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

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

RECOMMENDED MUTCD CHANGES

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

PART 2. SIGNS

CHAPTER 2D. GUIDE SIGNS - CONVENTIONAL ROADS

Section 2D.01 Scope of Conventional Guide Sign Standards

Standard:

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

02 **The provisions of this chapter shall not be used for signs and plaques installed specifically for bicycle traffic applications (See Chapter 9B).** [Revised wording adapted from 9B.02 p 02]

PART 9. TRAFFIC CONTROL FOR BICYCLE FACILITIES

CHAPTER 9B. SIGNS

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

Option:

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

~~*Standard*~~ *Guidance:*

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

bicycle symbol or word message that clearly identifies the route as a bicycle route or pathway. *[approved June 2014, Bike #5]*

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

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

~~*Guidance:*~~

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

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

Standard:

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

Guidance:

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

Option:

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

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

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

~~Option:~~

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

Guidance:

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

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

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

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

Option:

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

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

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

Support:

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

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

Standard:

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

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

Guidance:

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

Standard:

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

Option:

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

Standard:

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

Option:

25 The Junction assembly may be installed in advance of intersections where a numbered bicycle route is intersected or joined by another numbered bicycle route (See Figure 9B-X).

Standard:

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

Option:

27 The Advance Bicycle Route Turn assembly may be used in advance of intersecting routes. On the approach to an intersection with a numbered bicycle route, the Advance Bicycle Route

Turn assembly may be used to pre-position turning bicyclists in the correct lane position from which to make their turn.

Standard:

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

Guidance:

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

A. *Turn movements should be marked by a Directional assembly with a route sign displaying the number of the turning route and a single- headed arrow pointing in the direction of the turn.*

B. *The beginning of a route should be marked by a Directional assembly with a route sign displaying the number of that route and a single-headed arrow pointing in the direction of the route.*

C. *An intersected route on a crossroad where the route is designated on both legs should be designated by:*

1. *Two Directional assemblies, each with a route sign displaying the number of the intersected route, a Cardinal Direction auxiliary sign, and a single-headed arrow pointing in the direction of movement on that route; or*
2. *A Directional assembly with a route sign displaying the number of the intersected route and a double-headed arrow, pointing at appropriate angles to the left, right, or ahead.*

D. *An intersected route on a side road or on a crossroad where the route is designated only on one of the legs should be designated by a Directional assembly with a route sign displaying the number of the intersected route, a Cardinal Direction auxiliary sign, and a single-headed arrow pointing in the direction of movement on that route.*

Option:

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

Guidance:

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

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

Support:

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

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

Guidance:

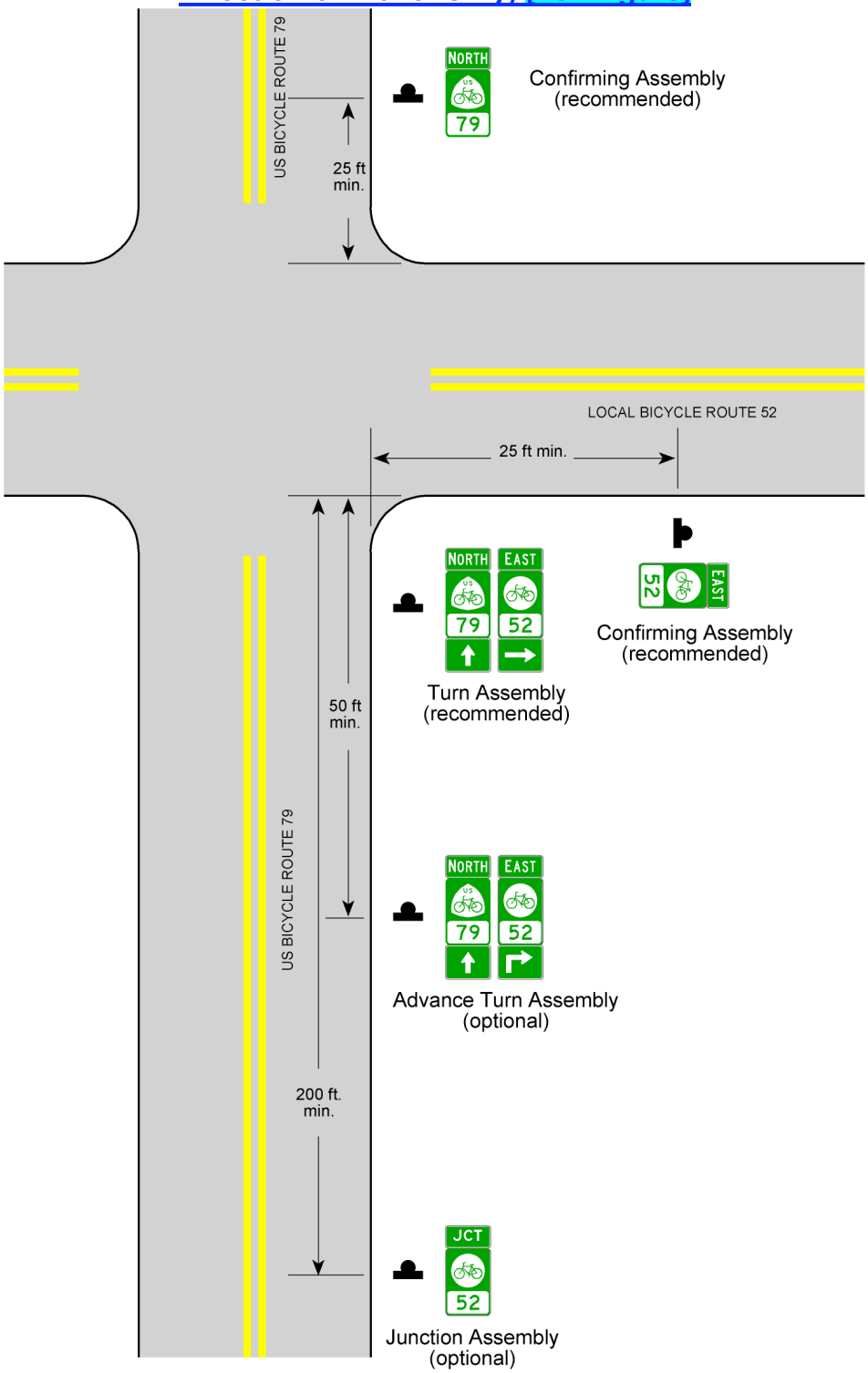
35 *If used, Confirming or Reassurance assemblies should consist of a Cardinal Direction auxiliary sign and a route sign. Where the Confirming or Reassurance assembly is for an alternative route, the appropriate auxiliary sign for an alternative route should also be included in the assembly.*

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

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

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

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



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.