Significant Changes in the 2009 MUTCD

Presented at the Texas ITE Summer Meeting
June 19, 2010

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Session Outline

This session highlights major changes
High altitude perspective
Focus on local agency perspective

Topics:
General Overview, Signs, Pavement Markings, and Rail/LRT - Gene Hawkins
Traffic Signals - Ronnie Bell
Work Zones and Texas MUTCD Plans - Mike Chacon

Questions at end of presentations
Additional Information

Portions of this presentation were taken from the FHWA ‘s Office of Transportation Operations MUTCD Team

Presentations available on MUTCD web site

Go to training page for presentations on changes in chapters/parts

Presentations include speaker notes
Development of the 2009 MUTCD

NPA published in the Federal Register on January 2, 2008

Received 1,840 individual letters with over 15,000 comments

611 significant items in the Federal Register final rule

Federal Register is recommended reading

Final Rule published on December 16, 2009

Effective date: January 15, 2010
Change in MUTCD Philosophy

More specific than previous MUTCDs

Increase in use of shall, should, and may

Compared to 2003 MUTCD: 44% more use of shall,
16% increase in should, 21% increase in may

More devices addressed

More specific guidance on using devices

Less flexibility to use alternatives

Requirements and recommendations to use devices that were previously optional
Change in Definition of Standard

FWHA added a sentence to the definition
“Standard statements shall not be modified or compromised based on engineering judgment or engineering study”

Not in the NPA - added for the final rule
15 states objected in comments to the docket after the final rule

FHWA response: change is consistent with their long-term interpretation of the manual and did not require public comment

Much concern over this change

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Section 1A.13 Definitions of Headings, Words, and Phrases in this Manual

Standard:

A. Standard—a statement of required, mandatory, or specifically prohibitive practice regarding a traffic control device. All Standard statements are labeled, and the text appears in bold type. The verb “shall” is typically used. The verbs “should” and “may” are not used in Standard statements. Standard statements are sometimes modified by Options. **Standard statements shall not be modified or compromised based on engineering judgment or engineering study.**

B. Guidance—a statement of recommended, but not mandatory, practice in typical situations, with deviations allowed if engineering judgment or engineering study indicates the deviation to be appropriate. All Guidance statements are labeled, and the text appears in unbold type. The verb
General Changes

Compliance dates restructured
Compliance as part of systematic upgrade
11 changes with specific compliance dates

English units only

Paragraphs numbered
Guidance in italics

Section 2A.19  Lateral Offset

Standard:
01 For overhead sign supports, the minimum lateral offset from the edge of the shoulder (or if no shoulder exists, from the edge of the pavement to the near edge of overhead sign supports (cantilever or sign bridges) shall be 6 feet. Overhead sign supports shall have a barrier or crash cushion to shield them if they are within the clear zone.

02 Post-mounted sign and object marker supports shall be crashworthy (breakaway, yielding, or shielded with a longitudinal barrier or crash cushion) if within the clear zone.

Guidance:

03 For post-mounted signs, the minimum lateral offset should be 15 feet from the edge of the traveled way. If a shoulder wider than 6 feet exists, the minimum lateral offset for post-mounted signs should be 6 feet from the edge of the shoulder.

Support:
04 The minimum lateral offset requirements for object markers are provided in Chapter 2C.
05 The minimum lateral offset is intended to keep trucks and cars that use the shoulders from striking the signs or supports.

Guidance:

06 All supports should be located as far as practical from the edge of the shoulder. Advantage should be taken to place signs behind existing roadside barriers, over-crossing structures, or other locations that minimize the exposure of the traffic to sign supports.

Option:
07 Where permitted, signs may be placed on existing supports used for other purposes, such as highway traffic signal supports, highway lighting supports, and utility poles.
MUTCD and Private Property

MUTCD applies to private roads open to public travel

What are they?

Privately owned, but the public is allowed to travel without access restrictions

Examples: toll roads, roads within shopping centers, airports, sports arenas, theme parks, and similar business or recreation facilities

Parking areas and their driving aisles are **not** subject to MUTCD requirements
Part 2 (Signs) Changes

Relocated material

Gates and barricades to Chapter 2B
Object markers from Part 3 to Chapter 2C

New chapters

2F - Toll Road Signs
2G - Preferential and Managed Lanes
2H - General Information Signs
2I - General Service Signs
2L - Changeable Message Signs
General Signing Changes

- **New symbols**
- **Legibility index = 30 ft/in**
- **LEDs OK for border or legend**
- **Sign color:**
  - Fluorescent OK including fluorescent red
  - Purple for panels and placards for electronic toll collection
  - Require FYG for school area signs (yellow not allowed)
  - FYG OK for ped and bicycle application signs
Speed Changes

Speed Limits

Speed zones required to be based on an engineering study performed in accordance with traffic engineering practices.

Reduced Speed Ahead sign

Recommended if speed reduction is $> 10 \text{ mph}$
One-Way Signs

Wide median (30+ ft)

- Near right and far left required
- Far right optional

Narrow median (≤ 30 ft)

- Either One-Way signs near right and far left or Keep Right signs in median noses
Turn/Curve Warning Signs

Requirements and recommendations for use of Turn/Curve type signs

Required on freeways, expressways, and roadways with ADT > 1,000 that are functionally classified as arterials or collectors used in accordance with Table 2C-5 based on the speed differential

Speed differential is “between the roadway’s posted or statutory speed limit or 85th-percentile speed, whichever is higher, or the prevailing speed on the approach to the curve, and the horizontal curve’s advisory speed”

Turn sign required if advisory speed ≤ 30 mph

Roadway speed is on the approach tangent
Prevailing speed not defined in MUTCD
**Turn/Curve Warning Signs**

Recent FHWA interpretation allows agencies to use engineering judgment to select the tangent speed used to establish the speed differential. Tangent speed selected must be documented in the advisory speed engineering study.

### 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></td>
<td>5 mph</td>
</tr>
<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>Recommended</td>
</tr>
<tr>
<td>Advisory Speed Plaque (W13-1P)</td>
<td>Recommended</td>
</tr>
<tr>
<td>Covenants (W1-6) and/or One Direction Large Arrow (W1-8)</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>
Advisory Speed Plaque

Engineering study required to establish an advisory speed
Study required to follow established engineering practices
Support statement lists examples of appropriate practices
Street Name Signs

Mixed-case lettering required for SNS
Cannot use all capital letters

Only alternatives to the green background color are blue, brown, or white (if white, use black legend)

Alternative color recommended throughout jurisdiction
Wayfinding Signs

New provisions for the design and use of community wayfinding guide signs
Optional Lane Exit Ramps

New overhead arrow-per-lane signs for “option-lane” exits and splits feature an up arrow over each lane.
Left Exit Signing

LEFT plaques are required for numbered and non-numbered exits to the left.
Purple in ETC Signs

Purple background and underlay panels with Electronic Toll Collection (ETC) account pictographs

Only for portion of sign displaying ETC registration requirement

NOT for destinations or other uses
Part 3 (Markings) Changes

Dotted line required for non-continuing lane
Includes conventional roads
Red RRPMs OK on undivided road
RRPMs OK on island nose
Speed hump marking pattern required if used
Don’t block intersection markings
Roundabout markings chapter
Toll Plaza Markings

Optional purple markings for ETC account-only lanes

Note: To be reverse pattern of that shown in the photo - white lane line with purple borders
Part 7 (Schools) Changes

FYG background color required for school warning signs (no yellow signs)

New school bus symbol

Signing requirements for school speed limit zones

Crossing guards

Student safety patrols not allowed

Required provisions for adult crossing guards
School Speed Limits

Reduced School Speed Limit Ahead recommended if speed reduction greater than 10 mph
Higher fines sign required if fines are higher in school zones
End School Zone required to indicate end of reduced school speed zone
May be used with Speed Limit sign
Cannot use Speed Limit sign alone to end reduced school speed limit zone
Part 8 (RR & LRT) Changes

Parts 8 and 10 combined into a single
Part 8 for highway-rail and highway-LRT
grade crossings

Yield or Stop signs required at passive
highway-rail grade crossings

12/31/19 compliance date

Quiet zone provisions

Stop lines required for
paved roads with active
devices

Gate stripes are vertical
Part 9 (Bikes) Revisions

Signs no longer required in addition to markings for bike lanes

New and revised guide signs

New sign and pavement marking for shared lanes
Rest of Session

Traffic signals - Ronnie Bell
Work zones and the Texas MUTCD - Mike Chacon