



National Committee on Uniform Traffic Control Devices

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Item No.: 20B-TTC-04

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

TECHNICAL COMMITTEE:	Temporary Traffic Control Technical Committee
ITEM NUMBER:	20B-TTC-04
TOPIC:	Shoulder Lane Revision
ORIGIN OF REQUEST:	Randy McCourt – Electronic Display Traffic Ctrl. Joint TF
AFFECTED SECTIONS OF THE MUTCD:	Notes for Figure 6H-36 Notes for Figure 6H-37 Notes for Figure 6H-38
TASK FORCE MEMBERS:	Ryan Lancaster (chair), Tim Baughman, Scott Tison, Tim Cox, Neil Boudreau, David Church, Tom Hicks, Dave Royer, Tim Stroth, Jim Bragdon, Todd Lohman, Gene Edmonds, Fred Hanscom, Gene Putman, Charles Adams, Jim Harkness, Matt Briggs, Laura Huizinga, Craig Rhodes, David Church, Tom Macchione

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DEVELOPMENT HISTORY:

- Approved by Task Force: 06/18/2020
- Approved by Technical Committee: 06/18/2020
- Revisions from sponsor comments approved by Task Force: 01/05/2021
- Revisions from sponsor comments approved by Technical Committee: 01/13/2021
- Approved by NCUTCD Council: 01/22/2021

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 through the federal rulemaking process.

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SUMMARY:

The Electronic Display Traffic Control Joint Task Force identified three typical application notes that use the term “shoulder lane,” a term that is not used elsewhere in the Manual. The proposal eliminates the “shoulder lane” term by describing shoulder use as a lane in temporary traffic control.

24 **DISCUSSION**

25 The notes pages of Typical Applications 36, 37, and 38 describe use of a shoulder as a travel lane
26 with the term “shoulder lane.” However, the “shoulder lane” term is not used elsewhere in the
27 Manual. The notes in Typical Applications 36, 37, and 38 are proposed to be revised to describe
28 temporary use of a shoulder as a lane without using “shoulder lane.” Additional notes are
29 modified or added to address heavy vehicle use on shoulders.
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32 **RECOMMENDED MUTCD CHANGES**

33 The following present the proposed changes to the current MUTCD within the context of the
34 current MUTCD language. Proposed additions to the MUTCD are shown in blue underline and
35 proposed deletions from the MUTCD are shown in ~~red strikethrough~~. Changes previously
36 approved by NCUTCD Council (but not yet adopted by FHWA) are shown in green double
37 underline for additions and ~~green double strikethrough~~ for deletions. In some cases, background
38 comments may be provided with the MUTCD text. These comments are indicated by [black font
39 in brackets highlighted light blue].
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42 **PART 6. TEMPORARY TRAFFIC CONTROL**

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44 **CHAPTER 6H. TYPICAL APPLICATIONS**

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46 **Section 6H.01 Typical Applications**

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48 **Notes for Figure 6H-36—Typical Application 36**
49 **Lane Shift on a Freeway**

50 *Guidance:*

- 51 1. *The lane shift should be used when the work space extends into either the right-hand or*
52 *left-hand lane of a divided highway and it is not practical, for capacity reasons, to*
53 *reduce the number of available lanes.*

54 *Support:*

- 55 2. When a lane shift is accomplished by using (1) geometry that meets the design speed at
56 which the permanent highway was designed, (2) full normal cross-section (full lane
57 width and full shoulders), and (3) complete pavement markings, then only the initial
58 general work-zone warning sign is required.

59 *Guidance:*

- 60 3. *When the conditions in Note 2 are not met, the information shown in the typical*
61 *application should be employed and ~~all~~ the following notes apply.*

62 **Standard:**

- 63 4. **Temporary traffic barriers, if used, shall comply with the provisions of Section**
64 **6F.85.**
65 5. **The barrier shall not be placed along the shifting taper. The lane shall first be**
66 **shifted using channelizing devices and pavement markings.**

67 *Guidance:*

- 68 6. *A warning sign should be used to show the changed alignment.*

69 **Standard:**

- 70 7. **The number of lanes illustrated on the Reverse Curve signs shall be the same as**
71 **the number of through lanes available to road users, and the direction of the**
72 **reverse curves shall be appropriately illustrated.**

73 Option:

- 74 8. Where two or more lanes are being shifted, a W1-4 (or W1-3) sign with an ALL
75 LANES (W24-1cP) plaque (see Figure 6F-4) may be used instead of a sign that
76 illustrates the number of lanes.
77 9. Where more than three lanes are being shifted, the Reverse Curve (or Turn) sign may
78 be rectangular.

79 *Guidance:*

80 10. *Where the shifted section is longer than 600 feet, one set of Reverse Curve signs should*
81 *be used to show the initial shift and a second set should be used to show the return to*
82 *the normal alignment. If the tangent distance along the temporary diversion is less than*
83 *600 feet, a Double Reverse Curve sign should be used instead of the first Reverse Curve*
84 *sign, and the second Reverse Curve sign should be omitted.*

85 11. *If a STAY IN LANE sign is used, then solid white lane lines should be used.*

86 **Standard:**

87 12. **The minimum width of the shoulder, when used as a temporary travel lane, shall**
88 **be 10 feet.**

89 13. **For long-term stationary work, existing conflicting pavement markings shall be**
90 **removed and temporary markings shall be installed before traffic patterns are**
91 **changed.**

92 Option:

93 14. For short-term stationary work, lanes may be delineated by channelizing devices or
94 removable pavement markings instead of temporary markings.

95 *Guidance:*

96 15. Engineering judgment should be used to determine if the shoulder can accommodate
97 heavy vehicles. ~~If the shoulder cannot adequately accommodate trucks, trucks-Heavy~~
98 vehicles should be directed to use the normal travel lanes if they cannot be adequately
99 accommodated on the shoulder.

100 16. *The use of a barrier should be based on engineering judgment.*

101 Option:

102 17. Type C Steady-Burn warning lights may be placed on channelizing devices and the
103 barrier parallel to the edge of the pavement for nighttime lane closures.

104 18. A Portable Changeable Message Sign or special regulatory sign (see Section 6F.15)
105 may be used to indicate which lanes are appropriate for heavy vehicle use.

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Notes for Figure 6H-37—Typical Application 37
Double Lane Closure on a Freeway

Standard:

1. An arrow board shall be used when a freeway lane is closed. When more than one freeway lane is closed, a separate arrow board shall be used for each closed lane.

Guidance:

2. Ordinarily, the preferred position for the second arrow board is in the closed exterior lane at the upstream end of the second merging taper. However, the second arrow board should be placed in the closed interior lane at the downstream end of the second merging taper in the following situations:
 - a. When a shadow vehicle is used in the interior closed lane, and the second arrow board is mounted on the shadow vehicle;
 - b. If alignment or other conditions create any confusion as to which lane is closed by the second arrow board; and
 - c. When the first arrow board is placed in the closed exterior lane at the downstream end of the first merging taper (the alternative position when the shoulder is narrow).

Option:

3. Flashing warning lights and/or flags may be used to call attention to the initial warning signs.
4. A truck-mounted attenuator may be used on the shadow vehicle.
5. Additional positive protection devices may be used per Section 6F.84a. [approved by Council 01/10/2020]
6. If a paved shoulder having a minimum width of 10 feet and sufficient strength is available, the left and adjacent interior lanes may be closed and vehicular traffic carried around the work space on the right-hand lane and a right-hand shoulder.

Guidance:

7. When a shoulder is used as a temporary travel lane, engineering judgment should be used to determine if the shoulder can accommodate heavy vehicles. ~~is used that cannot adequately accommodate trucks, trucks~~ Heavy vehicles should be directed to use the normal travel lanes if they cannot be adequately accommodated on the shoulder.

Option:

8. A Portable Changeable Message Sign or special regulatory sign (see Section 6F.15) may be used to indicate which lanes are appropriate for heavy vehicle use.

Notes for Figure 6H-38—Typical Application 38
Interior Lane Closure on a Freeway

Standard:

1. An arrow board shall be used when a freeway lane is closed. When more than one freeway lane is closed, a separate arrow board shall be used for each closed lane.
2. If temporary traffic barriers are installed, they shall comply with the provisions and requirements in Section 6F.85.
3. The barrier shall not be placed along the shifting taper. The lane shall first be shifted using channelizing devices and pavement markings.
4. For long-term stationary work, existing conflicting pavement markings shall be removed and temporary markings shall be installed before traffic patterns are changed.

Guidance:

5. For a long-term closure, a barrier should be used to provide additional safety to the operation in the closed interior lane. A buffer space should be used at the upstream end of the closed interior lane.
6. The ~~first~~ arrow board displaying an arrow pointing to the right should be on the left-hand shoulder at the beginning of the taper. ~~The arrow board displaying a double arrow should be centered in the closed interior lane and placed at the downstream end of the shifting taper.~~
7. ~~If the two arrow boards create confusion, the 2L distance between the end of the merging taper and beginning of the shift taper should be extended so that road users can focus on one arrow board at a time.~~
8. ~~The placement of signs should not obstruct or obscure arrow boards.~~
- 9.7. For long-term use, the ~~dashed~~ broken lane lines should be made solid white in the two-lane section. [approved by Council 01/11/2019]

Option:

- 10.8. As an alternative to initially closing the left-hand lane, as shown in the typical application, the right-hand lane may be closed in advance of the interior lane closure with appropriate channelization and signs.
9. The Interior Lane Shift Ahead (W9-4) symbol sign may be mirrored to indicate a right lane shift. [approved by Council 01/11/2019]
- 11.10. A short, single row of channelizing devices in advance of the vehicular traffic split to restrict vehicular traffic to their respective lanes may be added.
- 12.11. DO NOT PASS signs may be used.
- 13.12. If a paved shoulder having a minimum width of 10 feet and sufficient strength is available, the left-hand and center lanes may be closed and motor vehicle traffic carried around the work space on the right-hand lane and a right-hand shoulder.

Guidance:

- 14.13. When a shoulder is used as a temporary travel lane, engineering judgment should be used to determine if the shoulder can accommodate heavy vehicles. is-used-that cannot adequately accommodate trucks, trucks Heavy vehicles should be directed to use the normal travel lanes if they cannot be adequately accommodated on the shoulder.

186 Option:

187 14. A work vehicle with a truck mounted attenuator may be utilized within the closed
188 interior lane between the buffer space and the work area. [approved by Council
189 01/11/2019]

190 15. Positive protection devices may be used per Section 6F.84a. [approved by Council
191 01/10/2020]

192 16. A Portable Changeable Message Sign or special regulatory sign (see Section 6F.15)
193 may be used to indicate which lanes are appropriate for heavy vehicle use.