An Overview of the 2009 MUTCD

CLRP Highway School
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Goals for this Session

- Review the changes in traffic sign manuals in the last few years
  - Look at some of the important changes in the 2009 MUTCD and upcoming new NY Supplement
The MUTCD in New York State

National MUTCD

NYS Supplement

2001

Sept. 2007
March 2008

Jan. 2010
Dec. 2010?

NYS Supplement
2009 National MUTCD

- Paragraphs are now numbered
  - Many sections were reordered, some signs have new designations
    - US Customary units ONLY
      - 70 new definitions (35 revised), all located in 1A.13
        - Many new sizes for all types of signs, size Tables now in every Chapter
        - 1” of letter height per 30’ of legibility
Compliance Dates

- New installations, replacements, rebuilds – must comply immediately - except for signs you have on-hand
- New Table I-2 with specific compliance dates to retrofit or replace existing devices to meet 11 of the

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<table>
<thead>
<tr>
<th>2009 MUTCD Section Number(s)</th>
<th>2009 MUTCD Section Title</th>
<th>Specific Provision</th>
<th>Compliance Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>2C.50</td>
<td>Non-Vehicular Warning Signs</td>
<td>Elimination of crosswalk lines from crossing signs and use of diagonal downward pointing arrow (W16-7P) supplemental plaque if at the crossing (2003 MUTCD Section 2C.41)</td>
<td>January 17, 2011 (a)(b)</td>
</tr>
<tr>
<td>2C.61</td>
<td>PHOTO ENFORCED Plaque (W16-10P)</td>
<td>New plaque (2003 MUTCD Section 2C.53) (*)</td>
<td>December 22, 2013 (b)</td>
</tr>
<tr>
<td>2C.63</td>
<td>Object Marker Design and Placement Height</td>
<td>Width of stripes on Type 3 striped marker (2003 MUTCD Section 3C.01)</td>
<td>December 22, 2013 (b)</td>
</tr>
<tr>
<td>2D.43</td>
<td>Street Name Signs (D3-1 or D3-1a)</td>
<td>6-inch letter height for lettering on post-mounted Street Name signs (except on multi-lane streets with speed limits greater than 40 mph) (2003 MUTCD Section 2D.38)</td>
<td>January 9, 2012 (a)</td>
</tr>
<tr>
<td>2D.43</td>
<td>Street Name Signs (D3-1 or D3-1a)</td>
<td>8-inch letter height on post-mounted signs on multi-lane streets with speed limits greater than 40 mph and 12-inch letter height on overhead signs (2003 MUTCD Section 2D.38)</td>
<td>December 22, 2018 (b)</td>
</tr>
<tr>
<td>2D.44</td>
<td>Advance Street Name Signs (D3-2)</td>
<td>Requirements of new Section 2D.39 in the 2003 MUTCD</td>
<td>December 22, 2018 (b)</td>
</tr>
<tr>
<td>2D.45</td>
<td>Signing on Conventional Roads on Approaches to Interchanges</td>
<td>New requirement in the 2009 MUTCD for multi-lane approaches to interchanges to have guide signs to identify which direction of turn is to be made for access to each direction of the freeway or expressway</td>
<td>December 31, 2019</td>
</tr>
</tbody>
</table>
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Existing Sign Stockpiles

NYS Vehicle & Traffic Law Section 1680(c) allows use of signs in stock or on order until any specific compliance date in MUTCD. New signs should meet MUTCD.
MUTCD applies on private property that is “open to public travel”
Standard, Guidance, Option, Support

- Standard → Shall
  - Guidance → Should
  - Options → May
- Support

Standard statements shall not be modified or compromised based on engineering judgment or engineering study
Lots of New Signs

- Push button to cross street
- End higher fines zone
- No shoulder
- Road may flood
- Info
- Exit 25 mph
- Trail x-ing
- P for parking
- No rollerblading
- Warning for bears
- Bike route
New Plaques

- Most plaques have a P designation
- Plaques cannot be used alone

- CITYWIDE
- NEIGHBORHOOD
- RESIDENTIAL

NEW

FINES HIGHER

TRAFFIC FROM LEFT DOES NOT STOP

LEFT LANE
CENTER LANE
RIGHT LANE

STOP

TRAFFIC FROM LEFT DOES NOT STOP
Low-volume Roads

- Neighborhood residential streets cannot be classified as low-volume roads for which Part 5 would apply.
All Signs Must Be Crashworthy

- NCHRP 350
- FHWA & NYSDOT maintain lists of approved devices

Drilled holes filled with caulk
Max 4” above ground
Crashworthy Sign Installation

Demonstration 1:00
After Pothole Picnic
Bad
Good
What You Will See

- Crashworthy Hardware
- 2 Square tubes
- 2 Delineators
- 4 U-channels
Thanks To

Chemung Supply

EBERL IRON WORKS INC.

ITHACA
Advance Posting Distance for Warning Signs

Use Table NY2C-4 from the Supplement, not Table 2C-4 in the MUTCD

- Generally shorter distances than old NYS MUTCD
  - NYS Supplement > National MUTCD
    - NY Supplement distances include reaction and breaking distance
**Condition B**

85th percentile speed: 40 mph

Reverse Curve Sign w/ 30 mph advisory

<table>
<thead>
<tr>
<th>Posted or 85th Percentile Speed (mph)</th>
<th>Condition A: Speed reduction and lane changing in heavy traffic</th>
<th>Advance Placement Distance (ft)$^1$</th>
<th>Condition B: Deceleration to the listed advisory speed (mph) for the condition$^4$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0$^3$</td>
<td>5</td>
</tr>
<tr>
<td>20</td>
<td></td>
<td>410</td>
<td>115</td>
</tr>
<tr>
<td>25</td>
<td></td>
<td>515</td>
<td>155</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>620</td>
<td>200</td>
</tr>
<tr>
<td>35</td>
<td></td>
<td>720</td>
<td>250</td>
</tr>
<tr>
<td>40</td>
<td></td>
<td>825</td>
<td>305</td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>930</td>
<td>360</td>
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<tr>
<td>50</td>
<td></td>
<td>1030</td>
<td>425</td>
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<tr>
<td>55</td>
<td></td>
<td>1135</td>
<td>495</td>
</tr>
<tr>
<td>60</td>
<td></td>
<td>1280</td>
<td>570</td>
</tr>
<tr>
<td>65</td>
<td></td>
<td>1365</td>
<td>645</td>
</tr>
<tr>
<td>70</td>
<td></td>
<td>1445</td>
<td>730</td>
</tr>
<tr>
<td>75</td>
<td></td>
<td>1545</td>
<td>820</td>
</tr>
</tbody>
</table>

225 ft
Curve Sign Placement

- Collectors & Arterials ≥ 1000 AADT
  - Signs required if ≥ 10 mph differential
    - Chevrons or arrows required if ≥ 15 mph differential
  - Ball bank numbers in MUTCD
Speed Limit Ahead

- New sign (W3-5) since 2007
  - Reductions of 15 or more mph, W3-5 sign is recommended
  - Includes in advance of School Speed Limits
Object Markers in Part 2

Moved from Part 3 – Pavement Markings
Combined Curve and Intersection Sign (W1-10 series)
Before
After
Fluorescent Yellow-Green Signs

Recommended for pedestrian, bike, and playground signs

Required for school signs
Lettering for place names and destinations

- Mixed-case lettering required for names of places, streets, and highways for guide signs (including Street Name signs)
- Mixed-case lettering consists of an initial upper-case letter followed by lower-case letters
- Letter height is specified as the height of the initial upper-case letter
Street Sign Lettering

- 6” initial (with 4.5” lower-case) required on 2-lane conventional highways
- 4” (initial with 3” lower-case) Allowed on 30 mph roads
Street Sign Size

- 6” text requires a 12” blade
- 4” text requires an 8” blade
- 6” text on a 9” extruded blade is not an acceptable combination
Street Sign Colors

E Winchester St
E Winchester St
E Winchester St
E Winchester St
Community Wayfinding Signs

Enhancement markers

Color coding
Memorial or Dedication Signing

- One sign per direction
- No extraneous information or decorative elements

John D Basilone
MEMORIAL BRIDGE

DEDICATED TO
Gov Alfred E Driscoll

This Highway Dedicated to
Senator Charles "Mac" Mathias

Lieutenant William C Smith
Memorial Highway
Section 3B.01
A single yellow center line marking on a two-way roadway is specifically prohibited
Section 3B.20 – Use and placement of lane-use arrows

- Revised guidance on conditions where lane-use arrows should be used
- Placement of lane-use arrows:
  - Min. 2 arrows should be used in a lane
  - May delete downstream arrow if short turn lane
Lane Drops

- Must be dotted
  - Compliance date December 31, 2016
    or resurfacing
Sections 3B.25 and 3B.26

If speed hump markings or advance speed hump markings are used, they shall be the markings shown in the MUTCD

★ See Figures 3B-29 and 3B-30 for pavement markings on speed humps
New Shared Lane Pavement Marking
Traffic Control Signal Faces

- Section 4D.07
  - 12” indications required for new installs
  - 8” allowed in limited cases
Section 4D.26 – Yellow change intervals and red clearance intervals

- Durations shall be determined using engineering practices
  - Compliance date December 31, 2014 or when timing adjustments are made (whichever occurs first)

- Use of red clearance – changed from option to guidance, when indicated by application of engineering practices
Section 4E.07
Countdown pedestrian displays

- **Required** for all ped signals except where ped change interval is $\leq$ 7 sec.
- No specific compliance date for retrofitting existing ped signals (can remain w/o countdown until ped heads replaced)
- May be used when ped change interval is 7 sec. or less
Section 4E.06 – Recommends slower walking speed for calculating pedestrian clearance time (Guidance).

4.0 feet per second

Ped. Clearance Time based on 3.5 feet / sec

[Exception allows 4.0 ft /sec if extended button press or passive ped detection allows peds to request additional crossing time]

Sum of Walk time + Ped. Clearance Time based on 3.0 feet per second for distance from ped detector to far side
Section 4E.08 – Positioning of pedestrian pushbuttons and legends on pushbutton signs shall clearly indicate which crosswalk signal is activated by which pushbutton.
Figure 4F-3. Sequence for a Pedestrian Hybrid Beacon

1. Dark Until Activated
2. Flashing Yellow Upon Activation
3. Steady Yellow
4. Steady Red During Pedestrian Walk Interval
5. Alternating Flashing Red During Pedestrian Clearance Interval
6. Dark Again Until Activated

Legend:
- SY: Steady yellow
- FY: Flashing yellow
- SR: Steady red
- FR: Flashing red
Minimum length for one-lane, two-way traffic taper added to Table 6C-3

<table>
<thead>
<tr>
<th>Type of Taper</th>
<th>Taper Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Merging Taper</td>
<td>at least L</td>
</tr>
<tr>
<td>Shifting Taper</td>
<td>at least 0.5 L</td>
</tr>
<tr>
<td>Shoulder Taper</td>
<td>at least 0.33 L</td>
</tr>
<tr>
<td>One-Lane, Two-Way Traffic Taper</td>
<td>50 feet minimum, 100 feet maximum</td>
</tr>
<tr>
<td>Downstream Taper</td>
<td>100 feet per lane</td>
</tr>
</tbody>
</table>
Automated Flagger Assistance Device (AFAD)

STOP/SLOW paddle AFAD
Flaggers shall use a paddle, flag, or AFAD, not just hand signals.
New Rule for High-visibility Safety Apparel

- All workers in ROW
- All roads
- Includes public safety personnel
- Dec 2011
## Advance Posting Distances for Signs in Work Zones

<table>
<thead>
<tr>
<th>Road Type</th>
<th>Distance Between Signs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interstate</td>
<td>See NYSDOT Standards</td>
</tr>
<tr>
<td>Rural</td>
<td>500 feet</td>
</tr>
<tr>
<td>Urban, &gt; 45 mph</td>
<td>350 feet</td>
</tr>
<tr>
<td>Urban, 35-40 mph</td>
<td>200 feet</td>
</tr>
<tr>
<td>Urban, ≤ 30 mph</td>
<td>100 feet</td>
</tr>
</tbody>
</table>
Railroad & Light Rail Crossings

- YIELD or STOP signs **required** at passive crossings
- Dec. 31, 2019 compliance date
- Stop lines **required** at active crossings
- Audible devices required at LRT / Ped crossings

Compliance for pathway crossings
Thank You
The End

Crashworthy Sign Installation Demo – 1 pm

MUTCD Update Q & A Session: Textor 103 – 2:30 pm
www.nysdot.gov
Search on < mutcd >

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