The MMUTCD

New Compliance Dates
Sign Retroreflectivity
Street Name Signs
Private Roads

Traffic and Safety, MDOT
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

<table>
<thead>
<tr>
<th>Date</th>
<th>Action Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 22, 2012</td>
<td>Identify and begin using method(s)</td>
</tr>
<tr>
<td>Jan 22, 2015</td>
<td>Replace identified regulatory, warning, and ground-mounted guide signs</td>
</tr>
<tr>
<td>Jan 22, 2018</td>
<td>Replace identified street name and overhead guide signs</td>
</tr>
</tbody>
</table>
New Sign Retroreflectivity Compliance Dates

| June 13, 2014 | Identify and begin using method(s) for regulatory and warning signs |

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.

Section 2A.08
### MUTCD Table 2A-3

#### Sign Color
- **White on Red**
- **Black on Orange or Yellow**
- **Black on White**
- **White on Green**

#### Criteria
- **CR ≥3**
- **Bold or Text ≥48”**
- **Fine or Text <48”**
- **Overhead**
- **Shoulder**

#### Sheeting Type (ASTM D4956)
- **Beaded**
- **Prismatic**

<table>
<thead>
<tr>
<th>Sign Color</th>
<th>Criteria</th>
<th>Beaded</th>
<th>Prismatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>White on Red</td>
<td>CR ≥3</td>
<td>35 / 7</td>
<td>III, IV, VI, VII, VIII, IX, X</td>
</tr>
<tr>
<td>Black on Orange or Yellow</td>
<td>Bold or Text ≥48”</td>
<td>x</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Fine or Text &lt;48”</td>
<td>x</td>
<td>75</td>
</tr>
<tr>
<td>Black on White</td>
<td>—</td>
<td></td>
<td>50</td>
</tr>
<tr>
<td>White on Green</td>
<td>Overhead</td>
<td>x / 7</td>
<td>x / 15</td>
</tr>
<tr>
<td></td>
<td>Shoulder</td>
<td>x / 7</td>
<td>120 / 15</td>
</tr>
</tbody>
</table>
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.
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.
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.
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.

Section 2B.40
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.

Section 2B.40
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

Section 2B.40
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

Section 2B.40
Near Side and Far Side One-Way Signs Required on the Minor-Street Approaches at 4-way and T-intersections

Section 2B.40
## Horizontal Alignment Warning Signs

### Table 2C-5. Horizontal Alignment Sign Selection

<table>
<thead>
<tr>
<th>Type of Horizontal Alignment Sign</th>
<th>Difference Between Speed Limit and Advisory Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>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)</td>
<td>5 mph: Recommended</td>
</tr>
<tr>
<td>Advisory Speed Plaque (W13-1P)</td>
<td>5 mph: Recommended</td>
</tr>
<tr>
<td>Chevrons (W1-8) and/or One Direction Large Arrow (W1-6)</td>
<td>Optional</td>
</tr>
<tr>
<td>Exit Speed (W13-2) and Ramp Speed (W13-3) on exit ramp</td>
<td>Optional</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Advisory Speed (mph)</th>
<th>Curve Radius (feet)</th>
<th>Sign Spacing (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 or less</td>
<td>Less than 200</td>
<td>40</td>
</tr>
<tr>
<td>20 to 30</td>
<td>200 to 400</td>
<td>80</td>
</tr>
<tr>
<td>35 to 45</td>
<td>401 to 700</td>
<td>120</td>
</tr>
<tr>
<td>50 to 60</td>
<td>701 to 1,250</td>
<td>160</td>
</tr>
<tr>
<td>More than 60</td>
<td>More than 1,250</td>
<td>200</td>
</tr>
</tbody>
</table>

Sections 2C.06-14
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

Sections 2E.31,33,36
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.

Placement of retroreflective tape

Compliance date of December 31, 2019

Section 8B.04
YIELD or STOP Signs Required at Passive Highway-Rail Grade Grade Crossings

Compliance date of December 31, 2019

Section 8B.04
Street Name Signs

Robin Hill Dr

Coral Ridge Ave
Street Name Signs

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

Section 2D.43
Street Name Signs

<table>
<thead>
<tr>
<th>Type of Mounting</th>
<th>Type of Street or Highway</th>
<th>Speed Limit</th>
<th>Recommended Minimum Letter Height</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Initial Upper-Case</td>
</tr>
<tr>
<td>Overhead</td>
<td>All types</td>
<td>All speed limits</td>
<td>12 inches</td>
</tr>
<tr>
<td>Post-mounted</td>
<td>Multi-lane</td>
<td>More than 40 mph</td>
<td>8 inches</td>
</tr>
<tr>
<td>Post-mounted</td>
<td>Multi-lane</td>
<td>40 mph or less</td>
<td>6 inches</td>
</tr>
<tr>
<td>Post-mounted</td>
<td>2-lane</td>
<td>All speed limits</td>
<td>6 inches*</td>
</tr>
</tbody>
</table>

* 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](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