



National Committee on Uniform Traffic Control Devices

12615 West Keystone Drive * Sun City West, AZ, 85375
Telephone (623)680-9592 * e-mail: ncutcd@aol.com

NOTE: This is a recommendation to FHWA concerning the MUTCD by the National Committee on Uniform Traffic Control Devices (NCUTCD). This recommendation is not a revision to the MUTCD and does not constitute official standards, guidance, or options. No proposed revision to the MUTCD is effective unless and until approved by FHWA through an Interim Approval or through the Federal rulemaking process.

| | |
|------------------------------------|--|
| TECHNICAL COMMITTEE: | Signals Technical Committee (STC) |
| TOPIC: | Prohibiting flashing beacons within the border of a sign |
| STATUS/DATE OF ACTION: | Recommended by Signals Technical Committee 06/20/2012, sent to Sponsors STC reviewed Sponsor Comments and recommends NC Council approval of item as sent to Sponsors with an editorial deletion of “(see Section 7B.15)” from paragraph 04 of Section 4L.04 as recommended in a sponsor comment. (Note: The remainder of paragraph 04 was shown as being deleted in the original STC recommendation. This editorial change results in all of paragraph 04 being deleted.) (Approved by STC Jan 2013) |
| Signals Approval: | June 2012 – Unanimous FOR |
| Transmitted to Sponsors: | July 2012 |
| Council Approval: | January 11, 2013 |
| ORIGIN OF REQUEST: | NC Honorary Member Jim Pline and the Signals Technical Committee |
| AFFECTED SECTIONS OF MUTCD: | 4L.01 & 4L.04 |

SUMMARY:

Section 4L.01 of the MUTCD prohibits flashing beacons within the border of a sign but an exception is listed permitting a beacon to be within the border of a school speed limit sign. There is also an option included in Section 4L.04 permitting beacon placement within the border of a school speed limit sign. While prior versions of the MUTCD included language in Part 7 (Traffic Control for School Areas) that permitted this, it is not addressed in Part 7 in the current MUTCD.

The school speed limit sign is the only sign permitted to have beacons within its border. The NCUTCD previously approved a recommendation that included prohibiting beacons within the border of a sign. The Signals Technical Committee recommends that the exception and option permitting beacons to be within the border of a school speed limit sign be deleted and that such beacon placement be prohibited for these signs as it is for all other signs.

Jim Pline pointed out this issue during NC Council discussion and action on beacon sizes at the January 2012 meeting. However, this issue was not included in the beacon size information sent to sponsors or presented to the NC Council. It was therefore not included in that action and is being addressed separately in this recommendation.

DISCUSSION

There was specific permission to have the beacons within the face of the sign in Section 7D-24 of the 1988 MUTCD.

From 1988 MUTCD

7D-24 Speed Limit Sign Beacon

A Speed Limit Sign Beacon is two **CIRCULAR YELLOW** lens sections each having a visible diameter of not less than six inches, or alternately, one or more **CIRCULAR YELLOW** lenses, each having a visible diameter of not less than eight inches.

The yellow lens color shall be in accordance with the requirements of the Vehicle Traffic Control Signal Head, Revised 1985.*

* Available from the Institute of Transportation Engineers, see page iv.

Where two lens sections are used with school speed limit signs, they may be vertically or horizontally aligned, and may flash either alternately or simultaneously.

IV-25 (c)
Rev. 5

Speed Limit Sign Beacons shall be flashed at a rate of not less than 50 nor more than 60 times per minute. The illuminated period of each flash shall not be less than one-half and not more than two-thirds of the total cycle.

All flashing contacts should be equipped with a filter for suppression of radio interference.

When illuminated, the Speed Limit Sign Beacon shall be clearly visible to all drivers it faces for a distance of at least a quarter of a mile, under normal atmospheric conditions, unless otherwise physically obstructed.

A Speed Limit Sign Beacon is intended for use with a fixed or variable Speed Limit sign, to indicate that the speed limit shown is in effect. The lenses of a Speed Limit Beacon when used with a School Speed Limit Sign may be positioned within the face of the sign.

The 2000 MUTCD eliminated all the wording in multiple sections in Part 7 relating to signals.

From NPA for 2000 MUTCD

The FHWA proposes deleting the discussion in Chapter 7D for school traffic signals and including a reference to the proposed text in the rewrite of Part 4.

However, the Final Rule notes that the option to include the beacons within the signs was added to Part 4 to be consistent with 7B.10. (It actually turned out to be 7B.11 in the final MUTCD).

From Final Rule for 2000 MUTCD

164. In Section 4K.03 Warning Beacon, the FHWA is adding the phrase “except for SCHOOL SPEED LIMIT sign beacons” to the second paragraph in the STANDARD statement to clarify that SCHOOL SPEED LIMIT sign beacons are allowed to be included within the border of the sign to be consistent with Section 7B.10.

Section 7B.11 of the 2000 MUTCD included a sentence specifically allowing this.

From 2000 MUTCD

Section 7B.11 School Speed Limit Assembly (S4-1, S4-2, S4-3, S4-4, S5-1)

A Speed Limit Sign Beacon also may be used, with a WHEN FLASHING legend, to identify the periods that the school speed limit is in effect. The lenses of the Speed Limit Sign Beacon may be positioned within the face of the School Speed Limit (S5-1) sign.

Section 7B.11 of the 2003 MUTCD also included a sentence specifically allowing this.

From 2003 MUTCD

Section 7B.11 School Speed Limit Assembly (S4-1, S4-2, S4-3, S4-4, S4-6, S5-1)

A Speed Limit Sign Beacon also may be used, with a WHEN FLASHING legend, to identify the periods that the school speed limit is in effect. The lenses of the Speed Limit Sign Beacon may be positioned within the face of the School Speed Limit (S5-1) sign (see Figure 7B-1).

A check of the NPA for the 2009 MUTCD did not identify any proposal to eliminate this option. However, there was a note in the Final Rule for the 2009 MUTCD that the NCUTCD and a State DOT recommended the elimination of the option. FHWA agreed that this is an obsolete practice, but declined to make the change as part of the Final Rule. They noted it might be considered for future rulemaking. They did note that the option was being removed from 7B.15 and a cross reference to 4L.04 added.

From Final Rule for 2009 MUTCD (Pg 66846, Item 530)

The NCUTCD and a State DOT recommended removal of the existing OPTION statement that allows the use of the signal indications of the Speed Limit Sign Beacon to be positioned within the face of the School Speed Limit (S5-1) sign. This statement mirrors a similar OPTION in Section 4L.04 Speed Limit Sign Beacon. This sign is the only instance where beacons are allowed within a sign face. Under certain light and weather conditions, the flashing beacon causes halation that obscures the sign message. The FHWA agrees that this is an obsolete practice but declines to remove the option at this time. The FHWA might consider this for a future rulemaking. However, the FHWA removes the OPTION from Section 7B.15 and instead provides a cross-reference to Section 4L.04 in this final rule.

Following is the prior NC Council recommendation on this item:

From NC response to the docket 7/31/08

| | |
|---------------------------------|---|
| TECHNICAL COMMITTEE: | Regulatory & Warning Signs |
| TOPIC: | Part 7 – FHWA NPA 01/02/2008 |
| STATUS/DATE OF ACTION | Task Force Approved 06/02/2008 |
| TECH COMM DRAFTS: | 01/10/2008, 04/22/2008, 06/02/2008 |
| TECH COMM APPROVAL: | 01/10/2008, 06/19/2008 |
| TRANSMITTED TO SPONSORS: | |
| COUNCIL APPROVAL: | Of Text: 01/11/2008 and 06/21/2008 Of Table & Figures: 06/21/2008 |
| ORIGIN OF REQUEST: | National Committee review of NPA |
| MUTCD SECTIONS: | Part 7, Figures 7A-1, 7B-1 thru 7B-5 and Table 7B-1 (Table and Figures in separate file) |

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 reviewed the proposed Part 7 of the NPA, exclusive of Chapter 7C Markings and Figure 7C-1 and recommended the changes noted herein. The National Committee Council approved text changes on January 11, 2008 and on June 21, 2008 it approved several additional text changes recommended by the School Area Task Force and by the Bicycles Technical Committee. On June 21, 2008, the National Committee also approved the Part 7 table and figures as approved by the RWSTC.

NPA showing FHWA's proposed revisions to the 2003 MUTCD

Deletions: ~~Red double strikethrough~~

Insertions: Blue underline

Comments: **Green highlight**

Proposed National Committee changes and comments

Approved by Council on 01/11/2008: **Red Highlighted in Turquoise**

Approved by Council on 06/21/2008: **Red Highlighted in Yellow**

Deletions: **Single Strikethrough**

Insertions: Underlined

Rationale and Comments: **Bold Black Highlighted in Yellow**

A Speed Limit Sign Beacon ([see Section 4L.04](#)) also may be used, with a WHEN FLASHING legend, to identify the periods that the school speed limit is in effect. ~~The signal lenses indications of the Speed Limit Sign Beacon may be positioned within the face of the School Speed Limit (S5-1) sign (see Figure 7B-1).~~

Reason: It is well known that under certain light and weather conditions, the flashing beacon causes halation that obscures the sign message. Therefore, it is inappropriate to permit a sign design where the sign legend would not be legible. A flashing beacon is not permitted within the border of any other sign. Other flashing beacons used with signs must have at least a 12 inch separation from the sign face. The internal Flasher-School Speed Limit sign was/has been manufactured for many years, recognized by some state codes, and used by some school districts. It apparently has been retained in the MUTCD so that those schools do not have to replace existing signs. Many of those older signs are becoming obsolete and inoperable although some still are in use. Note, Similar change needed to Sections 4L.01 and 4L.04.

The NPA for the 2009 MUTCD did not include a proposal to prohibit beacons within the border of school speed zone signs. This was likely a consideration in the FHWA decision to not include the prohibition in the 2009 MUTCD while noting that it is an obsolete practice. The reasons for prohibiting such placement stated in the NC response to the docket remain valid today.

Therefore, the STC recommends that the NC Council reaffirm its prior recommendation that the exception and option permitting beacons to be within the border of a school

speed limit sign be deleted and that such beacon placement be prohibited for these signs as it is for all other signs.

RECOMMENDED CHANGES TO THE MUTCD (Section 4L.01 and 4L.04)

Note: There are no recommended additions to the MUTCD. Recommended deletions are shown in ~~red double strikethrough~~.

Section 4L.01 General Design and Operation of Flashing Beacons

Support:

01 A Flashing Beacon is a highway traffic signal with one or more signal sections that operates in a flashing mode. It can provide traffic control when used as an intersection control beacon (see Section 4L.02) or it can provide warning when used in other applications (see Sections 4L.03, 4L.04, and 4L.05).

Standard:

02 **Flashing Beacon units and their mountings shall comply with the provisions of Chapter 4D, except as otherwise provided in this Chapter.**

03 **Beacons shall be flashed at a rate of not less than 50 or more than 60 times per minute. The illuminated period of each flash shall be a minimum of 1/2 and a maximum of 2/3 of the total cycle.**

04 **A beacon shall not be included within the border of a sign ~~except for SCHOOL SPEED LIMIT sign beacons (see Sections 4L.04 and 7B.15).~~**

Guidance:

05 *If used to supplement a warning or regulatory sign, the edge of the beacon signal housing should normally be located no closer than 12 inches outside of the nearest edge of the sign.*

Option:

06 An automatic dimming device may be used to reduce the brilliance of flashing yellow signal indications during night operation.

Section 4L.04 Speed Limit Sign Beacon

Standard:

01 **A Speed Limit Sign Beacon shall be used only to supplement a Speed Limit sign.**

02 **A Speed Limit Sign Beacon shall consist of one or more signal sections of a standard traffic control signal face, with a flashing CIRCULAR YELLOW signal indication in each signal section. The signal indications shall have a nominal diameter of not less than 8 inches. If two signal indications are used, they shall be vertically aligned, except that they shall be permitted to be horizontally aligned if the Speed Limit (R2-1) sign is longer horizontally than vertically. If two signal indications are used, they shall be alternately flashed.**

Option:

03 A Speed Limit Sign Beacon may be used with a fixed or variable Speed Limit sign. If applicable, a flashing Speed Limit Sign Beacon (with an appropriate

accompanying sign) may be used to indicate that the displayed speed limit is in effect.

~~04 A Speed Limit Sign Beacon may be included within the border of a School Speed Limit (S5-1) sign (see Section 7B.15)~~

Note: Section 7B.15 is shown for reference only. No changes are proposed to this section.

Section 7B.15 School Speed Limit Assembly (S4-1P, S4-2P, S4-3P, S4-4P, S4-6P, S5-1) and END SCHOOL SPEED LIMIT Sign (S5-3)

Standard:

- 01 A School Speed Limit assembly (see Figure 7B-1) or a School Speed Limit (S5-1) sign (see Figure 7B-1) shall be used to indicate the speed limit where a reduced school speed limit zone has been established based upon an engineering study or where a reduced school speed limit is specified for such areas by statute. The School Speed Limit assembly or School Speed Limit sign shall be placed at or as near as practical to the point where the reduced school speed limit zone begins (see Figures 7B-3 and 7B-5).
- 02 If a reduced school speed limit zone has been established, a School (S1-1) sign shall be installed in advance (see Table 2C-4 for advance placement guidelines) of the first School Speed Limit sign assembly or S5-1 sign that is encountered in each direction as traffic approaches the reduced school speed limit zone (see Figures 7B-3 and 7B-5).
- 03 Where increased fines are imposed for traffic violations within a reduced school speed limit zone, a FINES HIGHER (R2-6P), FINES DOUBLE (R2-6aP), or \$XX FINE (R2-6bP) plaque (see Figure 2B-3) shall be installed as a supplement to the reduced school speed limit sign to notify road users.
- 04 Except as provided in Paragraph 5, the downstream end of an authorized and posted reduced school speed limit zone shall be identified with an END SCHOOL SPEED LIMIT (S5-3) sign (see Figures 7B-1 and 7B-5).

Option:

- 05 If a reduced school speed limit zone ends at the same point as a higher fines zone, an END SCHOOL ZONE (S5-2) sign may be used instead of a combination of an END HIGHER FINES ZONE (R2-11) sign and an END SCHOOL SPEED LIMIT (S5-3) sign.
- 06 A standard Speed Limit sign showing the speed limit for the section of highway that is downstream from the authorized and posted reduced school speed limit zone may be mounted on the same post above the END SCHOOL SPEED LIMIT (S5-3) sign or the END SCHOOL ZONE (S5-2) sign.

Guidance:

- 07 *The beginning point of a reduced school speed limit zone should be at least 200 feet in advance of the school grounds, a school crossing, or other school related activities; however, this 200-foot distance should be increased if the reduced school speed limit is 30 mph or higher.*

Standard:

- 08 The School Speed Limit assembly shall be either a fixed-message sign assembly or a changeable message sign.

09 The fixed-message School Speed Limit assembly shall consist of a top plaque (S4-3P) with the legend SCHOOL, a Speed Limit (R2-1) sign, and a bottom plaque (S4-1P, S4-2P, S4-4P, or S4-6P) indicating the specific periods of the day and/or days of the week that the special school speed limit is in effect (see Figure 7B-1).

Option:

10 Changeable message signs (see Chapter 2L and Section 6F.60) may be used to inform drivers of the school speed limit. If the sign is internally illuminated, it may have a white legend on a black background. Changeable message signs with flashing beacons may be used for situations where greater emphasis of the special school speed limit is needed.

Guidance:

11 *Even though it might not always be practical because of special features to make changeable message signs conform in all respects to the standards in this Manual for fixed-message signs, during the periods that the school speed limit is in effect, their basic shape, message, legend layout, and colors should comply with the standards for fixed-message signs.*

12 *A confirmation light or device to indicate that the speed limit message is in operation should be considered for inclusion on the back of the changeable message sign.*

Standard:

13 **Fluorescent yellow-green pixels shall be used when the “SCHOOL” message is displayed on a changeable message sign for a school speed limit.**

Option:

14 Changeable message signs may use blank-out messages or other methods in order to display the school speed limit only during the periods it applies.

15 Changeable message signs that display the speed of approaching drivers (see Section 2B.13) may be used in a school speed limit zone.

16 A Speed Limit Sign Beacon (see Section 4L.04) also may be used, with a WHEN FLASHING legend, to identify the periods that the school speed limit is in effect.