



The MMUTCD

New Compliance Dates

Sign Retroreflectivity

Street Name Signs

Private Roads

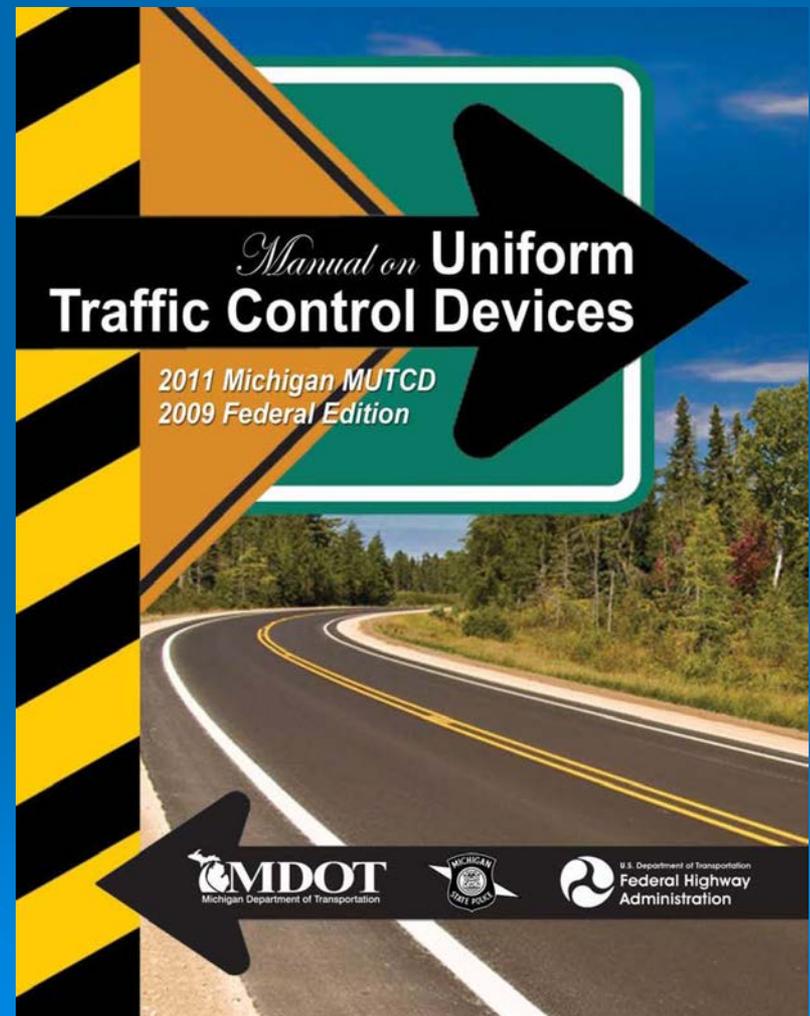
Traffic and Safety, MDOT



MMUTCD

Adoption Date

- For Michigan a new manual had to be in place by January 15, 2012
- Manual addresses:
 - Unique items in MVC
 - Unique items in Michigan
- Effective December 1, 2011



Old Compliance Dates

- Compliance dates are for those “Big Ticket” items
- 67 Phase-in Target Compliance Dates for Devices, includes:
 - Dates established by previous final rules (3)
 - Dates established in 2005 MMUTCD (52)
 - New compliance items in 2011 MMUTCD (12)



Items with No Specific Compliance Date

- New or reconstructed devices installed shall be in compliance with State MUTCD
 - Federal-aid projects require devices to be in conformance to MUTCD
 - Upgrade non-compliant devices as part of systematic upgrade
- 

Compliance Option

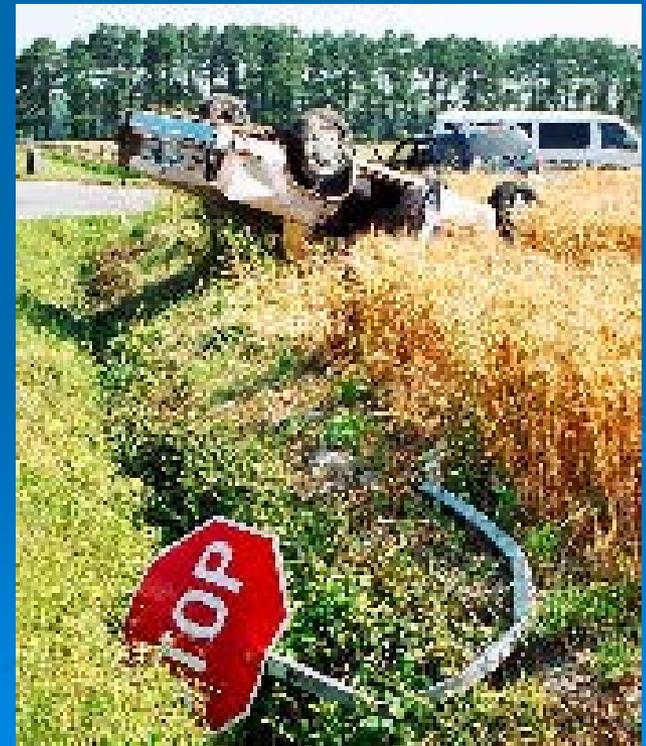
Replacement of damaged, missing, or no longer serviceable non-compliant device:

Option for agencies to establish policies:

- replace with compliant device;

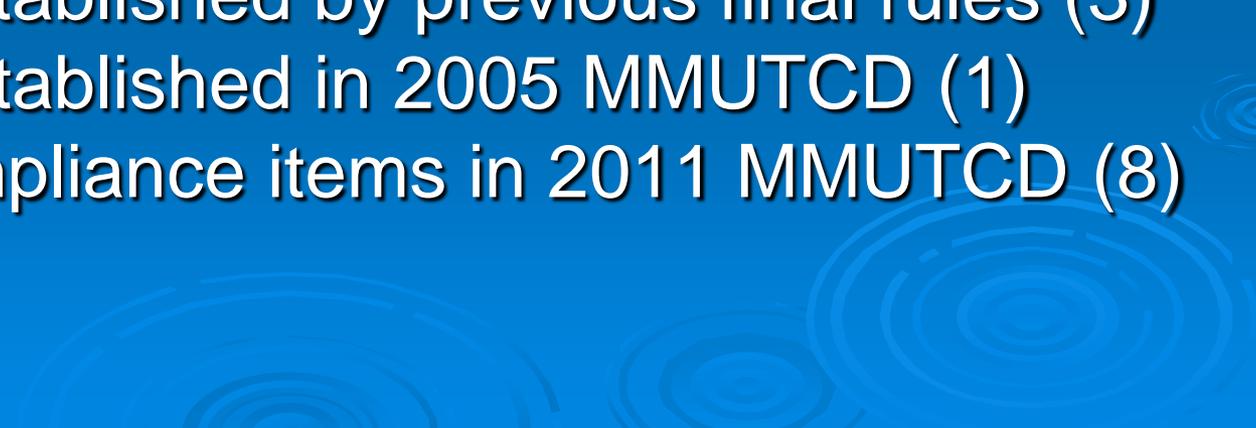
or

- replace in kind under some conditions



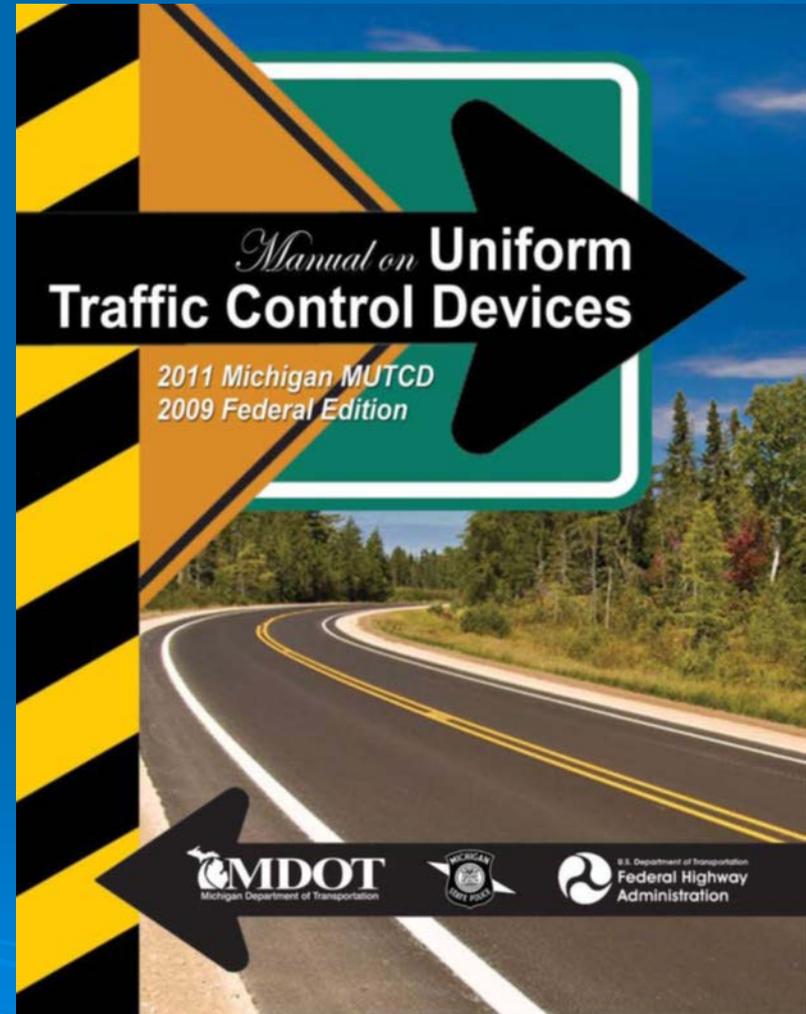


New Compliance Dates

- Compliance dates are for those “Big Ticket” items
 - 12 Phase-in Target Compliance Dates for Devices, includes:
 - Dates established by previous final rules (3)
 - Dates established in 2005 MMUTCD (1)
 - New compliance items in 2011 MMUTCD (8)
- 

Part 2

Signs



Old Sign Retroreflectivity Compliance Dates

Jan 22, 2012	Identify and begin using method(s)
Jan 22, 2015	Replace identified regulatory, warning, and ground-mounted guide signs
Jan 22, 2018	Replace identified street name and overhead guide signs

New Sign Retroreflectivity Compliance Dates

June 13, 2014	Identify and begin using method(s) for regulatory and warning signs
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Other signs are to be added to agency's method as resources allow.



Maintaining Minimum Retroreflectivity

“Standard:

Public agencies or officials having jurisdiction shall use an assessment or management method that is designed to maintain sign retroreflectivity at or above the minimum levels in Table 2A-3”



Maintaining Minimum Retroreflectivity

All signs identified by an agency's method as being below minimum values need to be replaced.

Replacement should be based on agency's resources and relative priorities.

MUTCD Table 2A-3

Sign Color	Criteria	Sheeting Type (ASTM D4956)			
		Beaded			Prismatic
		I	II	III	III, IV, VI, VII, VIII, IX, X
White on Red	CR \geq 3	35 / 7			
Black on Orange or Yellow	Bold or Text \geq 48"	x	50		
	Fine or Text <48"	x	75		
Black on White	—	50			
White on Green	Overhead	x / 7	x / 15	x / 25	250 / 25
	Shoulder	x / 7	120 / 15		



Sign Maintenance Methods

- Visual Nighttime Inspection
- Measured Sign Retroreflectivity
- Expected Sign Life
- Blanket replacement
- Control signs
- Any combination of above
- Other methods based on engineering studies



Maintaining Minimum Retroreflectivity FAQs

Do I have to replace my street name signs that have all capital letters?

Yes, when they are reached the end of their useful service life with the combination lower case letters with initial upper case letter.



Maintaining Minimum Retroreflectivity FAQs

Do I have to develop an inventory to be in compliance with the MMUTCD?

No, although a documented inventory, in particular computerized, is very useful.



Maintaining Minimum Retroreflectivity FAQs

Do I have to submit documentation annually to FHWA for approval?

No, FHWA does not require documentation.



Maintaining Minimum Retroreflectivity FAQs

Can the warranty of a sign be used to determine its service life?

The warranty period is a good start but is often less than the service life.



Maintaining Minimum Retroreflectivity FAQs

Does blanket replacement relieve me of sign maintenance between cycles?

No, there are other maintenance requirements such as replacing knockdowns or trimming vegetation that is still required.



Maintaining Minimum Retroreflectivity FAQs

Can we inspect signs during the day to avoid overtime costs?

No, not if your agency is using the nighttime visual inspection method listed in the MMUTCD.



Maintaining Minimum Retroreflectivity FAQs

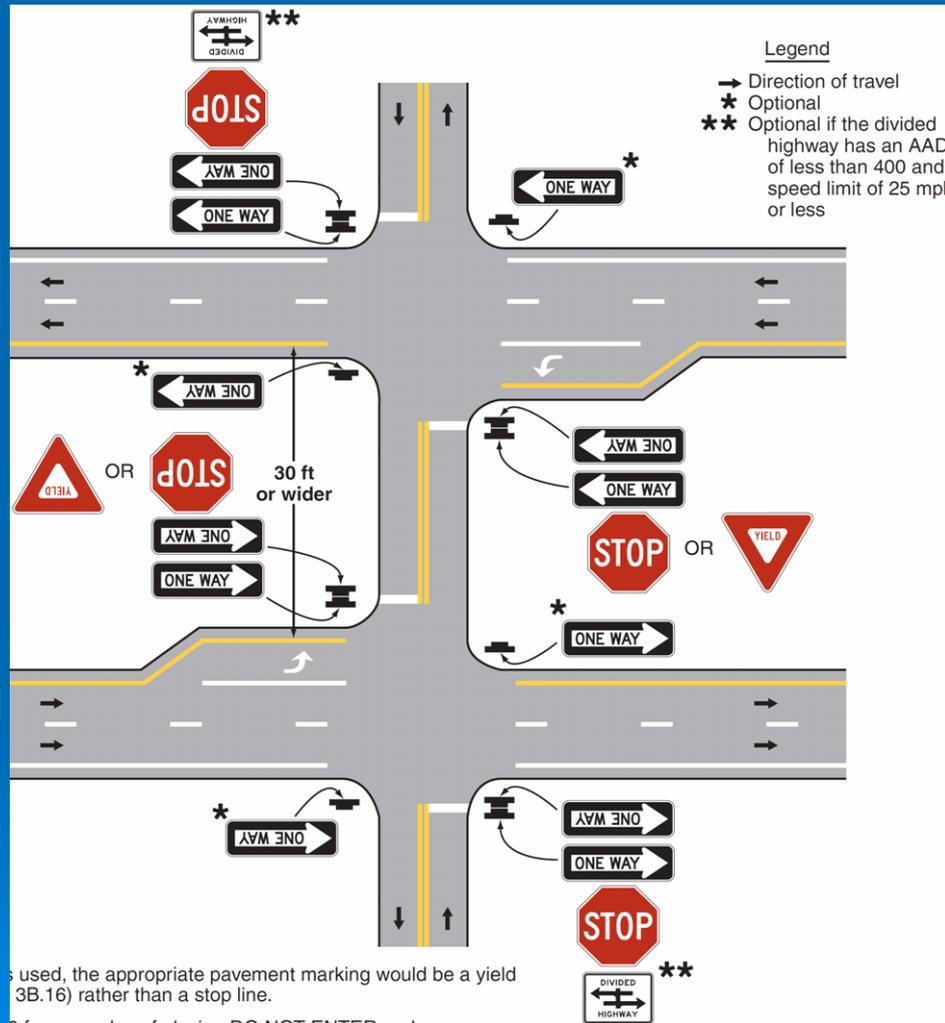
Do I need a 60 year old for nighttime inspection?

There are 3 different visual nighttime inspections that can be used. Only the consistent parameters requires an inspector to be at least 60 years of age.

Lateral Offset

- Sign supports within the clear zone for roads with posted speed limit of 50 mph or higher shall be crashworthy (NCHRP Report 350) unless shielded with a longitudinal barrier or crash cushion
- Compliance date of August 15, 2015

Divided Highways with Median Widths of 30 feet or More

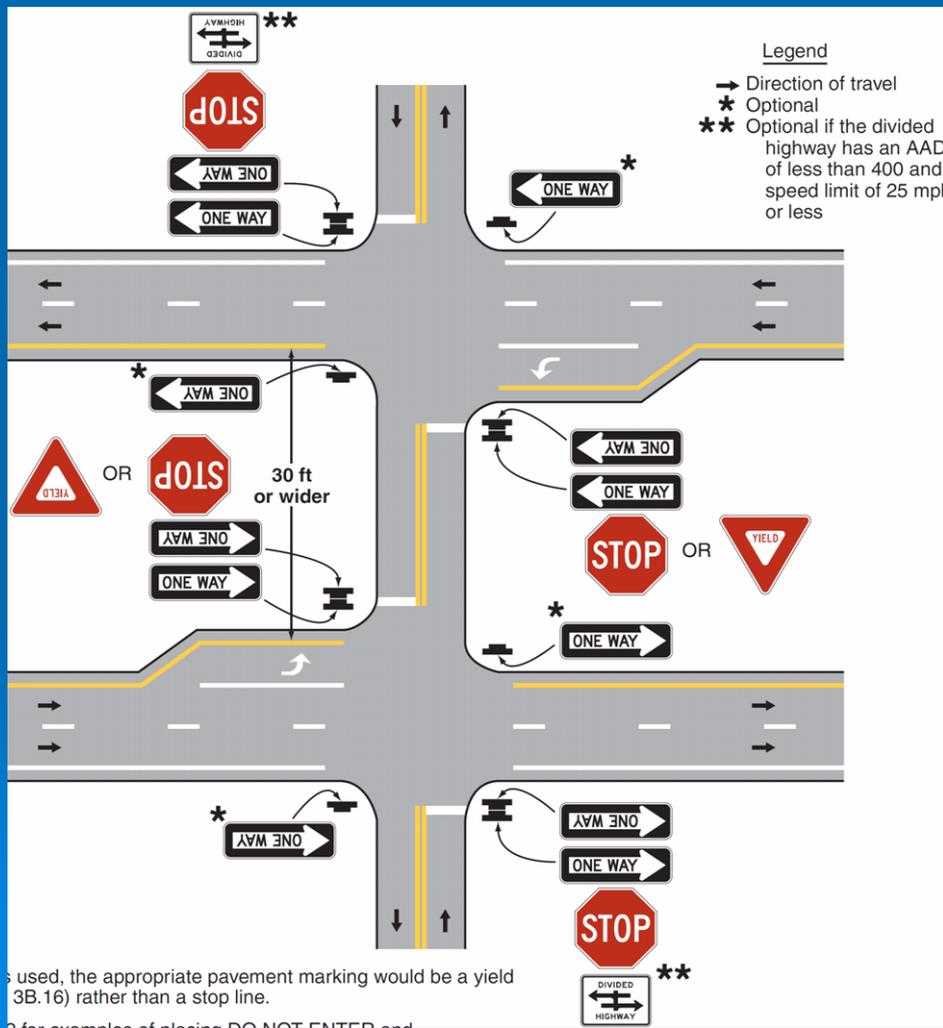


One-Way signs on near right and far left corners are required rather than recommended

Far right One-Way signs are optional

Compliance date of December 31, 2019 for this and next 3 slides

Divided Highways with Median Widths of 30 feet or More



One-Way signs on near right and far left corners are required rather than recommended

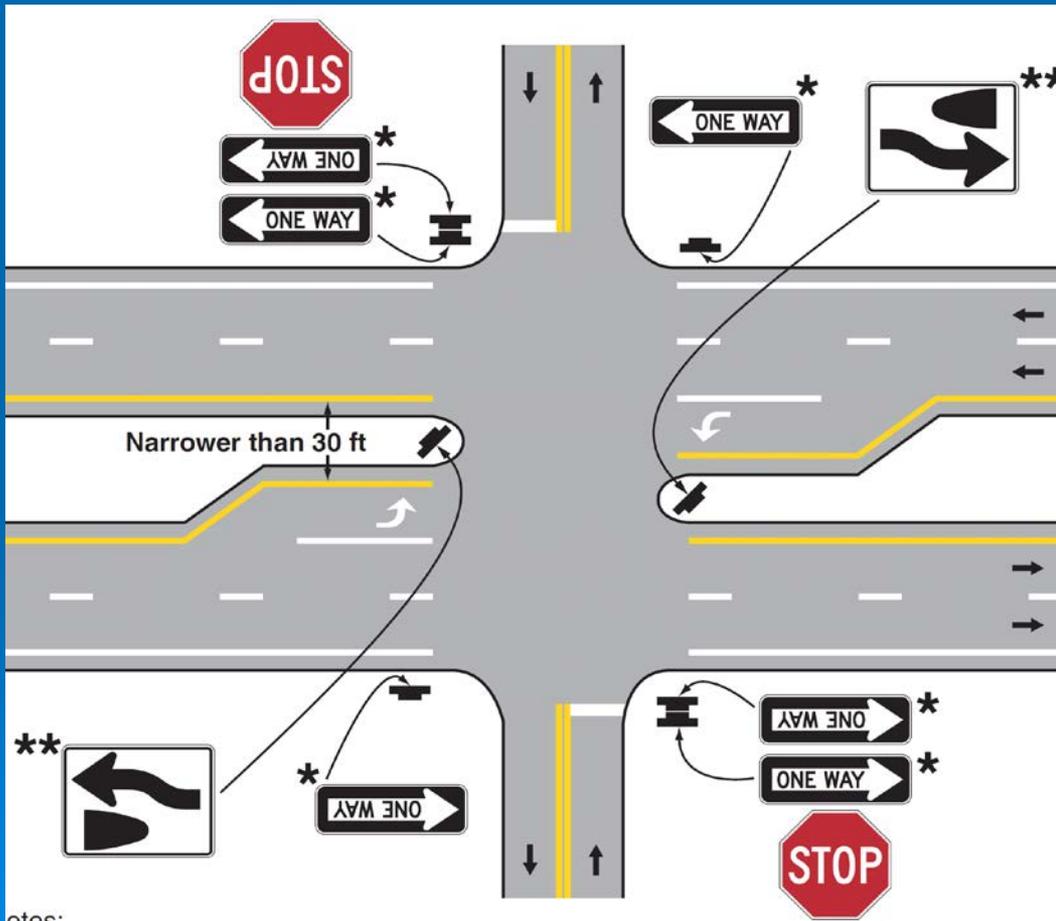
Far right One-Way signs are optional

Compliance date of December 31, 2019 for this and next 3 slides

used, the appropriate pavement marking would be a yield (3B.16) rather than a stop line.

for examples of placing DO NOT ENTER and

Divided Highways with Median Widths of Less than 30 feet

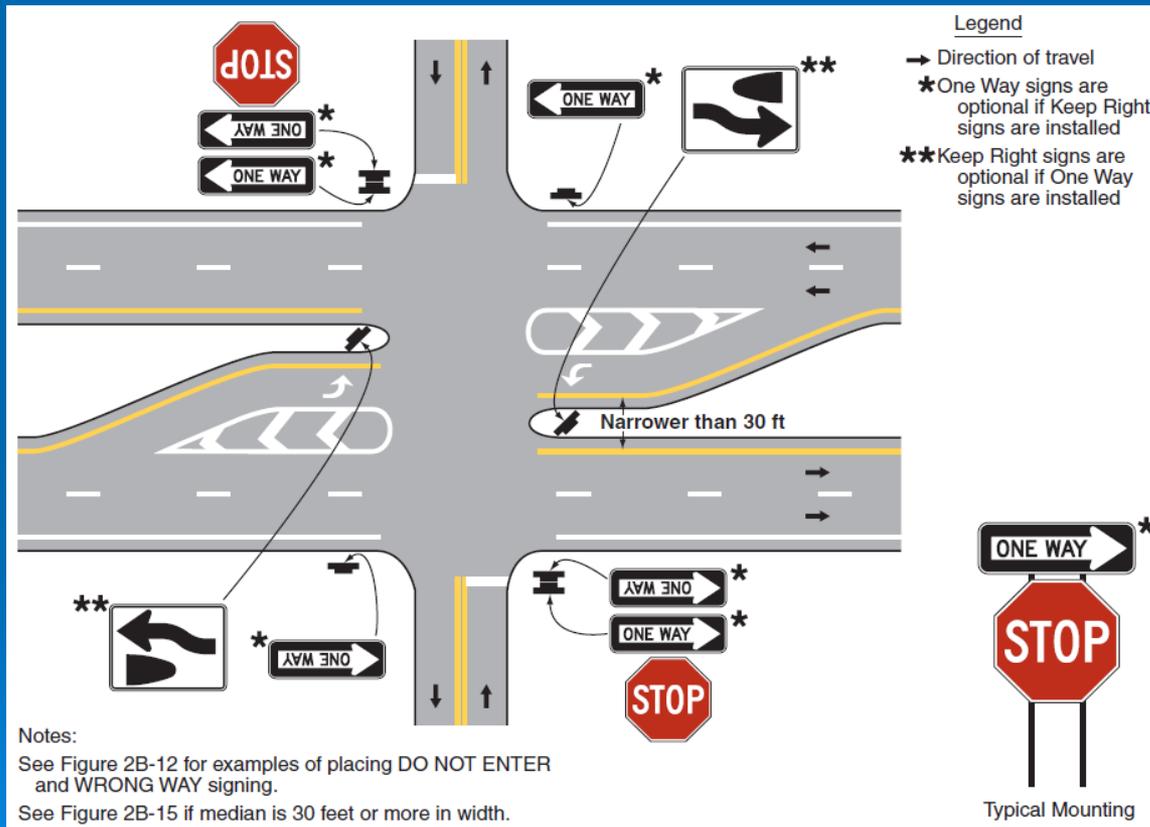


Either:
 One-Way signs on near right and far left corners (far right One-Way signs are optional)
or
 Keep Right signs in median noses

Legend

- Direction of travel
- * One Way signs are optional if Keep Right signs are installed
- ** Keep Right signs are optional if One Way signs are installed

Divided Highways with Median Widths of Less than 30 feet and Separated Left-turn Lanes

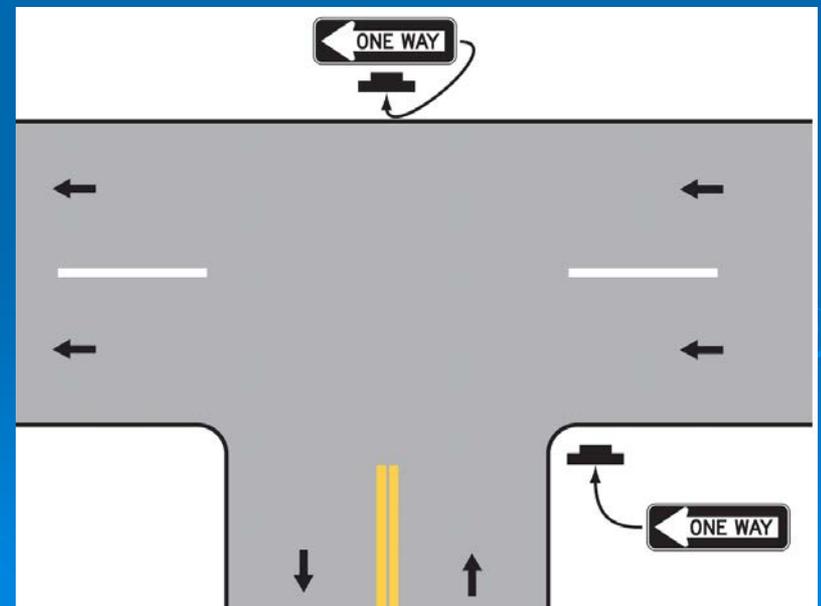
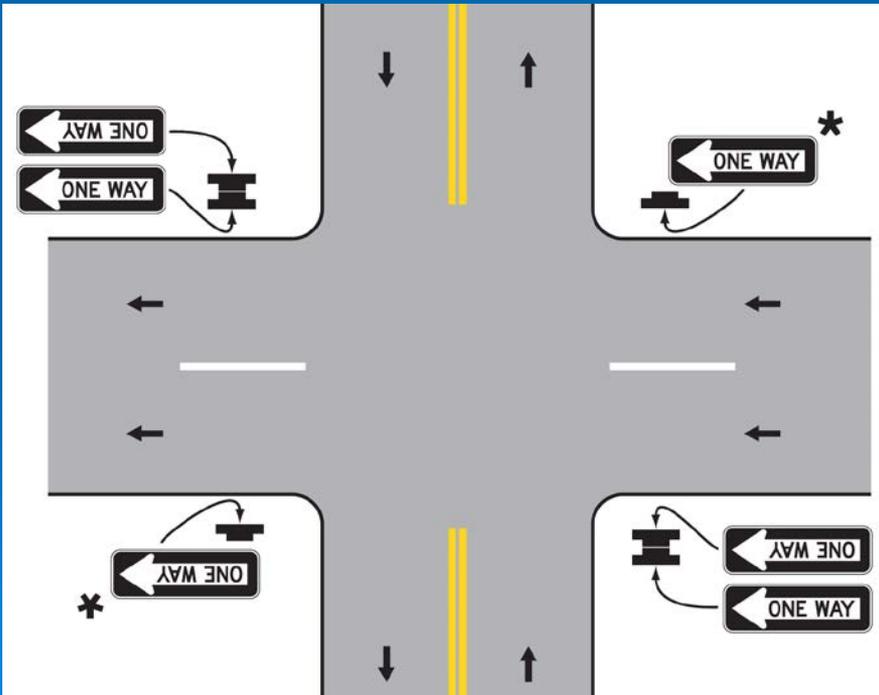


Either:
One-Way signs on near right and far left corners (far right One-Way signs are optional)
or
Keep Right signs in Median noses

Near Side and Far Side One-Way Signs Required on the Minor-Street Approaches at 4-way and T-intersections

Legend

- * Optional
- Direction of travel



Horizontal Alignment Warning Signs

Table 2C-5. Horizontal Alignment Sign Selection

Type of Horizontal Alignment Sign	Difference Between Speed Limit and Advisory Speed				
	5 mph	10 mph	15 mph	20 mph	25 mph or more
Turn (W1-1), Curve (W1-2), Reverse Turn (W1-3), Reverse Curve (W1-4), Winding Road (W1-5), and Combination Horizontal Alignment/Intersection (W10-1) (see Section 2C.07 to determine which sign to use)	Recommended	Required	Required	Required	Required
Advisory Speed Plaque (W13-1P)	Recommended	Required	Required	Required	Required
Chevrons (W1-8) and/or One Direction Large Arrow (W1-6)	Optional	Recommended	Required	Required	Required
Exit Speed (W13-2) and Ramp Speed (W13-3) on exit ramp	Optional	Optional	Recommended	Required	Required

Freeways, expressways, and functionally classified arterials and collectors over 1,000 AADT

New Criteria for the Determination of Advisory Speeds

Support: Among the established engineering practices that are appropriate for the determination of the recommended advisory speed for a horizontal curve are the following:

- A. An accelerometer that provides a direct determination of side friction factors
- B. A design speed equation
- C. A traditional ball-bank indicator using the following criteria:

16 degrees of ball-bank for speeds of 20 mph or less

14 degrees of ball-bank for speeds of 25 to 30 mph

12 degrees of ball-bank for speeds of 35 mph and higher

Chevron Signs Spacing Table

Advisory Speed (mph)	Curve Radius (feet)	Sign Spacing (feet)
15 or less	Less than 200	40
20 to 30	200 to 400	80
35 to 45	401 to 700	120
50 to 60	701 to 1,250	160
More than 60	More than 1,250	200



Horizontal Alignment Warning Signs

Compliance date for revised requirements and applications regarding the use of various horizontal alignment signs based on curve differential speed:

December 31, 2019

LEFT plaques required for numbered and non-numbered exits to the left

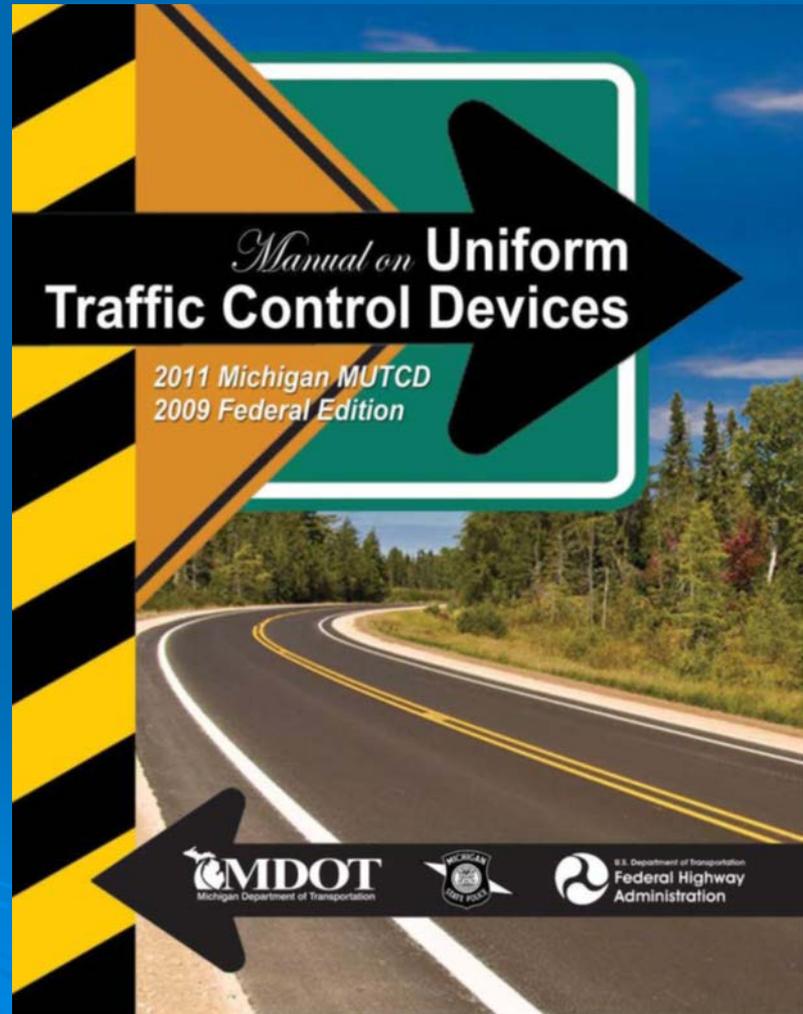
Plaques for Left-Hand Exits



Compliance date of
December 31, 2014

Part 4

Highway Traffic Signals





Yellow Change Intervals and Red Clearance Intervals

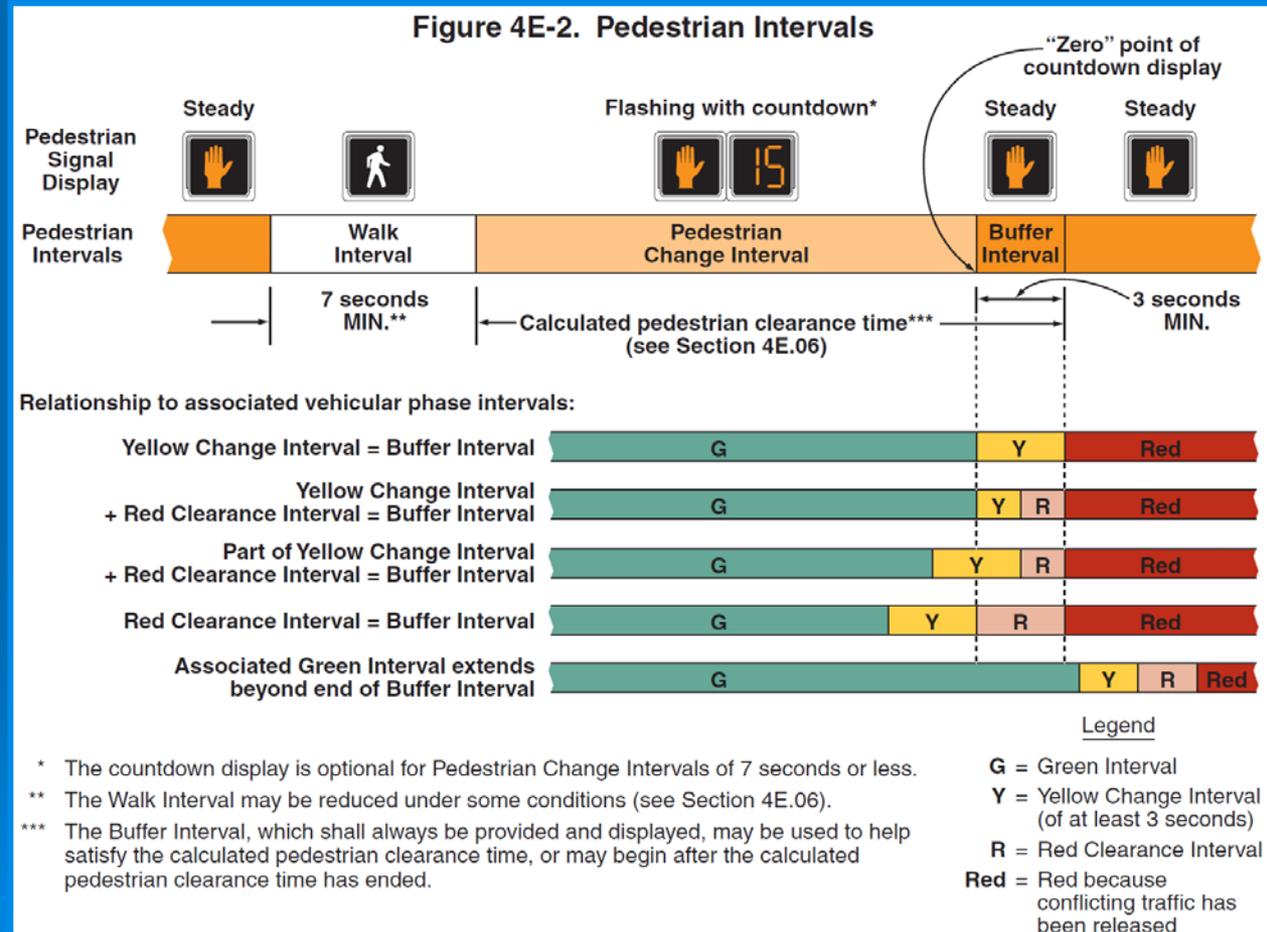
- Durations shall be determined using engineering practices
- Use of red clearance – changed from option to guidance, when indicated by application of engineering practices

Compliance date of December 31, 2014 when timing adjustments are made to the individual intersection and/or corridor, whichever occurs first

Pedestrian Clearance Time

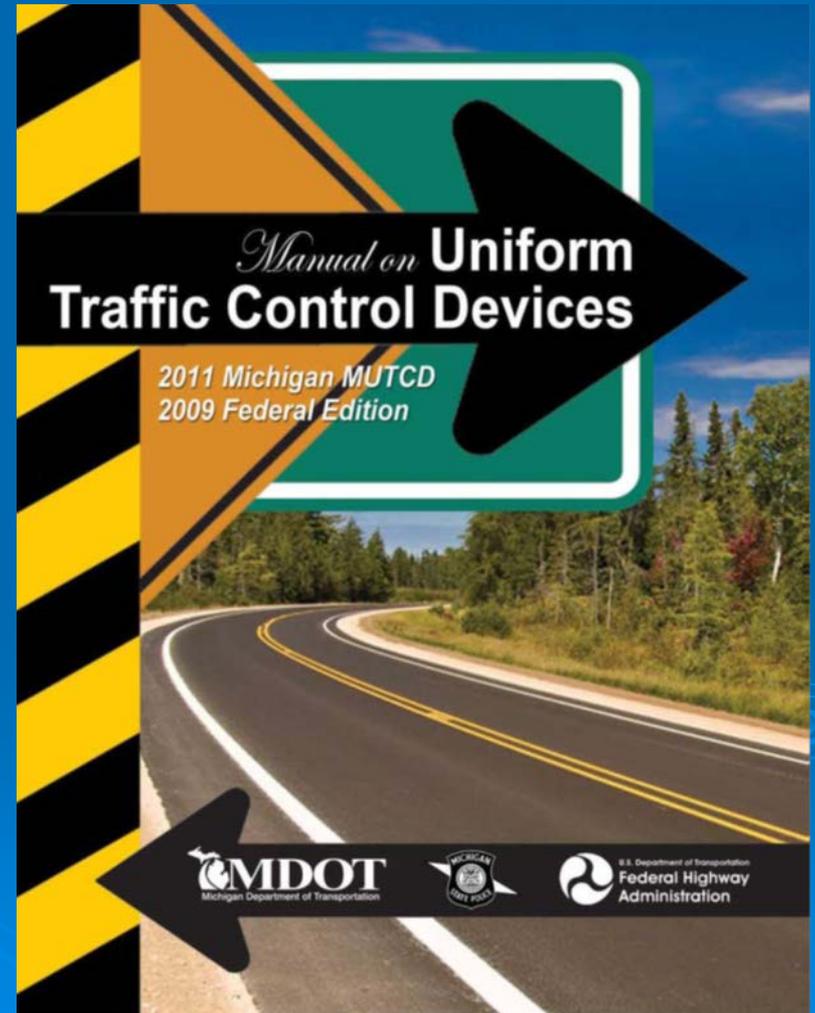
Ped Change Interval (flashing DW):
 - shall not extend into the red clearance interval - shall be followed by min. 3 sec. buffer interval

Compliance date of December 31, 2014 when timing adjustments are made to the individual intersection and/or corridor, whichever occurs first



Part 6

Temporary Traffic Control



High-Visibility Safety Apparel



Required for all workers within the public right of way

Applies to all roads, not just those on the Federal-aid system

Option for law enforcement and first responders to use new ANSI “public safety vests”

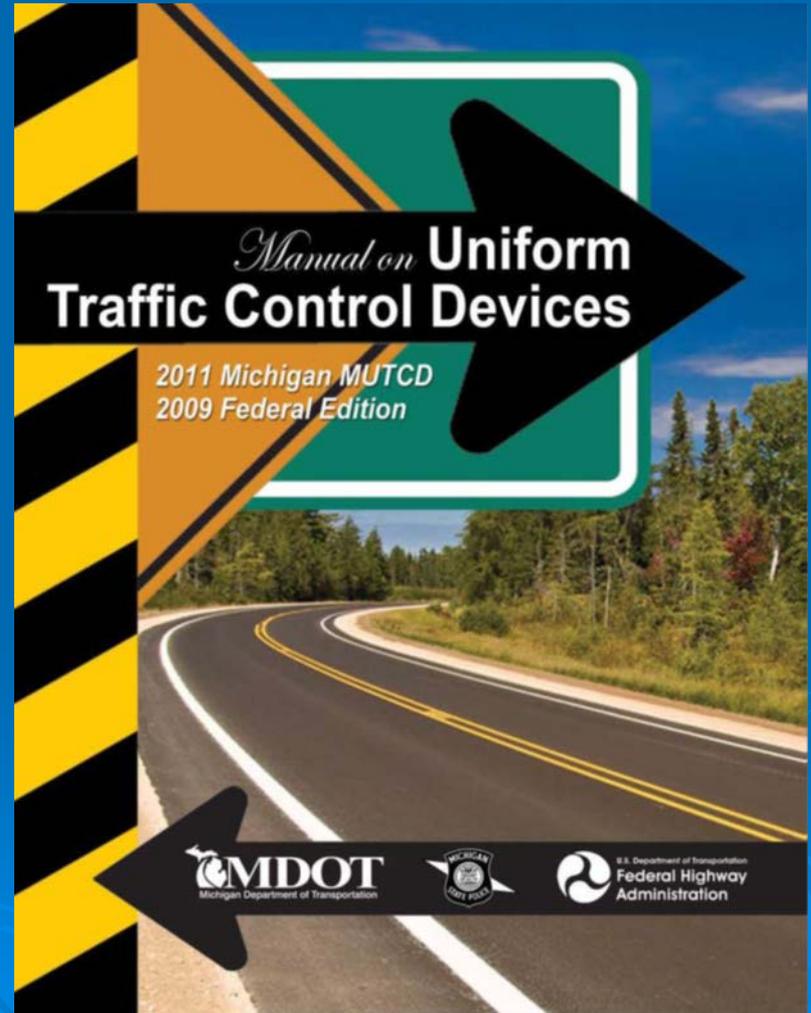
Firefighters and law enforcement are exempted from the requirement under certain conditions

**Compliance date of
December 31, 2011**

Sections 6D.45, 6E.02

Part 7

Traffic Control For School Areas



School Crossing Guard Apparel

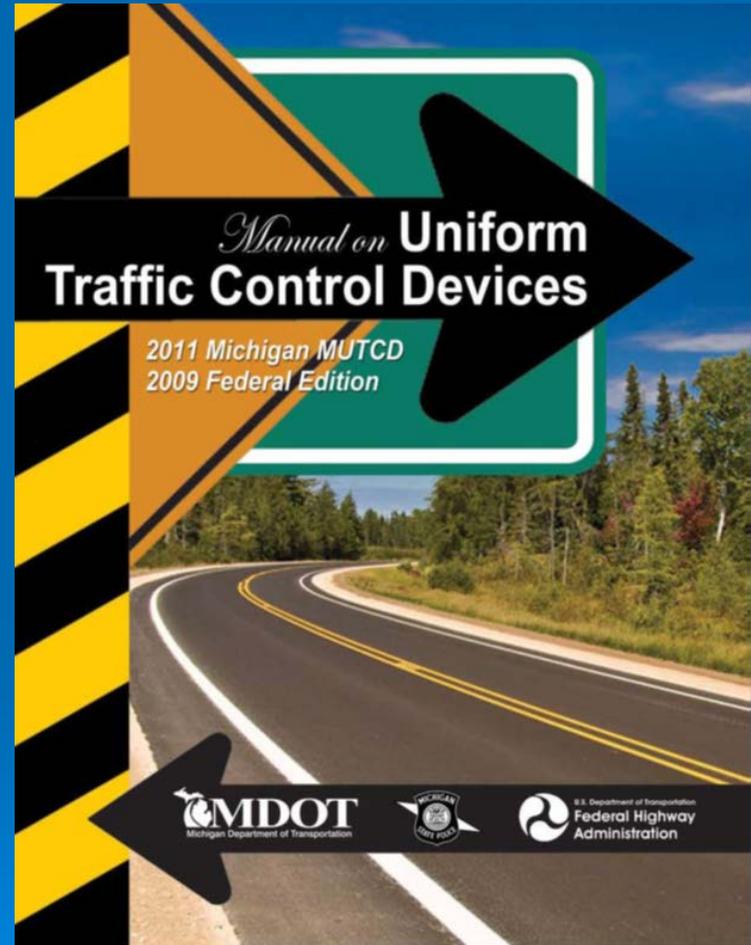


Adult guards and law enforcement shall use ANSI Class 2 safety apparel

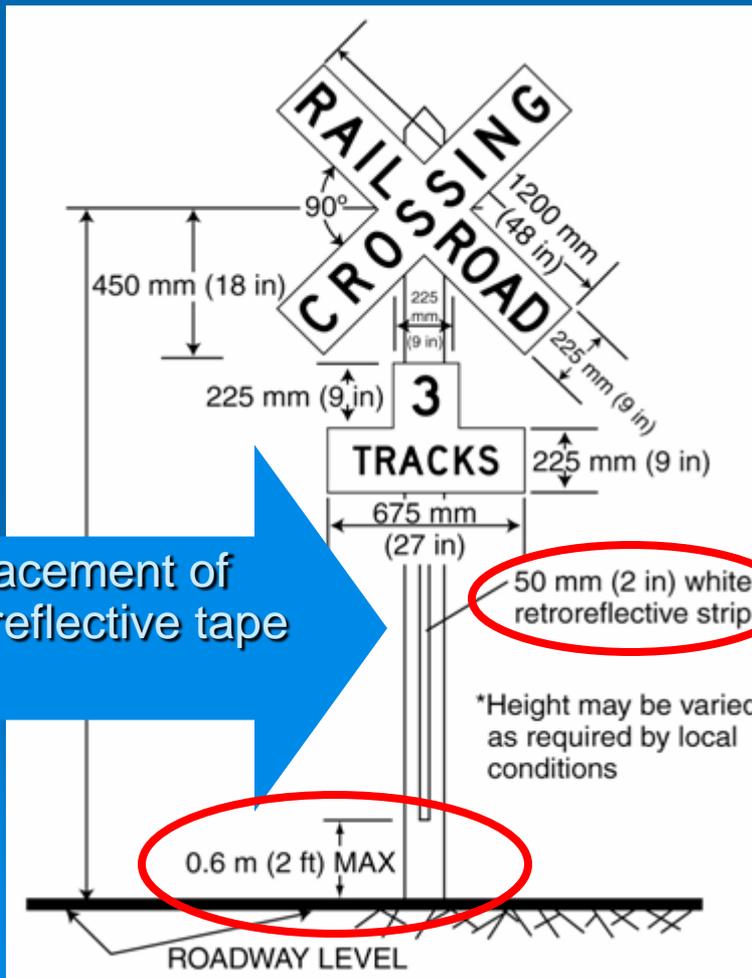
**Compliance date of
December 31, 2011**

Part 8

Traffic Control for Railroad and Light Rail Transit Grade Crossings



Highway-Rail Grade Crossing Sign



- Retroreflective white material on crossbuck post and sign:

within 2 ft above the edge of roadway on the front and back.

back of each blade for the full length.

**Compliance date of
December 31, 2019**

YIELD or STOP Signs Required at Passive Highway-Rail Grade Crossings



**Compliance date of
December 31, 2019**

Street Name Signs



Street Name Signs



Lettering shall be composed of combination lower case letters with initial upper case letter.

Street Name Signs

Table 2D-2. Recommended Minimum Letter Heights on Street Name Signs

Type of Mounting	Type of Street or Highway	Speed Limit	Recommended Minimum Letter Height	
			Initial Upper-Case	Lower-Case
Overhead	All types	All speed limits	12 inches	9 inches
Post-mounted	Multi-lane	More than 40 mph	8 inches	6 inches
Post-mounted	Multi-lane	40 mph or less	6 inches	4.5 inches
Post-mounted	2-lane	All speed limits	6 inches*	4.5 inches*

* On local two-lane streets with speed limits of 25 mph or less, 4-inch initial upper-case letters with 3-inch lower-case letters may be used.



Only alternatives to the green background color for Street Name signs are blue, brown, or white*

* A black legend shall be used if a white background is used, otherwise the legend color shall be white

Section 2D.43



Private Roads



MMUTCD applies to private roads that are “open to public travel”



Toll roads and roads within shopping centers, airports, sports arenas, theme parks, and similar business or recreation facilities that are privately owned, but the public is allowed to travel without access restrictions

Parking areas and their driving aisles are not subject to the MMUTCD, however.....



Please take note!

- The Effective date of the MMUTCD is December 1, 2011.
- The Michigan Manual on Uniform Traffic Control Devices is the document for all Michigan road agencies to follow.

Where to Find the MMUTCD

- Download the 2011 MMUTCD
 - http://mdotwas1.mdot.state.mi.us/public/tands/Details_Web/mmutcdcompleteinteractive.pdf

- Order the 2011 MMUTCD
 - 1-517-322-1676
 - #60 MMUTCD - \$143.99
 - #61 Part 6 - free