region, Waushara County

File: TH 469073

TH-4-69-073.1	Northbound traffic on State Trunk Highway 73 shall stop before entering the east junction of State Trunk Highways 73 and 21.
	Approved Date: 02/24/85 Installed Date: 03/31/86
TH-4-69-073.2	When the traffic control signal at the intersection of State Trunk Highways 73 - 21 (Main Street) and Saint Marie Street in the City of Wautoma, is not operating, traffic on Saint Marie Street shall stop before entering the intersection.
	Approved Date: 07/26/89 Installed Date:

The title indicates to others what the document is, such as when it is mailed out or brought into court. The file number is condensed to be usable in Word Perfect. Each paragraph has a number which contains all the information necessary to identify its location, so that each page stands by itself. The prefix indicates it is Through Highway; the first number is the Region; the second two digits are the county number (which is listed in Figure 1); the next three digits are the highway; and the decimal is the paragraph sequence number.

Following the paragraph it is recommended that the approval date and the installation date be shown. It has also been recommended but not shown at this time that the RP number can be added for future look-up convenience, such as with a GIS system. This would certainly be a Region option.

For sections which have concurrent highways, duplicate paragraphs will be necessary under each highway.

EXCEPTIONS

The exceptions appear in the list following each designated through highway. One descriptive paragraph is devoted to each intersection where an exception occurs and the paragraphs are sequentially numbered geographically for each route. If an intersection is not addressed in the exceptions, the fundamental principle of the Declarations applies: The state trunk highway does not STOP and all non-state trunk highways do.

The exception paragraphs for any through highway route are numbered consecutively in each Region beginning with .1. From time to time, it becomes necessary to add paragraphs within this structure. The following system is typically used:

To insert a new paragraph between paragraphs one (1) and two (2), the new paragraph becomes paragraph .1.1 as follows, or the Region *may* choose to correct the numbering each time.

WRITING EXCEPTIONS

Standard writing formats have been developed for the Declarations to ensure uniformity of application and consistency of interpretation.

The basic exception paragraph takes the following form:

TH-5-52-080.9 North and southbound traffic on State Trunk Highway 80 **shall** stop before entering the intersection of State Trunk Highways 80 and 60.
Approved Date: xxx Installed Date: yyy

1. The traffic is first identified:

“North and southbound traffic”

2. Then the highway on which it is moving (or in the case of turn lanes or ramps, the highway which the traffic is leaving) is identified:

“on State Trunk Highway 80”

3. Then the action this traffic must take is specified:

“shall stop”

4. Then the location where this action is to be taken is identified:

“before entering the intersection of State Trunk Highways 80 and 60”
(The county does not have to be repeated in each paragraph if the format at the beginning of this procedure is used.)

Within city and village limits, in addition to the highway numbers, the names of streets *may* be included in parentheses to document the location of the State Trunk Highway or Connecting Highway at the time of the action.

TYPICAL EXCEPTION SITUATIONS

Many intersections present similar control situations and are merely variations of the basic exception paragraph discussed earlier. Some of these more common variations will now be addressed.

Permitting Non-STH traffic to enter without stopping

TH-2-51-020.14 Southbound traffic on State Trunk Highway 20 **shall** stop before entering the intersection of State Trunk Highway 20 and County Trunk Highway “D”, but eastbound traffic on county trunk Highway “D” **shall** not be required to stop.
Approved Date: xxx Installed Date: yyy

Permitting right turns without stopping

TH-6-47-010.2 Southbound traffic on U.S. Highway 10 (Cedar Street) **shall** stop before entering the intersection of U.S. Highway 10 (Cedar Street) and Cherry Street in the city of Prescott, but traffic making a right turn to go west on Cherry Street **shall** not be required to stop.
Approved Date: xxx Installed Date: yyy

Exceptions for signal flashing arrangement

TH-2-51-011.3 When the traffic control signal at the intersection of State Trunk Highway 11 (Durand Avenue), Ohio Street/Meachem Road in the city of Racine is not operating, east and westbound traffic on State Trunk Highway 11 (Durand Avenue) **shall** stop before entering the intersection.

Approved Date: xxx

Installed Date: yyy

Exceptions for simple interchanges

For simple interchanges the interchange can be considered as single intersection for the purpose of writing the exception. This eliminates the need to prepare an exception for each ramp intersection in the interchange. Shown below are three examples of such interchanges.

TH-4-37-051.20

North and southbound traffic on the ramps in the southeast and northwest quadrants of the interchange of U.S. Highway 51 and State Trunk Highway 153, **shall** stop before entering the intersections of the ramps and State Trunk Highway 153.

Approved Date: xxx

Installed Date: yyy

This exception paragraph was included under the Through Highway listing for U.S. Highway 51, as the traffic required to stop is identifiable as U.S. Highway 51 ramp traffic. No entry is included under the Through Highway listing for STH 153, as STH 153 traffic is not required to stop at these intersections.

TH-4-49-051.15

North and southbound traffic on the ramps in the southeast and northeast quadrants of the interchange of U.S. Highway 51 and County Trunk Highway "B", **shall** stop before entering the intersections of the ramps and County Trunk Highway "B".

Approved Date: xxx

Installed Date: yyy

Note that this paragraph mentions nothing about arterial controls on CTH "B". This is because CTH "B" stops at those locations and the fundamental principle of the declarations is that all non-STH traffic will be required to stop unless specifically accepted in the declarations.

TH-3-36-043.10

North and southbound traffic on the ramps in the southeast and northwest quadrants of the interchange of Interstate Highway 43 and County Trunk Highway "JJ" **shall** stop before entering the intersections of the ramps and County Trunk Highway "JJ", but eastbound and westbound traffic on County Trunk Highway "JJ" **shall not** be required to stop.

Approved Date: xxx

Installed Date: yyy

The through movement on "JJ" had to be covered.

Exceptions of interchanges with multiple controls

The following is an example of a descriptive paragraph dealing with an individual ramp terminal within an interchange.

TH-2-67-094.12

Eastbound traffic on the ramp in the southwest quadrant of the interchange of Interstate Highway 94 and Moorland Road, in the city of Brookfield, **shall** stop before entering the intersection of the ramp and the southbound roadway of Moorland Road, but eastbound traffic turning right to go south on Moorland Road **shall** yield before entering the southbound roadway of Moorland Road. Southbound traffic on Moorland Road **shall not** be required to stop.

Approved Date: xxx

Installed Date: yyy

No turn on red

TH-1-13-051.18

North and southbound traffic on U.S. Highway 51 in the city of Madison controlled by the traffic control signal at its intersection with U.S. Highway 151 **shall not** turn right during steady red signal indications.

Approved Date: xxx

Installed Date: yyy

CHANGES IN THE DECLARATIONS

For the files, the Region *may* prepare a formal action memo documenting changes. Changes in the Arterial Highway Declarations usually take one or a combination of the following forms:

1. Deletion of an existing exception;
2. Addition of a new exception;
3. Amendment of an existing exception;
4. Addition of a new highway to the list of through highways; and
5. Deletion of an existing highway from the list of through highways.

Deletion of an existing exception

State Trunk Highway 12:

Delete paragraph TH-8-57-002.3 approved on November 30, 1988.

Addition of new exception

U.S. Highway 12:

Add the following:

TH-5-27-012.38 Southeast bound traffic on U.S. Highway 12 **shall** stop before entering the west intersection of U.S. Highway 12, U.S. Highway 10, and State Trunk Highway 27.

Approved Date: xxx

Installed Date: yyy

Substitution of a new exception for an existing one

U.S. Highway 151:

Delete paragraph TH-2-13-151.17 on July 16, 1988 and substitute the following:

TH-2-13-151.17 _____

Amendment of an existing exception

Use the substitution procedure above.

Deletion of a through highway

State Trunk Highway 152:

Delete in its entirety.



Traffic Engineering, Operations & Safety Manual

Chapter 13 Traffic Regulations

Section 2 Trucking

13-2-5 Temporary Long Truck Routes

April 1996

Circumstances *may* require that the Department establish a temporary long truck route on a highway which is not designated as a long truck route. In order to clearly and simply provide for the temporary situation it is recommended that the Region prepare a rule in the following form:

TEMPORARY DESIGNATED HIGHWAY FOR LONG TRUCK ROUTE

The following highway **shall** be a designated highway for the duration of the improvement project 1234-56-78, according to [ss.348.07\(4\)](#) Wisconsin Statutes, and [Trans 276.08](#) Wisconsin Administrative Code:

(Highway) from STH XX to STH YY.

Authorized by Regional Trans. Director

Date

13-2-10 Oversize/Overweight Single Trip Permitting

July 2012

PURPOSE

The purpose of this document is to provide internal guidance for all primary and secondary region staff regarding the routing and permitting of any given oversize/overweight (OSOW) load the region may be asked to review. The guidelines contained herein may not perfectly apply to every instance, request, or situation encountered, but the guidelines will serve as a solid foundation. All issues or concerns which arise that are not covered or discussed herein are subject to the discretion of the Region.

DEFINITIONS

Freeway/Expressway - Four-lane divided highway facilities with full or partial control of access by means of grade separation.

Multi-Trip Permit - A permit that is valid for unlimited, non-specific route trips during a range of 3 to 12 months. For example construction companies frequently move large construction equipment to and from job sites.

Oversize/Overweight Load - A load that requires a permit due to exceeding certain dimensions and weights.

OSOW Freight Network -The OSOW FN is a map which depicts the preferred statewide travel routes for OSOW loads. The map is maintained by, and available from, the Regional Freight Operations Unit.

Local Law Enforcement - Local law enforcement consists of municipal (city, village, or town) police or county sheriff. Local law enforcement does not include State Patrol.

Pole Car - A pole car is an escort vehicle equipped with a height sensor. A pole car must precede the load and move sufficiently ahead of the oversize vehicle when approaching structures to ascertain clearance prior to the load arriving. The height sensor pole is made of a non-conductive, non-destructive, flexible material, and shall be set 6-inches above the true height of the load.

Single Trip Permit - A permit that is valid for 14 days and for one trip only. The carrier specifies the route, and the return trip is allowed at no charge if requested with the original permit application.

Urbanized Area - A populated area that normally experiences peak hour traffic volumes in the morning, afternoon and evening travel periods. (As defined and updated by DTIM traffic model analysis that is updated on two year intervals).

PERMITTING

1. Requests and Approvals - The submittal and approval permit process shall be handled electronically.

2. Review - The automated permit system is not designed to identify all geometric scenarios. For example, the routing system does not evaluate for length or turning capabilities. Region review shall be required when:
 - a. Width exceeds 15'11" per [Trans 250.05\(a\)](#), [Trans 254.12](#), [Trans 260](#), and the business routes are coded into the oversize/overweight automated issuance system, Superload.
 - b. The proposed route for loads with an overall length of 100' to 139'11", and less than 16' in overall width will be reused on the same route within a three month period.
 - c. Construction staging and detours will impact loads with an overall length of less 140' and less than 16' in overall width. The automated permit system is not designed to identify any routes deficiencies for such loads.
3. Denial or Restrictions
 - a. The following issues shall result in the denial of a permit:
 - Proposed moves resulting in interrupted power or other utility service to essential services, such as hospitals, fire stations, etc..
 - b. The following issues may result in the denial of a permit or substantial restrictions by the Region:
 - Exceed roadway plus shoulder width;
 - Exceed bridge or structure width;
 - Require 'wrong way' vehicle movement when a suitable alternative route is available;
 - Occur at times of the year that may cause excessive roadway damage;
 - Interfere with high traffic volumes;
 - Substantially impair power service to customers on route as determined by affected utility company;
 - Require excessive removal or rearrangement of permanent or temporary traffic control devices;
 - Utilize a route that is unsuitable due to construction constraints, geometric limitations, and/or unsafe passing conditions. Applicant will be advised to submit another route;
 - Impact state maintained traffic signal equipment (e.g. temporary removal). Any removals shall be approved by the Region and shall be completed by or at the direction and in the presence of WisDOT electricians. Removal of monotube signal arms may require additional (contracted) forces. Any approved removals will be at the expense of the carrier.
 - Reject the proposed route for radioactive materials if another route other than Wisconsin is reasonably available
4. Special Circumstances
 - a. Ramp-Off/Ramp-On (RORO). At the discretion of the Region, RORO may be permissible where conditions would result in an excessive route detour. The Region shall determine the appropriateness of RORO based upon load type and load frequency.
 - b. Sign Removal. Sign removal may be permitted to alleviate geometric deficiencies due to load length or width. Removal must be previously authorized by the Region, and the carrier is responsible for the immediately replacement of all removed signs.

Sign removal shall be coordinated through the regional traffic unit. The preferred method of sign removal/replacement is by the appropriate County Highway Department. If a specific project has a large number of loads and/or scheduling prohibits County Highway Department involvement, WisDOT Regional staff may consider authorizing hauler removal/replacement signs. OSOW load hauler may be required to complete an "Approved Traffic Sign/Post Removal and Replacement Log."

Figure 1. Approved Traffic Sign/Post Removal and Replacement Log

Instructions:

1. Attach photograph showing original sign installation for each intersection that requires removal/replacement (R/R) of traffic signs. Label intersection photo by naming the photo as the load approaches and leaves the intersection (ex. I43 SB/WIS 96 WB)
2. For multiple signs/posts requiring R/R at an individual intersection label each sign/post from left to right as viewed on the intersection photo.
3. Complete each field below on log
4. Within 24 hours of R/R, fax this log (including) photos to (xxx) xxx-xxxx. Send/email copies of original to WisDOT at: XXXXXXXX
 - A. WisDOT Permit Number: _____
 - B. Date of Pre-Approved Traffic sign/Post Removal and Replacement: _____
 - C. OSOW Permit Holder Contact Information (Company Name, POC, address, office phone, cell phone, fax, email): _____
 - D. Escort Company Contact Information (Company Name, POC, address, office phone, cell phone, fax, email): _____
 - E. Individual Conducting Pre-Approved traffic Sign/Post Removal and Replacement (Company Name, POC, address, office phone, cell phone, fax, email): _____

Include a table identifying the following information:

Intersection/sign number, date/time of R/R, printed name of individual(s) conducting R/R, signature certifying sign replaced properly and with same orientation as shown in original photos.

- c. Counter-directional Movements. The Region shall review and approve counter-direction movements of loads at modern intersections including roundabouts.
 - d. Loads with Low Level Radiation. DMV will notify DTSD OSOW Unit that a load, consistent with a regional review requirement as prescribed in Trans Rules or this guidance (see Permitting Section 2 above), is radioactive. Upon notice OSOW Unit will work with regions reviewers who shall review the following:
 - i. the location, number, and extent of slows,
 - ii. expected conflict with other traffic due to volumes and congestion,
 - iii. proximity of route to population centers,
 - iv. general level of radiation,
 - v. availability of other routes in Wisconsin other than those proposed,
 - vi. outreach and notification 2 weeks before the move with local communities on route
 - vii. other objective risks and issues associated with the load and route
 - e. Other. Other special circumstances not specifically listed here shall be subject to the review and approval of the Region.
5. Suspension
- a. Frequent Violators. Carriers which evidence frequent and/or serious infringement of permit, equipment or traffic regulations will face suspension of existing permits, ineligibility for multiple trip permits or outright denial of future WisDOT oversize/overweight permits, as deemed necessary by the DMV/BHM.
 - b. Appeal. The right of the hauler to appeal is established under Wis. Stats. 348.25(9).
6. Conflict Resolution
- a. External. When carriers, county officials, local law enforcement, or external DOT staff raise issues, questions, or concerns regarding permits, the DMV should be contact at (608) 266-7320.
 - b. Interregional field recommendation discrepancies. The Bureau of Highway Maintenance (BHM) will make the final recommendations based on coordination between the Regions when a vehicle is traveling through multiple Regions and when regional recommendations conflict.

Primary and secondary contacts are provided in the list below.

Regional Office	Contact
SW Region, Madison	Jeff Gustafson Jim Pavelski
SW Region, La Crosse	Joe Schneider Andrew Winga
SE Region, Waukesha	Eric Perea Allison Blackwood Stacey Pierce Dan Dedrick
NE Region, Green Bay	Rod Hamilton Jodi Marsh
NC Region, Wisconsin Rapids & Rhinelander	Laurie Miller Jack Keiffer
NW Region, Eau Claire	Gary Coequyt Greg Mattson Jeff Olson
NW Region, Superior	Greg Mattson Gary Coequyt Jeff Olson Joe Whirry
Bureau of Technical Services Pavement Section	Laura Fenley Bob Arndorfer
Bureau of Highway Maintenance Freight Section	Dan Mulder

ROUTE CONDITIONS

It is recognized that physical roadway conditions may change at the time of the move and the carrier must be aware that they are ultimately responsible for maintaining safe operating conditions and reviewing roadway and vehicle characteristics (i.e., horizontal and vertical clearances, intersection geometrics, load height, tire pressure, etc.).

HOURS OF OPERATIONAL LIMITATIONS

1. The Region shall review permits for hours or days of operation and any other special conditions of operation for escorted loads with an overall length over 160', regardless of overall width.
2. Per Trans 254.11(3), no oversize vehicle that exceeds 12' in width, 13'6" in height, or 100' in length is allowed to operate during the hours of darkness, unless specifically directed and authorized by WisDOT Regional Office.
3. No Region-reviewed oversize vehicle moves shall be made within urbanized areas as defined by DTIM traffic modeling analysis between the hours of 6:00am – 9:00am and 3:00pm – 6:00 pm, or if the area experiences a noon peak period, which will be listed in the Regional recommendations.
4. OSOW vehicles moving at speeds of 25 mph or less (notwithstanding bridge restrictions listed on the permit) should be required to move from 9:30pm – 5:30am to maintain consistent and safe operations for motorists in metro areas and on conventional highways of the State Highway System. Travel time shall be subject to Region discretion and approval.
5. Loads with a width in excess of 16' may be required to move at night, subject to the discretion of the Region.

ESCORT GUIDELINES

1. General. The following Table provides escort vehicle guidance based upon oversize/overweight load type. Final escort configurations shall be at the direction of the Region. For Wind see Escorts in [TEOpS 13-2-11](#).

WEIGHT	LENGTH	WIDTH	HEIGHT	ESCORT
Up to 350K	Any	Any	<16'01"	Pole car requirement subject to Region review.
Up to 350K	Legal to 139'11"	15'01" -16'0"	>16'01"	Pole car is required. Must lead the load by a minimum of 0.5-miles.
Up to 350K	Legal to 139'11"	16'0" – 17'11"	Any	Two (2) private vehicles.
Up to 350K	Legal to 139'11"	18' – 20'	Any	One (1) law enforcement vehicle and one (1) private vehicle.
Up to 350K	Legal to 139'11"	>20'	Any	Two (2) law enforcement vehicles and one (1) private vehicle.
Up to 350K	>140'	<10'	Any	On freeways and expressways, private escort vehicles may be used in lieu of law enforcement escorts.
Up to 350K	140' – 159'11"	Up to 17'11"	Any	One (1) law enforcement vehicle and one (1) private vehicle at the determination of the Region.

Up to 350K	>160' – 199'11"	>8'6" to 16'0"	Any	Two (2) private vehicles. Region may require law enforcement vehicle.
Up to 350K	200' to 250'	8.6 to 16'0"	Any	Two (2) private vehicles one (1) law enforcement vehicle.
Up to 350K	160' - 224'11"	< or = to 8.6	Any	Two private escort vehicles. Region may require one law enforcement vehicle depending on route complexity.
Up to 350K	>225'	Any	Any	Minimum of Two (2) State Patrol escort vehicles.
>350K	Any	Any	Any	At least one State Patrol Escort (see Heavy Slow Loads below)
Key:	< Less Than		> Greater Than	

Note: When multiple conditions for weight and dimension are met reviewer should use the requirement that provides the most coverage for the load in question.

2. Nighttime or Round-The-Clock Movement. Any company requesting nighttime or round-the-clock movement shall have a minimum of one (1) law enforcement officer and one (1) private escort, at the direction of the Region.
3. The WisDOT always retains the right to be more restrictive when it is deemed necessary.

CONVOYS

1. Review. Each Region shall review all convoy requests and efficiencies should also be considered.
2. Size. Convoys shall not exceed two oversize vehicles per convoy.
3. Conditions. Multiple convoys of a single carrier or project shall have a staged departure with a minimum of ½ hour travel time between convoys, and maintain said travel time separation for the full duration of the trip.

LAW ENFORCEMENT

1. Escort Type
 - a. State Patrol escorts may be used when moving through multiple counties.
 - b. State Patrol, county, or local law enforcement may be used when moving within a local area.
2. Responsibility - Law enforcement responsibility shall be limited to traffic control and load escort. Carriers shall not rely on the law enforcement officers for route navigation and guidance through turning movements.

HEAVY AND SLOW LOADS

1. All vehicles over 270,000 pounds shall be reviewed by the Bureau of Technical Services Pavements Section.
2. The Bureau of Structures reviews overweight loads for adequacy of any structure to safely accommodate such a load at certain speeds prior to BHM and Regional review. BTS review shall be included if applicable.
3. The Region(s) shall review gross vehicle weights exceeding 350,000 pounds and traveling at less than posted speeds for the facility on route.
4. The Region(s) shall review all loads operating at a maximum speed of 45 mph or less on a limited access facility.
5. Recommendations for building moves will be based on the discretion of the Region's evaluation of safety and best practices.
6. Loads in excess of 350,000 pounds escorts based on overall dimension, weight, anticipated speed, and complexity of route. Use the table above for a preliminary reference point. Loads with six or more slow to 5 miles per hour bridge crossing requirements shall have 1 State Patrol and One Private escort.

INSPECTIONS

1. See [TEOpS 13-2-12](#)

WORK ZONES

1. Travel through work zones otherwise limited by posted signs or other constraints (i.e. lane width restrictions) cannot proceed without prior authorization of DMV, BHM, and BTO on the permit. Permit vehicles without prior authorization should interdict and call DMV to either approve travel through the work zone or find an alternate route.

COORDINATION

1. Responsibility
 - a. It is the responsibility of the carrier to contact local community and county public works departments or law enforcement agencies to apply for additional permits on connecting highways, and if required by the municipality, for travel on the local roadways.
 - b. Carriers shall coordinate with railroad officials as to the times of move for railroad tracks with short storage distances and humped crossings.

Documentation - All carriers shall be required to carry a log documenting all local community, law enforcement, and agency coordination, during operation.

13-2-11 Oversize/Overweight Wind Industry Permits

January 2014

If not stated in this policy, follow [TEOpS 13-2-10](#).

DEFINITIONS

Wind Tower Multi-trip Permit – specific permits relating to a process implemented to plan for multiple trips of oversize/overweight loads to wind projects.

Wind Multi-Trip Permit – A permit that is valid for unlimited, specified route trips during a range of 3 to 6 months. This is applied to each vehicle identification number (VIN) from a company seeking this permit type

Oversize/Overweight Load – A load that requires a permit due to exceeding certain dimensions and weights.

Pole Car – A pole car is an escort vehicle equipped with a height sensor. A pole car must precede the load and move sufficiently ahead of the oversize vehicle when approaching structures to ascertain clearance prior to the load arriving. The height sensor pole shall be made of a non-conductive, non-destructive, flexible material.

Single Trip Permit – A permit that is valid for 14 days and for one trip only. The carrier specifies the route, and the return trip is allowed at no charge if requested with the original permit application.

Urbanized Area – A populated area that normally experiences peak hour traffic volumes in the morning, afternoon and evening travel periods. It is at the discretion of the Region to determine if an area is considered urbanized and if an oversize/overweight vehicle will significantly impede on traffic during peak periods.

Freeway/Expressway – Four-lane divided highway facilities with no or minimal at grade intersections and sharp curves. Expressways are divided arterial highway facilities that have partial control of access, generally with grade separations at major intersections.

GUIDELINES

1. WisDOT permitted hours of operation for movement of wind tower components are:
 - 6PM Sunday through Noon on Friday, except during the peak traffic hours of 6AM-9AM and 3:30PM-6PM, Monday through Friday, in below specified urban areas
 - 12:01AM Saturday through 10AM Saturday
 - 12:01AM Sunday through 10AM Sunday
2. Oversize/overweight permits will restrict travel during peak traffic hours only in the counties of Brown, Outagamie, Winnebago, Dane, Milwaukee, Ozaukee, Washington, Waukesha, Racine, Kenosha, and LaCrosse. The maps for the wind tower restricted urban areas can be found in:

[\\Mad00fph\n4public\BHO\osow\Time Restrictions\](#) (internal DOT access only)

Wind Tower Allowable Times of Travel

Day\Hour	12:01 AM Midnight	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:01 AM	7:00 AM	8:00 AM	9:01 AM	10:00 AM	11:00 AM
Monday	X	X	X	X	X	X	e/u	e/u	e/u	X	X	X
Tuesday	X	X	X	X	X	X	e/u	e/u	e/u	X	X	X
Wednesday	X	X	X	X	X	X	e/u	e/u	e/u	X	X	X
Thursday	X	X	X	X	X	X	e/u	e/u	e/u	X	X	X
Friday	X	X	X	X	X	X	e/u	e/u	e/u	X	X	X
Saturday	X	X	X	X	X	X	X	X	X	X	n/p	n/p
Sunday	X	X	X	X	X	X	X	X	X	X	n/p	n/p

Day\Hour	12:01 PM Noon	1:00 PM	2:00 PM	3:00 PM	3:30 PM	4:00 PM	5:00 PM	6:01 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM
Monday	X	X	X	X	e/u	e/u	e/u	X	X	X	X	X	X
Tuesday	X	X	X	X	e/u	e/u	e/u	X	X	X	X	X	X
Wednesday	X	X	X	X	e/u	e/u	e/u	X	X	X	X	X	X
Thursday	X	X	X	X	e/u	e/u	e/u	X	X	X	X	X	X
Friday	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p
Saturday	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p	n/p
Sunday	n/p	n/p	n/p	n/p	n/p	n/p	n/p	X	X	X	X	X	X

X = Travel Permitted
 e/u = Exception for Urban Areas noted below
 n/p = Travel Not Permitted

***Urban Areas**

Green Bay
 Kenosha
 La Crosse
 Appleton including Neenah/Menasha and STH 15

***Counties**

Dane County
 Milwaukee County
 Ozaukee County
 Racine County
 Washington County
 Winnebago County

*Urban Areas and or Counties may change due to further LOS Analysis

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5/6/2009

3. 30 minute “pulsing” will be allowed. This permit restriction will be replaced with this language: “It is the carrier’s responsibility to plan for staging and managing of the departures of permitted loads to avoid congestion on the route due to massing of the permitted loads.
4. Permits *may* include a condition for convoying of two loads in order to more efficiently use escorts. This condition is available on a very limited case-by-case basis and the consecutive convoys cannot move less than 30 minutes apart.
5. Escorts (Wind Only)

WEIGHT	LENGTH	WIDTH	HEIGHT	ESCORT
< 170K	100' to 120'	< 13'	<14'6"	One private escort. Pole car requirement subject to Region review.
< 171K – 270K	121- 189'11"	13'01" -16'0"	14'7" – 15'11"	Two (2) private escort vehicles. Pole car requirement subject to Region review.
Up to 350K 1 to 5 slow to 5mphs	190'6"- 200'0"	16'0" to 20'	16' to 20'	One (1) private vehicle and one (1) state patrol escort vehicles. One (1) private shall be a properly equipped pole car and lead the load by 0.5 miles at all times.
Up to 350K 6 or more slow to 5mphs	200'1"	>20'	>20'	Two (2) state patrol escort vehicles and one (1) private vehicle to provide a properly equipped pole car and lead the load by 0.5 miles at all times.
Key:	< Less Than > Greater Than			

- a. The WisDOT always retains the right to be more restrictive when it is deemed necessary.
 - b. Subject to inspection results or other concerns base loads regardless of weight and dimension maybe required to have one State Patrol Escort until such time as the concern triggering this requirement or concern is removed.
6. Work Zones

Travel through work zones otherwise limited by posted signs or other constraints (i.e. lane width restrictions) cannot proceed without prior authorization of DMV, BHM, and BTO on the permit. Permit vehicles without prior authorization should interdict and call DMV to either approve travel through the work zone or find an alternate route.

7. Ramp Off/Ramp On Method

Ramp off/Ramp on movements for wind industry truck shipments may be utilized and approved by the regions in order to keep the load on the OSOW Freight Network. This method *should* only be used to avoid construction, low bridge clearance, or weight restricted facility. The interchange must be a diamond interchange with a clear path between the exit and entrance ramp. The presence of fixed barriers or medians eliminates this method as an option. Ramp off/Ramp on *should not* be used consecutively on a route or for the overall permit. This method *should* be limited to 1 or 2 exceptions on a route. Additional ramp off/ramp on exceptions are at the discretion of DMV permitting office and BHM staff and only when alternative routes cannot be reasonably identified.

GENERAL NOTES

It is recognized that physical roadway conditions *may* change at the time of the move and the carrier must be aware that they are ultimately responsible for maintaining safe operating conditions and reviewing roadway and vehicle characteristics (i.e., horizontal and vertical clearances, intersection geometrics, load height, tire pressure, etc.)

Contact DMV if there are any loads that do not conform to these load requirement guidelines.

13-2-12 OSOW Inspection Requests and Waiver Procedure

December 2011

PURPOSE

To provide a process for annual vehicle and driver inspections or waivers for specialized transport vehicles that require a permit to travel in Wisconsin and are reviewed under [TEOpS 13-2-10](#) and [TEOpS 13-2-11](#) of this chapter.

DEFINITIONS

OOS – Out of Service violations for the purposes of this section are violations that are significant including but not limited to Brakes, Frame, Suspension, Tires, couplings or any other significant physical feature necessary for safe mobility of the vehicle. OOS for lighting that can be fixed and signed off on would not be considered in the review of a carrier for the purposes of this guidance.

FMCSA – Federal Motor Carrier Safety Administration

PROCEDURE

Process	Carrier in Regulatory Compliance	Carrier not in Compliance
ISS	Below 65	Above 65
NAS 7 - Out of Service (OOS)	No OOS w/in 24 months	OOS in last 24 – Order Inspection
396 for Truck and Trailer*	Submit for file	Do not request

1. All house/building movers (other than mobile homes and modular home carriers) shall be ordered for inspection as part of every permit application.
2. BHM OSOW Freight Unit to check ISS on the first of every month for all carriers that have NAS 7 inspections that will be over 12 months old in OSOW Freight Unit Database within 30 days from the 1st of the month:
 - a. If a carrier is new to Wisconsin, record is significantly out of date, or not in the OSOW Freight Unit Database than that carrier shall be ordered for inspection.
 - b. All carriers who have an ISS score of 65 or greater BHM to request inspection at next permit request if load originates in Wisconsin.
 - c. For loads originating outside Wisconsin and where inspections are required by any other states in route to Wisconsin DMV shall request a signed copy of that inspection. The out of state inspection shall have no Out of Service (OOS) violations and is only good for permit the carrier is applying for at the time of application. If subsequent permit requests originate outside Wisconsin carrier shall supply an inspection with no OOS violations from the other state. BHM will repeat the process at the time of the carrier's permit request for a load originating in Wisconsin and order an inspection if necessary.
 - d. If a carrier is inspected and found to have OOS violations for lights or other items that can be fixed and signed off on by DSP carrier shall be able to proceed with their load at that time.
3. BHM to submit list of carriers identified under item 2 above and ask DSP to check these carriers for OOS violations in Wisconsin within the last 24 months from the date of the request.
 - a. If no OOS violations are found for last 24 months - proceed to 3 b if there are OOS proceed to 3c.

- b. DMV to request STANDARD OPERATING PROCEDURE (SOP's) and 396 (carrier's annual self-inspection) submittal from carrier.
 - c. If there are OOS violations found for the last 24 months from date of request BHM shall order inspection at next permit request (skip task 4 and 5 below). BHM to continue to repeat item 3c on an annual basis until carrier is free of OOS violations for a period of 24 consecutive months from the date of a permit request.
4. DMV to request most recent copy of FMCSA annual inspection (aka 396) performed by company or other authorized agency for the tractor and trailer units supplied as part of permit request. DMV to provide copy to BHM. This should be repeated annually even if the carrier is in compliance.
 5. For item 4, Carrier has 30 calendar days from the date of request to comply.

NON-COMPLIANCE

1. If carrier is not waived for inspection in accordance with this procedure and fails to comply with a request for inspection twice – subsequent permits shall be held until compliant per DMV discretion. DMV to provide BHM OSOW Freight Unit with any waivers of inspection requirement and reason (i.e. not originating Wisconsin). BHM to provide list of non-compliant carriers who have not responded to inspection requests to DMV to monitor carrier applications in the event the carriers:
 - Next permit dimensions and or weight do not meet requirement for review by BHM – OSOW Freight Unit*
 - Next permit would be on a previously approved route that does not require BHM – OSOW Freight Unit review
2. If a carrier who is initially granted a waiver fails to provide to DMV a FMCSA 396 self-inspection form in accordance with items 4 & 5 above of this procedure the carrier shall be consider non-compliant and their annual inspection waiver is revoked until they either submit to and pass an inspection or provide the requested documentation.
3. BHM OSOW Freight Unit will provide DMV with a monthly list of carriers if any that fall subject to Non Compliance item 2 above.

*OSOW Inspections requested by OSOW Freight Unit are for loads in excess of 16 wide, 140 feet long, or 270,000 pounds, or any combination thereof or wind industry components.

13-2-15 Oversize/Overweight Permit Suspension

May 2009

BACKGROUND

State Patrol and other law enforcement officials currently have the authority to restrict or suspend travel on Wisconsin roadways when unsafe driving conditions occur. According to Trans 254.06 (4) Validity for Single Trip Permits for Oversize or Overweight Vehicles or Loads, and Trans 255.06(4) Validity for Multiple Trip Permits for Oversize or Overweight Vehicles or Loads, *“A permit is not valid during periods when adverse weather or road conditions, such as fog, smoke, heavy rain, snow or ice or wind velocity, impair the safety of a movement under the permit.”*

GUIDELINES

The following conditions are considered when defining a travel restriction:

- Impassable or unsafe roadway conditions on the traveled way – extremely slippery, reduced visibility, significant snow cover, flooding over the road, high winds and blowing snow causing whiteout conditions or drifting, and severe wind chill.
- Recovery activities incomplete – vehicle & debris removal operations, transportation of recovery resources, snow removal

Winter Weather, Flooding, and Other Events

WISDOT will incorporate provisions within oversize-overweight (OSOW) shipment permits to reinforce the accountability of carriers to comply with Trans 255.06(4). The carrier's responsibility to remain aware of current roadway restriction, closure, and alternate route information **shall** also be emphasized.

DTSD will maintain web-based travel warning and information sources for travelers, such as

- 511 Traveler Information Services
- Lane and Ramp Closures (Lane Closure System)

- Work Zones & Detour Information

DTSD will not maintain web pages or otherwise support customized or specialized traffic and incident information services or resources specifically for truck routing or oversize-overweight permitted shipments.

DTSD will not be involved in motor carrier notifications or related further action, including internet posting of maps. DMV *may* notify the motor carriers of events or *may* alternately rely upon the provisions in the OSOW permit stating it is the motor carrier's responsibility to refrain from travel when unsafe driving conditions occur.

COMMUNICATION

Internal WISDOT communication with DTSD by other Divisions (including DMV and DSP) **shall** be directed through the State Traffic Engineer of Operations. This **shall** include deliberations involving emergency suspensions of OSOW permits. The State Traffic Engineer of Operations or their designee **shall** be responsible for timely coordination with DTSD Regional OSOW Coordinators and other DTSD representatives.



Traffic Engineering, Operations & Safety Manual

Chapter 13 Traffic Regulations

Section 3 Low Speed Vehicles

13-3-1 Policy

December 2011

A Low-Speed Vehicle (LSV) is defined in Wis. Stat. S.340.01(27h). Formerly known as “Neighborhood Electric Vehicles (NEVs),” LSVs are four-wheeled, motorized vehicles that comply with federal safety standards stated in 49 CFR ss. 571.3(b) and 571.500. LSVs are manufactured with a maximum speed of 25 MPH. Golf carts are not LSVs.

Wisconsin law (ss. 349.26) provides town, village and city governments’ broad discretion to permit LSVs to operate on highways within their territorial boundaries. Municipal ordinances take priority over county ordinances, as well as the default rules explained below. The default rules apply where there are no municipal or county ordinances.

Under new legislation effective October 2010, WisDOT no longer has authority to permit or prohibit LSV use on highways. The law, however, prohibits LSV use on any highway with a speed limit greater than 35MPH, which effectively prohibits LSV use on most of the state highway system.

DEFAULT RULES – NO LOCAL ORDINANCE

Per the Default Rules, LSVs may be used as follows:

- Connect Highways – A person may operate an LSV on a connecting highway only if the speed limit of the connecting highway is 25 MPH or less
- Local Roads – A person may operate an LSV on any highway, other than a connecting highway, that has a speed limit of 35 MPH or less and that is under the maintenance jurisdiction of a municipality or county. Exception apply at intersections:
 - At an intersection of a local (municipal or county) road with a state trunk highway or connecting highway, LSVs may be used only if:
 - 1) The state trunk highway or connecting highway has a speed limit at the intersection of 35 MPH or less; and
 - 2) Traffic at the intersection is controlled by traffic control signals.
 - At intersections of a local (municipal or county) road with expressways, freeways, or controlled-access highways, LSVs may not be used. This means that an expressway, freeway or controlled access highway effectively creates an impassable barrier to LSV travel in the absence of an ordinance. LSVs cannot cross these highways at grade or at grade-separated interchanges.



Traffic Engineering, Operations & Safety Manual

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Section 5 Speed Limits

13-5-1 Statutory Authority and the Approval Process

August 2021

Why do we have speed limits? Speed limits are an important tool for promoting safety on streets and highways. Limits tell drivers the reasonable speed for a road section under ideal conditions. They also help traffic enforcement by setting standards for what is an unsafe speed.

The concept of establishing speed limits is based upon the nationally accepted principle that the majority of drivers are cautious, prudent and drive at speeds that are reasonable and proper, regardless of the posted speed limit. This "reasonable and proper" theme is part of the Wisconsin State Statutes in s. 346.57 (4) and s. 349.11 (7) and as set forth in the Uniform Vehicle Code (Section 11-801 UVC 2000). In part, it reads:

"No person shall drive a vehicle at a speed greater than is reasonable and prudent under the conditions, including actual and potential hazards then existing. Consistent with the foregoing, every person shall drive at a safe and appropriate speed when approaching and crossing an intersection or railroad grade crossing, when approaching and going around a curve, when approaching the crest of a hill, when traveling upon any narrow or winding roadway, and when special hazards exist with respect to pedestrians or other traffic or by reason of weather or highway conditions."

In other words, motorists are required to drive at a speed that allows them to stop safely. This statute governs the speed of all drivers regardless of any posted speed limits.

There are several types of speed limits in the State of Wisconsin as indicated below:

Advisory speed limits warn drivers of the maximum recommended speed through a curve or other special roadway conditions. They are posted only in combination with an appropriate warning sign. *Advisory* speeds are not enforceable in Wisconsin courts except when driving too fast for conditions.

Regulatory speed limits in Wisconsin are absolute limits, above which it is unlawful to drive regardless of roadway conditions, traffic volumes, or other factors. Regulatory speed limits are enforceable and are categorized as either statutory or modified.

Statutory speed limits are set as maximum/minimum speeds. These limits are established legislatively and apply throughout the state. The Wisconsin Manual on Uniform Traffic Control Devices (WisMUTCD) defines statutory speed as a speed limit established by legislative action that typically is applicable for highways with specified design, functional, jurisdictional and/or location characteristic and is not necessarily shown on speed limit signs. The determining factor for speed limits on freeways and expressways is most often statutory.

Modified speed limits are utilized in areas requiring speed limits between the statutory maximum speed limits on state, county or local roadways and the 25-mph *prima facie* or applied speed limits in business and residential areas when no other speed limit is posted. These *modified* speed limits are established by administrative action based on a traffic engineering study. Modified speed limits *may* only be set by agencies having legal authority and jurisdiction over the respective roadway in accordance with Statute s. 349.11. These modified speed limits are often referred to as absolute speed limits and are not to be exceeded regardless of condition.

SPEED DEFINITIONS

85th Percentile Speed is the speed at or below which 85 percent of the sample of free-flowing vehicles are traveling.

50th Percentile Speed (also known as the median speed) is the speed at which 50 percent of the sample of free-flowing vehicles are traveling.

Adjacent speed limit is the posted regulatory speed limit approaching the modified speed zone.

Basic Speed Law is that no person **shall** operate a motor vehicle at a speed greater than is reasonable and proper for the prevailing conditions.

Design speed is the speed limit which engineering elements of the roadway were designed to accommodate (e.g., roadway and shoulder width, curve radii, and superelevation).

Pace is the 10-mph band of travel speeds containing the largest number of observed vehicles.

Prima facie is the speed limit that applies when no other speed limit is posted.

Seasonal speed limit applies for a specified period(s) during a year, generally at locations with significantly different levels of roadside activity at different times (e.g. high traffic tourist area popular in summer). Wisconsin does not allow seasonal speed limits.

Speed Limit is the maximum (or minimum) speed permitted on a section of street or highway. *May* be statutory or it *may* be established within a speed zone on the basis of an engineering study.

Speed Study (also known as Engineering Study) is the comprehensive analysis and evaluation of available pertinent information, and the application of appropriate principles, standards, guidance and practices as contained in the WisMUTCD and other sources, for the purpose of deciding upon the applicability, design, operation, or installation of a traffic control device, including the installation of speed limit signs. An engineering study **shall** be documented.

Speed variance is the difference, or variation, in travel speeds of vehicles traveling on the same stretch of roadway simultaneously. Large speed variances increase the potential for crashes.

Speed Zone is a section of street or highway where a speed limit different than the statutory speed limit has been established.

Variable speed limit is a speed that changes based on traffic, weather, or other conditions. Wisconsin does not allow variable speed limits.

DISTRICT/AREA DEFINITIONS

Outlying district is an area contiguous to any highway within the corporate limits of a city or village where on each side of the highway within any 1,000 feet, buildings are spaced on average more than 200 feet apart.

Semiurban district is an area contiguous to any highway where on either or both sides of the highway within any 1,000 feet, buildings are spaced on average less than 200 feet apart on either or both sides of the highway.

Urban fringe is a semiurban district or outlying district.

For the purposes of determining the district/area type, a "building" is a structure. Two or more retail businesses or other uses located in a single structure would constitute one building. The statutes refer to "buildings in use for business, industrial, and residential purposes" in defining certain types of districts. Note that schools, churches, farm buildings (other than farm residences), public buildings such as fire stations, are not included.

The statutes also require that the building lie along the referenced highway. In general, any building on property adjoining the highway would count. Under the following circumstances, however, the building would not count if:

- The building is located on property adjoining a frontage road which lies between the buildings and the through roadway in question.
- The building faces a parallel highway and has a continuous fence, hedge or other physical feature separating the building from the highway in question. This circumstance occurs in some subdivisions.
- The building is located on the adjoining property and another building shields it from the highway in question.

If a speed limit change is deemed necessary for public parks, shopping center properties, cemeteries, or other types of land uses, the use of speed zoning under s. 349.11 is necessary.

PHILOSOPHY

It has been found that motorists are generally capable of determining the driving speed that is reasonable for prevailing road and traffic conditions unless there are some roadway conditions that they are unaware of or which are not readily apparent and that the majority will subsequently adjust their speed accordingly. The 85th percentile speed has been found to best represent this perceived "reasonable" speed. The WisMUTCD [2B.13](#) states "when a speed limit is to be posted, it *should* be within ... 5 mph of the 85th percentile speed of free-flowing traffic." This practice promotes safety as research shows the lowest risk of being involved in a crash occurs at approximately the 85th percentile speed. Additionally, this practice promotes voluntary speed limit compliance as the majority of drivers would likely observe the limit. A third benefit of posting speed limits close to the 85th percentile speed is the ability to target law enforcement efforts toward the limited number of motorists that speed.

Unreasonably low speed limits, also called irrational speed limits, are not effective in changing driver behavior and have several negative effects. Research shows that drivers do not reduce their speed to the posted limit on

the basis of signage alone ("The Effectiveness of Transitional Speed Zones," ITE Journal, 2004). While irrational speed limits do not result in desired driver behavior, resulting negative effects include higher financial cost due to need for increased enforcement, higher potential for crashes due to larger variability in vehicle speeds, and encouragement of motorist disregard of other, rational posted speed limits. Irrationally low speed limits also promote a false sense of security among residents and pedestrians who *may* expect that posting lower limits will change drivers' speed behavior.

Research also indicates that crash rates go down when posted speed limits are within 10 mph of the 85th percentile speed. While the 85th percentile speed is a starting point for the speed limit proposal, the analyst *should* consider a full range of factors when developing the recommendation. The 10-mph pace is another valuable tool when considering a speed limit recommendation. A normal distribution curve would include approximately 70 percent of observed vehicles within the pace with approximately 15 percent of observed vehicles below the pace and 15 percent of observed vehicles above the pace. Typically, the 85th percentile speed is at or near the upper limit of the 10-mph pace.

Driving environment is the main influence on motorists' speeds. Several factors contribute to the driving environment including design, location within urban or rural areas, characteristics of traffic, surrounding land use, and access along the roadway. Pavement condition, on-street parking, bicycle and pedestrian activity levels, and level of snow and ice removal also contribute to the driving environment or roadway context. WisMUTCD [2B.13](#) recommends conducting a study to reevaluate non-statutory speed limits on segments of roadways that have undergone significant changes since the last review. Changes to the regulatory speed limit **shall not** be used to correct spot safety or operational problems when it would be more appropriate to use an advisory speed plaque with a warning sign. Additionally, regulatory speed limit changes *should not* be used to address concerns with noise or specialty vehicles.

Variable speed limits are not allowed in Wisconsin. There have been seasonal speed limits issued in the past that are grandfathered into current practices.

SPEED ZONES

Speed zones, or modified speed limits, are typically established on roadways where the statutory speed limit or an existing speed zone is no longer appropriate due to changes in land use, access, traffic volumes, levels of congestion, number of crashes or crash potential along the highway. Speed zoning is a means of establishing uniform regulatory speed limits for similar driving conditions throughout the state. It is a means of informing motorists who *may* be unfamiliar with the road of "reasonable" driving speeds under ideal operating conditions. Speed limits within speed zones *should* correlate closely (usually within 5 mph) with 85th percentile speeds determined by field speed studies to promote safety and voluntary compliance.

Authority

The statutory authority for establishment of regulatory speed limits is provided in Statutes s. 346.57 and s. 349.11. These statutes vest WisDOT with the authority to establish regulatory speed limits on the state trunk highway system. Furthermore, the statutes provide WisDOT with approval authority (refer to Statute s. 349.11(3)(c)) over some regulatory speed limits that local units of government would establish on facilities under respective maintenance jurisdictions. Figure 1 summarizes the speed limits under Statutes s. 346.57 and authority under s. 349.11.

On November 13, 1962, the Highway Commission delegated its statutory authority to the Chief Traffic Engineer and established the Chief Traffic Engineer as being responsible for maintaining the official records. Later the title of Chief Traffic Engineer was changed to State Traffic Engineer for Highways.

By memorandum of June 5, 1992, from the State Traffic Engineer, the regional offices were authorized to approve speed limit changes on local roads and streets, including county trunk highways, where those changes fall outside the authorized limits that the local authorities *may* exercise as specified in the statutes. In the same memo, the regional offices were authorized to establish reductions in speed limits in construction zones on a temporary basis while the need for the reduction exists. A Traffic Engineer with a Wisconsin Professional Engineer License is required to sign for any speed study on state-maintained highways.

As of October 16, 1995, authority for approval of speed limits which fall within 5 mph of the measured 85th percentile and no more than 2 mph below the measured average speed, or which are increased to the statutory speed limit was delegated to a designated approval authority in each region. Speed limits not meeting those criteria **shall** be sent to the State Traffic Safety Engineer or designee in the Bureau of Traffic Operations (BTO).

Table 1. Speed Limits and Authority to Change

Statutory (Fixed) Limits per Statute 346.57(4) ^(a)	What Local Governments ^(b) Can do Per Statute 349.11(3) and (7) ^(a)
70 mph – Freeway/Expressway	WisDOT ONLY
65 mph – Freeway/Expressway	WisDOT ONLY
55 mph – State Trunk Highway	WisDOT ONLY
55 mph – County Trunk Highway, Town Roads	Lower the statutory speed limit by 10 mph or less.
45 mph – Rustic Roads	Lower the statutory speed limit by 15 mph or less.
35 mph – Town Road (1,000' min) with 150' driveway spacing	Lower the statutory speed limit by 10 mph or less.
25 mph – Inside corporate limits of a city or village (other than outlying districts)	Raise the speed limit to 55 mph or lower. Lower the statutory speed limit by 10 mph or less.
35 mph – Outlying district ^(c) within city or village limits	Raise the speed limit to 55 mph or lower. Lower the statutory speed limit by 10 mph or less.
35 mph – Semiurban district ^(d) outside corporate limits of a city or village	Raise the speed limit to 55 mph or lower. Lower the statutory speed limit by 10 mph or less.
15 mph – School Zone, when conditions are met	Raise the speed limit to that of the roadway. Lower the speed limit by 10 mph or less.
15 mph – School Crossing, when conditions are met	Raise the speed limit to that of the adjacent street. Lower the speed limit by 10 mph or less.
15 mph – Pedestrian Safety Zone, with Public Transit Vehicle Stopped	No changes permitted.
15 mph – Alley	Lower by 10 mph or less.
15 mph – Street or town road adjacent to a Public Park	Lower by 10 mph or less.
Construction or maintenance zones – as appropriate	State and Local have authority to establish lower limit.
<p>(a) Source: Wisconsin State Statutes</p> <p>(b) All speed limit changes shall be based on a traffic engineering study, including modifications allowed under Statute. Local governments can implement speed limit changes on the local road system without WisDOT approval when proposals are within the constraints identified above.</p> <p>(c) Per Statute 346.57(1)(ar) "outlying district" is an area contiguous to any highway within the corporate limits of a city or village where on each side of the highway within any 1,000 feet, buildings are spaced on average more than 200 feet apart.</p> <p>(d) Per Statute 346.57(1)(b) "semiurban district" is an area contiguous to any highway where on either or both sides of the highway within any 1,000 feet, buildings are spaced on average less than 200 feet apart.</p>	

SPEED STUDIES

Speed zone reviews are typically initiated as a result of concerns expressed by interested citizens who live nearby or drive along the roads in question or *may* be triggered by a severe crash that has occurred. These concerns are referred to the traffic section in the region for review. Occasionally citizens or public officials under citizen pressure, request that a particular speed limit be imposed or that some other type of corrective action be taken. Requests for speed zone reviews originating outside the Wisconsin Department of Transportation for STHs *should* come through a mayor or other elected executive, appointed official, government body, or Traffic Safety Commission and be submitted in writing. WisDOT regions contacted directly by state or national legislators *should* notify and coordinate with the Bureau of Traffic Operations, Traffic Engineering and Safety Section (BTO, TESS). Any decisions regarding speed limits must be based on facts and an objective analysis of the characteristics of the roadway.

Engineering studies **shall** include the following:

1. Measurement of prevailing speed characteristics, including the calculation of the 85th percentile speed;
2. Evaluation of reported crash experience for the past five years;
 - a. In cases where a significant change (traffic control changes, speed limit adjustments, lane adjustments, etc.) occurs, a minimum of three years of crash data should be reviewed and documented within the study
3. Assessment of the roadway's geometrics including lane widths, curves, roadside hazards and sight distances;
4. Determination of the 10-mph pace;
5. Determination of the average speed;
6. Evaluation of density and roadside development in terms of the number of driveways and access points where vehicles can enter the traffic flow.

Engineering studies *should* include the following:

7. Consideration of conflicts with parking practices, and pedestrian and bicycle activity;
8. Evaluation of shoulder widths as well as roadway and shoulder conditions;
9. Determination of the current level of enforcement.

OBJECTIVES OF A MODIFIED SPEED LIMIT

For a speed limit to be effective, it *should* accomplish the following:

- Reduce the speed differential of vehicles using the highway
- Be a reasonable speed so the majority of drivers will comply voluntarily
- Reflect consistent application of traffic engineering principals and guidelines in common circumstances

Numerous studies have shown that setting a speed limit within 5 mph of the 85th percentile speed is advisable, to achieve safer operation.

Speed limit recommendations between adjacent sections of highway outside incorporated cities/villages *should* generally be made in increments of 10 mph but increments of 5 mph is permissible when justified. Inside the incorporated cities/villages these speed limits *should* be in increments of 5 mph. The number of such changes *should* be held to a minimum when speed limits are being applied to several adjacent sections of highway.

Transitional Speed Zones

Transitional speed zones are a means to gradually step-down or transition speeds from a higher speed limit in a rural area to a much lower speed in an urban setting. Research found that signage alone was not enough to get drivers to reduce their speeds. There needs to be changes in highway characteristics to impact driver behavior (“The effectiveness of Transitional Speed Zones,” ITE Journal, 2004). Thus, unless the driver perceives a reason to slow down, transitional, or step-down speed zones are almost completely ineffective and not recommended. In most cases, use of advanced warning signs (W3-5) advising the driver of a drop in the speed limit is the preferred method.

A transitional speed zone *should* be considered, however, if the physical characteristics of the roadway change, such as a rural section that transitions to a curb and gutter section with minimal driveways, and then transitions to a curb and gutter section with a significant number of driveways. Consider no more than 2 step-downs and only if within the 85th percentile speeds. Where there is development in an outlying area, a step down/transitional zone *may* be appropriate. However, where the highway is rural and transitions directly into a community without an outlying business area, the step down/transition zone is probably not appropriate.

When applied, the length of the transitional speed zone *should* be determined based on the posted speed limit of the highway approaching the transition zone (see Table 2). This will allow drivers adequate time to perceive, react and decelerate to the lower speed limit associated with constraints, such as an urban environment or construction.

Table 2. Minimum Length of Road for a Speed Limit

Speed Limit (mph)	Roadway Type & Adjacent Speed Limits	Minimum Length (miles)
30	Urban street, adjacent speed limits 45 mph or less	0.3
	Urban fringe, adjacent speed limits greater than 45 mph	0.6
35	Urban arterial route, adjacent speed limits 50 mph or less	0.6
	Other situations	0.3
45	Partly built-up, adjacent speed limits 50 mph or less	0.6
	Other situations	0.3
50	Arterial route, adjacent speed limits 45 mph or less	0.6
	Other situations	0.5
>= 55	All situations	1.2

Source: *Methods and Practices for Setting Speed Limits*. [FHWA-SA-12-004](#), 2012

Speed Zone Termination Points

Where possible, keep the beginning and end points of speed zones within 50 feet of the speed limit sign and declaration description area. If the location of a sign is greater than 50 feet, the declaration location description *should* be updated. If the declaration beginning and/or end point is at an intersection, the speed limit sign needs to be beyond the intersection.

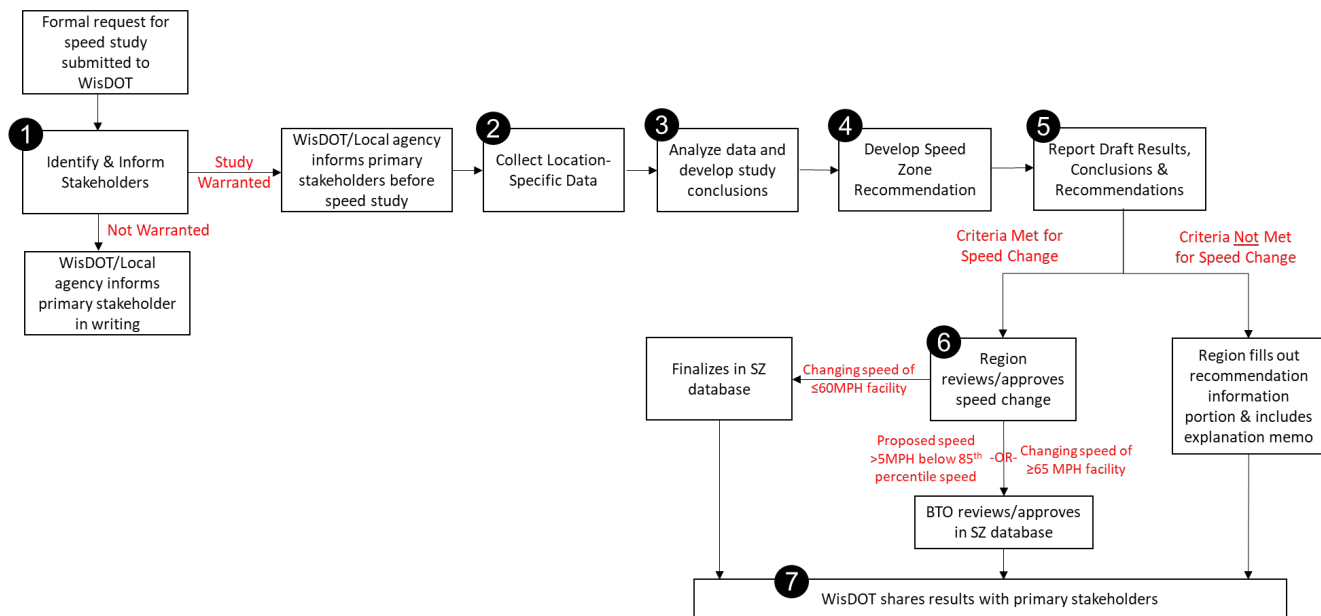
ASSESSING NEED FOR A SPEED ZONE OR MODIFICATION

The process for developing a speed limit recommendation involves many factors and is often complicated. The Federal Highway Administration (FHWA) has developed an expert, web-based system to aid in the process called [USLIMITS2](#). This opensource application provides a speed limit recommendation after the user inputs location-specific data pertaining to the physical environment, speed, and crash history. [NCHRP Project 17-76](#) provides a procedure and [tool](#) (macro enabled spreadsheet) for development of a posted speed limit setting. Analysts *should* consider using one of these tools as a starting point in the development of any revised speed limit recommendation.

The speed study process consists of applying the seven steps listed below and is outlined in Figure 1:

1. Identify and inform stakeholders
2. Collect location-specific data
3. Analyze data and develop study conclusions
4. Develop speed zone recommendations
5. Report draft results, conclusions, and recommendations
6. Review and approve or deny proposed speed modification
7. Seek stakeholder support

Figure 1. Speed Study Process



1. IDENTIFY AND INFORM STAKEHOLDERS

Requests for speed studies originating outside of WisDOT for STHs or outside the local authority for local roads *should* be in writing and *should* come through a mayor or other elected executive, appointed official, government body, or a Traffic Safety Commission. WisDOT or the local authority **shall** evaluate the request and use it in identifying primary stakeholders. If the request does not warrant study, WisDOT or the local authority **shall** inform primary stakeholders in writing of this finding and provide supporting rationale.

If study is warranted, WisDOT or the local authority **shall** inform primary stakeholders prior to initiating the speed study but **shall** minimize bias in the data collection effort by avoiding disclosure of specific study dates or times. WisDOT or the local authority *should* take the opportunity to brief decision-makers early in the speed study process, especially when the study area includes local roads or driveway access and passes through local jurisdictions. Briefings *should* include the methodology for developing and communicating recommendations at the conclusion of the study. WisDOT or the local authority

should coordinate with municipal and county officials, such as engineers, public works directors, and law enforcement, to access their local knowledge and identify vital information, especially in crash analysis, as the information *may* affect recommendations resulting from the speed study.

2. COLLECT LOCATION-SPECIFIC DATA

The objective of a speed study is to assess whether the speeds at which motorists travel along a stretch of roadway appropriately relate to the existing physical and geographic environment. State and local speed zone studies **shall** collect the following location-specific data:

- Vehicle speeds
- Crash data for the preceding five years which includes crash location, crash type, time of day, pavement conditions, and contributing factors such as speeding. In cases where a significant change (traffic control changes, speed limit adjustments, lane adjustments, etc.) occurs, a minimum of three years of crash data should be reviewed and documented within the study.
- Roadway geometrics including lane width and pavement condition, shoulder width and condition, and sight distances
- Traffic control and posted speed limits in and near the study area
- Land uses including type of development and intensity and access points from adjoining parcels, lots, or fields onto the roadway
- Official functional classification of the roadway, which indicates the intended function of the roadway in the overall state and local highway system. Classifications include principal arterial, minor arterial, collector and local road. Principal arterials include Interstates and most routes in the Wisconsin STH system. Minor arterials include major local roadways and some routes in the STH system. Collectors include other important local roads and a few STH routes. All other local roadways have the local road classification.
- Practical function of the roadway, which indicates the analyst's perception of the actual function of the roadway within the state and local highway system

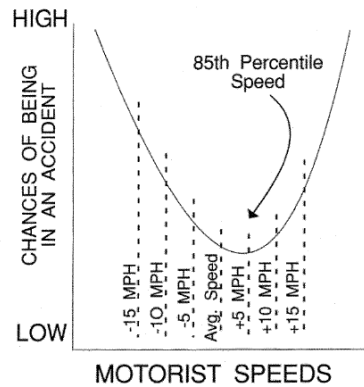
Crash Data

Crashes typically indicate there is a problem beyond speed. Investigations of crashes reveal that in most cases there was a clear violation of a traffic law or rule of good driving. Other numerous factors also impact the number of traffic crashes along a highway. Proper analysis and evaluation of these factors require the experience and expertise of a traffic engineer.

When reviewing, evaluating, and analyzing the crashes, do not compare crashes on a short segment of road to the statewide crash average. Since a speed study evaluates only one section of the highway, this would be inappropriate and could result in incorrect or misleading conclusions.

Contrary to popular belief, lower speed limits do not necessarily improve safety. The more uniform the speeds of vehicles in a traffic stream, the less chance there is for conflict and crashes. Posting speed limits lower or higher than what most drivers are traveling produces two distinct groups of drivers: those attempting to observe the speed limit and those driving at a speed they feel is reasonable and prudent. These differences in speeds can result in increased crashes due to tailgating, improper passing, reckless driving, and weaving from lane to lane.

The graph in Figure 2 illustrates that crashes are lowest at the 85th percentile speed. Research has found that the lowest risk of being involved in a crash occurs at approximately the 85th percentile speed.

Figure 2. Speed vs. Crash Curve

Source: "Speed Zoning on Texas Highways" State Department of Highways and Public Transportation, Austin, Texas, October 1990.

Driving Environment

The design, physical condition, and classifications of a roadway influence vehicle speeds as motorists will vary their speeds depending on the driving environment. The traffic engineer considers significant items in the driving environment. These items *may* include:

- Traffic volumes
- Roadside development (type, density, and lateral offset)
- Roadway and shoulder widths
- Condition of the roadway
- Number of lanes
- Intersections
- Driveways
- Hills, curves
- Urban roadway cross-section (presence of curb and gutter rather than ditches)
- Parking
- Pedestrians and bicyclists
- Any other factors recorded by the study team

The number of changes in the speed limit along a given route *should* be minimized. With this in mind, the length of the speed zone *should* depend on the speed of the roadway (see Table 2). Speed limits are not a spot issue. Realistic speed limits provide for a uniform and orderly movement of traffic. There is a need for uniformity on all roadways especially where they carry large volumes of traffic through various roadside conditions or numerous adjoining communities.

Data Collection Guidelines and Considerations

When a speed study is performed, a standard operating procedure *should* be followed to ensure that the sample set of data collected represents vehicles traveling at uninterrupted, free-flow speeds. In doing so, an accurate representation of vehicle speeds within the speed zone study area will be depicted. The following outlines the recommended procedure that *should* be followed when performing a speed study:

- The speed study *should* be performed during non-peak traffic conditions on a typical weekday (usually a Tuesday, Wednesday, or Thursday), when motorists are likely to be traveling at uninterrupted speeds. Speed studies conducted during peak commute times, unique events, weekends, or holidays *may* unintentionally capture more variable travel characteristics. These variable traffic conditions *may* impede vehicles from operating at their typical free-flow speeds due to congestion or platooning. In addition, the speed data *should* be collected during daylight hours and favorable weather conditions to reflect typical driving behavior.

In certain cases, though, speed concerns on a particular roadway do involve adverse weather or peak traffic volume conditions (e.g., school startup and release times, shift changes at major employment centers, or corridors with numerous points of commercial access). In these cases, it would be appropriate to conduct a speed study under these conditions to observe vehicle speeds during these unique situations.

- Speed data *should* be collected away from factors that might influence vehicle speeds, such as railroad crossings, intersections, horizontal and vertical curves, and work zones. The location of the

speed study *should* avoid speed limit transition areas and active pedestrian and on-street parking areas as motorist awareness is heightened, which *may* influence their free-flow speeds.

- Regardless of the data collection device being used, safety **shall** be the first priority when the observer or technician is performing this task. Although the amount of human interaction in collecting speed data varies by device, the observer or technician **shall not** be placed in a situation where their safety or that of passing motorists is in question.
- Speed data for the speed study is typically collected by recording the speeds of free-flowing vehicles using a speed-measuring device. A representative sample of speeds is recorded, which includes local residents, commuters, and regional traffic. To assist in obtaining accurate speed measurements, the observer or speed-measuring device *should* be inconspicuous to the observed traffic so unusual driver behavior does not skew data.
- Whenever possible, a minimum sample size (number of observations) for a speed study *should not* be less than 100 vehicles per lane per direction to provide an accurate representation of vehicle speeds within the study area (e.g., a total of 200 vehicles for a roadway with one lane in each direction, or 400 vehicles total for a roadway with two lanes in each direction). For roadways classified as very-low volume local roads, the minimum sample size *should not* be less than 30 vehicles (e.g., 15 vehicles per direction on a two-lane roadway). If the analyst anticipates that a sample of 30 vehicles cannot be collected within a reasonable amount of time, the submitting party **shall** request approval to use a smaller sample size from the agency with jurisdiction over the roadway. Data can be collected over multiple weekdays (typically a Tuesday, Wednesday, or Thursday).
- When an observer is gathering speed data, vehicle headway (the time between successive vehicles) of four to six seconds *should* be present for reliable speed observations. Measurements collected with smaller headways *may not* reflect free-flow conditions, as the lead vehicle *may* influence the speed of the vehicle(s) behind it.
- Two hours **shall** be the minimum amount of time for speed data collection if the 100 vehicles per lane per direction threshold cannot be met.

A speed zone study worksheet, which provides a template for summarizing and reporting the speed data, is available via the [BTO Traffic Operations Manuals webpage](#).

Data Collection Methods

An analyst can use a variety of data collection devices. These devices can be grouped into three categories, which for these purposes, are based on the location that the speed data collection device is installed:

- Manually operated handheld devices that are portable and can be used in most places (e.g., stopwatch, radar gun, and laser gun).
- In-road devices that are installed into or on top of the roadway surface (e.g., pneumatic road tube).
- Out-of-road devices that are installed overhead or to the side of the roadway surface (e.g. radar recorders).

Each device has distinct advantages and disadvantages for collecting and analyzing data that *may* factor in determining the appropriate device to use for a particular location. Table 3 summarizes common speed data collection techniques.

Table 3. Comparison of Data Collection Methods


Method	Data Collected	Labor Involvement	Equipment Costs ¹	Advantages	Disadvantages
Radar Recorders	Instantaneous speed, traffic volumes, vehicle class, traffic flow gaps ³	Low	High	<ul style="list-style-type: none"> • Little labor required to collect and tabulate data • Can collect data for long periods of time • Other traffic-related data <i>may</i> be collected at the same time • Can be used when snowplows <i>may</i> be present without risk of damage • Less visible to traveling public than road tubes 	<ul style="list-style-type: none"> • User cannot randomly select vehicles for data set • Some devices <i>may not</i> accurately collect data for multi-lane roadways or determine directionality of observed vehicles • Equipment-intensive method • Maintenance/ calibration required
Pneumatic Road Tube	Instantaneous speed, traffic volumes, vehicle class, traffic flow gaps ³	Low	Medium	<ul style="list-style-type: none"> • Little labor required to collect and tabulate data • Can collect data for long periods of time • Other traffic-related data <i>may</i> be collected at the same time 	<ul style="list-style-type: none"> • Visible to traveling public which <i>may</i> change driver behavior • User cannot randomly select vehicles for data set • Use discouraged when snowplows <i>may</i> be present • Most equipment-intensive method • Maintenance/calibration required
Laser Gun	Instantaneous speed	Medium	High	<ul style="list-style-type: none"> • Equipment is easily portable • User controls vehicles sampled • A more focused laser beam limits the number of readings for non-target vehicles as compared to radar 	<ul style="list-style-type: none"> • Cosine error limits horizontal/vertical deployment • Scopes and sights <i>may not</i> be user-friendly • Laser beams are more sensitive to environmental variances than radar • Maintenance/calibration required
Radar Gun	Instantaneous speed	Medium	Medium	<ul style="list-style-type: none"> • Equipment is easily portable • User controls vehicles sampled • Accurate data collection method • Widespread equipment availability has lowered its cost 	<ul style="list-style-type: none"> • Cosine error limits horizontal/vertical deployment • Closely spaced and larger vehicles <i>may</i> create readings for non-targeted vehicles • Maintenance/calibration required
Stopwatch ²	Travel time over a distance	High	Low	<ul style="list-style-type: none"> • Little equipment to purchase and maintain • Easy to perform data collection process 	<ul style="list-style-type: none"> • Labor-intensive • Collects time data that needs to be converted to speed data • Typically, low accuracy

1 Equipment costs reflect the initial purchasing costs of the equipment and not future maintenance and calibration costs
2 The stopwatch method **shall not** be utilized in State-sponsored studies or studies that involve roadways under the jurisdiction of WisDOT.
3 The amount of additional data collected varies for each device, please consult the device's user manual for a better understanding of its capabilities.

Further information on these methods can be found in the [Data Collection Methods document](#) on the [Traffic Operations Manual webpage](#).

Figure 3 provides a typical speed data summary example illustrating the 85th percentile speed, 10-mph pace and synopsis of speed distribution.

Figure 3. Speed Data Example



WISCONSIN DEPARTMENT OF TRANSPORTATION
SPEED STUDY WORKSHEET

ADDRESS _____
 CITY, STATE, ZIP _____

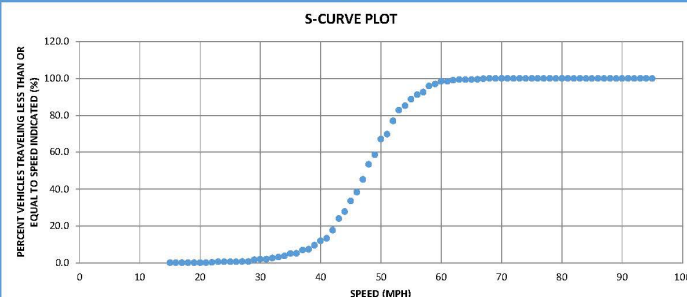
LOCATION INFORMATION	
HIGHWAY:	STH 101
COUNTY:	PORTAGE
MUNICIPALITY:	T-ALPHA
STUDY LOCATION:	0.20 MILES SOUTH OF CTH ABC 44.XXXX*, -89.XXXX*
DIRECTION OF TRAVEL:	EASTBOUND/WESTBOUND
POSTED SPEED:	55 MPH

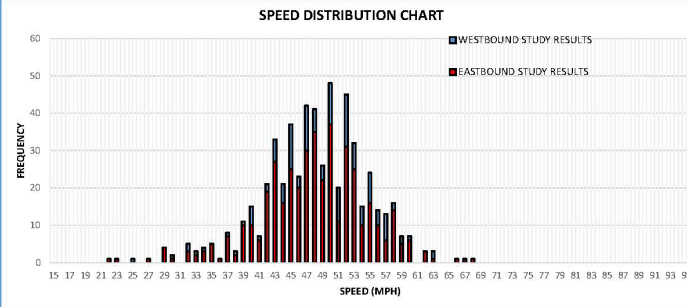
GENERAL INFORMATION		FIELD COMMENTS	
DATE:	6/10/2021	DATA RECORDED WITH RADAR DEVICE.	
DAY:	TUESDAY		
TIME OF STUDY:	3PM - 7 PM (4 HRS)		
OBSERVER(S):	WISDOT		
WEATHER:	CLOUDY		
PAVEMENT CONDITION:	DRY		

EASTBOUND STUDY RESULTS		WESTBOUND STUDY RESULTS	
85TH PERCENTILE*	54.0	85TH PERCENTILE*	54.7
50TH PERCENTILE†	47.6	50TH PERCENTILE†	49.3
AVERAGE SPEED	47.8	AVERAGE SPEED	48.8
PACE RANGE‡	43 TO 52	PACE RANGE‡	44 TO 53
PERCENT IN PACE	59.2%	PERCENT IN PACE	60.6%
PERCENT OVER PACE	23.1%	PERCENT OVER PACE	22.6%
PERCENT UNDER PACE	17.7%	PERCENT UNDER PACE	16.8%

COMBINED STUDY RESULTS		VEHICLE SUMMARY PERCENTAGES	
85TH PERCENTILE*	54.2	PASSENGER VEHICLES	97.9%
50TH PERCENTILE†	47.8	TRUCKS	2.1%
AVERAGE SPEED	48.1		
PACE RANGE‡	43 TO 52		
PERCENT IN PACE	59.4%		
PERCENT OVER PACE	24.2%		
PERCENT UNDER PACE	16.4%		

SPEED (MPH)	EB VEH	EB TRUCKS	WB VEH	WB TRUCKS	TOTAL VEHICLES	TOTAL TRUCKS	TOTAL
15	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0
22	1	0	0	0	1	0	1
23	1	0	0	0	1	0	1
24	0	0	0	0	0	0	0
25	0	0	1	0	1	0	1
26	0	0	0	0	0	0	0
27	1	0	0	0	1	0	1
28	0	0	0	0	0	0	0
29	4	0	0	0	4	0	4
30	1	0	1	0	2	0	2
31	0	0	0	0	0	0	0
32	2	1	2	0	4	1	5
33	2	0	1	0	3	0	3
34	3	0	1	0	4	0	4
35	5	0	0	0	5	0	5
36	1	0	0	0	1	0	1
37	6	1	1	0	7	1	8
38	2	0	1	0	3	0	3
39	10	0	1	0	11	0	11
40	10	0	5	0	15	0	15
41	5	1	1	0	6	1	7
42	18	1	2	0	20	1	21
43	27	0	6	0	33	0	33
44	16	0	5	0	21	0	21
45	24	1	12	0	36	1	37
46	20	0	3	0	23	0	23
47	30	0	11	1	41	1	42
48	34	1	6	0	40	1	41
49	22	0	4	0	26	0	26
50	37	0	11	0	48	0	48
51	11	0	9	0	20	0	20
52	28	3	14	0	42	3	45
53	23	2	7	0	30	2	32
54	10	0	5	0	15	0	15
55	16	0	8	0	24	0	24
56	10	0	4	0	14	0	14
57	6	0	7	0	13	0	13
58	14	0	2	0	16	0	16
59	5	0	2	0	7	0	7
60	6	0	1	0	7	0	7
61	0	0	0	0	0	0	0
62	3	0	0	0	3	0	3
63	1	0	2	0	3	0	3
64	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0
66	1	0	0	0	1	0	1
67	1	0	0	0	1	0	1
68	1	0	0	0	1	0	1
69	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0
72	0	0	0	0	0	0	0
73	0	0	0	0	0	0	0
74	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0
76	0	0	0	0	0	0	0
77	0	0	0	0	0	0	0
78	0	0	0	0	0	0	0
79	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0
81	0	0	0	0	0	0	0
82	0	0	0	0	0	0	0
83	0	0	0	0	0	0	0
84	0	0	0	0	0	0	0
85	0	0	0	0	0	0	0
86	0	0	0	0	0	0	0
87	0	0	0	0	0	0	0
88	0	0	0	0	0	0	0
89	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0
91	0	0	0	0	0	0	0
92	0	0	0	0	0	0	0
93	0	0	0	0	0	0	0
94	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0
TOTAL VEHICLES	418	11	136	1	554	12	566





*85TH PERCENTILE SPEED IS THE SPEED AT OR BELOW WHICH 85 PERCENT OF THE OBSERVED TRAFFIC TRAVELS UNDER FREE FLOW CONDITIONS

†50TH PERCENTILE SPEED IS THE SPEED AT OR BELOW WHICH 50 PERCENT OF THE OBSERVED TRAFFIC TRAVELS UNDER FREE FLOW CONDITIONS

‡PACE IS THE 10 MPH RANGE OF SPEEDS THAT COVERS THE HIGHEST NUMBER OF OBSERVATIONS FROM THE DATA SET

3. ANALYZE DATA AND DEVELOP STUDY CONCLUSIONS

After location-specific data has been collected, it *should* be analyzed and serve as the basis for study conclusions and recommendations. State and local speed studies **shall** analyze the data and report the following study conclusions:

- *85th percentile speed.* The 85th percentile speed has been found to best represent the “reasonable” and “proper” speed perceived by motorists and is a key characteristic of traffic conforming to a “safe” and “reasonable” speed limit. While 15 percent of the observed motorists travel above the perceived “reasonable” and “proper” speed, studies have shown that this group of motorists causes many of the vehicle crashes along roadways. Studies have also indicated that the lowest risk of being involved in a crash occurs when motorists travel at approximately the 85th percentile speed.
- *Pace speed.* 10 mph band of travel speeds containing the largest number of observed vehicles.
- *50th percentile speed.* Also known as the median speed, is the speed at which 50 percent of the sample of free-flowing vehicles are traveling.
- *Design speed of the roadway.* Often times the design speed of state trunk highways is 5 mph higher than the posted speed limit. When the design speed is not known, it can be estimated based on elements of the horizontal and vertical alignment. For example, design speed of the curves (an element of horizontal alignment) and stopping sight distance (an element of vertical alignment) are often suitable estimates for overall design speed. See [TEOpS 13-5-12](#).
- *Speed distribution.* Two distribution methods are used to analyze speed data: frequency distribution and cumulative frequency distribution. Frequency distribution compares speed versus the number of observed vehicles traveling at a particular speed. A frequency curve presenting this data will illustrate the modal speed (speed most frequently observed) as well as the pace. Cumulative frequency distribution compares speed to the number of vehicles or percentage of the sample traveling at or less than a particular speed. A cumulative frequency curve presenting this data will illustrate percentile speeds.
- *Proportion of vehicles exceeding existing speed limit.* This statistic reports compliance with the existing posted speed limit and current driver expectation in the proposed speed zone. This data *may* be useful in building an argument for or against a change to the existing posted speed limit.
- *Significance of secondary roadway attributes.* Attributes such as presence of long turning queues, large volumes of trucks, large volumes of regional traffic, driveways and intersections, sight distance, on-street parking, pedestrian and bicycle activity, as well as pavement condition, level of law enforcement, and divergence between functional classification and practical function play a significant role in driver expectancy and vehicle speeds along a roadway. The analyst *should* note when secondary roadway attributes are present and identify which of the attributes are significant.
- *Crash data analysis.* The speed study conclusions **shall** also include an analysis of crash data for the past five years, indicate if a safety concern exists, and provide the number and percentage of crashes for which speed was a contributing factor. In cases where a significant change (traffic control changes, speed limit adjustments, lane adjustments, etc.) occurs, a minimum of three years of crash data should be reviewed and documented within the study. The conclusion **shall** report a crash rate for the roadway segment being studied, the comparable statewide average available on the [BTO Traffic Operations Manual webpage](#), and key contributing factors such as speed, the driver’s physical condition (e.g. chemical impairment, sleeping, age, and seat belt use), weather, and time-of-day the crash occurred.

4. DEVELOP SPEED ZONE RECOMMENDATIONS

After analyzing the vehicle speed and location-specific data, the analyst **shall** use it to develop and support the speed zone recommendations. The speed study **shall** provide a recommendation indicating whether conditions warrant a need to modify the speed limit of the studied section of roadway. It is important to note that the study conclusions *may not* support the need for a speed zone.

Decisions regarding the potential change in a speed limit *should* be based on the objective findings of the speed study and on conditions that exist at the time of the evaluation. Modified speed limits *should not* be installed to address the following conditions:

- Response to noise complaints
- Accommodation of specialty vehicles that use the roadway
- Future growth anticipated in the area
- Anticipated law enforcement of the roadway

- Future concerns that have not previously occurred
- Correction of spot safety or operational problems

The speed study **shall** make a recommendation that identifies whether the speed limit *should* change or remain the same. Any recommendation made in the speed study *should* relate to improving motorist and bystander safety along the route, reference findings from the crash data analysis, and suggest additional study if a safety problem is discovered where speed is not a primary contributing factor.

When a modified speed limit is proposed as a result of a speed study, several factors **shall** be considered including but not limited to the following:

- The number of speed limit changes along a route *should* be minimized. For speed zones outside of incorporated cities and villages, speed limit changes *should* be made in increments of 10 mph, though increments of 5 mph are permissible when justified. Within incorporated cities and villages, an increment of 5 mph *should* be implemented.
- The WisMUTCD [2B.13](#) states “when a speed limit is to be posted, it *should* be within ... 5 mph of the 85th percentile speed of free-flowing traffic.” The 85th percentile speed is typically the best representation of the perceived “reasonable” speed. It is widely accepted that speed limits set at unrealistic levels above or below the 85th percentile speed have little impact on a driver’s choice of speed. In addition, the lowest risk of being involved in a crash occurs at approximately the 85th percentile speed.
- Highways that serve predominantly regional or statewide traffic, including bypass highways and roadways on the urban fringe, *should* have higher speed limits in rural or urbanizing areas than in urban commercial or residential-core areas. These highways *should* also have speed limits at or closer to the 85th percentile speed as compared to roadways that serve predominantly local traffic.
- All recommended modifications to posted speed limits **shall** be within the range allowable by Statutes (see Table 1) or **shall** gain approval from WisDOT.

5. REPORT DRAFT RESULTS, CONCLUSIONS, AND RECOMMENDATIONS

In accordance with state statutes, an engineering and traffic investigation **shall** precede the establishment of a modified speed zone on the state trunk highway system. Exceptions to this requirement are for situations involving minor adjustments of existing speed zone termini that requires the relocation of the speed limit sign due to changes in highway features, development, or signage.

The following elements are expected to be prepared by the region as part of every speed zone engineering and traffic investigation. An engineering and traffic investigation is not required for 55, 65 and 70 mph limits that are established by statute.

1. Speed checks taken at appropriate intervals to determine the 85th percentile and mean speeds of the speed distribution at each of the monitored locations.
2. A picture or photo of each location where speed readings were taken.
3. Crash history when it bears on the recommendation
4. A map depicting the limits of both the existing and proposed speed zoning
5. Documentation of any protests by local units of government, particularly for locations where the speed study recommends altering the existing speed limits.
6. Discussion supporting the recommendation to modify or keep the existing speed limit.

Recommending No Speed Limit Change

When study conclusions indicate the posted speed limit *should not* be changed, the analyst/agency *should* provide alternatives that the responsible jurisdiction can use to respond to the identified issues and concerns, including, but not limited to, noise, specialty vehicles, spot safety problems, or spot operational problems. Alternatives such as signing adjustments, traffic calming, roadway design modifications including modifications to roadway cross-section, access control, or other changes to the physical environment *may* alter vehicle speeds. A comprehensive discussion of traffic calming measures is available from the [Institute of Transportation Engineers \(ITE\)](#). It is generally not recommended to use traffic control devices such as stop signs or traffic signals as tools for controlling

speeds. The analyst *may* want to recommend the completion of additional study as well as consideration of public outreach efforts aimed at reducing speeds using educational and enforcement initiatives.

6. REVIEW AND APPROVE/DENY PROPOSED SPEED CHANGE

The approval process for speed limit modifications proposed by WisDOT on the STH system consists of one to three reviews and are conducted electronically within the [Speed Zone Database](#). The following summarizes the different levels of review and approval.

1. If the recommended speed limit falls within 5 mph of the measured 85th percentile speed and no more than 2 mph below the measured 50th percentile speed, or is increased to the statutory speed limit of the roadway, the region's approval authority *may* complete and electronically sign/approve the "Request For Approval of Declaration" portion of the speed zone declaration.
2. If the recommended speed limit does not meet these criteria (either the proposed speed is greater than 5 mph below 85th percentile speed or changing the speed of a facility that is more than 60 mph), the region **shall** attach the speed zone engineering and traffic investigation memo, accompanying worksheets, and any supplemental information to the declaration within the [Speed Zone Database](#) and submit for BTO review. The State Traffic Safety Engineer or designee reviews the submittal, consults with the regions regarding questions or clarifications, and *may* electronically sign and approve/deny the "Request for Approval of Declaration" portion of the speed zone declaration.
3. For submittals containing sensitive (legislative or tribal interest) recommendations, the State Traffic Safety Engineer or designee reviews the findings with the State Traffic Engineer before approval/denial.

BTO **shall** respond to the region in writing with their decision. If a speed zone request is denied, BTO **shall** provide an explanation of the reasons for denial.

7. SHARE INFORMATION WITH STAKEHOLDERS

After the study's draft results, conclusions, and recommendations have been developed, WisDOT or the local authority **shall** share them with primary stakeholders (e.g., WisDOT, State Patrol, FHWA, local governments, traffic safety commissions, and local law enforcement). WisDOT or the local authority *should* take the opportunity to gather feedback and generate support for study findings by presenting results and answering questions from decision-makers about the speed study process. The outreach *should* include study methodology, results, conclusions, and recommendations.

13-5-2 Local Speed Limits

August 2021

The process to modify regulatory speed zone on town, village, city or county roadways is explained below.

- [TEOpS 13-5](#) is provided to help guide locals in making an informed decision based on data and engineering judgement; the statutes relating to speeds need to be followed first and foremost. Statutes 346.57 and 349.11 are most applicable to modification of regulatory speed limits. These statutes, fixed regulatory speed limits, and local government authority are summarized in [TEOpS 13-5-1 Table 1](#).
- For concerns regarding county highways, contact the County Highway Department office. For concerns regarding city or village roadways, contact the Department of Public Works office. For concerns regarding township roadways, contact the Township Chairperson.
- If the roadway does not currently have a posted speed and is rural in nature (sparse development, no curb and gutter, gravel shoulders and grass ditches), by statute the speed limit is 55 mph.
- The town, village, city or county can reduce rural roadways that are statutorily a 55-mph regulatory speed zone to 45 mph upon doing a traffic engineering study that indicates 45 mph is appropriate. No WisDOT approval required.
- If the town, village, city or county roadway is more urban in nature (higher density of residential, farm, industrial or commercial driveways) the statutory criteria varies depending on driveway spacing. Driveway

spacing is a major factor in posting 35 mph regulatory speed zones. Refer to Figures 4 and 5 for the driveway spacing requirements.

- If a traffic engineering study conducted by a town, village, city or county indicates a modified regulatory speed zone is appropriate and the modification is allowed by state statute (see Table 1 in [TEOpS 13-5-1](#)) approval by WisDOT is not required.
- If a traffic engineering study conducted by a town, village, city or county indicates a modified regulatory speed zone is appropriate but the modification is not allowed by state statute (see Table 1 in [TEOpS 13-5-1](#)) approval by WisDOT is required.
- If WisDOT needs to be contacted regarding approval of a local road speed study, approval will likely only be given if the traffic engineering study concludes the modified (typically lower) regulatory speed zone is appropriate.
- Details for conducting a traffic engineering study can be found in [TEOpS 13-5-1](#).
- Analysts *should* consider using [USLIMITS2](#) or [NCHRP Project 17-76](#) with the macro enabled spreadsheet [tool](#), as a starting point in the development of any revised speed limit recommendation.

Changes proposed within the constraints outlined in [TEOpS 13-5-1](#) Table 1 are subject to the local approval process only and do not require review or approval from the WisDOT region . It is recommended that the local approval process include legal adoption of the speed zone recommendation through passage of an ordinance. Proposed changes that lie outside the constraints presented in [TEOpS 13-5-1](#) Table 1 **shall** be reviewed and approved by WisDOT , before legal adoption by local authorities. It is recommended that the local process conclude with the local authority responding to the submitting party in writing, providing notification of approval or an explanation of the reasons for denial. The traffic study must be per Statute s. 349.11 and WisMUTCD [2B.13](#). Changes proposed outside the constraints require Department approval.

Typical study documentation can include the speed study cover letter, speed study, map and/or photos of area, study findings, methodologies, and any other documentation to help support the recommendation (see example below). Contact the local WisDOT Region for an example of a speed study for more clarification.

Figure 1. Sample Speed Study Template

CORRESPONDENCE/MEMORANDUM	State of Wisconsin	
	Page 1 of 3 Speed Study Cover Letter	
Date: _____		
From: _____		
To: _____		
STUDY LOCATION		
Highway/Street Name: _____		
From: _____ To: _____		
Municipality: _____		
Segment Length (mi): _____ County: _____		
Reason(s) for Speed Limit Change: _____		
REQUEST FOR APPROVAL OF DECLARATION		
The following information supporting the recommendation is enclosed with this request (check boxes):		
<input type="checkbox"/> Map showing limits	<input type="checkbox"/> Speed Study data	<input type="checkbox"/> Crash history data
<input type="checkbox"/> Aerial/site location photo(s)	<input type="checkbox"/> Documents of public interest	<input type="checkbox"/> Highway log files
Other (please specify): _____		
RECOMMENDED BY: _____	Date: _____	
WisDOT Region		
SPEED ZONE REQUEST <input type="checkbox"/> APPROVED <input type="checkbox"/> NOT APPROVED		
Reviewer shall provide comments, in writing, when a request is not approved.		

ROADWAY CHARACTERISTICS

Posted Speed Limit: _____ mph Is Segment a Transition Zone (check one): Yes No
(If 'Yes', please explain on Page 3)

Design Speed Limit: _____ mph Significant On-Street Parking (check one): Yes No
(If 'Yes', please explain on Page 3)

Number of Lanes: _____ Significant Ped/bike activity (check one): Yes No
(If 'Yes', please explain on Page 3)

Lane Width (feet): _____ Horizontal curves present (check one): Yes No
(If 'Yes', please explain on Page 3)

AADT (vehicle/day): _____ Vertical curves present (check one): Yes No
(If 'Yes', please explain on Page 3)

Year AADT Performed: _____ Number of access points in segment: _____

Land Use (check one): Urban Suburban Rural **CRASH HISTORY**

Roadway Type (check one): Freeway Non-freeway Years: _____ to _____

Functional Class: _____ Number of Years: _____

Shoulder Type (check one): Paved Gravel C&G Speed-related crashes: _____

Shoulder Width (feet): _____ Crash Rate: _____

Median Type (check one): Divided Undivided TWLTL Severity Rate: _____

SPEED STUDY RESULTS

Posted Speed Limit (mph): _____ Number of observed vehicles: _____

50th Percentile Speed (mph): _____ 10 mph Pace Range: _____

85th Percentile Speed (mph): _____ Percent vehicles in pace: _____

Range of Speeds (mph): _____ Percent vehicles over pace: _____

Percent observed vehicles non-compliant to speed limit: _____ Percent vehicles under pace: _____

Provide additional comments that may be significant or noteworthy about the request

Provide reasoning for omission of any information requested

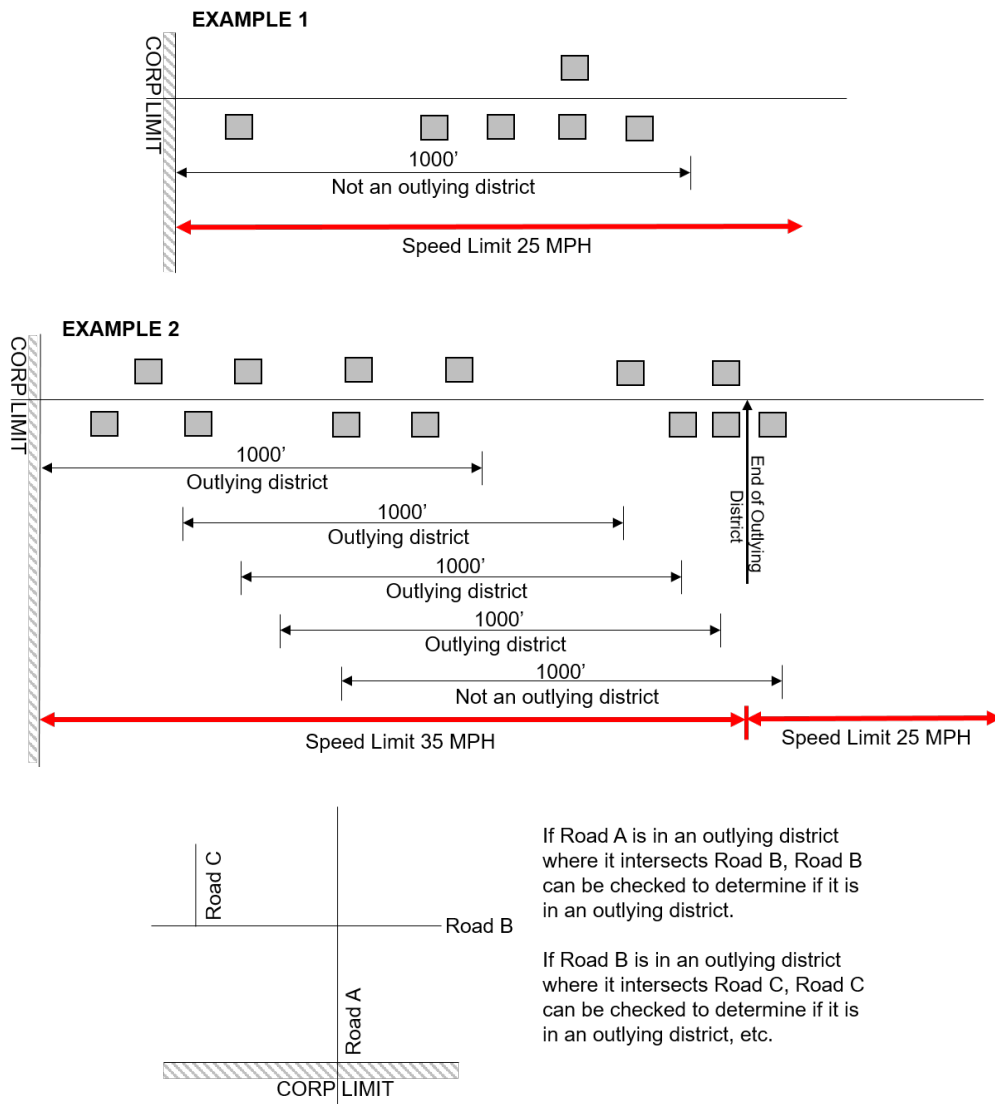
Speed Limits Within Incorporated Areas

Assume that the speed limit within corporate limits is 25 mph unless it can be shown that the area is an outlying district. Use the following steps in conjunction with Figure 4 to help determine if the area qualifies as an outlying district:

1. Measure 1000 feet beginning at the corporate limit and measuring inward. If there are 5 or more “buildings” on either side of the highway, the area is not an outlying district. If neither side of the highway has 5 or more “buildings”, the area is an outlying district.
 - a. If Step 1 does not find an outlying district, the process stops at this point. There is no outlying district on that highway on that edge of the city or village.
 - b. If Step 1 identifies an outlying district, continue with Step 2.
2. Maintaining the 1000-foot measurement, move progressively inward on each side of the highway separately until one additional “building” is added on either side. Then repeat Step 1. Continue this process until a 1000-foot segment is located which does not qualify as an outlying district; the end of the outlying district (the beginning of the 25 mph speed limit) is immediately preceding the most inward “building” in the 1000-foot segment that did not qualify as an outlying district.

An outlying district *may* also lie on a highway which does not intersect the corporate limit but does intersect another highway in an outlying district. To check such a highway, begin at the highway already found to be in an outlying district and treat that intersection the same as the corporate limit for the purposes of Steps 1 and 2 above.

Figure 4. Outlying Districts



Speed Limits Outside Incorporated Areas

Assume that the speed limit outside corporate limits is 55 mph unless it can be shown that an area is a semiurban district. Use the following steps in conjunction with Figure 5 to help determine a semiurban district:

1. Locate the approximate “midpoint” of the suspected semiurban district and measure a 1000-foot length of highway roughly centered on this “midpoint”.
 - a. If the number of “buildings” within this 1000-foot length is 4 or fewer, counting all “buildings” on both sides of the highway, a semiurban district has not been identified. Select a new “midpoint”, if appropriate, and repeat.
 - b. If the number of “buildings” within the 1000-foot length is 5 or more, counting all “buildings” on both sides of the road, a semiurban district exists. Continue with Step 2.
2. Measure a new 1000-foot length of highway so it includes all but one of the “buildings” in the previous 1000-foot length.
 - a. If this new 1000-foot length includes 5 or more “buildings”, it is also part of the semiurban district. Repeat Step 2.
 - b. If this new 1000-foot length includes only 4 or fewer “buildings”, the distance added because of the new measurement is not part of the semiurban district.

Note: If a semiurban district is identified in Step 1, Step 2 must be applied in both directions from this original length.

Theoretically these provisions can result in two (2) semiurban districts which are quite close together. For practical purposes, if the limits of two adjacent semiurban districts are less than 1000 feet apart, they *should* be considered a single district.

Figure 5. Semiurban Districts

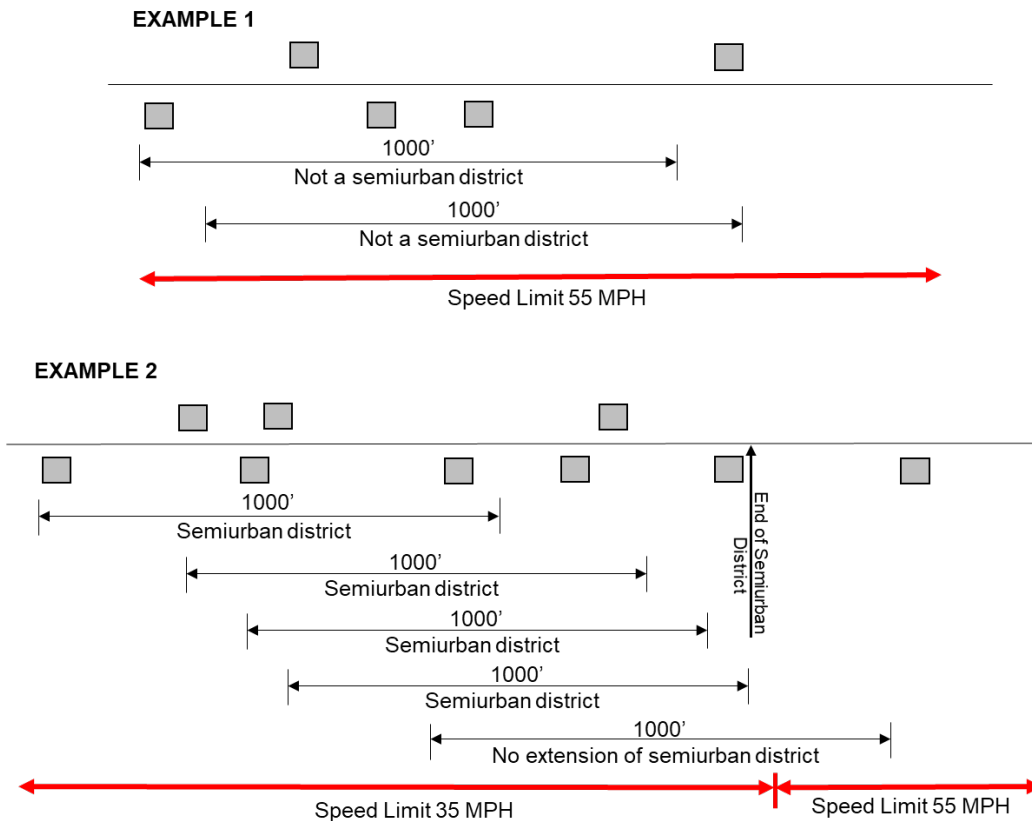
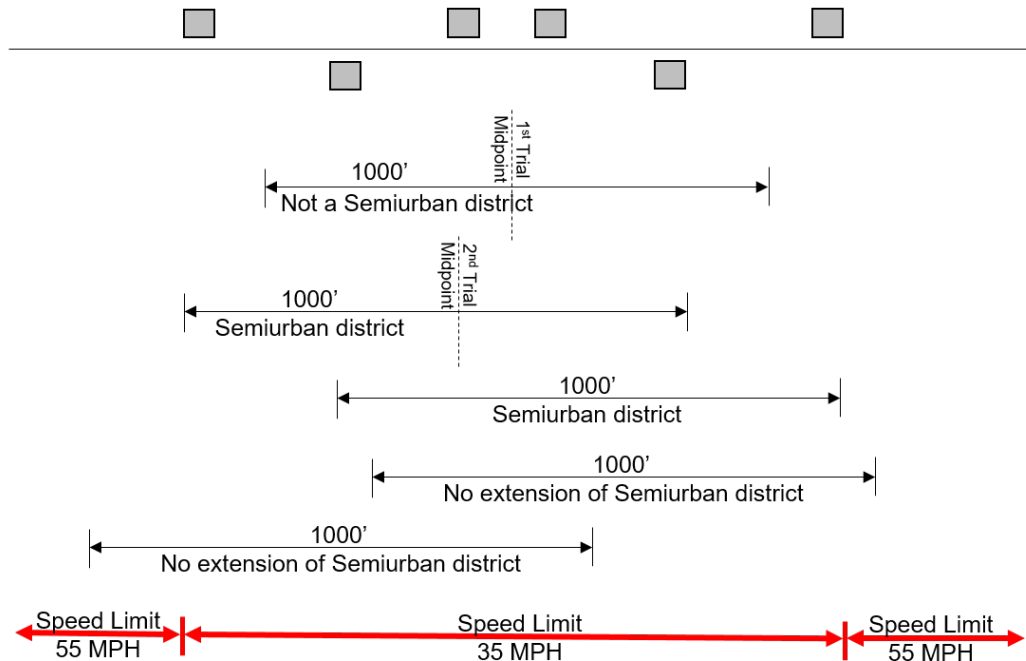


Figure 5. Semiurban Districts (Continued)



13-5-5 School Zones

August 2021

Wisconsin State Statutes require that School Advance warning signs (S1-1) be installed and maintained on every highway where a school grounds is contiguous to the highway. There is no requirement that a school speed limit be posted except where it differs from the 15-mph provision in Statutes. 346-57 (4)(a) and (b). These two provisions place the requirement on the motorist to reduce speed to 15 mph when children are present, even in the absence of speed limit signs.

MOTORIST OBSERVANCE

It is commonly known that motorists in Wisconsin, as well as in many, if not most other states, do not respond consistently or dependably to school speed limit signs, unless there is active enforcement. Where enforcement is exercised, it is often sporadic or symbolic, such as on the opening day of school. It takes intensive, continuous enforcement to cause a reduction of speed toward 15 mph or thereabouts. As a result, this effort is rarely undertaken. In regard to public safety, it would be better to address the actual hazards that exist and make efforts to correct them.

THE NEED FOR SIGNS

There are many variations to the physical arrangements at school locations on the state trunk highway system. The following two typical situations, however, are offered to illustrate guidelines for handling most of the rest:

1. In a built-up section of a city or village, where the arterial speed limit is low, probably 25 mph or 30 mph and sidewalks are present, many or most of the children walk to school. Some *may* be transported by personal auto, thereby causing some congestion, etc. The posting of the school speed limit is virtually inevitable and would be in agreement with general statewide practice. A motorist's unexpected or sudden reaction to the combination of the speed limit and/or presence of children or crossing guard would likely not cause a crash potential. Sudden stoppages and slowdowns are common in developed areas. It would be desirable to study the location to see if an increase to a 20-mph school speed limit would be appropriate and acceptable as per authority is s. 349.11(7). School speed limits can be posted (S4-51 sign). If used, they *should* be posted at 10 mph less than the speed limit of the highway. The reason for this is, if speed limits that exceed a 10-mph drop are used, the compliance will be marginal and differential speeds will occur.
2. On a rural section of highway where the school is the only feature and the speed limit is 55 mph or approaching it, virtually all students are transported. There *may* be a few nearby who walk or cycle. It is WisDOT's policy to refrain from posting school speed limits under these conditions and to resist requests to have them posted. Whereas motorists are skilled at anticipating slowing traffic where there

are recognizable features, such as intersections or driveways, there would be a very serious situation generated if occasional motorists respond to extremely low posted speed limits in an unpredictable manner. Since children are unlikely to be present, speed limit signs would be basically a purposeless use of signing. School speed limits can be posted (S4-51 sign). If used, they *should* be posted at 10 mph less than the speed limit. If there are no children present, do not post a school speed limit sign; rather place an advisory speed plaque under the S1-1 advance crossing sign or the school entrance warning sign.

On the other hand, S1-1 school advance signs, which are required, *should* be useful in warning of motorists frequenting the school driveway.

The two examples given *may* represent the two extremes of situations. Other locations *may* have semiurban characteristics and will have to be studied carefully to see what problems *may* exist.

Do not post signs unless asked by a local unit of government. Evaluate appropriateness prior to posting. Checking for appropriateness includes evaluating the following:

- Are there children present near the roadway?
- Will there be proper and consistent enforcement?
- Are children bused to school or do they have to cross at or near the roadway?

ARTERIAL SPEED LIMIT

There has been occasional local sentiment to have an arterial speed limit lowered because of the existence of a school, often times on the outskirts of the municipality. If the school is isolated and detached, the request *should* be resisted. The school hours, particularly those where children are present at the street side, are such a low percentage of the day that this *should* be unjustifiable. Enhanced warning signs or flashers on a time clock would be better solutions.

CONFLICT OF SIGNS

Where school speed limits are posted, it is considered good practice to omit the full-time regulatory speed limit signs in the school zone, in order to prevent confusion or avoid giving motorists grounds for disobeying the school speed limit.

WISMUTCD

See [Figure 7B-3](#) in the WisMUTCD for proper sign locations. WisMUTCD [7B.11](#) provides standards, options and support for school speed limit assemblies.

SPEED LIMITS WITH FLASHERS

It *should* be emphasized that the statutes provide for school zone speed limits to be in effect "When Children Are Present". Therefore, it is improper for local municipalities to use the S4-4 "When Flashing" panel with the school speed limit sign that is supplemented with a flashing beacon.

FLASHING BEACON

A permit can be issued to the local jurisdiction to place a beacon above the S4-51 sign in accordance with [TEOpS 4-5-1](#) permit application.

DYNAMIC SPEED DISPLAY SIGNS

See [TEOpS 2-1-7](#) regarding policy for dynamic speed display signs.

13-5-6 Temporary Traffic Control Zones

August 2021

BACKGROUND

Speed limit reduction for temporary traffic control zones is discussed in Part 6 of the WisMUTCD. Excerpts from Section [6C.01](#) of the WisMUTCD state:

"Reduced speed limits *should* be used only in the specific portion of the temporary traffic control zone where conditions or restrictive features are present."

"A temporary traffic control plan *should* be designed so that vehicles can travel through the temporary traffic control zone with a speed limit reduction of no more than 10 mph."

“Reduced speed zoning (lowering the regulatory speed limit) *should* be avoided as much as practical because drivers will reduce their speeds only if they clearly perceive a need to do so.”

“Research has demonstrated that large reductions in the speed limit increase speed variance and the potential for crashes. Smaller reductions in the speed limit of up to 10 mph cause smaller changes in speed variance and lessen the potential for increased crashes. A reduction in the regulatory speed limit of only up to 10 mph from the normal speed limit has been shown to be more effective.”

The WisMUTCD guidance corresponds with conclusions of research titled, “Work Zone Speed Limit Procedure,” documented in Transportation Research Record Volume 1657 and National Cooperative Highway Research Program Digest 192. Conclusions of the report include:

1. Motorists reduce their speed in temporary traffic control zones even with no speed limit reduction
2. Where temporary traffic control zone speed limits are posted, motorists reduce their speed but not to the posted limit
3. If a reduced speed limit is posted, compliance and crash prevention benefit are best if the speed limit is reduced no more than 10 mph
4. There is commonly more variance in speed in temporary traffic control zones than in non-zones
5. Where all work activity is on or beyond the shoulder, there are no benefits from reducing speed limits
6. Interviews with motorists show that they resent arbitrary, inappropriate speed limits
7. If a reduced speed limit is posted, the reduced limit must be removed where no activity is present

To be consistent with the WisMUTCD and documented research, reductions in speed limits for temporary traffic control zones *should* be evaluated according to the criteria in this procedure.

There is often less need for reduced speed limits in temporary traffic control zones on rural conventional highways. The main reason is that on rural conventional highways, drivers do not have the same expectation for free-flowing traffic as they do on rural freeways. With driveway access and crossing movements on conventional highways, drivers tend to be alert to such movements and other similar conflicts even without reduced speed limits.

Changes in alignment such as crossovers and transitions, or work activities that occupy a short work area, *should not* be posted with short sections of regulatory speed limit signs. If a lower operating speed is necessary, warning signs with advisory speed plaques are more appropriate.

AUTHORITY

Authority to approve and establish temporary traffic control zone speed limits has been delegated to the Regional Work Zone Engineer. This conditional delegation effectively retained BTO Work Zone Operations Engineer approval authority for all interstates and facilities with a normal posted speed of 65 mph or greater.

POLICY CRITERIA

Engineering judgment must be used when determining appropriate speed zones. This procedure is intended to assist with the development of an appropriate work zone speed limit. Contact the region work zone engineer or the Bureau of Traffic Operations for assistance with applying this policy.

Most drivers operate their vehicles at a speed they deem appropriate for conditions. A posted speed that is close to what most drivers consider appropriate is more likely to yield uniform speeds. Consistent speeds improve safety for the travelling public and highway construction workers.

Speed zones provide drivers an indication of what is considered a reasonable speed for that section of roadway. Proximity to construction activities, drop offs, lane closures, narrow lanes/shoulders and pavement condition all influence the driver's determination of a reasonable speed. The type of construction work, project length, area type (i.e. urban vs. rural), facility type, occurrence of night work and traffic mix (e.g. commuter, recreational, truck percentages) all impact driver expectations and the determination of what is a reasonable speed. The policy criteria described below *should* only be used for facilities during intermediate-term and long-term work activities as defined in Part 6 of the WisMUTCD.

Speed reductions in segments without active work lead to disregard of the posted speed. When there is no work activity, traffic control devices are pulled back and lanes re-opened, the temporary speed limit **shall** be removed. Work with your project manager to incorporate standard special provisions for removing temporary speed zones.

Policy criteria 1 through 6 *should* be evaluated, along with engineering judgment, to develop an appropriate work zone speed limit. The most restrictive work zone impact *should* be used as the determining condition.

All reduced work zone speed limits **shall** be approved prior to approval of the 90% Transportation Management Plan (TMP).

1. Interstates and Expressways with 70 or 65 mph speed limit:

- If bi-directional traffic separated by tubular markers, then reduce to 55 MPH
- If workers are present within 12 feet of live traffic without positive protection for any length or work area, then reduce to 55 MPH
- If work area is less than or equal to 0.5 miles in length with lane shifts or narrowed travel lanes and has positive protection, then post warning signs with an advisory speed plaque
- If work area is less than or equal to 0.5 miles in length with no lane shifts or narrowed travel lanes and has positive protection, then do not lower the speed limit
- If work is taking place outside the clear zone, then do not lower the speed limit

During periods of no work activity when devices are pulled back and lanes re-opened, restore speed limit to normal posted speed. Such speed limit reduction **shall** be subject to documented approval by the BTO Work Zone Engineer. When a reduced work zone speed limit is recommended in the Transportation Management Plan (TMP), a temporary speed zone declaration **shall** be completed and sent to BTO for approval.

2. Expressways and other multi-lane highways with 55 or 50 mph speed limit:

Reduce to 45 mph only in situations that have a combination of extreme lane shifts, narrowed lanes, bi-directional traffic, or milled surfaces.

Restore speed limit to normal posted speed when reduction criteria are not present.

3. Multi-lane highways with 45 mph speed limit – Reduce speed limit to 35 mph only in situations that have a combination of extreme lane shifts, narrowed lanes, bi-directional traffic, or milled surfaces.

4. Two-lane rural highways with 55 mph speed limit – Reduce to 45 mph only in situations that have a combination of extreme lane shifts, narrowed lanes or milled surfaces. A flagging operation in and of itself would typically not warrant a reduced speed limit since motorists are controlled by the flagging devices.

5. Two-lane rural roadways with speed limit of 45 mph or less – typically no reduction in speed limit. *May* consider a speed reduction up to 10 mph in increments of 5 mph in situations that have a combination of extreme lane shifts, narrowed lanes or milled/gravel surfaces.

6. Two-lane urban roadways with speed limit of 40 mph or less – no change in speed limit except reduction to 35 mph *may* be considered in situations that have a combination of extreme lane shifts, narrowed lanes or milled/gravel surface.

*Positive protection is defined by FHWA as a temporary precast concrete barrier that contains or redirects vehicles and separates workers from the active travel lanes.

Table 1. Example Temporary Traffic Control Zone Scenarios

			<p>Bi-directional traffic separated by flexible tubular markers</p>
			<p>Active work areas within 12-ft. of live traffic without positive protection</p>
			<p>Lane shift to shoulder or temporary pavement</p>
			<p>Lane closure without positive protection</p>

SPEED ZONE DECLARATIONS

Reduced speed limits in temporary traffic control zones are subject to documented approval by the State Traffic Engineer or their delegate’s approval identified as “Reviewer” on the Speed Zone Declaration. A Speed Zone Declaration **shall** be submitted through the Department’s online Wisconsin Transportation Management Plan at the following link: <http://transportal.cee.wisc.edu/tmp/>

Complete the following form and attach it to Section 4 of the TMP.

https://transportal.cee.wisc.edu/documents/applications/TMP/Temporary%20Speed%20Zone%20Declaration%20Form_2021.pdf

The speed zone declaration will be approved by BTO and/or the Region by signing the 90% TMP.

13-5-7 Maintenance Work Zones

August 2021

Wisconsin Statute [349.11\(10\)](#) provides that a county *may* establish a speed limit through a maintenance work zone on a state trunk highway less than the authorized speed limit. This includes all freeways and Interstate highways. The State Patrol will enforce the speed limit but would need to be informed of its inauguration and the ordinance, resolution, or action enacting it.

Follow [TEOpS 13-5-6](#) Temporary Traffic Control Zones, policy criteria 1-6 when establishing a temporary speed zone reduction for maintenance activities.

Document the reduced regulatory speed in LCS or in the Permit.

13-5-8 Speed Limits on Approach to Controlled Intersections**August 2021****GENERAL**

Reference is made to [TEOpS 13-5-1](#). At times, questions surface regarding the need to reduce the regulatory speed limit on a State Trunk Highway (STH) in the vicinity of isolated intersections controlled by stop conditions, traffic control signals, or roundabouts. In these situations, the section of highway within approximately one-half mile of the intersection is generally considered.

POLICY

By this policy, sections of the STH system in the immediate vicinity of a controlled intersection *should not* be considered for a speed zone reduction due strictly to the presence (or planned presence) of an intersection control condition. Intersection control conditions include stop conditions (two-way or all-way), traffic control signals, roundabouts, or access restrictions (controlled either by regulatory signs or channelizing islands).

Rather than promoting artificial restrictions in advance of a condition, proper design of the intersection control will be required to address the safety and operational needs of the subject location. Design features typically include:

- [Stop Conditions](#) – Proper placement of advance warning signs (per WisMUTCD),
- [Traffic Control Signals](#) – Intersection lighting (per [TEOpS 11-12-1](#)) and Dilemma zone detection on high-speed approaches (per [TSDM 8-1-6](#)),
- [Roundabouts](#) – Proper geometric design of splitter islands, roadway curvature (per [FDM 11-26-5](#)) and lighting (per [TEOpS 11-11-1](#)),
- [Access Restrictions](#) – Proper geometric design principles (per [FDM 7-35-1](#)).

SUPPORT

As indicated by [TEOpS 13-5-1](#) to be appropriate, speed limits need to be reasonable and enforceable. Just as speed-zoning criteria used on all other portions of the STH system are considered, any section of highway on approach to a controlled intersection *should* be treated in similar regard.

If requests for a reduced speed in advance of a controlled intersection stem from safety concerns, improvements *should* be considered that pertain to the installation/location itself (e.g. channelized turning movements, extended turn bays, modification to signal phasing or timing, rumble strips, advance warning signs, warning beacons, signing/markings enhancements, etc.).

Speed limit reductions in advance of the intersection will likely not influence safety and *may* even promote poor engineering decisions in the future since certain functions, such as signal timing or sign placement, can be based on posted speeds.

Existing locations that do not comply **shall** be allowed to remain until such time as the intersection is resurfaced or reconstructed.

13-5-10 Declarations Format**August 2021****FORMAT OF DECLARATIONS**

The speed zone declarations are recorded as individual actions for each individual highway and are numbered consecutively. Each speed zone declaration is prepared in paragraph form and will either establish a new speed zone or rescind an earlier numbered action and usually recreate it. The [Speed Zone Database](#) will automatically number the declaration.

The following are typical examples of speed zone declarations, depicting some of the more common situations encountered and portraying the general written format and style. Note: All distances *should* be in decimals of a mile, to the nearest 0.01 mile.

Example of an action to establish a new speed zone:

- State Trunk Highway 57, Town of Liberty Grove, Door County

Forty-five miles per hour from a point 0.16 of a mile south of its north intersection with County Trunk Highway "Q", northerly for a distance of 0.37 of a mile.

Example of an action taken to simply remove a speed zone:

- U.S. Highway 51, Town of Dunn, Dane County

Rescind Speed Zone Declaration No. 3119, approved by the Commission on February 11, 1976.

Example of an action taken to change a speed zone:

####- State Trunk Highway 31, Town of Caledonia and Mt. Pleasant, Racine County

Rescind Speed Zone Declaration No. 3905, approved by the Department on November 11, 1982, and substitute the following:

- a) Forty-five miles per hour from its intersection with State Trunk Highway 32, southerly to its intersection with County Trunk Highway "MM".
- b) Thirty-five miles per hour from its intersection with County Trunk Highway "MM", southerly to its intersection with State Trunk Highway 11.
- c) Forty-five miles per hour from its intersection with State Trunk Highway 11, southerly to its intersection with Lincolnshire Drive.

The preceding examples are typical speed zone declarations. They begin with a title line that included the Speed Zone Declaration number, followed by the identification of the highway, the local governmental unit(s) in whose jurisdiction the zone is located, and the county/counties involved.

The title line is followed by a line describing the action to be taken as it relates to any previous action(s) by either the former Wisconsin Highway Commission (all actions before July 1, 1977), or WisDOT. This line is omitted if a new speed zone is being established.

This is followed by the declaration itself. All distances are referenced to readily recognizable landmarks (in this instance, CTH "MM"), which are itemized in the "STN Roadway Log". Landmarks that are not of sufficient importance to be recognized in the STN Roadway Log *should not* be used in describing a speed zone. Landmarks that change (construction limits, city limits, railroad names, etc.,) *should* also not be used.

If in the preceding example, STH 31 intersected STH 32, in both the Town of Caledonia and the Town of Mt. Pleasant, paragraph (a) would need to be revised to specify which intersection was involved as follows:

- (a) Forty-five miles per hour from its intersection with State Trunk Highway 32, in the town of Caledonia, southerly to its intersection with County Trunk Highway "MM".

As long as all local governmental units are specified in the title line, and there could be no misinterpretation of specific intersection(s) involved, there is no need to repeat the "city of _____", "village of _____", "town of _____", appellation in the Declaration itself.

To ensure that there are no misunderstandings concerning the speed limit on those "rural" or unzoned segments of STH within a local unit's corporate limits, a subparagraph is included to define the limits of all 55 mph zones within the incorporated limits:

- (b) The speed limit on all other portions of U.S. Highway 12 within the corporate limits of the village of Elk Mound **shall** be 55 miles per hour.

School speed zones, other than 15 mph, **shall** have individual declarations:

- (c) Twenty-five miles per hour "When Children are Present", from a point 150 feet east of its intersection with Range Line Road, westerly to a point 350 feet west of said intersection, pursuant to Statute s. 349.11(7).

The Regions are responsible for keeping electronic records in the [Speed Zone Database](#). For more information, contact the Bureau of Traffic Operations Traffic Engineering and Safety Section.

13-5-11 County Ordinance**August 2021**

The following is a suggested format for a county ordinance for speed limits on county highways. It pertains to those limits requiring approval by the Department. It *may* be modified for use by other local governments.

SAMPLE ORDINANCE

Establishment of Speed Zones on County Trunk Highway
Doe County, State of Wisconsin

The Board of Supervisors of the County of Doe do ordain as follows:

Section I. A traffic and engineering investigation having been made on the following described highways, the maximum permissible speed at which vehicles *may* be operated on said highways, which speed is herewith established as reasonable and safe pursuant to Section 349.11, Wisconsin Statutes, **shall** be as set forth herein subject to approval by the Wisconsin Department of Transportation, and upon the erection of standard signs giving notice thereof:

No. 1. County Trunk Highway "A", Town of Doe, Doe County.

Forty-five miles per hour from its intersection with County Trunk Highway "B", northerly to its intersection with State Trunk Highway 201.

No. 2. County Trunk Highway "B", Town of Blank, Doe County.

Thirty miles per hour from the north corporate limits of the Town of Blank, northerly for a distance of 0.35 of a mile.

I, John Doe, Clerk of Doe County, hereby certify that the above is a true and correct copy of an ordinance which was adopted on _____, by the Board of Supervisors of Doe County.

Dated this _____ day of _____, _____.

County Clerk

13-5-12 Posted versus Design Speeds

August 2021

PURPOSE

To clarify the relationship between the posted speed and design speed and to clarify the roles between traffic section and project team related to the design and posted speeds.

GUIDANCE

When designing curb for a new roadway, the expected posted speed is used. The posted speed limit is not required to correspond to the design speed or to an individual design element within a project. Consult with the Region traffic unit to determine the appropriate posted speed that will be implemented following completion of an improvement project. (See [TEOpS 13-5-1](#) for guidance relating to posted speed limits). In the case of a local roadway or connecting highway, consult with the local municipality having jurisdiction over the roadway when determining the appropriate posted speed limit".

The 85th percentile is used as the primary bases of establishing posted speed limits and, by extension, design speeds. Geometric and cross-section elements are based on design speed. Exceptions to design standards *may* be necessary for some individual geometric or cross-section elements. Although the posted speed is not reduced because of these exceptions, some mitigation is usually desirable.

Cross-sectional features *should not* dictate posted speed limits, rather:

- **Free-flow ramps at system and service interchanges** - the design speed **shall not** dictate the speed limit. Rather, ramps are signed with advisory speed warning sign plaques (W13-1) mounted under a horizontal alignment sign and ramp speed warning sign, because raising and lowering the speed limit for each ramp results in differential speeds.
- **Curves and turns with a speed rating less than design speed on a section of highway** - are not signed with a change in speed limit; rather, they are signed with horizontal alignment signs and an advisory speed plaque with the safe operating speed of the curve or turn. For example: A 55 mph rural section of highway often has turns and curves where it is necessary for the driver to lower their speed in

order to safely negotiate the curve or turn. The speed limit is not changed for each one of these turns or curves.

- **At transition sections from 4 to 2 lanes** - the speed limit is not reduced because of the transition area merely because of the divided highway to undivided highway change.
- **Individual design features** - such as the presence of curb, wider or narrower shoulders, or other design features do not determine speed limit. Rather, the 85th percentile speed is the primary indicator for determining the speed limit.
- **Curb offsets** also are not a determining factor in establishing speed limits.
- **Sloped curb** without offset *should not* dictate speed limit

The 85th percentile speed is used as the primary basis of establishing speed limits. Motorist's behavior will account for road characteristics such as shoulder condition, grade, development, and sight distance.

Where local roads are converted to state highways or built on relocation, such as bypasses, the speed limit *should* be based on the new geometrics of the roadway and the function of the highway as either an expressway or conventional highway. The function of the highway includes adjacent land use, spacing of access points and proximity to the roadway. The speed limit that existed prior to the conversion to a state highway *may not* necessarily be retained.

POLICY

- Posted speeds *may* be higher than the design speed for a section of highway
 - Individual design features such as isolated horizontal and vertical curves and shoulder width narrowing *should not* dictate posted speed; rather, overall design features *should* determine the appropriate posted speed. Driver's perceive the overall design features to determine a safe operating speed
- The project engineers need to obtain approval from the regional traffic unit at the scoping meeting to establish the proper speed limit for the improvement project
 - The traffic section *should* issue the speed zone declaration at the Plan, Specification & Estimate (PS&E) stage.
 - The traffic engineer **shall** establish the speed limit of a roadway in consultation with the project team

The Design Study Report **shall** be routed through the regional traffic unit for establishing the posted speed, where posted speed is suggested to be changed.

Conversion of a two-lane roadway to a four-lane roadway **shall not** automatically constitute changing the speed limit from 55 mph to 45 mph.



Traffic Engineering, Operations & Safety Manual

Chapter 13 Traffic Regulations

Section 10 Detour Permit

13-10-1 Authority and Policy

July 2012

PURPOSE

This policy covers the process that a municipality **shall** follow when requesting permission to close a state highway and provide a temporary detour route. The municipality may need to close a state highway for maintenance work or the moving of large objects or machinery. **Closing and detouring a state highway route for special events is covered under TEOps 2-10-1.**

AUTHORITY

Section 84.07(4) establishes the conditions under which a city or village *may* detour State Trunk Highway traffic:

"Except in the case of emergency, no city, village or town **shall** obstruct any street over which any State Trunk Highway is marked, unless it first makes arrangements with the Department for marking a detour."

This provides the statutory basis for the issuance of detour permits. The arrangements with the Department must be documented in a detour permit.

APPROVAL

The Region Traffic Engineer or designee has the authority to make decisions with regard to requests for permits to temporarily close or obstruct a street carrying the marked route of a state highway, or to detour the marked route of a state highway. Those decisions are subject to the conditions established in this policy. Permits may be issued only to a municipality upon formal request from its governing body and **shall not** be issued to individuals or non-governmental organizations. All closures and restrictions on Corridors 2030 roadways require approval by the Regional Traffic Engineer (RTE) via the Lane Closure Planning System.

GENERAL PROVISIONS

Applications for permits and the approval thereof **shall** be made in writing on the standard form provided for the purpose (DT1479, copy appended), with such attachments as are necessary, such as a map. When a permit application is denied, the denial *should* be in writing with a letter of explanation to the applicant.

Circumstances that *may* result in a decision to grant a permit include:

1. Construction, maintenance and repair of streets, structures and utilities.
2. The movement of large single objects such as buildings and machinery.

In all instances, the Region must be satisfied that traffic on the state highway route will not be unduly inconvenienced and that an adequate detour will be provided.

The municipality **shall** agree to accept the terms and conditions of the permit as specified by the Department. Refer to Figure 1 for the Permit Application by Municipality for Permission to Detour State Trunk Highway Traffic (DT1479 form).

The Region should consider the following requirements for the approval process of the roadway closure and detour permit. The Region *may* modify or impose additional reasonable requirements or restrictions to the permit as are necessary for the particular circumstances of that permit.

1. A plan for traffic control and detour, and documentation of the means to implement it, *should* be submitted to the WisDOT Region Traffic Engineer for review at least 90 calendar days in advance of the event.
2. A detour **shall** be required. Motorists **shall** be guided through the detour by signs and/or law enforcement personnel.
3. A detour permit application (Form DT1479) **shall** be completed.
4. All traffic control and detour signs **shall** be in conformance with the standards established in the MUTCD.

5. The municipality **shall** notify appropriate media, emergency services and affected schools five (5) days prior to the detour.
6. All road closures and detours **shall** be coordinated with the State Patrol and/or the local law enforcement agency. The coordination **shall** be documented by the municipality.
7. The WisDOT Region Traffic Engineer *should* notify the Region Communications Manager of the Special Event once the DT1479 form has been completed and signed.
8. The municipality **shall** be responsible for providing adequate traffic control for the duration of the closure and effective coordination with law enforcement.
9. The municipality **shall** be responsible for all costs associated with providing the traffic control, law enforcement, and coordination of other services to accomplish the closure consistent with the permit requirements.

Figure 1. Forum DT1479

APPLICATION BY MUNICIPALITY FOR PERMISSION TO DETOUR STATE TRUNK HIGHWAY TRAFFIC DT1479 6/2007 (Replaces ET604) s.84.07(4) Wis. Stats.		Wisconsin Department of Transportation
TO: REGIONAL TRAFFIC SECTION		
Municipality	County	
Area Code – Telephone Number	E-Mail Address	
Name of Street(s) to be Closed <input type="checkbox"/> STH <input type="checkbox"/> USH PROPOSED TEMPORARY ROUTE	Streets Closed Between (Street Name) FROM: TO:	
<input type="checkbox"/> MAP ATTACHED	Date and Duration of Detour Date:	Time: a.m. to a.m.
Reason		
Name and Address to Whom Permit will be Returned		
The above municipality requests permission to close the marked route as described, during which time the municipality will provide temporary route as designated.		
The municipality agrees to accept the following terms and conditions:		
<ol style="list-style-type: none"> 1. The municipality shall provide a detour having structural, geometric and traffic control characteristics, which are acceptable to the Region. A detour map which provides street names shall be submitted. 2. The municipality shall furnish, erect and remove signs and markers at the sole expense of the municipality, unless provided for in (3), or unless directed by officers for short routes and short timeframe (less than 3 days). 3. A Detour and Traffic Control Plan shall be submitted to the Region for approval. An example is Standard Detail Drawing 15C2-4C. 4. The municipality shall agree to minimize, as much as practicable, the duration of closure, including providing for assembly and dispersal of parades in areas removed from the state highway route. 5. The municipality shall accept full responsibility for any damage to local roads and streets resulting from closure and detour. 6. The requester shall arrange for adequate traffic control from either WisDOT or the appropriate county, and provide documentation of enforcement coordination. 7. The requester shall notify all media, emergency services and schools, five (5) days prior to the detour. 8. Additional conditions: . Attachments: <input type="checkbox"/> Yes <input type="checkbox"/> No 		
_____	_____	_____
(Authorized Official Signature)	(Title)	(Date)
Permission is granted to temporarily close the designated segment of state trunk highway and to provide a detour, subject to the stated conditions.		
_____	_____	_____
(Permit Number)	(Approved By)	(Date)

13-10-2 Use of Highway Right-of-Way for Special Events**December 2008****PURPOSE**

The Department receives frequent requests to use the highway right-of-way for various activities. These activities are typically short-term, readily definable activities that fall in two categories:

- roadway or roadside modifications, repairs, or maintenance operations by a local unit of government, or permitted railroad or utility work,
- and certain types of special events, such as parades, marathons, bicycle races, charity walks/runs, filming, etc.

Roadway or roadside operations, including utility work, are regulated under Chapters 90 and 96 of the Maintenance Manual and DOT Permit Form DT1812. The purpose of this policy is to establish criteria on the use of the highway right-of-way for the special events that can be conducted with the road open to traffic under certain restrictions.

Road closures and detours for special events shall be governed by the guidance in [TEOpS 13-10-1](#) and DOT Permit Form DT1479. Signing for Special Events off of the State Highway system shall be governed by the guidance in [TEOpS 2-15-25](#).

The basis for allowing the use of the highway for these special events is Wisconsin State Statute 349.185, which allows governments in charge of maintaining the highway the authority to regulate community events or celebrations, processions or assemblages on the highways. The word “assemblage” is interpreted to mean that the Department *may* consider activities such as street fairs, bike racing and marathons as legitimate reasons for traffic restrictions, up to and including closing the street and arranging for a detour if the municipality so chooses.

In general, use of the state highway right-of-way for special events will not be allowed unless a legitimate public interest (supported by the Local Government) is served and the activity does not cause safety or capacity problems. Requests for closing and detouring the highway **shall** come from the municipal government. Special event requests that only require temporary traffic restrictions *may* come from the municipality, individuals, private enterprises or a neighborhood community. Authorization for usage of the highway right-of-way for special events *may* be granted by the WisDOT Region office in the form of a permit, provided all pertinent criteria covered in these guidelines are satisfied. All closures and restrictions on Corridors 2030 roadways require approval by the Regional Traffic Engineer (RTE) via the Lane Closure Planning System.

DEFINITIONS

Freeways are defined as divided arterial highway facilities that have fully controlled access at interchanges only. Interstate Highways are freeways with the interstate route designation.

Expressways are defined as divided arterial highway facilities with partially controlled access by a combination of interchanges, at-grade intersections, and driveways.

Conventional Highways are defined as streets or roads other than freeways, expressways, or low-volume roads. They may be divided or undivided, two-lane or multi-lane, and access is available at intersections and driveways.

GENERAL POLICY CRITERIA

1. Special events on the highway right-of-way **shall not** be allowed on freeways, expressways or any roadway with a posted speed above 55 mph.
2. The permit **shall** identify that the special event sponsor agrees to assume the entire responsibility and liability for all damages or injury to all persons, whether employees or otherwise and to all property, arising out of, resulting from or in any manner connected with the operation of the special event. The sponsor **shall** provide proof of General Liability Insurance Coverage and **shall** agree to defend and indemnify WisDOT, its agents and employees from all such claims including, without limiting the generality of the foregoing, claims for which WisDOT may be paid or incurred to enforce the provisions of this paragraph, and the sponsor shall further agree and pay for such general liability coverage which protects the state as an additional named insured.
3. The requestor **shall** submit the permit application to the WisDOT Region Traffic Section at least 90 calendar days in advance of the event.

4. The sponsor **shall** be responsible for any damage done to the highway property as a result of the special event.
5. The special event minimum attendance is typically 100 participants. This attendance number does not include spectators.
6. A special event **shall not** occur more than once annually by the same sponsor in the same location. Special events **shall not** occur more than twice a year in the same location.
7. WisDOT is responsible for determining whether the event qualifies for special event signs, providing guidance on acceptable signs and placement, reviewing the permit application, and assuring compliance with the permit.
8. The Region Traffic Section will evaluate the safety of any nighttime special event requests.

DETAILED POLICY CRITERIA

1. Special Events **shall** not be allowed during peak traffic periods, as determined by the WisDOT Region Traffic Engineer.
2. The time duration of the Special Event should not exceed four hours or when the last event participant has cleared the roadway.
3. The use of the right-of-way **shall not** interfere with motorists' safe operation of their vehicles.
4. The use of the right-of-way shall not obstruct sight distance and shall not detract from motorists' view of traffic control devices.
5. A plan for traffic control and documentation of the means to implement it **shall** be submitted to the WisDOT Region Traffic Engineer for review and approval at least 90 calendar days in advance of the event.
6. All traffic control signs shall be in conformance with the MUTCD.
7. Advance notices to the media **shall** be coordinated by the Requestor.
8. All special events **shall** be coordinated with the State Patrol and/or the local law enforcement agency as appropriate, by the requestor. Documentation of this coordination is required.
9. Parking shall not be allowed on the state highway right-of-way, which includes the shoulders.
10. If the event will take place on highways maintained by other agencies, the Requestor **shall** coordinate the event and provide proof by letter to the WisDOT Region Traffic Engineer.
11. The usage of police powers for special events **shall not** substitute for appropriate signing.

SIGNING LIMITATIONS

1. No commercial advertising is allowed on the signs. The inclusion of a brand name within the name of an event, such as "Brand X Racing Event" is permissible. The sign message *may* include the word "Event" or "Parking". Event names on signs should be as clear and concise as possible. Pictographs **shall not** be allowed on the signs, per interpretation of the MUTCD and guidance from FHWA.
2. The signing layout detail and installation locations **shall** be approved by the Regional Traffic Section and Bureau of Traffic Operations.
3. Guidance signs with red, orange, yellow, or fluorescent yellow-green background **shall** not be used. Temporary work zone warning signs **shall** be fluorescent orange. Sign base material **shall** consist of plywood or sheet aluminum. If banners are used, they must meet the requirements of the policy on banners ([TEOpS 13-12-1](#)). Posts **shall** be of an approved type for highway signs per WISDOT standards. Signs **shall** be manufactured by a fabricator who has been in the traffic signing business for a minimum of three years.
4. Letter size, font, and spacing **shall** meet MUTCD guidelines. Minimum of 6" upper case letters and 4 ½" lower case letters **shall** be used.
5. If the event takes place at night, the signs **shall** be high intensity, retroreflective.
6. Changeable message signs *may* be used, subject to WisDOT policy requirements for use of changeable message signs. The Regional Traffic Section **shall** approve the message content, letter height, and sign location by completing the PCMS Usage Request Form for special events in [TEOpS 17-2-1](#). Larger letter

heights are needed on changeable message signs for readability. Refer to the [TEOpS 17-2-1](#) for additional provisions regarding PCMS usage.

7. Pre-event signing *may* be required up to 10 days in advance of the special event. The signing layout and installation details for pre-event signing **shall** be approved by the Regional Traffic Section and the Bureau of Traffic Operations.

IMPLEMENTATION/COST

1. The event organization or requesting group **shall** pay for all costs associated with the special event signing including costs to obtain the permit, which *may* include WisDOT review costs, any costs to acquire, install, and remove the special event signs, including changeable message signs, and any additional costs incurred by the Department. The event organizer will be responsible for obtaining signs that conform to Department standards and arranging to have those signs placed, operated, and removed consistent with the terms of the permit. All work on the highway right of way must be performed by a contractor or local government agency approved by WisDOT.
2. Installation by county forces *may* be an option in some situations. When that occurs, all costs are charged back to the requesting organization.

**APPLICATION BY MUNICIPALITY FOR PERMISSION
TO DETOUR STATE TRUNK HIGHWAY TRAFFIC**
DT1479 7/2011 (Replaces ET604) s.84.07(4) Wis. Stats.

Wisconsin Department of Transportation

TO: REGIONAL TRAFFIC SECTION

Municipality		County	
(Area Code) Telephone Number		Email Address	
Name of Street(s) to be Closed <input type="checkbox"/> STH <input type="checkbox"/> USH		Streets Closed Between (Street Name) FROM: TO:	
Proposed Temporary Route			
<input type="checkbox"/> MAP ATTACHED	Date and Duration of Detour Date:	Time: a.m. to a.m.	
Reason			
Name and Address to Whom Permit will be Returned			

The above municipality requests permission to close the marked route as described, during which time the municipality will provide temporary route as designated.

The municipality agrees to accept the following terms and conditions:

1. The municipality shall provide a detour having structural, geometric and traffic control characteristics, which are acceptable to the Region. A detour map which provides street names shall be submitted.
2. The municipality shall furnish, erect and remove signs and markers at the sole expense of the municipality, unless provided for in (3), or unless directed by officers for short routes and short timeframe (less than 3 days).
3. A Detour and Traffic Control Plan shall be submitted to the Region for approval. An example is Standard Detail Drawing 15C2-4C.
4. The municipality shall agree to minimize, as much as practicable, the duration of closure, including providing for assembly and dispersal of parades in areas removed from the state highway route.
5. The municipality shall accept full responsibility for any damage to local roads and streets resulting from closure and detour.
6. The requester shall arrange for adequate traffic control from either WisDOT, traffic control contractor, or the appropriate county, and provide documentation of enforcement coordination.
7. The requester shall notify all media, emergency services and schools, five (5) days prior to the detour.
8. Additional conditions: . Attachments: Yes No

(Authorized Official Signature)_____
(Title)_____
(Date)

Permission is granted to temporarily close the designated segment of state trunk highway and to provide a detour, subject to the stated conditions.

(Permit Number)_____
(Approved By)_____
(Date)



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Section 11 Survey Permits

13-11-1 Policy

May 1990

(The following was contained in a memorandum of April 4, 1974, instituting the issuance of permits for surveying and related activities.)

From time to time private land surveyors, utility company surveyors, and others doing similar work are on highway right-of-ways for the purpose of making land surveys, locating landmarks or monuments, surveying for utility lines, etc. The work may take place wholly on or above the highway surface as is the case in measuring distances and courses or establishing elevations, or it may include excavation, for example to locate monuments. For the safety of both highway traffic and persons making these surveys, it appears desirable to re-emphasize the requirements for such operations.

It is recognized that such private survey work on or along a highway is accomplished in a short time and does not involve any significant interference with traffic or hazard to either traffic or the survey crew. In such cases, the survey personnel have the same status as any pedestrian upon the highway, although unlike persons engaged in highway construction or maintenance they are not exempt from the provisions of the Rules of the Road. Such survey personnel *should* be strongly encouraged to wear high-visibility clothing. Whether or not they *should* place advance warning signing will depend somewhat upon whether the work is near or across the roadway, or if it is done well away from traffic.

A permit is required whenever the survey activity will necessitate actual closure of a portion of the roadway for more than a very brief period such as when an isolated measurement is made across the road. The attached permit format *should* be used. The Region *should* add special conditions necessitated by the specific situation. When the highway is heavily traveled it may be desirable to require that a uniformed police officer be provided to direct traffic.

Permits for surveys and other similar operations not requiring an excavation on highway right-of-ways will normally be issued by the Regional Traffic Section and a copy **shall** be sent to the Central Office Traffic Section.

Whenever it is necessary to cut into the roadway surface, to use mechanized equipment or to make any substantial excavation elsewhere in the highway right-of-way to locate a monument or for any reason, a permit is required from the Maintenance Section.

E.T-613-74

State of Wisconsin / Department of Transportation

**APPLICATION FOR PERMIT TO CONDUCT
PRIVATE LAND SURVEY ON STATE HIGHWAY RIGHT OF WAY**

To the District Engineer – Wisconsin Dept. of Transportation - Division of Highways

Address

City _____ State _____ Zip Code _____

The undersigned hereby requests permission to temporarily close a portion of the roadway of the state trunk highway indicated below for the purpose of making a land survey which cannot be safely and expeditiously conducted without such closure. The undersigned applicant certifies that he has read and will comply with the conditions of this application including any conditions which may be imposed by the Division of Highways prior to issuance of a permit.

Date of Application	APPLICANT	By	
Address		Date of Closure	Hours
Highway to be closed	County	Location Description	
USH _____ STH _____			
Description of closure (lane, width, etc.)			

CONDITIONS FOR A PERMIT

1. The permittee shall minimize as much as practicable the duration of work on the highway right of way.
2. Adequate standard warning signs (SURVEY CREW AHEAD; FLAGMAN AHEAD; ONE LANE ROAD; RIGHT or LEFT LANE CLOSED AHEAD; etc. as appropriate) shall be used at and in advance of the work. Traffic cones or barricades shall be provided and used as needed or as required by the district engineer.
3. Survey crew members, including flagmen, shall wear high visibility vests.
4. Flagmen, when required by this permit (see below), shall use either a red flag at least 18" x 18" in size in good condition on a 3' staff or alternatively a sign paddle with the words STOP, SLOW or GO as appropriate.
5. This permit does not authorize disturbance of highway surfacing or excavation elsewhere in the highway right of way.
6. Survey crew vehicles shall be parked in a safe location where they will not interfere with visibility or operations for traffic on the highway.
7. In applying for and accepting this permit, the permittee agrees to hold the Division of Highways and its employees harmless from any claim which may arise as a result of operations under the permit.
8. No trees, brush or shrubs shall be cut in the course of work under this permit.
9. Additional conditions:

PERMIT

Permission is hereby granted to the above applicant and his employees to temporarily close the indicated part of the state trunk highway roadway for the requested period of time as set forth in the application, subject to the conditions stated above.

PERMIT NO. _____ DATE ISSUED _____ EXPIRATION DATE _____ APPROVED BY _____



Traffic Engineering, Operations & Safety Manual

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Section 12 Permits for Temporary Banners and Civic Displays

13-12-1 Policy

January 2014

GENERAL

Communities *may* request permits to install banners and/or civic displays to promote special events or to display civic pride. These banners/displays can provide a very effective and efficient means to convey a message to the motorist, and when used correctly can provide a positive effect for the flow of traffic, and ultimately traffic safety.

The MUTCD, Section [1A.01](#) and Wisconsin State Statute 86.19 clearly state that advertising messages **shall not** appear on traffic control devices. Even though banners and civic displays are not considered traffic control devices and are not used to control traffic, they can compete with essential traffic control signs. Therefore, careful consideration must be taken to provide signs and messages which do not conflict with these rules or have a negative impact on traffic safety.

Regional Transportation directors, or their designees, *may* approve or deny applications for permission to install temporary banners or civic displays. Applicants *may* be municipalities, or private entities who must receive endorsement from the respective municipality. Approval **shall** be by means of the standard form. Denial *should* be by letter, giving reasons for rejection.

DEFINITIONS

Banners are defined as flexible, horizontal signs that are either overhead or ground mounted displays that *may* promote public activities such as parades, celebrations, speeches, concerts, plays, musicals, contests, athletic events and charitable events. Banners are considered short-term and are removed once the event has completed.

Civic Displays are considered a permanent decorative feature installed by the community to promote civic pride and are not associated with a special event. Examples of civic displays include:

- Decorations on light poles, including wrapping
- Community achievements
- Holiday decorations
- Civic mottos or emblems
- Seasonal messages
- Extra enforcement locations, such as EZ Wrap

Freeways are defined as divided highways with fully controlled access at interchanges only. Interstate Highways are freeways with the interstate route designation.

Expressways are defined as divided highways with partially controlled access by a combination of interchanges, at-grade intersections, and driveways.

Conventional Highways are defined as streets or roads other than freeways or expressways. They *may* be divided or undivided, two-lane or multi-lane, and access is available at intersections and driveways.

POLICY

1. Banners and civic displays **shall not** display commercial advertising or advertise specific commercial products, services or businesses. The inclusion of a brand name within the name of an event, such as "Brand X Bike Race" is permissible.
2. Lettering on banners **shall** be a minimum of 4" in height and overhead banners **shall** have a minimum clearance of 17 feet (bottom of banner to top of roadway).
3. All banners **shall** be made out of a flexible material, and have no horizontal stiffeners, except banners supported on overpasses. Civic displays *may* be made out of a rigid material.
4. Banners and civic displays **shall not** be permitted on freeways or expressways.
5. Banners and civic displays **shall** be removed or replaced when legibility is impaired due to wear or fading.
6. Any new posts installed for banners or civic displays **shall** be NCHRP 350 crash compliant.

7. Maximum length of time for banners promoting community events is 30 days and 90 days for community promotion. Civic displays *may* be installed indefinitely, provided they remain in good shape.
8. Banners and civic displays **shall not** be installed on existing traffic control devices or supports.
9. The applicant **shall** accept full responsibility for any damage claims from any permitted banner or civic display.
10. Banners located in the highway right-of-way *should* be located as close to the right-of-way line as possible.



TEMPORARY BANNER / CIVIC DISPLAY INSTALLATION APPLICATION / PERMIT

Wisconsin Department of Transportation
 DT1876 1/2014 (Replaces ET717) s.86.19(2) Wis. Stats.

Submit application in duplicate to the Division of Transportation System Development Regional Office, Wisconsin Department of Transportation (WisDOT). A single application may be made for each associated pair of temporary banners or group of civic displays.

Applicant – <i>If applicant is not a municipality, indicate endorsement below by responsible municipal official.</i>	
Contact Person Name	(Area Code) Telephone Number
Mailing Address, City, State and ZIP Code	Email Address
Wording on Banner	
Location(s) Highway Number	At
	And At
Date To Be Erected	Date To Be Removed

The undersigned applicant requests permission to install temporary banner(s) and/or civic displays at the above location(s). It is understood and agreed that the applicant shall comply with the general and specific conditions stated below and/or attached. The undersigned certifies that he/she is authorized to sign this application on behalf of the named applicant.

<p>X</p> <p>_____ (Applicant or Authorized Representative Signature) (Date – m/d/yyyy)</p> <p>Representative Title</p>	<p>X</p> <p>_____ (Municipal Endorsement Signature)</p> <p>Municipal Title</p>
--	--

CONDITIONS

1. A banner is defined as a flexible, horizontal sign extending with its rope or cable supports across an entire roadway.
2. The lettering on banners shall be at least 4 inches in height and the minimum clearance to ground on overhead banners shall be 17 feet.
3. The banner shall not be made of rigid material, and shall have no horizontal stiffeners, except that it may be supported on an overpass. Civic displays may be made of ridged material.
4. Banners and civic displays shall not be permitted over Interstate highways, freeways or expressways.
5. Banners and civic displays shall be removed or replaced when legibility is impaired due to wear or fading.
6. Permitted maximum length of time for banner displays is 30 days for events, and 90 days for community promotion.
7. No banner or civic displays shall be installed using state-owned supports.
8. If new supports are installed to support an overhead banner or any civic display, the applicant shall review the proposed installation with the Regional Traffic Engineer.
9. The applicant shall accept full responsibility for any damage claims resulting from any permitted banner or civic displays.
10. Owners of banners or civic displays which do not conform to the stated conditions are subject to penalty as provided in s.86.19(3) Wis. Stats.
11. Notwithstanding the preceding, no banner or civic display shall display commercial advertising or advertise specific commercial products, services or businesses. The inclusion of a brand name within the name of an event, such as "Brand X Bike Race" is permissible on banners.
12. The applicant shall provide certification, by a Professional Engineer, that any banners or civic displays installed on lighting supports shall meet wind loading requirements.
13. Other conditions: No Yes On Reverse Attached

PERMIT Approved for the Wisconsin Department of Transportation

<p>Permit Number</p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div>	<p>X</p> <p>_____</p> <p>(WisDOT Representative Signature) (Date – m/d/yyyy)</p> <p>Print Name and Title</p>
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Traffic Engineering, Operations & Safety Manual

Chapter 13 Traffic Regulations

Section 13 Snowmobiles Crossing Freeways

13-13-1 Authority and Policy

January 1993

POLICY

Regional Transportation Directors *may* approve or disapprove crossings for snowmobiles over or under freeways which are on the State Trunk Highway system. The crossings *may* be via State Trunk Highways, other public highways, and non-highway crossings.

CROSS-REFERENCE

Operation of snowmobiles on or in the vicinity of highways, s. 350.02, Wis. Stats., (1) freeways, and (2) highways.

REQUEST AND APPLICATIONS

Requests for approval for snowmobiles to cross freeways *should* be made in writing, and approvals or disapprovals will be transmitted in writing. Requests will be accepted only from governmental authorities who are responsible for the designation and maintenance of snowmobile trails within their jurisdiction. A copy of each request, together with the approval or denial **shall** be sent to the State Traffic Engineer for Highways and to the State Maintenance Engineer for Highways.

GENERAL PROVISIONS

An official snowmobile trail or an approved snowmobile route (defined in s. 350.01, Wis. Stats.) must be designated on both sides of the freeway at the point of the proposed crossing.

The Regional Transportation Director **shall** be satisfied that snowmobiles *may* cross the freeway ramps with reasonable safety if using the proposed crossing, assuming that the snowmobile operator uses ordinary safety precautions and obeys the law relating to snowmobile operation.

AT CROSSROADS WITH INTERCHANGES

Snowmobiles *may* cross freeways at crossroads with interchanges, whether the crossroad is over or under the freeway provided that the ramp crossings are visible to the motorist did not obscured by snow piles, curvature or other features, and provided that, if the crossroad is under the freeway' the crossing can be made without violating ss. 350.02(2)(b)1, 2 and 4, Wis. Stats. (In some cases, the design of the bridge *may* prevent this).

OTHER CROSSINGS

Snowmobiles *may* cross freeways at bridges other than at crossroads providing that it *may* be done without violating the access control and there is adequate horizontal and vertical clearance.

CONDITIONS OF APPROVAL TO BE ACCEPTED BY MUNICIPALITY

1. The county or municipality **shall** sign the trail with approved snowmobile signs in compliance with the standards of the DNR.
2. The Regional Transportation Director *may* impose such additional reasonable requirements as a prerequisite to approval as are necessitated by the particular circumstances of the request.

13-13-2 Model Ordinance

April 1996

POLICY

Wisconsin Act 61 of 1995 provided for the operation of snowmobiles on roadways of streets and highways in municipalities for trips from residences or lodges to the nearest trail out of town. This includes permission to travel on state and county highways. The law requires that the municipality pass an ordinance to this effect. The ordinance *may* specify all roadways, all roadways with certain omissions, or specific roadways and segments.

The ordinance and guidelines were prepared by the DNR and the Snowmobile Council. They were reviewed by the State Traffic Engineer. The municipalities who are interested in this are likely to obtain these documents

from the other agencies, but a copy is included herein for the Regions' information and for making copies if asked.

SNOWMOBILE ACCESS
MODEL ORDINANCE

**AN ORDINANCE TO ALLOW SNOWMOBILE ACCESS FROM A RESIDENCE OR RESIDENCE AND
LODGING ESTABLISHMENT TO A SNOWMOBILE ROUTE OR TRAIL,
IN THE (TOWN/CITY/VILLAGE) OF _____,
COUNTY, WISCONSIN AND PRESCRIBING PENALTIES FOR VIOLATION THEREOF.**

The (Town/City/Village) Board of the (Town/City/Village) of _____,
_____ County, Wisconsin do ordain as follows:

Section I. Intent

1a. The intent of this ordinance is to provide a means for persons to travel from a residence within the limits of (Town/City/Village) _____, _____ County, Wisconsin for the shorten distance that is necessary for a person to operate a snowmobile to the snowmobile route or trail that is closed to that residence.

OR

1b. The intent of this ordinance is to provide a means for persons to travel from a residence and lodging establishment within die limits of (Town/City/Village) _____, _____ County, Wisconsin for the shortest distance that is necessary for a person to operate a snowmobile to the snowmobile route or trail that is closest to that residence and lodging establishment

Section II. Statutory Authority

This ordinance is adopted as authorized under s.350. 18 (3) (a).

Section III. Designated Roadways and/or Highways

No person **shall** operate a snowmobile on a roadway or shoulder of a highway not designated as a snowmobile route other than the following:

- (a) all roadways or shoulders or,
- (b) the following listed roadways or shoulders

Section IV. Conditions

This ordinance designates the roadways and/or shoulders of specific highways for snowmobile travel by persons residing in or staying at a lodging establishment within the limits of (Town/City/Village) _____, _____ County, Wisconsin to travel for the shortest distance that is necessary to reach the snowmobile trail or route that is closest to that residence or lodging establishment subject to the following conditions:

Section V. Speed

A snowmobile operated on a portion of the roadway or shoulder of a highway pursuant to this ordinance **shall** observe roadway speed limits.

Section VI. Enforcement

This ordinance **shall** be enforced by any law enforcement officer of the (Town/City/Village) of _____, _____ County, Wisconsin.

Section VII. Penalties

Wisconsin state snowmobile penalties as found in s. 350.11(1)(a), Wis. Stats., are adopted by reference.

Section VIII. Severability

The provisions of this ordinance **shall** be deemed severable and it is expressly declared that the (Town/City/Village) Board would have Wised the other provisions of this ordinance irrespective of whether or not one or more provisions *may* be declared invalid. If any provision of this ordinance or the application to any person or circumstances is held invalid, the remainder of the ordinance and the application of such provisions to other persons or circumstances **shall** not be affected.

Section VIII. Effective Date

This ordinance will become effective upon passage and publication.

Passed this _____ day of _____, _____ (year).

(Town/City/Village) Chairman

GUIDELINES FOR WRITING LOCAL SNOWMOBILE ACCESS ORDINANCES

This guideline and attached model ordinance is provided to assist you in developing your local ordinance. You *may* be more restrictive, you do not have to include lodging establishments and additional snowmobile regulations such as snowmobile routes can be included. Please feel free to utilize all or portions of this model.

State law allows Towns, Cities and Villages to enact local regulations allowing snowmobilers to travel between a residence or a lodging to travel along roadways and/or shoulders of highways to the closest snowmobile route or trail. The authority to enact local snowmobile residential access regulations is found in Chapter 350.18(1)(a) of the Wisconsin Statutes.

Section I. Intent

State the specific name of the (Town/City/Village) covered by the ordinance. The law gives you the option to allow residential access and lodging access (only if residential access is also allowed) within your jurisdiction to operate their snowmobiles on a roadway or shoulder of a highway. Specify which activities you are allowing.

Section II. Statutory Authority

Your authorizing statute is s.350.18 (3)(a).

Section III. Designating Roadways and/or Highways

You have authority to open all the roadways and shoulders of highways within your jurisdiction for residential/lodging establishment access. This includes state and county trunk highways within your jurisdiction. Even though this authority exists, you also have the right to omit these major roadways from your ordinance. You are encouraged to open up only those roadways that will suit the needs of the snowmobilers in your community. Once determined, list the specific roadways to be open to snowmobilers.

The authorizing law gives you two options on where snowmobiles *may* be operated. One is the roadway which is the traveled portion of a highway or on the shoulder. Specify in this section where you are authorizing snowmobile operation.

Section IV. Conditions

Except for speed limits, the authorizing law does not grant additional authority to regulate snowmobile operation. (Municipal snowmobile ordinances are subject to the limitations of s.350.18, Wis. Stats.) However, you have the right to establish conditions on the right to use the roadways. The following is a list of conditions for your consideration:

1. Snowmobiles **shall** be operated on the extreme right side of the roadway and travel with the flow of traffic.
2. Snowmobiles are to be operated in single file.
3. Headlights *should* be on at all times.
4. Snowmobile operators **shall** yield the right-of-way to other vehicular traffic and pedestrians.

Snowmobiles violating any of the above conditions would be subject to the underlying violation of operating on the roadway.

Section V. Speed

Section 350.18 Wis. Stats., allows municipalities to adopt certain ordinances in strict conformity with state law. This language mirrors that found in founding s. 350.02(2)(a) 6, Wis. Stats.

Section VI. Enforcement

The law enforcement officer/s within your jurisdiction *should* be listed as the enforcement authority. State Conservation Wardens do not have authority to enforce local ordinances.

Section VII. Penalties

The appropriate penalty section to be adopted would be s.350.1 1(1)(a), Wis. Stats.

Consideration *should* be given to include in your ordinance a seasonal effective date to eliminate problems that might occur because of early/late snowfalls. This would also eliminate any prospects of snowmobile use during non-winter seasons.

Snowmobile activity is constantly growing and local regulation can be responsive to the public need. Through regulation, a safe, enjoyable snowmobiling environment can be provided while at the same time controlling undesirable conflict. Understanding is needed by everyone involved in the process.

Once, your ordinance is adopted, you are required to submit a copy to the Department of Natural Resources, Attn. Snowmobile Section, P.O. Box 7921, Madison, Wisconsin 53707 and to the office of the law enforcement agency of the municipality and county having jurisdiction over such street or highway.



Traffic Engineering, Operations & Safety Manual

Chapter 13 Traffic Regulations

Section 25 Turn Prohibitions

13-25-1 No Turn on Red

May 1990

Guidelines for prohibiting turning movements on red indication at specific intersections are as follows:

A. Turning on red *should* be prohibited where:

1. Sight distance of vehicles approaching is less than the following minimums:

<u>Cross Street Speed Limit (MPH)</u>	<u>Minimum Sight Distance (Feet)</u>
20	120
25	150
30	190
35	220
40	270
45	320
50	360

2. The intersection has more than four approaches or has unusual geometrics which cause unexpected conflicts. The restriction *should* apply to only those approaches affected.

3. The intersection is within 200 feet of a railroad grade crossing, and the sequence is pre-empted during train crossings. The restriction *should* apply to the right turn toward the crossing.

B. Turning on red *may* be prohibited where:

1. Large volumes of pedestrians exist such as on downtown streets.

2. There has been more than one accident directly resulting from turning on red signal per year.

3. There are two lanes turning right, or two opposing lanes turning left.

C. Turns on red *may* be prohibited at school crossings, but allowed at other times. Refer to [2B-37](#) of MUTCD.

D. All restrictions must be authorized by an approved declaration before posting.



BACKGROUND

Passing on the right at intersections can present enforcement problems if the marking and signing are not clear as to whether a motorist can pass on the right where there is a standing left turner at an intersection. The intersection *may* have a paved shoulder, a paved right turn lane or a gravel shoulder.

The State Statutes "Rules of Road" indicate the following:

ss 346.08 When overtaking and passing on the right permitted. The operator of a vehicle *may* overtake and pass another vehicle upon the right only under conditions permitting such the movement in safety and only if the operator can do so while remaining on either the roadway or a paved shoulder, and then only under the following conditions:

1. When the vehicle overtaken is making or about to make a left turn or U-turn; or
2. Upon a street or highway with unobstructed pavement of sufficient width to enable 2 or more lines of vehicles lawfully to proceed, at the same time, in the direction in which the passing vehicle is proceeding; or
3. Upon a one-way street or divided highway with unobstructed pavement of sufficient width to enable 2 or more lines of vehicles lawfully to proceed in the same direction at the same time.

This language can be misunderstood. Therefore, it is important to provide the proper signing and pavement marking for intersection lane control. Refer to [TEOpS 2-2-20](#) for additional lane control signage.

POLICY

1. Provide pavement marking in accordance with Figure 1 if the intersection is to operate with a bypass option lane where the right lane functions as a right turn lane or bypass lane. If the intersection is to operate with a bypass option lane where the right lane functions as a bypass lane, provide pavement marking in accordance with Standard Detail Drawing 15C8-10b (Intersections).
2. Provide signing and pavement marking in accordance with Figure 2 if the intersection is to operate with an exclusive right turn lane.
3. Provide signing as optional in accordance with Figure 3 or Figure 4 if you desire to restrict drivers from making the maneuver to bypass a standing left turner. Typically this sign is used only if you have a history of crash issues. The sign is intended for use at intersections.

Note: Figure 1 is used except in unusual cases, Figure 2 is used for higher crash locations. Evaluate the number of right turns versus left turns to determine the proper marking and signing for right turn only lane versus allowing the right hand lane as a bypass lane.

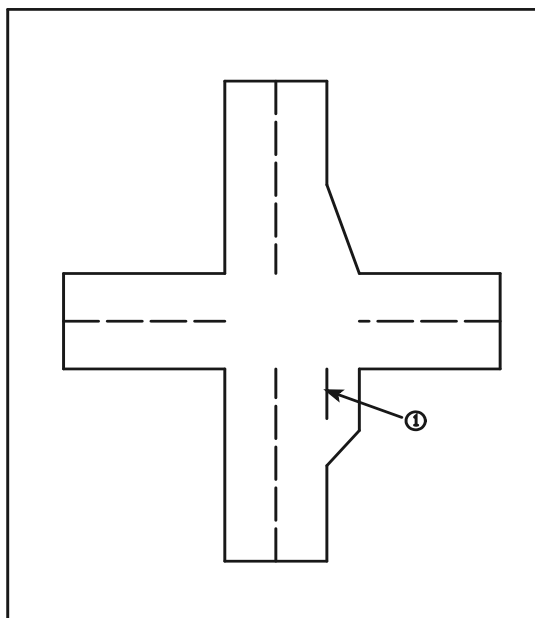


FIG. 1 PAVED BYPASS/RIGHT TURN LANE

① 8" CHANNELIZING PAVEMENT MARKING

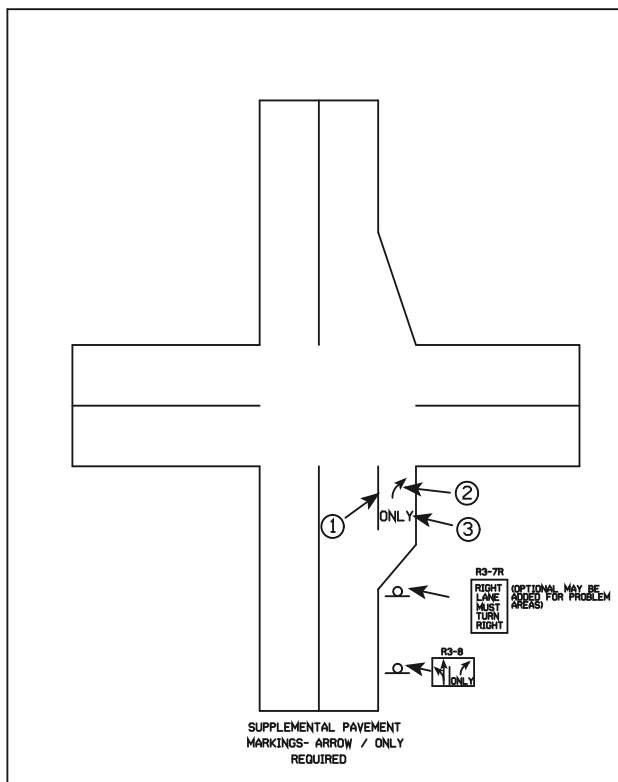


FIG. 2 EXCLUSIVE PAVED RIGHT TURN LANE

- ① 8" CHANNELIZING PAVEMENT MARKING
- ② TYPE 2 ARROW PAVEMENT MARKING
- ③ WORD PAVEMENT MARKING

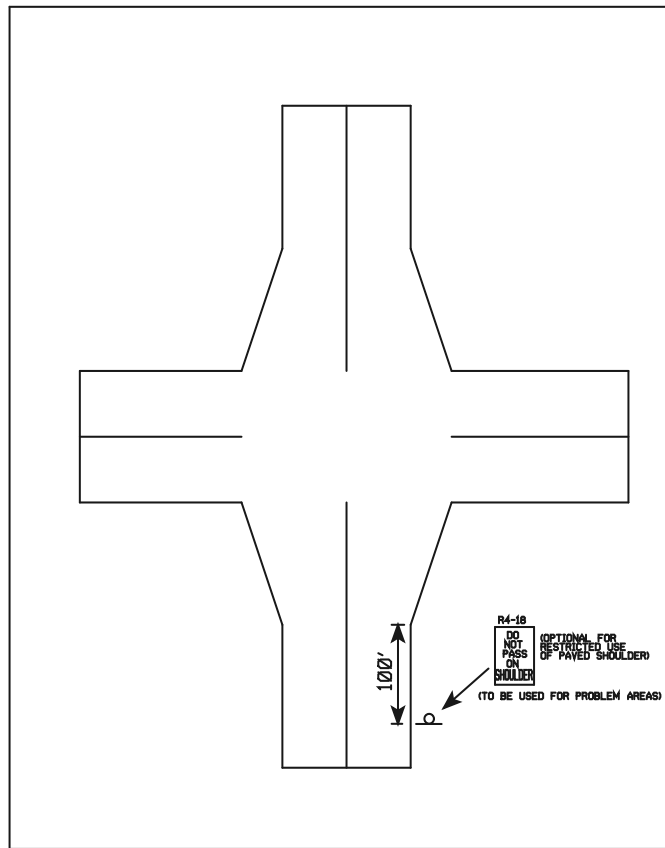


FIG. 3 PAVED RIGHT TURN LANE

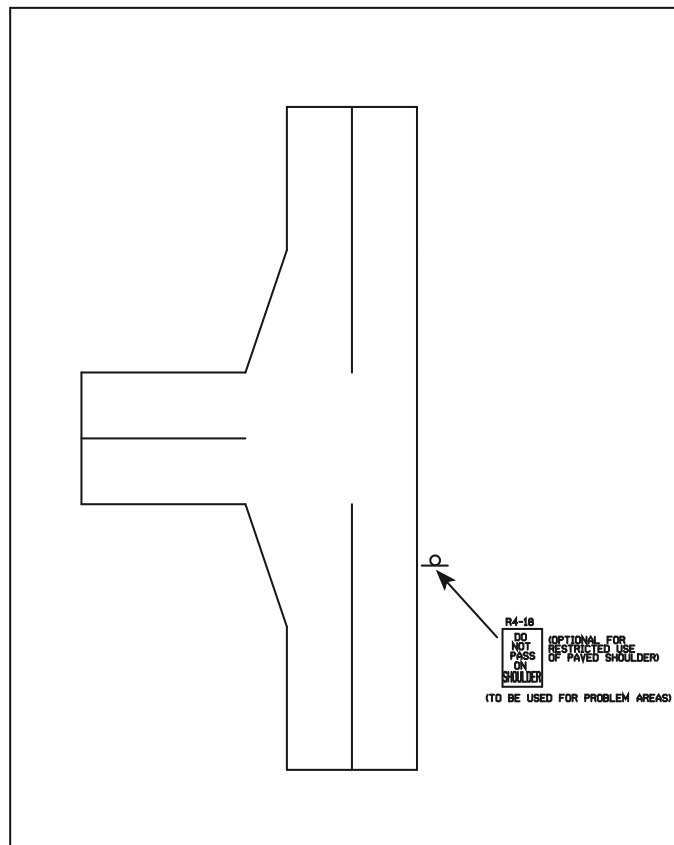


FIG. 4 T-INTERSECTION

13-26-5 All-Way Stop**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).

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.

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.

An AWSC Warrant Criteria worksheet *may* be found at the following link:

<http://wisconsin.gov/dtsdManuals/traffic-ops/manuals-and-standards/teops/awsc-warrant.xlsx>

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](#).

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 [TEOpS 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.