



# National Committee on Uniform Traffic Control Devices

13236 North 7th Street, Suite 4-259, Phoenix, Arizona 85022  
Phone/Text: 231-4-NCUTCD (231-462-8823)  
E-mail: secretary@ncutcd.org

Item No.: 20B-RR-02

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

**TECHNICAL COMMITTEE:** Railroad/Light Rail Transit Committee  
**ITEM NUMBER:** 20B-RR-02  
**TOPIC:** Advance Warning Pavement Markings at Grade Crossings  
**ORIGIN OF REQUEST:** Technical Committee  
**AFFECTED SECTIONS OF MUTCD:** 8B.27

### DEVELOPMENT HISTORY:

- Approved by Technical Committee: 06/19/2020
- Approved by NCUTCD Council: MM/DD/YYYY

*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 by the FHWA through the federal rulemaking process.*

### SUMMARY:

The proposed change would clarify the criteria for potential omission of advance warning pavement markings at grade crossings.

### DISCUSSION

In the current MUTCD language, the criteria for placement of advance warning markings at grade crossings is stated in Section 8B.27.

In 2011, the NCUTCD council approved proposed changes that would “reduce the number of locations where pavement markings will be required at highway-LRT grade crossings.” This change addressed highway-LRT grade crossings but did not change the criteria applicable to placement of highway-rail grade crossings.

- 35 The proposed edits would:
- 36 A. Include a general Option statement that advance warning pavement markings may be
  - 37 omitted based on a Diagnostic Team review, which is consistent with other provisions
  - 38 in Part 8 for determining appropriate devices at grade crossings;
  - 39 B. Remove some exceptions for crossings under 40 miles per hour (mph);
  - 40 C. Remove an exception for crossings without flashing-light signals or automatic gates;
  - 41 D. Remove an exception for urban areas;
  - 42 E. Provide a Support statement identifying specific conditions in which the Diagnostic
  - 43 team could consider omitting advance warning markings;
  - 44 F. Use the term “advance warning pavement markings” to differentiate from other
  - 45 requirements for pavement markings at grade crossings;
  - 46 G. Require advance warning pavement markings within exclusive turn lanes.

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48 **RECOMMENDED MUTCD CHANGES**

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50 The following present the proposed changes to the current MUTCD within the context of the

51 current MUTCD language. Proposed additions to the MUTCD are shown in blue underline and

52 proposed deletions from the MUTCD are shown in ~~red strikethrough~~. Changes previously

53 approved by NCUTCD Council (but not yet adopted by FHWA) are shown in green double

54 underline for additions and ~~green double strikethrough~~ for deletions. In some cases, background

55 comments may be provided with the MUTCD text. These comments are indicated by [black font

56 in brackets highlighted light blue].

57

58 **Section 8B.27 Pavement Markings**

59 **Standard:**

- 60 01 All grade crossing pavement markings shall be retroreflectorized white. All other
- 61 markings shall be in accordance with Part 3.
- 62 02 Advance warning pavement markings ~~On paved roadways, pavement markings in~~
- 63 ~~advance of a grade crossing~~ shall consist of an X, the letters RR, a no-passing zone marking
- 64 (on two-lane, two way highways with center line markings in compliance with Section
- 65 3B.01), and certain transverse lines as shown in Figures 8B-6 and 8B-7.
- 66 03 Except as provided in Paragraph 4, identical advance warning pavement markings
- 67 shall be placed in each approach lane on all paved approaches to highway-rail grade
- 68 crossings ~~where signals or automatic gates are located, and at all other highway-rail grade~~
- 69 ~~crossings where the posted or statutory highway speed is 40 mph or greater.~~
- 70 03a Except as provided in Paragraph 4, advance warning pavement markings shall be
- 71 placed in each approach lane on all paved approaches to highway-LRT grade crossings
- 72 where a Crossbuck (R15-1) sign, either in a Crossbuck Assembly or in combination with
- 73 flashing light signals with or without gates, is placed at the crossing. [approved 01/21/2011,
- 74 proposal 10B-RR-03; moved from Paragraph 06 in the approved proposal].
- 75 03b Where advance warning pavement markings are used on a multi-lane approach to a
- 76 grade crossing, identical markings shall be placed in each approach lane that crosses the
- 77 tracks.
- 78 Option:
- 79 04 Advance warning pavement markings shall not be required may be omitted at highway-rail
- 80 or highway-LRT grade crossings where the posted or statutory highway speed is less than 40

81 mph if ~~an engineering study indicates~~ the Diagnostic Team determines that other installed  
82 devices provide suitable warning and control. ~~Pavement markings shall not be required at~~  
83 ~~highway-rail grade crossings in urban areas if an engineering study indicates that other installed~~  
84 ~~devices provide suitable warning and control.~~ **[approved 01/21/2011, proposal 10B-RR-03;**  
85 **moved from Paragraph 05 in the approved proposal].**

86 04a The Diagnostic Team may consider omitting advance warning pavement markings under  
87 conditions such as:

- 88 A. Less than 100 feet is available in advance of the stop or yield line;
- 89 B. The location of other pavement markings does not allow effective placement or  
90 conspicuity;
- 91 C. The pavement condition does not allow for durable marking application;
- 92 D. The posted or statutory highway speed is lower than 40 mph;
- 93 E. Low-volume roadways;
- 94 F. Rail traffic or LRT vehicles operate at 15 mph or lower.

95 *Guidance:*

96 05 *When advance warning pavement markings are used, a portion of the X symbol should be*  
97 *directly opposite the Grade Crossing Advance Warning sign. The X symbol and letters should be*  
98 *elongated to allow for the low angle at which they will be viewed.*

99 05a *For intersections in close proximity to a grade crossing, where the distance between the*  
100 *intersection and the grade crossing will not provide adequate placement of the advance warning*  
101 *pavement marking, an advance warning pavement marking should be installed in any exclusive*  
102 *turn lane towards the grade crossing.*

103 *Option:*

104 06 When justified by engineering judgment, supplemental advance warning pavement marking  
105 symbol(s) may be placed between the Grade Crossing Advance Warning sign and the grade  
106 crossing.

107 *Guidance:*

108 06a *The downstream transverse line of the advance warning pavement marking symbol(s) should*  
109 *be at least 50 feet upstream from the stop or yield line at the grade crossing.*

### 111 **Figure 8B-7 Grade Crossing Advance Warning Pavement Markings**

112 **[Figure 8B-7 is an existing figure in MUTCD which is not being changed. The title of the**  
113 **figure is proposed to be changed adding the words “Advance Warning” to be consistent**  
114 **throughout this section]**