

Pay attention



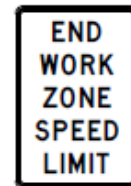
when driving in work zones.

A moment can save a life.



How to Obtain a 24/7 Construction Speed Limit on Local Roads

Cherzon Riley
MnDOT Metro Traffic Engineering & Speed Zoning
Fall 2018



Types of Construction Speed Limits

- Advisory Speed Limits * Advisory (Worker) with "Work Ahead" warning sign
- Workers Present Speed Limit
- 24/7 Construction Speed Limit

Advisory Speeds

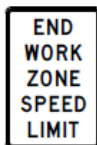
- Brief Description
 - **For driver safety** – let driver know a safe speed to travel to negotiate a potential hazard
 - **Advisory (Worker) for worker safety** at spot locations – let driver know that there are workers ahead
- Examples:
 - Bumps, low shoulders, bypass indicating the curve, narrow lanes, lane shift, poor road
- Authority
 - Established by the District or Local road authority per the [MN MUTCD Part 6H-2](#)



<http://www.dot.state.mn.us/speed/pdf/WZSpeedLimitGuideline.pdf>

Workers Present Speed Limit

- Brief Description
 - **For worker safety** - established in short-term projects during continuous worker activity **when workers are present** and **are in the lane adjacent to moving traffic within 1 mile downstream of sign assembly.**
- Examples:
 - Pavement repair, loop detector installation, M&O, concrete joint repair & crack sealing.



*



<http://www.dot.state.mn.us/speed/pdf/WZSpeedLimitGuideline.pdf>

Workers Present Speed Limit

- Authority

- Established by the District or Local road authority per Minnesota Statute Section 169.14 Subd. 5d
- Local Roads - City/County Traffic Engineer or designee
- No Engineering and Traffic Investigation is needed

- Verify

- Speed limit should be monitored and verified that it is appropriate for activities



<http://www.dot.state.mn.us/speed/pdf/WZSpeedLimitGuideline.pdf>

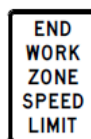
24/7 Construction Speed Limit

- Brief Description

- **For driver safety** - regulatory speed limit intended for **24 hour** posting where motorists must reduce speeds **to safely navigate** the work zone
- Typical 10 mph reduction – research shows that compliance to 10 mph reduction much more likely than greater speed limit reductions

- Examples

- Bypasses, shoulder drop-offs, narrow lanes, grade separations, and pavement repair



<http://www.dot.state.mn.us/speed/pdf/WZSpeedLimitGuideline.pdf>

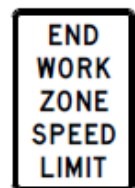
24/7 Construction Speed Limit

- Authority
 - Regulatory speed limit allowed by [MN Statute 169.14 Subd 4](#), same statute as permanent regulatory speed limits
 - Established by Commissioner as recommended by District Traffic Engineer (requires “engineering and traffic investigation”)
- Engineering and Traffic Investigation
 - Traffic Control Plan, idea of staging, location of geometric issues, narrative with reasons why
 - Speed limit should be monitored and verified that it is appropriate for activities
 - Investigation is done prior to the actual set-up

<http://www.dot.state.mn.us/speed/pdf/WZSpeedLimitGuideline.pdf>

Local Road 24/7 Construction Speed Limits Contingencies

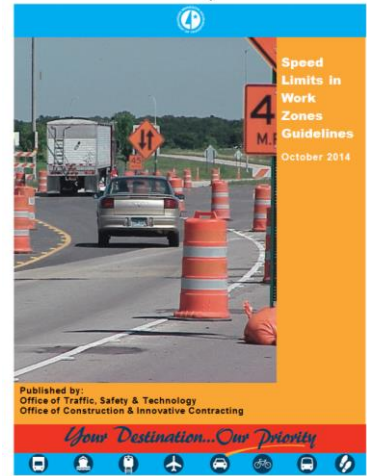
1. Notification when signs are erect
2. Monitor & verify signs posted signs
3. Notify the District Traffic Engineer if any changes are necessary
4. Notification when signs are removed



<http://www.dot.state.mn.us/speed/pdf/WZSpeedLimitGuideline.pdf>

Speed Limits in Work Zones Guidelines

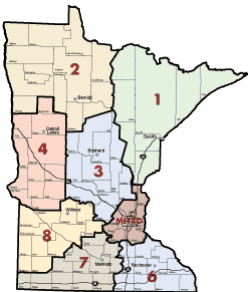
- Basic Speed Limit Laws
- Speed Limit Types
- Applications
- Layouts (updated)
- Web search MnDOT Work Zone speed limits



<http://www.dot.state.mn.us/speed/pdf/WZSpeedLimitGuideline.pdf>

<http://www.dot.state.mn.us/speed/pdf/WZSpeedLimitGuideline.pdf>

MnDOT District Traffic Engineers

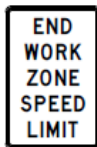


Minnesota		
District	Traffic Engineer	Phone
1 - Duluth	Jim Miles	218-725-2789
2 - Bemidji	Michelle Rognerude-Adams	218-755-6574
3 - Brainerd	Thomas Dumount	320-223-6540
4 - Detroit Lakes	Trudy Kordosky	218-846-7970
5 - Metro District	Lars Impola	651-234-7820
6 - Rochester	Chad Hanson (mobility)	507-286-7636
7 - Mankato	Brett Paasch	507-304-6156
8 - Willmar	John Hager	320-214-6397

<http://www.dot.state.mn.us/speed/pdf/WZSpeedLimitGuideline.pdf>

What Should be Included in the Request

- Memo Letter
- A Complete Traffic Control Layout
- A City or County Resolution (if requested by a consultant)



<http://www.dot.state.mn.us/speed/pdf/WZSpeedLimitGuideline.pdf>



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MEMORANDUM

Date: June 28, 2016
To: Chad Erickson - MnDOT Traffic
From: Ross Tillman, P.E.
Subject: Scott County **CSAH 83 24/7** Construction Speed Limit Request

The Scott County CSAH 83 reconstruction project will expand CSAH 83 to a four-lane divided roadway from **CSAH 82 to CSAH 42** to accommodate growth on the Mystic Lake Casino site as well as internal circulation changes to the site. Bolton & Menk, on behalf of the Shakopee Mdekwankton Sioux Community and with support of Scott County, requests an order from the Commissioner of Transportation to establish a 24/7 Construction Speed Limit. Based on a traffic engineering investigation of the proposed construction and staging plans, a 24/7 construction speed limit of 40 mph is recommended throughout the project limits in order to establish a safe and reasonable speed limit. **Construction is planned to begin late summer 2016 and reach completion fall 2017.**

Existing CSAH 83 has a segment from CSAH 82 to Wilds Parkway that is a three-lane highway with two through lanes and a two-way-left-turn lane or left-turn lanes and then a segment from Wilds Parkway to CSAH 82 that is a four-lane divided highway with turn lanes. **The highway has a posted speed of 40 mph from CSAH 82 to Wilds Parkway and 50 mph from Wilds Parkway to CSAH 82. The southern portion has two horizontal curves with a design speed of 40 mph.**

The project will be completed under two phases, a preliminary grading and utility phase and then the final CSAH 83 roadway construction phase. Please find attached construction staging and traffic control plans for the two phases. During the roadway construction phase, the anticipated conditions identified in the plans include:

- Maintained traffic through the project for most of the project's duration
- One-lane traffic in each direction for the length of the project with construction staged and lanes closed or shifted
- Two-way traffic operation on portions of CSAH 83 that normally operate as a four-lane divided highway
- **Crossovers with sub-standard taper lengths are being utilized to fit traffic shifts where needed.** Both tapering for 30 mph and 40 mph is planned to accommodate the required construction and fit tapers of the lanes shifts. Advisory warnings will be used for the 30 mph crossover
- **Little or no shoulder width**
- **Grade separations between the traveled pavement and the construction area.**

H:\SMC\151014843_Design\15_Stage Construction\15-7 Construction Speed Limit Request\15-7 Construction Speed Zone Request.docx

DESIGNING FOR A BETTER TOMORROW
 Bolton & Menk is an equal opportunity employer

Memorandum Request

The Letter Should Contain:

- Request road name (numeric & alphabetic)
- Beginning and ending termini
- Construction scheduled start and end dates
- Authorized and or posted speed limit(s)
- Desired 24/7 Construction speed limit
- Why you believe the limit is warranted
- Any other relevant information



<http://www.dot.state.mn.us/speed/pdf/WZSpeedLimitGuideline.pdf>

Work Zone Speed Limit Violations

MN Statute 169.14, Subd. 6a

- \$300 fine for violating speed limit in work zone
 - “Fines double” no longer applies
- All work zones that meet statutory definition
 - Even those without posted speed limits
- MN MUTCD allows turning existing posted speed limits into work zone speed limit assembly



<http://www.dot.state.mn.us/speed/pdf/WZSpeedLimitGuideline.pdf>

Questions?

Cherzon Riley

MnDOT Metro Traffic Engineering Speed Zoning

651-234-7836

Cherzon.Riley@state.mn.us




<http://www.dot.state.mn.us/speed/pdf/WZSpeedLimitGuideline.pdf>



11/5/2018

Optional Tagline Goes Here | mndot.gov/

17



11/5/2018

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Speed Limit Sign (only)

Table 1. Potential Voluntary Speed Reductions for Various Work Zone Conditions.

Work Zone Condition	Potential Voluntary Speed Reduction*
Work Zone Reduced Speed Limit Sign	0 to 3 mph
Barrier Near Inside Travel Lane	0 to 3 mph
Lane Encroachment	1 to 5 mph
Lane Closure	1 to 7 mph
Construction Vehicle Access/Egress Location	5 to 6 mph
Temporary Crossover	4 to 9 mph
Two-Lane, Two-Way Barrier Separated Traffic	7 to 9 mph

* The speed reductions listed are based on a study conducted in Texas. Operating speeds upstream of the work zones ranged from 60 mph to 77 mph.

Source: *Guidelines on Managing Speeds in WZ* – Roadway Safety Consortium, published by FHWA, available on www.workzonesafety.org

Drivers disregard static signs that don't reflect current driving speeds

<http://www.dot.state.mn.us/speed/pdf/WZSpeedLimitGuideline.pdf>

Speed Limit Signs – with other enhancements

Table 2. Potential Speed Reductions for Various Speed Management Techniques.

Speed Management Technique	Potential Speed Reduction*
CB Radio Information Systems	0 to 2 mph
Narrow Lanes With Channelizing Devices	0 to 5 mph
Transverse Pavement Markings	0 to 5 mph
Portable Changeable Message Sign With Radar	0 to 6 mph
Drone Radar	2 to 3 mph
Transverse Rumble Strips	2 to 5 mph
Speed Display Trailers	2 to 10 mph

* The speed reductions listed are based on a number of studies, and the results vary considerably.

15 mph reduction in some situations
5-10 mph reduction more common




Spring 2018

<http://www.dot.state.mn.us/speed/pdf/WZSpeedLimitGuideline.pdf>

Signed Authorization

Page 1 of 1



STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

LOCAL STREET OR HIGHWAY SPEED LIMIT AUTHORIZATION

Road Authority: Scott County	Date Authorized: July 26, 2016
Road Name: County State Aid Highway 83 (Canterbury Road)	Date Requested: June 28, 2016
Zone Begin: 140 th Street	
Zone End: Wilds Parkway	

As authorized in Minnesota Statutes, Section 169.14, it is hereby ordered that the following speed limits are approved and shall be put into effect on the described roadway or sections thereof.

24/7 CONSTRUCTION SPEED LIMIT
(See "Speed Limits in Work Zones Guidelines", October 2014)

40 miles per hour between the intersection with 140th Street and the intersection with Wilds Parkway

Date Signs Installed: **August 12, 2016**

Date Signs Removed: **October 13, 2017**
(KEEP COPY ON FILE)

And Bud
Field Signature

And Bud
Field Signature

AUTHORIZED SIGNATURE (MS 169.14)

John P...

NOTE: Reference points (R.P.) shown above are for state reference system.

<http://www.dot.state.mn.us/speed/pdf/WZSpeedLimitGuideline.pdf>

Statutory definition of a work zone

MN Statute 169.011, Subd. 95 – slightly paraphrased

- Official traffic control devices that indicate the segment of a street or highway under construction, reconstruction, or maintenance, are erected
- *One or more lanes of traffic are closed*
- *A flagger is present*
- *A 24/7 construction speed limit is established*
- *A workers present speed limit is in effect*

<http://www.dot.state.mn.us/speed/pdf/WZSpeedLimitGuideline.pdf>

Required Workers Present Speed Limit

MN Statute 169.14, Subd. 5d

- The speed limit on a road having an established speed limit of 50 mph or greater is adjusted to 45 mph in a work zone (remember definition) when...
 - At least one lane or portion of a lane of traffic is closed in either direction
and
 - Workers are present
- Exceptions follow -



<http://www.dot.state.mn.us/speed/pdf/WZSpeedLimitGuideline.pdf>

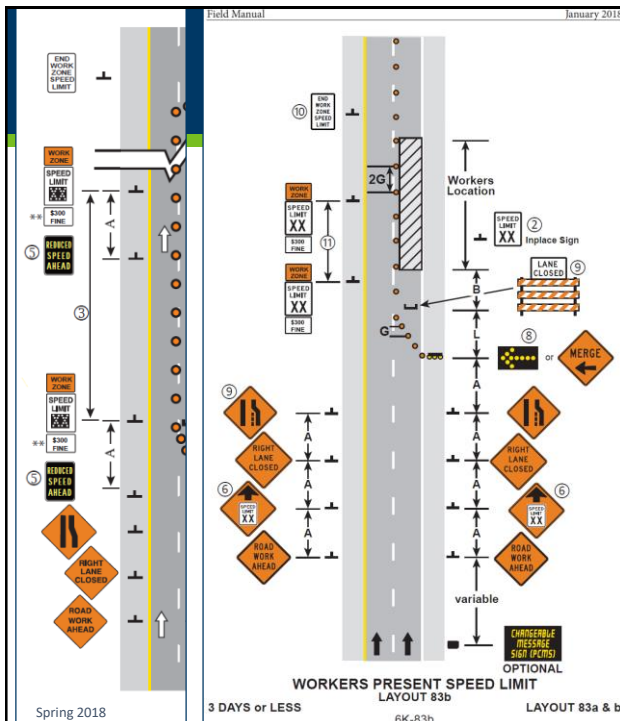
Required workers present speed limit - exceptions

The work zone speed limit of 45 mph is not required when...

- Positive barriers are placed between the workers and the traveled portion of the highway
 - The work zone is in place for less than 24 hours
 - 24/7 Construction Speed Limit used
 - If there is a median
-
- Agency determined Workers Present Speed Limit used



<http://www.dot.state.mn.us/speed/pdf/WZSpeedLimitGuideline.pdf>



24/7 Construction Speed Limit Layout

- Almost identical to Field Manual Layout 83
 - Spacing table is slightly different
- Modified from the figure in *Speed Limits in Work Zones Guidelines* to match new lane closure signing
- Could combine with Electronic Workers Present Speed Limit (Diagram on left)

<http://www.dot.state.mn.us/speed/pdf/WZSpeedLimitGuideline.pdf>

Speed Limit Reduction on Detours

Minnesota		
District	Traffic Engineer	Phone
1 - Duluth	Jim Miles	218-725-2789
2 - Bemidji	Michelle Rognerud-Adams	218-755-6574
3 - Brainerd	Thomas Dumont	320-223-6540
4 - Detroit Lakes	Tom Swenson	218-846-7970
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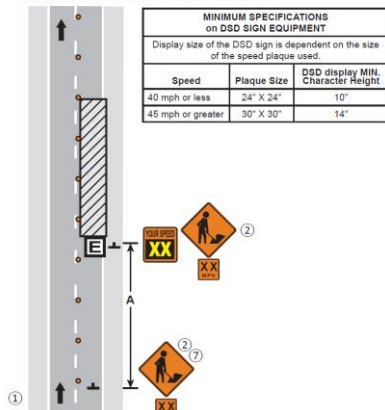
Spring 2018

<http://www.dot.state.mn.us/speed/pdf/WZSpeedLimitGuideline.pdf>

Field Manual January 2018

NOTES:

- ① Use the appropriate layout for channelizing, advance signing, and spacing.
- ② The XX MPH advisory speed plaque shall be installed beneath the appropriate warning sign. The sign assembly shall be removed when the conditions that required the sign are no longer present. Dynamic speed display shall be black on orange.
3. The advisory speed value shall not be higher than any in-place regulatory speed limit.
4. An advance warning sign with an advisory speed plaque should not be placed near a regulatory speed sign. If necessary, consider covering the in-place regulatory speed signs.
5. Advisory speed assemblies may be placed in the buffer or work space as long as the assemblies are not blocked by vehicles or devices.
6. See "Speed Limits in Work Zones Guidelines" (<https://www.dot.state.mn.us/speed/pdf/wzspeedlimitguideline.pdf>) for more information on work zone speed limits.
- ⑦ The warning sign assembly may be omitted if the posted advisory speed is 10 mph or less than the posted regulatory speed limit.



ADVISORY DYNAMIC SPEED DISPLAY

3 DAYS or LESS

LAYOUT 82

Spring 2018

Advisory Speed Layout

- See Field Manual Layout 82
- Shown with Dynamic Speed Display
- Modified from figure in *Speed Limits in Work Zones Guidelines* due to lane closure signing modifications

<http://www.dot.state.mn.us/speed/pdf/WZSpeedLimitGuideline.pdf>