

National Committee on Uniform Traffic Control Devices

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Item No.:19A-RR-01

NCUTCD Proposal for Changes to the Manual on Uniform Traffic Control Devices

TECHNICAL COMMITTEE: Railroad/Light Rail Transit Technical Committee
ITEM NUMBER: 19A-RR-01
TOPIC: Mounting Height of Crossbuck and Tracks Signs on Flashing-Light Signals
ORIGIN OF REQUEST: RR/LRT Technical Committee
AFFECTED SECTIONS OF MUTCD: 8C.02

DEVELOPMENT HISTORY:

- Approved by Technical Committee: 01/10/2019
- Approved by NCUTCD Council: 6/20/2019

This is a proposal for recommended changes to the MUTCD that has been approved by the NCUTCD Council. This proposal does not represent a revision of the MUTCD and does not constitute official MUTCD standards, guidance, or options. It will be submitted to FHWA for consideration for inclusion in a future MUTCD revision. The MUTCD can be revised only by the FHWA through the federal rulemaking process.

SUMMARY:

The purpose of these proposed changes is to clarify the mounting height of the Crossbuck and Tracks signs on flashing-light signals. The changes are needed to provide guidance to practitioners so the signs are visible to approaching drivers.

DISCUSSION

Existing guidance statements in section 8C.02 and in Figure 8C-1 provide many dimensions for the components of flashing-light signals. No dimensions are provided for the mounting of the Crossbuck and Track signs. Where multiple sets of flashing-light signals are used, the mounting location of the Crossbuck and Track signs may become too high to be visible to drivers or be illuminated by vehicle headlights. The proposed changes provide guidance to improve the visibility of the signs. The proposal makes changes to section 8C.02 and Figure 8C-1 that were previously approved by the NCUTCD Council as item 14B-RR-04 in June 2014.

35 **RECOMMENDED MUTCD CHANGES**

36

37 The following present the proposed changes to the current MUTCD within the context of the
38 current MUTCD language. Proposed additions to the MUTCD are shown in blue underline and
39 proposed deletions from the MUTCD are shown in ~~red strikethrough~~. Changes previously
40 approved by NCUTCD Council (but not yet adopted by FHWA) are shown in green double
41 underline for additions and ~~green double strikethrough~~ for deletions. In some cases, background
42 comments may be provided with the MUTCD text. These comments are indicated by
43 **[highlighted light blue in brackets]**.

44

45 **Section 8C.02 Flashing-Light Signals**

46 Support:

47 01 Section 8C.03 contains additional information regarding flashing-light signals at highway-
48 LRT grade crossings in semi-exclusive and mixed-use alignments.

49 **Standard:**

50 02 If used, the flashing-light signal assembly (shown in Figure 8C-1) on the side of the
51 highway shall include a standard Crossbuck (R15-1) sign, and where there is more than one
52 track, a supplemental Number of Tracks (R15-2P) plaque, all of which indicate to
53 motorists, bicyclists, and pedestrians the location of a grade crossing.

54 Guidance:

55 02a The bottom of the Number of Tracks (R15-2P) plaque (when used) should be located as low
56 as practical above the flashing-light backgrounds. The Crossbuck (R15-1) sign should be located
57 just above the Number of Tracks (R15-2P) plaque or, if no plaque is present, the bottom of the
58 Crossbuck sign should be located as low as practical above the flashing-light backgrounds.

59 Support:

60 02b Additional information regarding sizes and clearances of components used on flashing-light
61 signals can be found in Part 3 of the current edition of the American Railway Engineering and
62 Maintenance-of-Way Communication and Signal Manual of Recommended Practice.

63 Option:

64 03 At highway-rail grade crossings, bells or other audible warning devices may be included in
65 the assembly as determined by a Diagnostic Team and may be operated in conjunction with the
66 flashing lights to provide additional warning for pedestrians, bicyclists, and/or other non-
67 motorized road users.

68 **Standard:**

69 04 When indicating the approach or presence of rail traffic, the flashing-light signal shall
70 display toward approaching highway traffic two red lights mounted in a horizontal line
71 flashing alternately.

72 05 If used, flashing-light signals shall be placed to the right of approaching highway
73 traffic on all highway approaches to a grade crossing. They shall be located laterally with
74 respect to the highway in compliance with Figure 8C-1 except where such location would
75 adversely affect signal visibility.

76 06 If used at a grade crossing with highway traffic in both directions, back-to-back pairs
77 of lights shall be placed on each side of the tracks.

78 07 On multi-lane one-way streets and divided highways, flashing-light signals shall be
79 placed on the approach side of the grade crossing on both sides of the roadway or shall be
80 placed above the highway.

81 08 Each red signal unit in the flashing-light signal shall flash alternately. The number of
82 flashes per minute for each lamp shall be 35 minimum and 65 maximum. Each lamp shall
83 be illuminated approximately the same length of time. Total time of illumination of each
84 pair of lamps shall be the entire operating time. Flashing-lights shall use either 8-inch or
85 12-inch nominal diameter lenses.

86 Guidance:

87 09 In choosing between the 8-inch or 12-inch nominal diameter lenses for use in grade
88 crossing flashing-light signals, consideration should be given to the principles stated in Section
89 4D.07.

90 10 At least one pair of flashing lights should be provided for each approaching traffic lane.

91 11 Where the storage distance for vehicles approaching a grade crossing is less than a
92 design vehicle length, the Diagnostic Team should consider providing additional flashing
93 light pairs aligned toward the movement turning toward the grade crossing.

94 12 The Diagnostic Team should consider the use of additional pairs of flashing lights to provide
95 supplemental warning to pedestrians, especially on one way streets and divided highways.

96 Option:

97 13 Additional pairs of flashing-lights may be mounted on the same or additional supporting
98 masts and directed toward vehicular traffic approaching the grade crossing.

99 Standard:

100 14 Grade crossing flashing-light signals shall operate at a low voltage using storage
101 batteries either as a primary or stand-by source of electrical energy. Provision shall be
102 made to provide a source of energy for charging batteries.

103 Standard:

104 15 References to lenses in this Section shall not be used to limit flashing-light signal
105 optical units to incandescent lamps within optical assemblies that include lenses.

107 Support:

108 16 Research has resulted in flashing-light signal optical units that are not lenses, such as, but not
109 limited to, light emitting diode (LED) flashing-light signal modules.

110 Option:

111 17 If determined by a Diagnostic Team, flashing-light signals may be installed on overhead
112 structures or cantilevered supports as shown in Figure 8C-1 where needed for additional
113 emphasis, or for better visibility to approaching traffic, particularly on multi-lane approaches or
114 highways with profile restrictions.

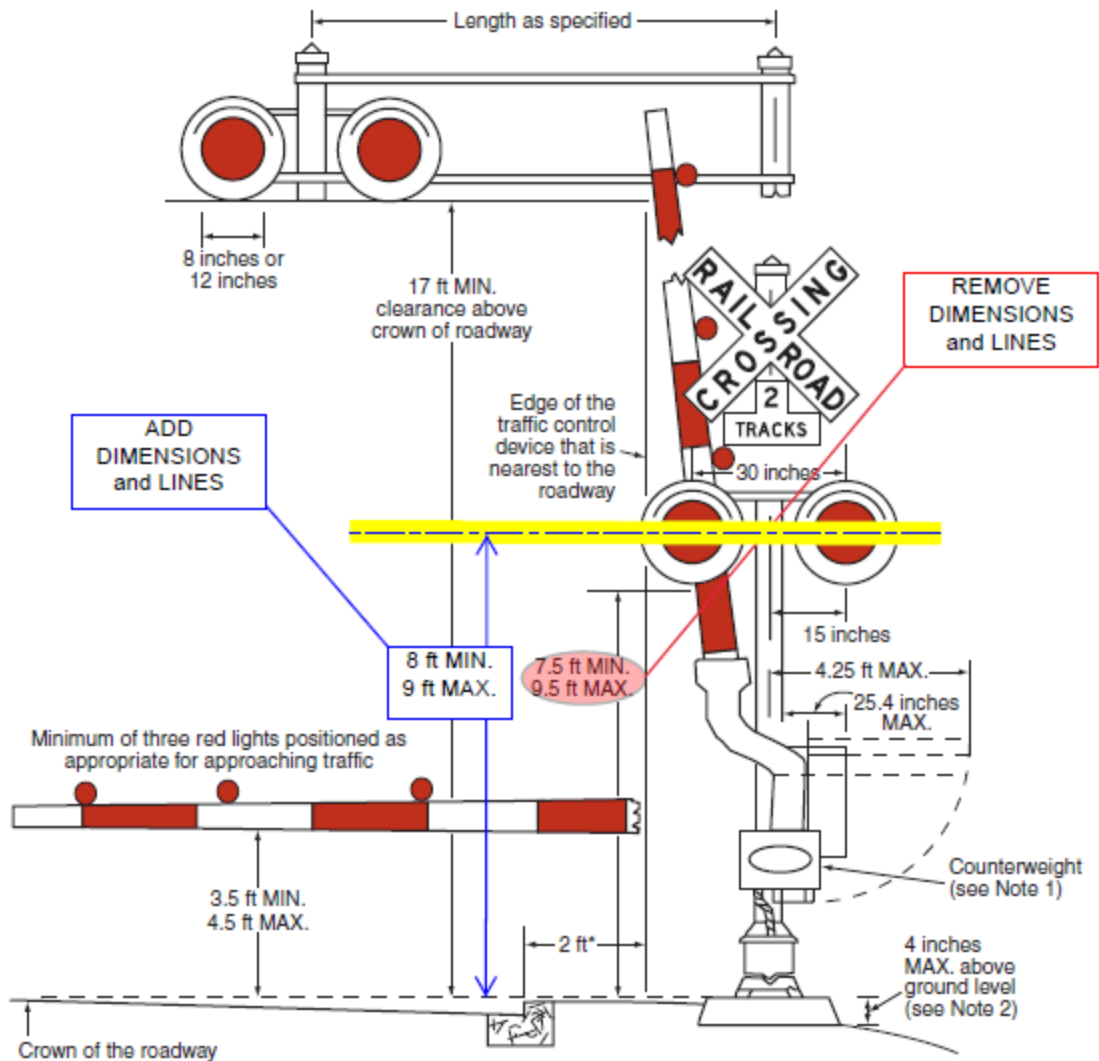
115 18 If it is determined by a Diagnostic Team that one set of flashing lights on the cantilever arm
116 is not sufficiently visible to road users, one or more additional sets of flashing lights may be
117 mounted on the supporting post and/or on the cantilever arm.

118 Standard:

119 19 Breakaway or frangible bases shall not be used for overhead structures or cantilevered
120 supports.

121 20 Except as otherwise provided in Paragraphs 13 through 15, flashing-light signals
122 mounted overhead shall comply with the applicable provisions of this Section. [approved
123 June 28, 2014, 14B-RR-04].

Figure 8C-1. Composite Drawing of Active Traffic Control Devices for Grade Crossings Showing Clearances



*For locating this reference line on an approach that does not have a curb, see Section 8C.01.

Notes:

1. Where gates are located in the median, additional median width may be required to provide the minimum clearance for the counterweight supports.
2. The top of the signal foundation should be no more than 4 inches above the surface of the ground and should be at the same elevation as the crown of the roadway. Where site conditions would not allow this to be achieved, the shoulder side slope should be re-graded or the height of the signal post should be adjusted to meet the 17-foot vertical clearance requirement.