



National Committee on Uniform Traffic Control Devices

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1 **Attachment No. 1**

2 **Item No. 16B-RW-04**

3
4 **NCUTCD Proposal for Changes to the**
5 **Manual on Uniform Traffic Control Devices**

6
7 **TECHNICAL COMMITTEE:** Regulatory/Warning Signs Technical Committee
8 **ITEM NUMBER:** **16B-RW-04**
9 **TOPIC** **Figure 2C-3, Example of Advisory Speed Signing**
10 **for an Exit Ramp**
11 **ORIGIN OF REQUEST:** Gerard Gerhard letters of June 23, 2014 and
12 November 2, 2015
13 Task Force: Dan Paddick (Chair), Tom Heydel, Andy
14 Ramish, Erin Kissner, Herman Hill, Jason Kennedy,
15 Doug Bartlett, Bruce Ibarguen, Jim Pline, Robert Weber,
16 Paul Carlson, Rich Meredith
17 **AFFECTED SECTIONS** **Figure 2C-3, Example of Advisory Speed Signing**
18 **OF MUTCD:** **for an Exit Ramp**
19 **Section 2C.14 Advisory Exit and Ramp Speed**
20 **Signs (W13-2 and W13-3)**
21
22 **DEVELOPMENT HISTORY: Task Force: Revised 5-26-16, revised 12-28-16,**
23 **revised 1-4-17, revised 6-29-17**

- 24
- 25 • Approved by Technical Committee: 06/09/2016
 - 26 • Approved by RWSTC following sponsor comments: 01/04/2017
 - 27 • Approved by RWSTC: 06/29/2017
 - 28 • Approved by NCUTCD Council: TABLED BY COUNCIL 01/06/17
 - Approved by NCUTCD Council: 06/30/2017

29 *This is a proposal for recommended changes to the MUTCD that has been*
30 *approved by the NCUTCD Council. This proposal does not represent a revision of*
31 *the MUTCD and does not constitute official MUTCD standards, guidance, or*
32 *options. It will be submitted to FHWA for consideration for inclusion in a future*



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33 *MUTCD revision. The MUTCD can be revised only through the federal rulemaking*
34 *process.*

35

36 **SUMMARY:**

37 On June 23, 2014, Mr. Gerard Gerhard of Lexington, Kentucky wrote to the Director of
38 Office of Transportation Operations of the Federal Highway Administration (FHWA).
39 The letter had 22 numbered sections recommending changes to the Manual on Uniform
40 Traffic Control Devices (MUTCD). He followed this up with a November 2, 2015 letter
41 to Mr. William Lambert, Chair of the Regulatory and Warning Sign Technical
42 Committee (RWSTC) of the National Committee on Uniform Traffic Control Devices
43 (NCUTCD). This letter contained two more comments recommending changes.

44 The FHWA had transmitted the original letter to the NCUTCD for consideration. The
45 NCUTCD assigned the overview of these letters to the RWSTC because the majority of
46 the issues related to Regulatory and Warning Signs.

47 **DISCUSSION:**

48 In Comment 19, Mr. Gerhard writes:

49 **Figure 2C-3. Example of Advisory Speed Signing for an Exit Ramp**

50 Figure 2C-3 should be revised consistent with the reasoning below.

51 The “Examples” shown in Figure 2C-3 of “Advisory Speed Signing for an Exit
52 Ramp” provide “examples” of placement not just of Advisory Speed Signing,
53 but also of directional warning signs (W1-6R and W1-8R).

54 Figure 2C-3 has several problems.

55 First, at the beginning of the deceleration lane, either a W13-2 or a W13-6 is
56 shown for placement. If an exit ramp involves a curve that cannot be viewed by
57 a driver as it is approached, e.g., a curve, hairpin curve, or loop, a driver would
58 benefit from having early warning and repeated or confirming warning of such
59 condition. Accordingly, I believe the example of sign placement at the



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60 beginning of a deceleration lane should show placement of signage indicating
61 the character of the ramp being approached.

62 Placement of warning signage regarding an exit ramp specific to a curve, hairpin
63 curve, or loop (together with an appropriate speed advisory, e.g., a W13-1P or a
64 W13-2), in addition to the signage specific to the condition (e.g., W1-11, W1-15)
65 must, at a minimum, be shown at the beginning of a deceleration lane, and
66 opposite the beginning of the gore.

67 Second, Figure 2C-3 shows as example an E13-1P as optional for display
68 together with an E5-1A. For the sake of uniformity, the E13-1P should be
69 required, rather than optional, for a ramp where advisory speed is posted.

70 Third, either a W1-8R or a W1-6R is shown as being the first warning sign in a
71 series of W1-8 signs. The W1-6 should only be used where there is an abrupt
72 change of horizontal direction, such as in a tight radius 90 degree turn. If a ramp
73 involves a curve (a curve, hairpin curve, or loop with a radius such that
74 Chevrons would be more appropriate to provide directional guidance to a driver
75 throughout a curve), the W1-6R is inappropriate. Suffice it to say, the W1-6R
76 should not be shown as preceding a series of Chevrons (W1-8), since an
77 inconsistent message is presented to a driver.

78 Fourth, the example shows as optional, placement of a W1-13R (Truck Rollover
79 Warning sign) well into a hairpin ramp. Such placement does not consider PRT.
80 If such placement is the first, or even a supplemental warning of a truck rollover
81 hazard, it would be obvious that a driver of a vehicle with a high center of
82 gravity might be in the process of rolling over when the sign comes into view.
83 There is no showing of advance placement of a Truck Rollover sign in Figure
84 2C-3. See the recommendations and reasoning regarding amendment or revision
85 of Section 2C.13, Truck Rollover Warning Sign (W1-13), set forth above.

86 **Appropriate changes should be made in Figure 2C-3 consistent with the**
87 **reasoning expressed above.**

88 (End of Quote)

89 Mr. Gerhard suggests a number of changes to this Section.



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90 Taking them in order, the first is in the second paragraph (lines 59 – 61) where Mr.
91 Garhard says that Figure 2C-3 is more than an “Example of Advisory Speed Signing for
92 an Exit Ramp”. It contains Guide signing along with W1-8R Chevrons and W1-6 One
93 Direction Large Arrow signs. We disagree with Mr. Gerhard. The E5-1 Exit sign is
94 supplemented with a E13-1P Recommended Speed Plaque. Consequently it can be
95 considered to be a type of Speed Signing. Similarly, the use and placement of the W1-
96 8R Chevrons and W1-6 One Direction Large Arrow signs are determined by speeds.
97 See Table 2C-5 and Table 2C-6. They should also be considered Speed Signing.

98 In Mr. Garhard’s first listed disagreement with this Figure (lines 63 -69), he is
99 advocating the use of W1-11 Hairpin Curve or W1-15 Loop signing at the beginning of
100 the ramp. The RWSTC disagrees. The use of these signs at this location could easily
101 cause confusion along the mainline. The purpose of using the W13-2, W13-3, W13-6
102 and W13-7 Exit and Ramp Advisory Speed Signs is to avoid confusing the through
103 traffic. The W13-6 and W13-7 signs may be adapted to curves, loops and hairpin
104 curves (Section 2C.15)

105 In Mr. Garhard’s second listed disagreement with this Figure (lines 75 -77), he is
106 advocating requiring the use of the E13-1P Recommended Speed plaque shown below
107 the E5-1 Exit sign at all locations. The RWSTC disagrees. The use of this sign is not
108 required at all locations. It should be reserved for situations where additional emphasis
109 is needed.

110 In Mr. Gerhard’s third listed disagreement with this Figure (lines 78-85), he states the
111 MUTCD should not show the One Direction Large Arrow sign (W1-6R) preceding a
112 series of Chevrons (W1-8). He believes that this usage presents an inconsistent message
113 to a driver. The RWSTC disagrees. This usage is consistent with Section 2C.12(01)
114 which states that “A One Direction Large Arrow sign may be used either as a
115 supplement or alternative to Chevron Alignment Signs in order to delineate a change in
116 horizontal alignment.” Table 2C-5 and Section 2C.14 (06) also use these signs
117 interchangeably. The MUTCD is giving the engineer the flexibility to determine the
118 best sign and sign pattern for the geometry at a specific location. This Figure is an
119 example. It should not be treated as a template for all locations.

120 In Mr. Gerhard’s fourth and final listed disagreement with this Figure (lines 86-93), he
121 questions the placement of the Truck Rollover sign (W1-13). He says that the
122 placement of this sign on this Figure in the middle of a curve does not provide the



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123 necessary advance placement of the sign. If the Truck Rollover sign shown is for the
124 curve shown on the drawing, he is correct. Since a sharp curve with Chevrons and Exit
125 signing with a low recommended speed is shown, the figure is at a minimum
126 misleading. While, it is an example and not a template, it should be revised to place the
127 Truck Rollover sign before the curve.

128 **RECOMMENDATION:**

129
130 Revise Figure 2C-3 to place the Truck Rollover sign (W1-13) in advance of the curve.
131 Place it along the parallel portion of the deceleration lane. Label the sign as “Optional”
132
133 Eliminate the Hairpin Curve sign (W1-11) along the parallel portion of the deceleration
134 lane. It conflicts with the Loop curve shown on the W13-6 and W13-7. Its use at this
135 location may cause confusion for through traffic on the mainline. Move the W1-11 sign
136 to near the end of the ramp gore. Add a W13-7 Combination Horizontal
137 Alignment/Advisory Ramp Speed sign and a W13-3 Ramp Speed sign as optional signs
138 at this location. Label all three signs as “Optional”.
139
140 Capitalize the T in Table at the beginning of paragraph 04 in Section 2C.14 Advisory
141 Exit and Ramp Speed Signs (W13-2 and W13-3)

142 143 **RECOMMENDED WORDING:**

144 The following present the proposed changes to the current MUTCD within the context of
145 the current MUTCD language. Proposed additions to the MUTCD are shown in blue
146 underline and proposed deletions from the MUTCD are shown in ~~red strikethrough~~.
147 Changes previously approved by NCUTCD Council (but not yet adopted by FHWA) are
148 shown in green double underline for additions and ~~green double strikethrough~~ for
149 deletions. In some cases, background comments may be provided with the MUTCD text.
150 These comments are indicated by [highlighted light blue in brackets]. Revisions in the
151 proposal text and MUTCD Figure made on the basis of sponsors comments have been
152 highlighted in yellow.

153 Two figures are shown. The first is the proposed revised Figure 2C-3. The second is the
154 original Figure 2C-3 , 2009 MUTCD

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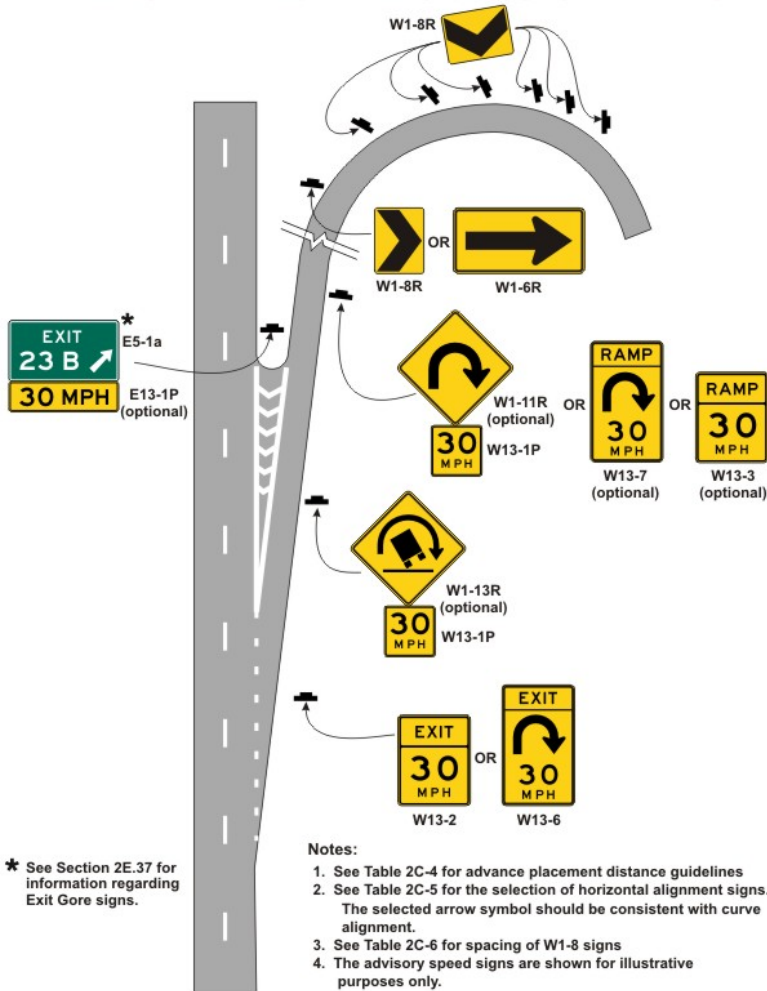
157

158 **Figure 2C-3. Example of Advisory Speed Signing for an Exit Ramp**

159 **Figure 2C-3 is revised as shown below:**

160

Revised Figure 2C-3. Example of Advisory Speed Signing for an Exit Ramp



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 162
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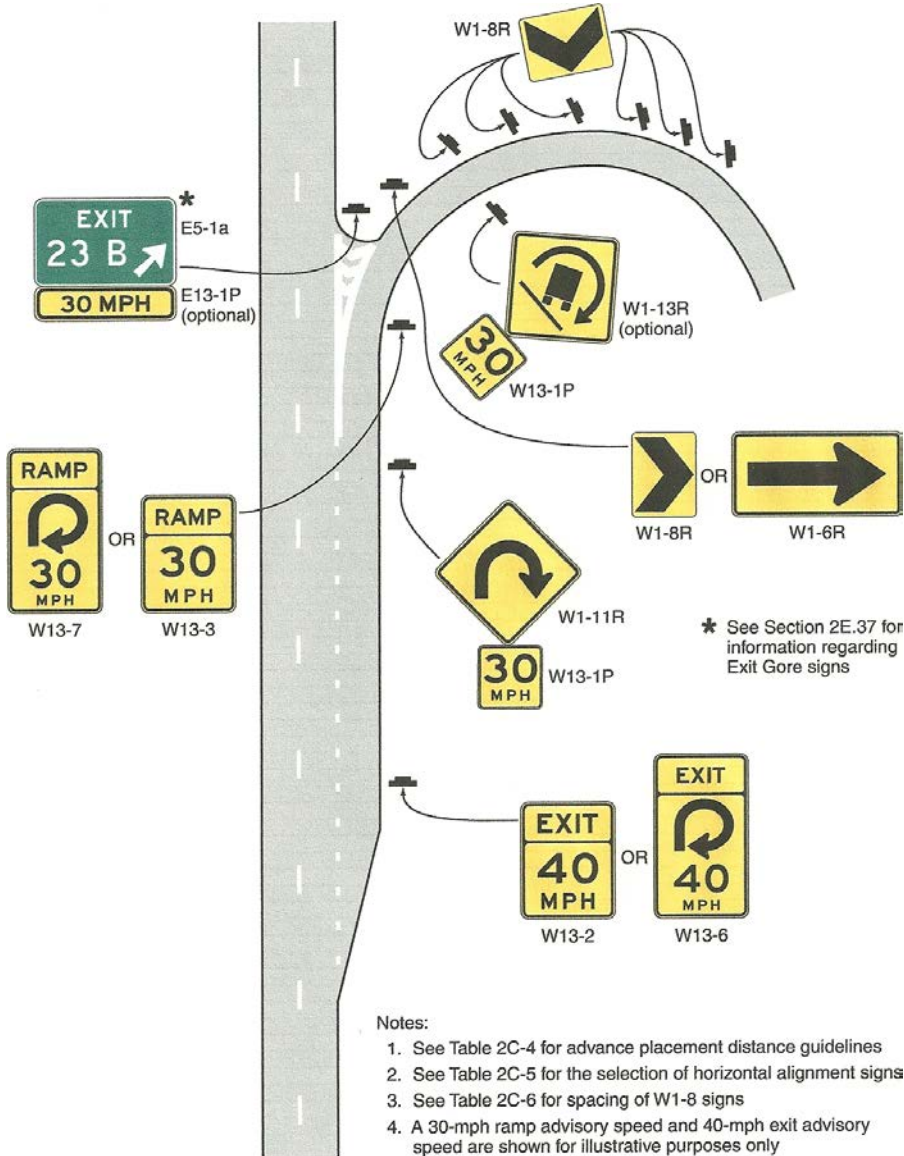


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Original Figure 2C-3 2009 MUTCD is shown below: Deleted and replaced with figure above.



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 169
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 171

Section 2C.14 Advisory Exit and Ramp Speed Signs (W13-2 and W13-3) Standard:

16B.RW.04

Figure 2C-3



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172 **01 Advisory Exit Speed (W13-2) and Advisory Ramp Speed (W13-3) signs (see**
173 **Figure 2C-1) shall be vertical rectangles. The use of Advisory Exit Speed and**
174 **Advisory Ramp Speed signs on freeway and expressway ramps shall be in**
175 **accordance with the information shown in Table 2C-5.**

176 *Guidance:*

177 *02 If used, the Advisory Exit Speed sign should be installed along the deceleration lane*
178 *and the advisory speed displayed should be based on an engineering study. When a Truck*
179 *Rollover (W1-13) sign (see Section 2C.13) is also installed for the ramp, the advisory exit*
180 *speed should be based on the truck advisory speed for the horizontal alignment using*
181 *recommended engineering practices.*

182 *03 If used, the Advisory Exit Speed sign should be visible in time for the road user to*
183 *decelerate and make an exiting maneuver.*

184 *Support:*

185 *04 ¶ Table 2C-4 lists recommended advance sign placement distances for deceleration to*
186 *various advisory speeds.*

187 *Guidance:*

188 *05 If used, the Advisory Ramp Speed sign should be installed on the ramp to confirm the*
189 *ramp advisory speed.*

190 *Option:*

191 *06 If used, Chevron Alignment (W1-8) signs and/or One-Direction Large Arrow (W1-6)*
192 *signs should be installed on the outside of the exit curve as described in Sections 2C.09*
193 *and 2C.12.*

194 *Option:*

195 *07 Where there is a need to remind road users of the recommended advisory speed, a*
196 *horizontal alignment warning sign with an advisory speed plaque may be installed at or*
197 *beyond the beginning of the exit curve or on the outside of the curve, provided that it is*
198 *apparent that the sign applies only to exiting traffic. These signs may also be used at*
199 *intermediate points along the ramp, especially if the ramp curvature changes and the*
200 *subsequent curves on the ramp have a different advisory speed than the initial ramp*
201 *curve.*

202 *Support:*

203 *08 Figure 2C-3 shows an example of advisory speed signing for an exit ramp.*

204

205 **Section 2C.15 Combination Horizontal Alignment/Advisory Exit and Ramp Speed**
206 **Signs (W13-6 and W13-7)**

207 *Option:*

208 *01 A horizontal alignment sign (see Section 2C.07) may be combined with an Advisory*
209 *Exit Speed or Advisory Ramp Speed sign to create a combination Horizontal*



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- 210 Alignment/Advisory Exit Speed (W13-6) sign or a combination Horizontal
211 Alignment/Advisory Ramp Speed (W13-7) sign (see Figure 2C-1). These combination
212 signs may be used where the severity of the exit ramp curvature might not be apparent to
213 road users in the deceleration lane or where the curvature needs to be specifically
214 identified as being on the exit ramp rather than on the mainline.
215
216 C: NCUTCD/June 2016/ 16B.RW.04 Figure 2C-3 Advisory Speed signing for exit ramp APPROVED BY COUNCIL 6-30-17