



# National Committee on Uniform Traffic Control Devices

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**ATTACHMENT NO. 10**

**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
- Revised by Bicycle Technical Committee: 01/06/2016
- Approved by NCUTCD Council: 01/08/2016 (v. 1.3 - unanimous)

*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.*

### **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 be used for signs and plaques installed  
64 specifically for bicycle traffic applications (See Chapter 9B). [Revised wording adapted from  
65 9B.02 p 02]

## 66 67 **PART 9. TRAFFIC CONTROL FOR BICYCLE FACILITIES**

### 68 69 **CHAPTER 9B. SIGNS**

#### 70 71 **Section 9B.21 Bicycle Route Signs (M1-8, M1-8a, M1-9) and Auxiliary Signs**

72 Option:

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

76 ~~Standard Guidance:~~

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

83 ~~pictograph~~ white area, graphic, or words that are associated with the route or with the agency  
84 that has jurisdiction over the route. The white area, graphic, or legend should incorporate a  
85 bicycle symbol or word message that clearly identifies the route as a bicycle route or pathway.

86 [approved June 2014, Bike #5]

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

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

93 ~~Guidance:~~

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

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

100 **Standard:**

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

105 *Guidance:*

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

109 *Option:*

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

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

114

### 115 **Section 9B.22 Bicycle Route Sign Auxiliary Plaques**

116 **Option:**

117 01 09 **Auxiliary ~~plaques~~ signs** may be used in conjunction with **~~Bike Route Guide signs,~~** Bicycle  
118 **Route signs,** ~~or U.S. Bicycle Route signs~~ as needed.

119 *Guidance:*

120 02 10 *If used, Junction (M2-1), Cardinal Direction (M3 series), and Alternative Route (M4 series)*  
121 *auxiliary ~~signs~~ (see Figure 9B-4) should be mounted above the appropriate ~~Bike Route Guide~~*  
122 *~~signs,~~ Bicycle Route ~~signs,~~ or U.S. Bicycle Route signs.*

123 03 11 *If used, Advance Turn Arrow (M5 series) and Directional Arrow (M6 series) auxiliary ~~signs~~*  
124 *(see Figure 9B-4) should be mounted below the appropriate ~~Bike Route Guide signs,~~ Bicycle*  
125 *Route ~~signs,~~ or U.S. Bicycle Route signs.*

126 04 12 *Except for the M4-8 plaque, all route sign auxiliary ~~signs~~ should match the color*  
127 *combination of the route sign that they supplement.*

128 *05 13 Route sign auxiliary signs carrying word legends that are used on bicycle routes should*  
129 *have a minimum size of 12 x 6 inches. Route auxiliary signs carrying arrow symbols that are*  
130 *used on bicycle routes should have a minimum size of 12 x 9 inches.*

131 Option:

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

134 *07 15 A route sign and any auxiliary signs used with it may be combined on a single sign.*

135 *08 16 Destination (D1-1b and D1-1c) signs (see Figure 9B-4) may be mounted below Bike Route*  
136 *Guide signs, Bicycle Route signs, or U.S. Bicycle Route signs to furnish additional information,*  
137 *such as directional changes in the route, or intermittent distance and destination information.*

138 Support:

139 *17 An agency or jurisdiction can use several methods for bicycle route guidance, including*  
140 *maps, information guides, or signing.*

141 *18 Figure 9B-x shows typical placements of bicycle route signs.*

142 Standard:

143 *19 **If an agency provides methods other than signing for bicycle route guidance, then***  
144 ***signing shall not be required.***

145 *20 **If used, a Bicycle Route Sign assembly shall consist of a route sign and auxiliary signs***  
146 ***that identify the route and indicate the direction.***

147 Guidance:

148 *21 If the bicycle route is signed, Bicycle Route Sign assemblies should be installed on all*  
149 *approaches where that route intersects with other numbered bicycle routes.*

150 Standard:

151 *22 **Within groups of assemblies, information for bicycle routes intersecting from the left***  
152 ***shall be mounted at the left in horizontal arrangements and at the top or center of vertical***  
153 ***arrangements. Similarly, information for bicycle routes intersecting from the right shall be***  
154 ***at the right or bottom, and for straight-through bicycle routes at the center in horizontal***  
155 ***arrangements or top in vertical arrangements (See Figure 9B-X).***

156 Option:

157 *23 The Bicycle Route Sign assemblies may be mounted on common supports with numbered*  
158 *highway routes for general traffic.*

159 Standard:

160 *24 **A Junction assembly shall consist of a Junction auxiliary sign and a bicycle route sign.***  
161 ***The bicycle route sign shall carry the number of the intersected or joined bicycle route (See***  
162 ***Figure 9B-X).***

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 (See Figure 9B-X).*

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.***

171  
172  
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 may 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 **Guidance:**

217 35 If used, Confirming or Reassurance assemblies should 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 should also be included  
220 in the assembly.

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

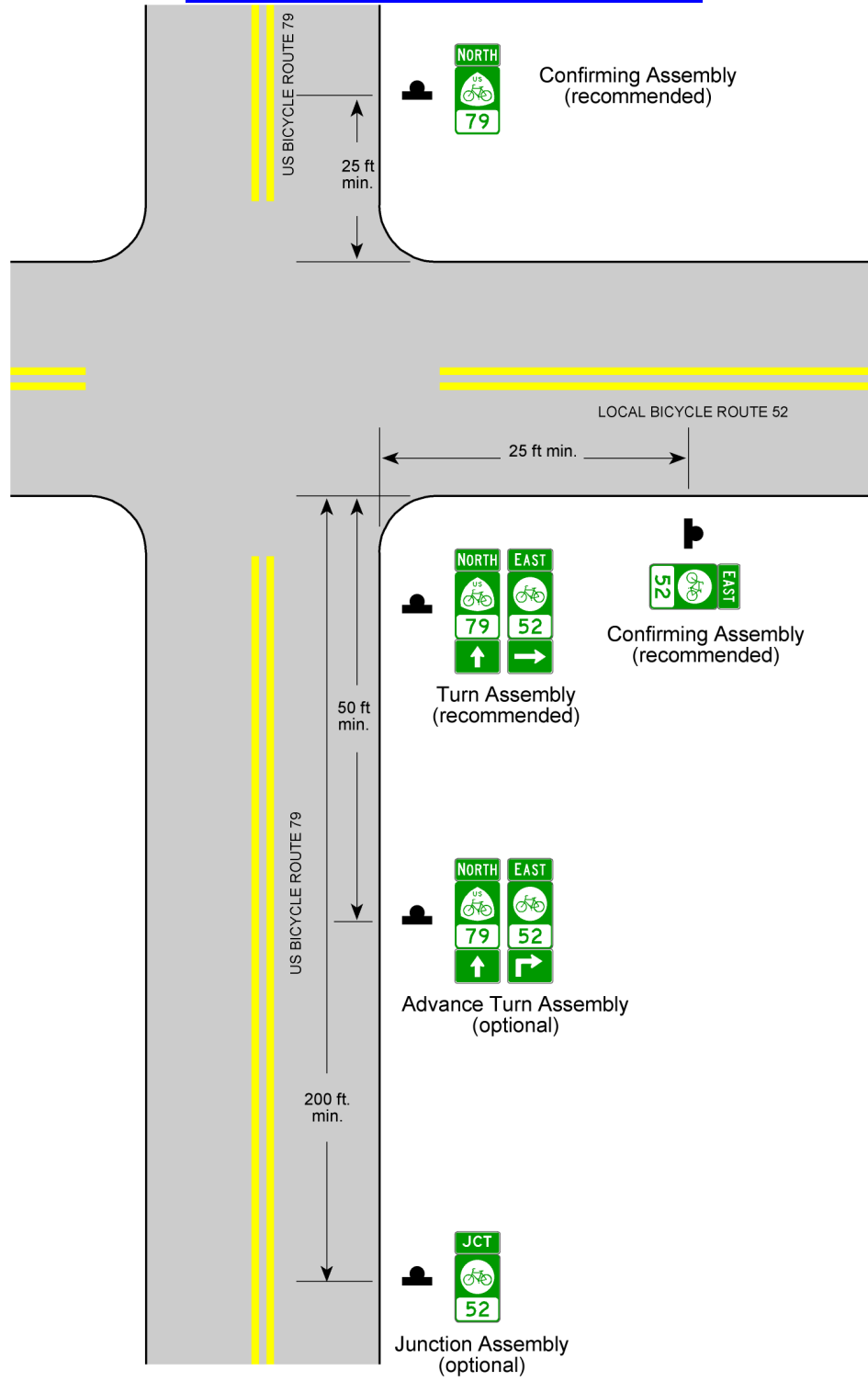
224 37 If used, Reassurance assemblies should be installed between intersections in urban areas as  
225 needed, and beyond the built-up area of any incorporated city or town.

226 38 If used, Bicycle route signs for either confirming or reassurance purposes should be spaced  
227 at such 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.