



# National Committee on Uniform Traffic Control Devices

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**Attachment No. 7**  
**Item No.:19A-RR-01**

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

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

### DEVELOPMENT HISTORY:

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

*This is a proposal for recommended changes to the MUTCD that has been developed by a technical committee of the NCUTCD. The NCUTCD is distributing it to its sponsoring organizations for review and comment. Sponsor comments will be considered in revising the proposal prior to NCUTCD Council consideration. This proposal does not represent a revision of the MUTCD and does not constitute official MUTCD standards, guidance, or options. If approved by the NCUTCD Council, the recommended changes will be submitted to FHWA for consideration for inclusion in a future MUTCD revision. The MUTCD can be revised only 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 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 that were previously approved by the NCUTCD Council as item 14B-RR-04 in June 2014.

36 **RECOMMENDED MUTCD CHANGES**

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

45

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

47 Support:

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

50 Standard:

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

55 Guidance:

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

61 Support:

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

65 Option:

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

70 Standard:

71 <sup>04</sup> When indicating the approach or presence of rail traffic, the flashing-light signal shall  
72 display toward approaching highway traffic two red lights mounted in a horizontal line  
73 flashing alternately.

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

78 <sup>06</sup> If used at a grade crossing with highway traffic in both directions, back-to-back pairs  
79 of lights shall be placed on each side of the tracks.

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

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

Guidance:

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

<sup>10</sup> At least one pair of flashing lights should be provided for each approaching traffic lane.

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

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

Option:

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

Standard:

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

Standard:

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

Support:

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

Option:

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

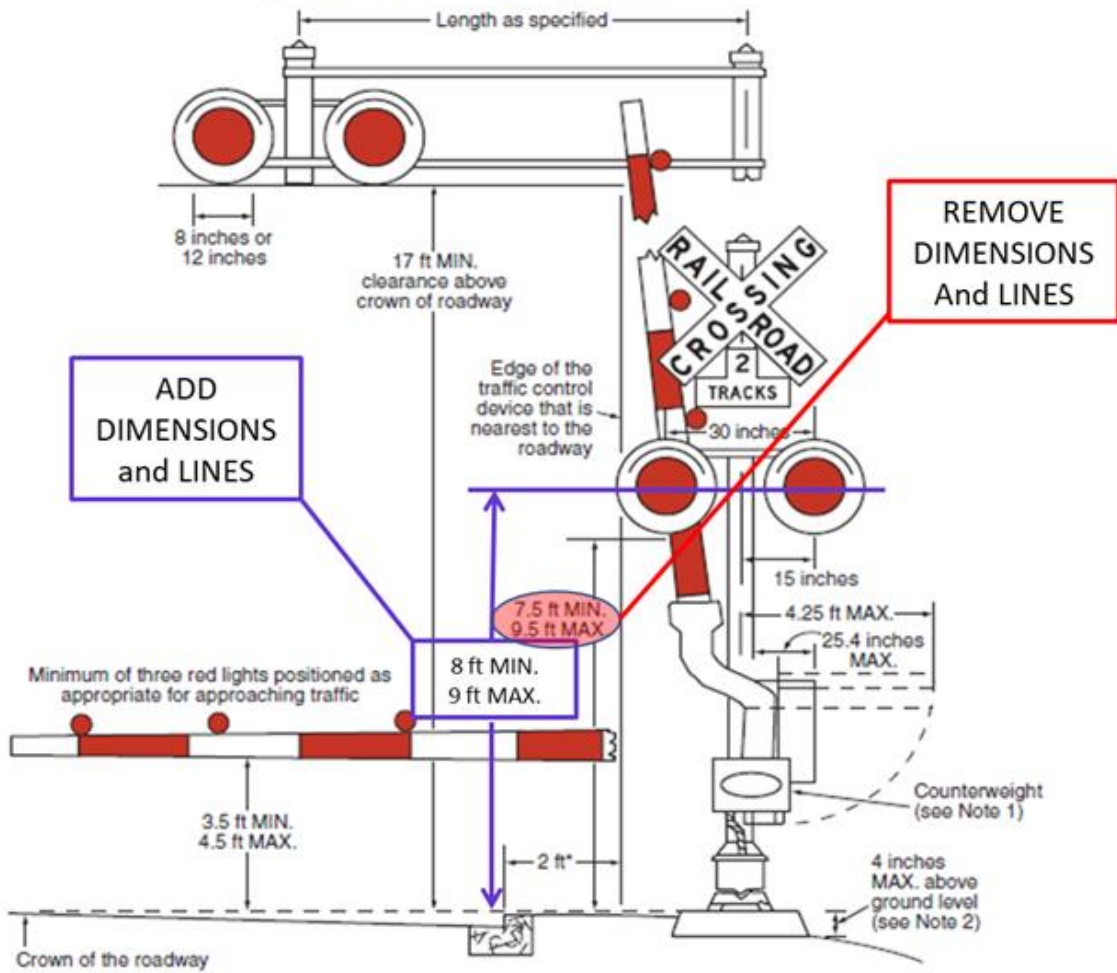
<sup>18</sup> If it is determined by a Diagnostic Team that one set of flashing lights on the cantilever arm is not sufficiently visible to road users, one or more additional sets of flashing lights may be mounted on the supporting post and/or on the cantilever arm.

Standard:

<sup>19</sup> Breakaway or frangible bases shall not be used for overhead structures or cantilevered supports.

<sup>20</sup> Except as otherwise provided in Paragraphs 13 through 15, flashing-light signals mounted overhead shall comply with the applicable provisions of this Section. [approved 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.