ATTACHMENT NO. 2

Approved by the NCUTCD Council January 12, 2008

TECHNICAL COMMITTEE: Regulatory & Warning Signs
TOPIC: Part 2A – FHWA NPA 1/02/08
STATUS/DATE OF ACTION
TECH COMM DRAFTS: 02/01/08, 03/01/2008
TECH COMM APPROVAL:
Transmitted to Sponsors:
COUNCIL APPROVAL:
ORIGIN OF REQUEST: RWSTC Task Force
MUTCD SECTIONS: Part 2A, Figures 2A-1, 2A-2, 2A-3 and Table 2A-4

SUMMARY: The FHWA published a Notice of Rulemaking in the Federal Register on January 2, 2008, covering the MUTCD Revisions for the 2009 Manual. The RWSTC has reviewed this proposed Part of the NPA providing the following comments on behalf of the National Committee on Uniform Traffic Control Devices.

CHAPTER 2A. GENERAL

Section 2A.01 Function and Purpose of Signs Approved by Council 1/12/08

Section 2A.02 Definitions No Change

Section 2A.03 Standardization of Application Approved by Council 1/12/08

Section 2A.04 Excessive Use of Signs Approved by Council 1/12/08 with Revisions

Guidance:

Regulatory and warning signs should be used conservatively because these signs, if used to excess, tend to lose their effectiveness. ~~If used,~~ Route signs and directional guide signs should be used frequently because ~~they~~ their use promotes ~~reasonably safe and~~ efficient operations ~~and can result in lower crash rates~~ by keeping road users informed of their location.

Reason: The "If used" is superfluous wording, "guide" was added for clarification and the "crash rate" is unnecssary wording as indicated for Section 1A.01.

Section 2A.05 Classification of Signs Approved by Council 1/12/08

Section 2A.06 Design of Signs Approved by Council 1/12/08

~~Section 2A.07 Changeable Message Signs~~ **the text from this Section has been relocated to new Chapter 2M**

Section ~~2A.08~~ 2A.07 Retroreflectivity and Illumination Approved by Council 1/12/08

Section ~~2A.09~~ 2A.08 Minimum Retroreflectivity Levels

Support:

(This section is reserved for future text based on FHWA rulemaking.)

Section ~~2A.10~~ 2A.09 Shapes No Change

Section ~~2A.11~~ 2A.10 Sign Colors Approved by Council 1/12/08 with Revisions

Standard:

The colors to be used on standard signs and their specific use on these signs shall be as indicated in the applicable Sections of this Manual. The color coordinates and values shall be as described in 23 CFR, Part 655, Subpart F, Appendix.

Support:

As a quick reference, common uses of sign colors are shown in Table 2A-4. Color schemes on specific signs are shown in the illustrations located in each appropriate Section.

Whenever white is specified herein as a color, it is understood to include silver-colored retroreflective coatings or elements that reflect white light.

The colors coral~~, purple,~~ and light blue are being reserved for uses that will be determined in the future by the Federal Highway Administration.

Information regarding color coding of destinations on guide signs, including community wayfinding signs, is contained in ~~Section 2D.03~~ Chapter 2D.

Option:

~~Where the color yellow is required, the fluorescent yellow color may also be used. Where the color orange is required, the fluorescent orange color may also be used. Where the color red is required, the fluorescent red color may also be used.~~

Approved corresponding fluorescent colors may be used as an alternative to required colors.

Reason: Editorial, rewording for simplification .

Section ~~2A.12~~ 2A.11 Dimensions Approved by Council with Revisions

Support:

~~Sign and object marker sizes for use on the different classes of highways are shown in Sections 2B.03, 2C.04, 2D.04, 2E.14, 2F.01, 2I.01, 2K.01, 2L.01, 5A.03, 6F.02, 7B.01, 8B.02, and 9B.02, and in the "Standard Highway Signs and Markings" book (see Section 1A.11).~~

Reason: It is not necessary to cross reference these sizes in a separate Support Statement that imposes no requirements and does not contain the size details that are contained in the specific Sections and the Standard Highways Signs and Marking publication.

The "Standard Highway Signs and Markings" book (see Section 1A.11) prescribes design details for up to five different sizes depending on the type of traffic facility, including bikeways. Smaller sizes are designed to be used on bikeways and some other off-road applications. Larger

sizes are designed for use on freeways and expressways, and can also be used to enhance road user safety and convenience on other facilities, especially on multi-lane divided highways and on undivided highways having five or more lanes of traffic and/or high speeds. The intermediate sizes are designed to be used on other highway types.

Standard:

The sign dimensions prescribed in this Manual (see the Table of Sign Sizes in each applicable Chapter) and in the "Standard Highway Signs and Markings" book (see Section

Added editorially to replace Support Paragraph above.

1A.11) shall be used unless engineering judgment determines that other sizes are appropriate. Except as noted in the Option below, where engineering judgment determines that sizes smaller than the prescribed dimensions are appropriate for use, the sign dimensions shall not be less than the minimum dimensions specified in this Manual. The sizes shown in the Minimum columns that are smaller than the sizes shown in the Conventional Road columns in the various sign size tables in this Manual shall only be used on low-speed roadways, alleys, public facilities, and private property open to public travel where the reduced legend size would be adequate for the regulation or warning ~~and/~~or where physical conditions preclude the use of larger sizes.

Reason: The "and" is not needed as these are separate items.

Option:

For alleys with restrictive physical conditions and vehicle usage that limits installation of the Minimum size sign (or the Conventional Road size sign if no Minimum size is shown), both the sign height and the sign width may be decreased by up to 150 mm (6 in).

Guidance:

The sizes shown in the Freeway and Expressway columns in the various sign size tables in this Manual should be used on freeways and expressways and for other higher-speed applications to provide larger signs for increased visibility and recognition.

The sizes shown in the Oversized columns in the various sign size tables in this Manual size should be used for those special applications where speed, volume, or other factors result in conditions where increased emphasis, improved recognition, or increased legibility is needed, as determined by engineering judgment or study.

Increases above the prescribed sizes should be used where greater legibility or emphasis is needed. ~~Wherever practical~~ If signs larger than the prescribed sizes are used, the overall sign dimensions should be increased in 150 mm (6 in) increments.

Standard:

Where engineering judgment determines that sizes ~~larger~~ that are different than the prescribed dimensions are appropriate for use, standard shapes and colors shall be used and standard proportions shall be retained as much as practical.

Guidance:

When supplemental plaques are installed with larger sized signs, a corresponding increase in the size of the plaque and its legend should also be made. The resulting plaque size should be approximately in the same relative proportion to the larger sized sign as the conventional sized plaque is to the conventional sized sign.

Section ~~2A.13~~ 2A.12 Symbols Approved by Council 1/12/08 with Revisions

Support:

Sometimes a change from word messages to symbols requires significant time for public education and transition. Therefore, this Manual includes the practice of using educational plaques to accompany some new symbol signs.

Standard:

Symbol designs shall in all cases be unmistakably similar to those shown in this Manual and in the "Standard Highway Signs and Markings" book (see Section 1A.11). New symbol designs shall be adopted by the Federal Highway Administration based on research evaluations to determine road user comprehension, sign conspicuity, and sign legibility.

Guidance:

New warning or regulatory symbol signs not readily recognizable by the public should be accompanied by an educational plaque.

Option:

State and/or local highway agencies may conduct research studies to determine road user comprehension, sign conspicuity, and sign legibility.

Educational plaques may be left in place as long as they are in serviceable condition.

Although most standard symbols are oriented facing left, mirror images of these symbols may be used where the reverse orientation might better convey to road users a direction of movement.

Standard:

A symbol used for a given category of signs (regulatory, warning, or guide) shall not be used for a different category of signs, except as specifically authorized in this Manual.

A recreational and cultural interest area prohibitory sign symbol (see Chapter 2J) shall not be used on streets or highways outside of recreational and cultural interest areas, except as noted in the Option below.

~~Except as otherwise noted in the Option below, a~~ A recreational and cultural interest area ~~guide sign~~ symbol (see Chapter 2J) shall not be used on any regulatory or warning sign.

Option:

A recreational and cultural interest area ~~guide sign~~ symbol may be used on a highway guide sign outside of a recreational and cultural interest area to supplement a comparable word message only if there is no approved symbol for that message in Chapters 2B through 2F or 2I.

Reason: Editorial changes.

Section ~~2A.14~~ 2A.13 Word Messages Approved by Council 1/12/08 with Revisions

Standard:

Except as noted in Section 2A.06, all word messages shall use standard wording and letters as shown in this Manual and in the "Standard Highway Signs and Markings" book (see Section 1A.11).

Guidance:

Word messages should be as brief as possible and the lettering should be large enough to provide the necessary legibility distance. A minimum specific ratio~~, such as~~ of 25 mm (1 in) of letter height per ~~12~~ 9 m (~~40~~ 30 ft) of legibility distance~~,~~ should be used.

~~Support:~~

~~Some research indicates that a ratio of 25 mm (1 in) of letter height per 10 m (33 ft) of legibility distance could be beneficial.~~

~~Guidance:~~

Abbreviations (see Section 1A.15) should be kept to a minimum, and should include only those that are commonly recognized and understood, such as AVE (for Avenue), BLVD (for Boulevard), N (for North), or JCT (for Junction).

Except as otherwise provided in Table 1A-1, word messages should not contain punctuation, apostrophes, question marks, ampersands, or other characters that are not letters or numerals unless ~~absolutely~~ necessary to avoid confusion.

Reason: Editorial, "absolutely" is an all exclusive and superfluous requirement.

Standard:

All sign lettering shall be in ~~capital~~ upper-case letters as provided in the "Standard Highway Signs and Markings" book (see Section 1A.11), ~~except as indicated in the Option below~~ unless specifically stated otherwise for a particular sign or type of message.

~~Option:~~

~~**Word messages on street name signs and destinations**~~ **The lettering for names of places, streets, and highways on guide signs ~~may~~ shall be composed of a combination of lower-case letters with initial upper-case letters. The initial upper-case letters shall be approximately 1.33 times the "loop" height of the lower-case letters.**

Section ~~2A.15~~ 2A.14 Sign Borders Approved by Council 1/12/08

Section 2A.15 Enhanced Conspicuity for Standard Signs Approved by Council 1/12/08 with Revisions, Additional Revisions in Yellow

Option:

Based upon engineering judgment, where the improvement of the conspicuity of a standard regulatory, warning, or guide sign is desired, any of the following methods may be used, as appropriate, to enhance the sign's conspicuity (see Figure 2A-1):

A. Increasing the size of a standard regulatory, warning, or guide sign.
B. Doubling-up of a standard regulatory, warning, or guide sign by adding a second identical sign on the left-hand side of the roadway.
C. Adding a solid yellow or fluorescent yellow rectangular "header panel" above a standard regulatory sign, with the width of the panel corresponding to the width of the standard regulatory sign. ~~A legend of "NOTICE," "STATE LAW," or other appropriate text may be added in black letters within the header panel.~~

Reason: The words NOTICE and STATE LAW are unnecessary , add nothing to the sign legend, and do not appear to increase road user compliance. With a Blank Yellow panel, jurisdictions may add their own wording but it is not necessary to suggest wording.

D. Adding a NEW plaque (see Section 2C.67) above a new standard regulatory or warning sign, for a period of time determined by engineering judgment, to call attention to the new sign.
E. Adding one or more red flags (cloth or retroreflective sheeting) above a standard regulatory or warning sign, with the flags oriented so as to be at 45 degrees to the vertical.
F. Adding a solid red or fluorescent red strip of retroreflective sheeting at least 75 mm (3 in) wide around the perimeter of a standard regulatory sign. This may be accomplished by affixing the standard regulatory sign on a red retroreflective background panel having a width and height that is 150 mm (6 in) larger than the size of the standard regulatory sign.
G. Adding a solid yellow, a solid fluorescent yellow, or a diagonally striped black and yellow (or black and fluorescent yellow) strip of retroreflective sheeting at least 75 mm (3 in) wide around the perimeter of a standard warning sign. This may be accomplished

by affixing the standard warning sign on a background panel that is 150 mm (6 in) larger than the size of the standard warning sign.

H. Adding a warning beacon (see Section 4L.03) to a standard regulatory (other than a STOP or a Speed Limit sign), warning, or guide sign.

I. Adding a speed limit sign beacon (see Section 4L.04) to a standard Speed Limit sign.

J. Adding a stop beacon (see Section 4L.05) to a STOP sign.

K. Adding light emitting diode (LED) units within the symbol or legend of a sign or border of a standard regulatory, warning, or guide sign, as described in Section 2A.07.

L. Using other methods that are specifically allowed for certain signs as described elsewhere in this Manual.

Standard:

Strobe lights shall not be used to enhance the conspicuity of highway signs.

Section 2A.16 Standardization of Location Approved by Council 1/12/08

Section 2A.17 Overhead Sign Installations Approved by Council 1/12/08

NOT SUBMITTED TO COUNCIL JANUARY 2008

Section 2A.18 Mounting Height paragraphs have been rearranged within this Section to improve clarity

~~**Support**~~ **Standard:**

The provisions of this Section shall apply unless specifically stated otherwise for a particular sign or object marker elsewhere in this Manual.

Support:

The mounting height requirements for object markers are provided in Chapter 2L.

~~In addition to the provisions of this Section, information affecting the minimum mounting height of signs as a function of crash performance can be found in AASHTO's "Roadside Design Guide" (see Section 1A.11).~~

Delete: It is redundant and not necessary because it is covered by Section 1A.11

Standard:

The minimum height, measured vertically from the bottom of the sign to the elevation of the near edge of the ~~pavement~~ traveled way, of signs installed at the side of the road in rural ~~districts~~ areas shall be ~~at least~~ 1.5 m (5 ft)~~, measured from the bottom of the sign to the near edge of the pavement~~ (see Figure 2A-2).

The minimum height, measured vertically from the bottom of the sign to the top of the curb, or in the absence of curb, measured vertically from the bottom of the sign to the elevation of the near edge of the traveled way , of signs installed at the side of the road in business, commercial, or residential areas where parking or pedestrian movements are likely to occur, or where the view of the sign might be obstructed, ~~the clearance to the bottom of the sign~~ shall be ~~at least~~ 2.1 m (7 ft) (see Figure 2A-2).

The wording has been changed from pavement to traveled way consistent with the original recommendations of the NCUTCD. Traveled way accomodates those roadways that have either a paved or gravel surface.

The minimum height, measured vertically from the bottom of the sign to the sidewalk, of signs installed above sidewalks shall be 2.1 m (7 ft).

Option:

The height to the bottom of a secondary sign mounted below another sign may be 0.3 m (1 ft) less than the height specified above.

Guidance:

If the bottom of a secondary sign that is mounted below another sign is mounted lower than 2.1 m (7 ft) above a pedestrian sidewalk or pathway (see Section 6D.02), the secondary sign should not project more than 100 mm (4 in) into the pedestrian facility.

Option:

~~Where~~ Signs that are placed 9 m (30 ft) or more from the edge of the traveled way~~, the~~ may be installed with a minimum height ~~to the bottom of such signs may be~~ of 1.5 m (5 ft), ~~above the level~~ measured vertically from the bottom of the sign to the elevation of the near edge of the ~~pavement~~ traveled way ~~edge~~.

Standard:

Directional signs on freeways and expressways shall be installed with a minimum height of 2.1 m (7 ft), measured vertically from the bottom of the sign to the elevation of the near edge of the ~~pavement~~ traveled way. All route signs, warning signs, and regulatory signs on freeways and expressways shall be ~~at least~~ installed with a minimum height of 2.1 m (7 ft), measured vertically from the bottom of the sign to ~~above~~ the ~~level~~ elevation of the near edge of the ~~pavement~~ traveled way ~~edge~~. If a secondary sign is mounted below another sign on a freeway or expressway, the major sign shall be installed ~~at least~~ with a minimum height of 2.4 m (8 ft) and the secondary sign ~~at least~~ shall be installed with a minimum height of 1.5 m (5 ft), measured vertically from the bottom of the sign to ~~above~~ the ~~level~~ elevation of the near edge of the ~~pavement~~ traveled way ~~edge~~. sentences were rearranged

Near edge of pavement revised to "traveled way" for consistency in Section and reasons cited above.

Where large signs having an area exceeding 5 square meters (50 square feet) are installed on multiple breakaway posts, the clearance from the ground to the bottom of the sign shall be at least 2.1 m (7 ft). repeated from Section 6F.03

Option:

A route sign assembly consisting of a route sign and auxiliary signs (see Section ~~2D.27~~ 2D.30) may be treated as a single sign for the purposes of this Section.

Editorial: NPA needs to show 2D.27 deletion and new Section Blue underline.

The mounting height may be adjusted when supports are located near the edge of the right-of-way on a steep backslope providing a better alternative than locating the sign closer to the roadway.

~~Support:~~ Combined for clarity and to eliminate the Support Satement.

~~Without this flexibility regarding steep backslopes, some agencies might decide to relocate the sign closer to the road, which might be less desirable.~~

Standard:

Overhead ~~mounted~~ edited to increase consistency signs shall provide a vertical clearance of not less than 5.2 m (17 ft) to the sign, light fixture, or sign bridge~~,~~ over the entire width of the pavement and shoulders except where the structure on which the overhead signs are to be mounted or other structures along the roadway near the sign structure have a lesser vertical clearance ~~is used for the design of other structures~~.

Option:

If the vertical clearance of other structures along the roadway near the sign structure is less than 4.9 m (16 ft), the vertical clearance to an overhead sign structure~~s~~ or support~~s~~ may be as low

as 0.3 m (1 ft) higher than the vertical clearance of the other structures in order to improve the visibility of the overhead signs.

In special cases it may be necessary to reduce the clearance to overhead signs because of substandard dimensions in tunnels and other major structures such as double-deck bridges.

Support:

Figure 2A-2 illustrates some examples of the mounting height requirements contained in this Section.

Section 2A.19 Lateral Offset

Standard:

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 1.8 m (6 ft). Overhead sign supports shall have a barrier or crash cushion to shield them if they are within the clear zone.

~~Ground~~ Post-**mounted** edited to increase consistency **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:

For ~~ground~~ post-mounted edited to increase consistency signs, the minimum lateral offset should be 3.7 m (12 ft) from the edge of the traveled way. If a shoulder wider than 1.8 m (6 ft) exists, the minimum lateral offset for ~~ground~~ post-mounted edited to increase consistency signs should be 1.8 m (6 ft) from the edge of the shoulder.

Support:

The minimum lateral offset requirements for object markers are provided in Chapter 2L.

The minimum lateral offset is intended to keep trucks and cars that use the shoulders from striking the signs or supports.

Guidance:

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, on over-crossing structures, or other locations that minimize the exposure of the traffic to sign supports.

Option:

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.

Standard:

If signs are placed on existing supports, they shall meet other placement criteria contained in this Manual.

Option:

Lesser lateral offsets may be used on connecting roadways or ramps at interchanges, but not less than 1.8 m (6 ft) from the edge of the traveled way.

On conventional roads in areas where ~~lateral offsets are limited~~ it is impractical to locate a sign with the lateral offset prescribed by this Section, a ~~minimum~~ lateral offset of no less than 0.6 m (2 ft) may be used. edited to increase clarity

A minimum offset of 0.3 m (1 ft) from the face of the curb may be used in ~~urban~~ business, commercial or residential areas where sidewalk width is limited or where existing poles are close to the curb.

Previous NCUTCD recommendation to clarify specific areas since urban areas are widely diverse.

~~Guidance:~~ Support:

Placement of overhead sign supports and ,post-mounted sign and object marker supports that ~~should not~~ intrude into the usable width of a sidewalk or other pedestrian facility.should be avoided.

Revised from Guidance to Support because this puts a burden on urban areas where there are many supports within the sidewalk area and reworded editorially.

Support:

Figures 2A-2 and 2A-3 illustrate some examples of the lateral offset requirements contained in this Section.

Section 2A.20 Orientation No Change

Section 2A.21 Posts and Mountings No Change

Section 2A.22 Maintenance Approved by Council 1/12/08

Section 2A.23 Median Opening Treatments for Divided Highways with Wide Medians No Change

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FIGURES AND TABLES WERE NOT SUBMITTED TO COUNCIL FOR APPROVAL – JANUARY 2008

Figure 2A-2: Revise Note bottom of page replacing "urban" with "residential, commercial or business".

This is consistent with our previous wording Section 2A.19.

Figure 2A-3: The dimension, "1.8 m (6 ft) to" in Typicals A, B, C, E, and F should be deleted to reflect previous Council approval. This variation in lateral placement is explained in the Note on the Figure

Table 2A-1 : No Change

Table 2A-2 : No Change

Table 2A-3 : Okay with NPA Revisions

Table 2A-4: Okay with the NPA Revisions except the "X" should be deleted from the Warning – Pedestrian/Bicycle rows under the Yellow column. Section 2C.52 indicates that Pedestrian and Bicycle signs shall be FYG.