



National Committee on Uniform Traffic Control Devices

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Item No.: 15B-BIK-01

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

TECHNICAL COMMITTEE: Bicycle Technical Committee
ITEM NUMBER: 15B-BIK-01
TOPIC: Guidance for Numbered Bicycle Route Signing
ORIGIN OF REQUEST: NCHRP 20-7(350) Final Report
AFFECTED SECTIONS OF MUTCD: 2D.01, Chapter 9B

DEVELOPMENT HISTORY:

- Approved by Bicycle Technical Committee: 06/17/2015
- Concurrence by GMI Technical Committee: 06/18/2015 (v. 1.1)
- Approved by NCUTCD Council: 00/00/0000 (pending review by sponsors)

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:

This proposal adapts existing MUTCD material on guide signing to numbered bicycle routes.

DISCUSSION

With the inception and development of the US Bicycle Route System and regional and local bicycle routes, state DOTs and other agencies are looking into the best way to provide signing for these routes given limited resources and constrained budgets. Note that AASHTO does not require signing for USBRs, acknowledging that other guidance methods such as mapping and electronic guidance may be used in lieu of route signs. However, a strict application of Chapter 2D to bicycle route signing would seem to require such signing.

A NCHRP project {20-7(350)} studied the issue and suggested that the entire Chapter 2D-mandated sign sequence may not always be practical for all bicycle routes. The proposal moves bicycle route signing explicitly from Chapter 2D to Chapter 9B, adds material to acknowledge the full range of guide signing for use on bicycle routes, notes that other means of guidance can

37 be used in lieu of signing, and recommends minimum signing should signing be provided. The
38 new content is formatted and presented in a manner consistent with Chapter 2D for uniformity.

39
40 This proposal also continues "cleanup" on wording in Chapter 9B for consistency with other
41 Parts of the MUTCD and consistency with previously-approved proposals.

42 43 **RECOMMENDED MUTCD CHANGES**

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45 The following present the proposed changes to the current MUTCD within the context of the
46 current MUTCD language. Proposed additions to the MUTCD are shown in blue underline and
47 proposed deletions from the MUTCD are shown in ~~red strikethrough~~. Changes previously
48 approved by NCUTCD Council (but not yet adopted by FHWA) are shown in green double
49 underline for additions and ~~green double strikethrough~~ for deletions. In some cases, background
50 comments may be provided with the MUTCD text. These comments are indicated by
51 highlighted light blue in brackets.

52 53 54 **PART 2. SIGNS**

55 56 **CHAPTER 2D. GUIDE SIGNS - CONVENTIONAL ROADS**

57 58 **Section 2D.01 Scope of Conventional Guide Sign Standards**

59 60 **Standard:**

61 01 **The provisions of this Chapter shall apply to any road or street other than low-volume**
62 **roads (as defined in Section 5A.01), expressways, and freeways.**

63 02 The provisions of this chapter shall not apply to guide signs for the exclusive use of
64 bicyclists (See Chapter 9B).

65 66 **PART 9. TRAFFIC CONTROL FOR BICYCLE FACILITIES**

67 68 **CHAPTER 9B. SIGNS**

69 70 **Section 9B.21 Bicycle Route Signs (M1-8, M1-8a, M1-9) and Auxiliaries**

71 **Option:**

72 01 To establish a unique identification (route designation) for a State or local bicycle route, a
73 Bicycle Route (M1-8, M1-8a, M1-x, M1-xa, M1-xb approved June 2014, Bike #5) sign (see
74 Figure 9B-4) may be used.

75 ~~Standard Guidance:~~

76 02 The **Numbered** Bicycle Route (M1-8) sign ~~shall~~ should contain a route designation and
77 ~~shall~~ should have a green background with a ~~retroreflectorized~~ white legend and border. The
78 **Non-numbered Bicycle Route** sign should have a green background and a white word legend and
79 **border (M1-x), graphic associated with the route (M1-xa), or combination pictograph and word**
80 **legend message (M1-xb).** ~~The Bicycle Route (M1-8a) signs shall contain the same information as~~
81 ~~the M1-8 sign and in addition shall~~ should include on the upper portion of the sign panel a
82 ~~pictograph~~ white area, graphic, or words that are associated with the route or with the agency

83 that has jurisdiction over the route. The white area, graphic, or legend should incorporate a
84 bicycle symbol or word message that clearly identifies the route as a bicycle route or pathway.
85 [approved June 2014, Bike #5]

86 02a If a graphic is used on the M1-8a sign the maximum dimension (height or width) of the
87 graphic should not exceed two times the height of the route numeral, and should be contained
88 within a green border. The minimum width of the graphic on the M1-xa or M1-xb sign should be
89 66% of the panel width, and the maximum width should be 90% of the panel width.

90 02b If a bicycle symbol is used on the M1-8a, M1-xa or M1-xb sign, it should have a minimum
91 height of 25% of the M1-8a sign panel height width. [approved June 2014, Bike #5]

92 ~~Guidance:~~

93 03 *Bicycle routes, which might be a combination of various types of bikeways, should establish*
94 *a continuous routing.*

95 04 *Where a designated bicycle route extends through two or more States, a coordinated*
96 *submittal by the affected States for an assignment of a U.S. Bicycle Route number designation*
97 *should be sent to the American Association of State Highway and Transportation Officials (see*
98 *Page i for the address).*

99 **Standard:**

100 05 **The U.S. Bicycle Route (M1-9) sign (see Figure 9B-4) shall contain the route**
101 **designation as assigned by AASHTO and shall have a ~~black~~ green legend and border with a**
102 **retroreflectORIZED white background. [approved January 2010, Bike #3 - also implicitly**
103 **included in IA-15]**

104 *Guidance:*

105 06 *If used, ~~the~~ Bicycle Route ~~or U.S. Bicycle Route~~ signs should be placed at intervals frequent*
106 *enough to keep bicyclists informed of changes in route direction and to remind motorists of the*
107 *presence of bicyclists. [approved June 2014, Bike #5]*

108 *Option:*

109 07 *Bicycle Route ~~or U.S. Bicycle Route~~ signs may be installed on shared roadways or on*
110 *shared-use paths to provide guidance for bicyclists. [approved June 2014, Bike #5]*

111 08 *The Bicycle Route Guide (D11-1) sign (see Figure 9B-4) may be installed where no unique*
112 *designation of routes is desired.*

113

114 **Section 9B.22 Bicycle Route Sign Auxiliary Plaques**

115 **Option:**

116 09 **Auxiliary plaques signs** may be used in conjunction with **Bike Route Guide signs**, Bicycle
117 **Route signs**, ~~or U.S. Bicycle Route signs~~ as needed.

118 *Guidance:*

119 10 *If used, Junction (M2-1), Cardinal Direction (M3 series), and Alternative Route (M4 series)*
120 *auxiliary plaques auxiliaries (see Figure 9B-4) should be mounted above the appropriate ~~Bike~~*
121 *Route Guide signs, Bicycle Route signs, ~~or U.S. Bicycle Route~~ signs.*

122 11 *If used, Advance Turn Arrow (M5 series) and Directional Arrow (M6 series) auxiliary*
123 *plaques auxiliaries (see Figure 9B-4) should be mounted below the appropriate ~~Bike Route~~*
124 *Guide signs, Bicycle Route signs, ~~or U.S. Bicycle Route~~ signs.*

125 12 *Except for the M4-8 plaque, all route sign auxiliary plaques auxiliaries should match the*
126 *color combination of the route sign that they supplement.*

127 13 *Route sign auxiliary plaques auxiliaries carrying word legends that are used on bicycle*
128 *routes should have a minimum size of 12 x 6 inches. Route sign auxiliary plaques auxiliaries*

129 carrying arrow symbols that are used on bicycle routes should have a minimum size of 12 x 9
130 inches.

131 Option:

132 ~~06~~ 14 With route signs of larger sizes, ~~auxiliary plaques~~ auxiliaries may be suitably enlarged, but
133 not such that they exceed the width of the route sign.

134 ~~07~~ 15 A route sign and any ~~auxiliary plaques~~ auxiliaries used with it may be combined on a single
135 sign.

136 ~~08~~ 16 Destination (D1-1b and D1-1c) signs (see Figure 9B-4) may be mounted below Bike Route
137 Guide signs, Bicycle Route signs, or U.S. Bicycle Route signs to furnish additional information,
138 such as directional changes in the route, or intermittent distance and destination information.

139 Support:

140 17 An agency or jurisdiction can use several methods to provide guidance along a bicycle route,
141 including maps, information guides, or signing.

142 18 Figure 9B-x shows typical placements of bicycle route signs.

143 Standard:

144 19 If an agency provides methods other than signing to travelers for guidance along a
145 bicycle route, then signing shall not be required.

146 20 If used, a Bicycle Route Sign assembly shall consist of a route sign and auxiliary signs
147 that identify the route and indicate the direction.

148 Guidance:

149 21 If the bicycle route is signed, the Bicycle Route Sign assemblies should be installed on all
150 approaches to numbered bicycle routes that intersect with other numbered bicycle routes.

151 Standard:

152 22 Within groups of assemblies, information for bicycle routes intersecting from the left
153 shall be mounted at the left in horizontal arrangements and at the top or center of vertical
154 arrangements. Similarly, information for bicycle routes intersecting from the right shall be
155 at the right or bottom, and for straight-through bicycle routes at the center in horizontal
156 arrangements or top in vertical arrangements.

157 Option:

158 23 The Bicycle Route Sign assemblies may be mounted on common posts with numbered
159 highway routes for general traffic.

160 Standard:

161 24 A Junction assembly shall consist of a Junction auxiliary sign and a bicycle route sign.
162 The bicycle route sign shall carry the number of the intersected or joined bicycle route.

163 Option:

164 25 The Junction assembly may be installed in advance of intersections where a numbered
165 bicycle route is intersected or joined by another numbered bicycle route.

166 Standard:

167 26 An Advance Bicycle Route Turn assembly shall consist of a bicycle route sign, an
168 Advance Turn Arrow or word message auxiliary sign, and a Cardinal Direction auxiliary
169 sign, if needed. If used, it shall be installed in advance of an intersection where a turn must
170 be made to remain on the indicated route.

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173 Option:

174 27 The Advance Bicycle Route Turn assembly may be used in advance of intersecting routes.
175 On the approach to an intersection with a numbered bicycle route, the Advance Bicycle Route
176 Turn assembly should be used to pre-position turning bicyclists in the correct lane position from
177 which to make their turn.

178 **Standard:**

179 **28 A Directional assembly shall consist of a Cardinal Direction auxiliary sign, if needed; a**
180 **route sign; and a Directional Arrow auxiliary sign.**

181 **Guidance:**

182 29 The various uses of Directional assemblies should be as provided in Items A through D:

- 183 A. Turn movements should be marked by a Directional assembly with a route sign
184 displaying the number of the turning route and a single-headed arrow pointing in the
185 direction of the turn.
- 186 B. The beginning of a route should be marked by a Directional assembly with a route sign
187 displaying the number of that route and a single-headed arrow pointing in the direction
188 of the route.
- 189 C. An intersected route on a crossroad where the route is designated on both legs should
190 be designated by:
- 191 1. Two Directional assemblies, each with a route sign displaying the number of the
192 intersected route, a Cardinal Direction auxiliary sign, and a single-headed arrow
193 pointing in the direction of movement on that route; or
- 194 2. A Directional assembly with a route sign displaying the number of the intersected
195 route and a double-headed arrow, pointing at appropriate angles to the left, right,
196 or ahead.
- 197 D. An intersected route on a side road or on a crossroad where the route is designated
198 only on one of the legs should be designated by a Directional assembly with a route
199 sign displaying the number of the intersected route, a Cardinal Direction auxiliary sign,
200 and a single-headed arrow pointing in the direction of movement on that route.

201 **Option:**

202 30 Straight-through movements may be indicated by a Directional assembly with a route sign
203 displaying the number of the continuing route and a vertical arrow.

204 **Guidance:**

205 31 A Directional assembly should not be used for a straight-through movement in the absence
206 of other assemblies indicating right or left turns, as the Confirming assembly sign beyond the
207 intersection normally provides adequate guidance.

208 32 Directional assemblies should be located on the near right corner of the intersection. Where
209 unusual conditions exist, the location of a Directional assembly should be determined by
210 engineering judgment.

211 **Support:**

212 33 It is more important that guide signs be readable, and that the information and direction
213 displayed thereon be readily understood, at the appropriate time and place than to be located with
214 absolute uniformity.

215 34 Figure 9B-x shows typical placements of Directional assemblies.

216 **Standard:**

217 **35 If used, Confirming or Reassurance assemblies shall consist of a Cardinal Direction**
218 **auxiliary sign and a route sign. Where the Confirming or Reassurance assembly is for an**

219 **alternative route, the appropriate auxiliary sign for an alternative route shall also be**
220 **included in the assembly.**

221 *Guidance:*

222 *36 If used, a Confirming assembly should be installed just beyond intersections of numbered*
223 *routes.*

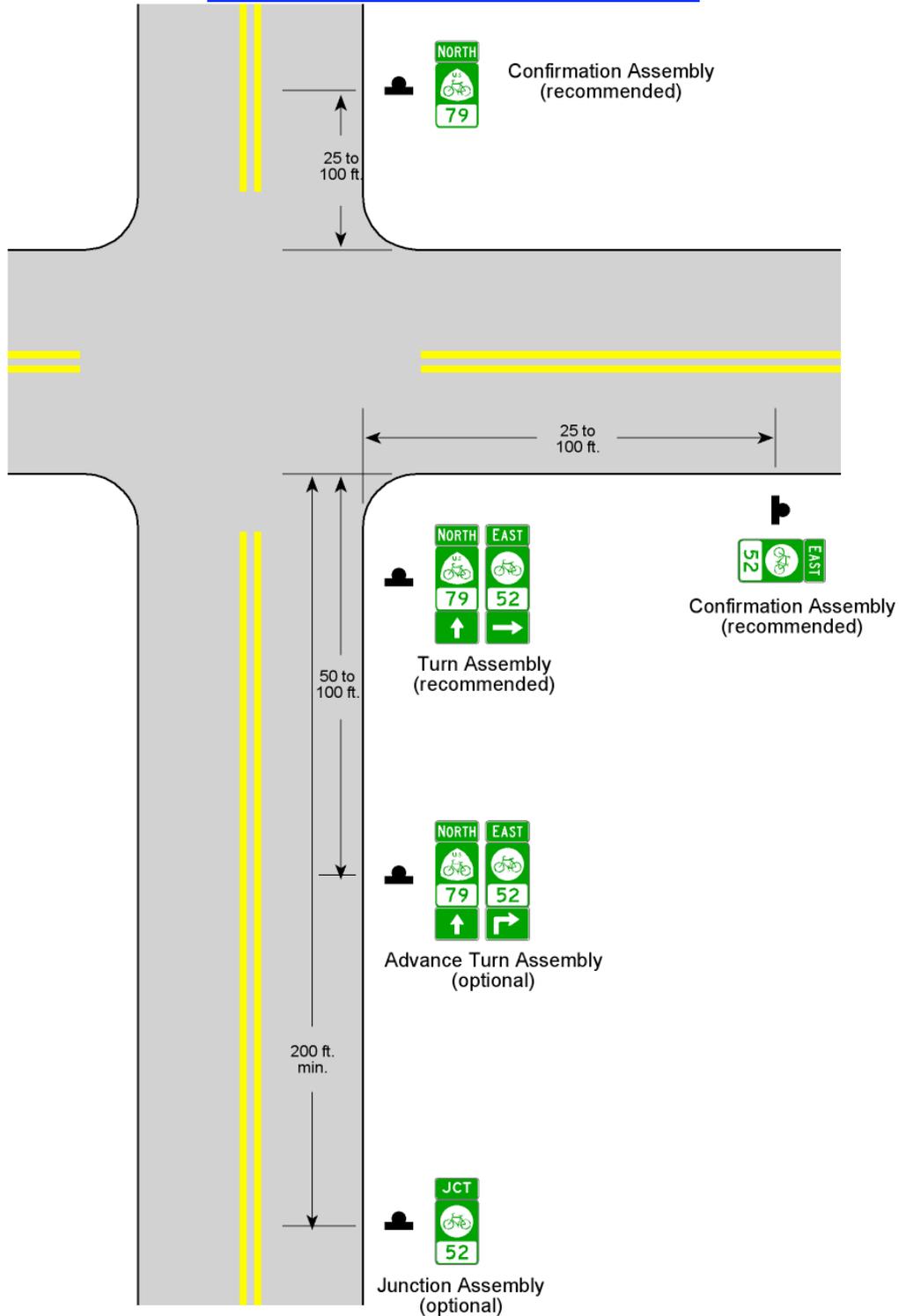
224 *37 If used, Reassurance assemblies should be installed between intersections in urban areas as*
225 *needed, and beyond the built-up area of any incorporated city or town.*

226 *38 Bicycle route signs for either confirming or reassurance purposes should be spaced at such*
227 *intervals as necessary to keep bicyclists informed of their routes.*

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Figure 9B-X. Illustration of Bicycle Route Directional Assemblies (for One Direction of Travel Only) [new figure]



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- Notes: 1. [Other traffic control devices at the intersection are omitted for clarity.](#)
2. [Bicycle route guide signs may be combined with other route signs - if so, the distances in Chapter 2D apply.](#)