



National Committee on Uniform Traffic Control Devices

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Item No.: 24B-BIK-05

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NCUTCD RECOMMENDATION FOR CHANGES TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES

COMMITTEE / TASK FORCE: Bicycle Technical Committee
ITEM NUMBER: 24B-BIK-05
TOPIC: Providing Bicycle Turn Box Regulatory and Guide Signs for Bicycle Right Turns
ORIGIN OF REQUEST: Bicycle Technical Committee
AFFECTED SECTIONS OF MUTCD: Section 9A.02 Standardization of Application for Signs
Section 9B.18 Two-Stage Bicycle Turn Box Regulatory Signing (R9-23 Series)
Section 9D.13 Two-Stage Bicycle Turn Box Guide Signs (D11-20 Series)

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DEVELOPMENT HISTORY:

Approved by Bicycle TC: 06/27/2024 and 01/08/2025
Approved by NCUTCD Council: 01/09/2025

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SUMMARY:

In July 2017 FHWA issued an Interim Approval for optional use of Two-Stage Bicycle Turn Boxes (IA-20). This approval provided traffic control devices to facilitate alternative methods for bicyclists on the curb side of traffic to turn left (or right if the facility is located to the left of general travel lanes) without a bicyclist merging across a physical barrier or facing a difficult merge across multiple lanes of potentially higher-speed traffic. The two-stage turn box also encourages bicyclists to stay within on-street bicycle facilities rather than use the sidewalk and crosswalks around intersections, thus reducing conflicts with pedestrians. This proposal includes provisions for both bicycle left turns and bicycle right turns.

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DISCUSSION:

The FHWA Interim Approval IA-20 provided traffic control devices to facilitate bicycle turns at intersections.

31 The most common application of a two-stage bicycle turn box is to facilitate a bicycle left turn
32 from the right edge of the roadway. In some cases, a bicycle right turn box is needed to facilitate
33 a bicycle right turn from the left side of the roadway such as for a two-way separated bicycle
34 lane. IA-20 provided “bicycle left turn” and “bicycle right turn” versions for both regulatory and
35 guide signs.

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37 The 2023 MUTCD Section 9B.18 Two-Stage Bicycle Turn Box Regulatory Signing (R9-23
38 Series) Figure 9B-1 and Section 9D.13 Two-Stage Bicycle Turn Box Guide Signs (D11-20
39 Series) Figure 9D-1 Sheet 3 of 3 provide only for a “bicycle left turn” sign. Without clarity that
40 right turn boxes and bicycle right turn signs are permitted, as is provided in IA-20 (and is also
41 clearly indicated for other similar signs in the 2023 MUTCD), some users may interpret that the
42 2023 MUTCD does not permit them. Since there continues to be a need to provide Two-Stage
43 Bicycle Right Turn Boxes when facilities are provided on the left side of the roadway, this
44 proposal includes provisions for a “bicycle right turn” version of both the regulatory and guide
45 Two-Stage Bicycle Turn Box signs as contained in IA-20.

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

PART 9 TRAFFIC CONTROL FOR BICYCLE FACILITIES

CHAPTER 9A. GENERAL

Section 9A.02 Standardization of Application for Signs

Table 9A-1 Bicycle Facility Sign and Plaque Minimum Sizes (Sheet 1 of 3)

Sign or Plaque	Sign Designation	Section	Off Roadway ^{1,5}	Roadway ^{2,5}
Stop	R1-1	9B.01	18 x 18	—
Yield	R1-2	9B.01	18 x 18 x 18	—
Bike Lane (plaque)	R3-5hP	9B.04	—	30 x 12
Except Bicycles (plaque)	R3-7bP	9B.02	—	24 x 12
Advance Intersection Lane Control with Bike Lane	R3-8x Series	9B.03	—	Varies x 36
Bike Lane	R3-17	9B.04	—	24 x 18
Ahead, Ends (plaques)	R3-17aP, R3-17bP	9B.04	—	24 x 9
Movement Restriction	R4-1,2,3,7,16	9B.24	12 x 18	—
Begin Right Turn Lane Yield to Bikes	R4-4	9B.05	—	36 x 30
Bicycle Passing Clearance	R4-19	9B.15	—	30 x 30
Bicycle Wrong Way	R5-1b	9B.06	12 x 18	12 x 18
No Motor Vehicles	R5-3	9B.07	24 x 24	24 x 24
No Bicycles	R5-6	9B.08	18 x 18	—
On Freeway (plaque)	R5-10dP	9B.17	—	24 x 6
change Legend on R9-23a to Bicycle Left (Right) Turn from Bike Lane	R7-9,9a	9B.09	—	12 x 18
	R7-10	9B.10	—	12 x 18
	R9-3	9B.08	18 x 18	—
	R9-3cP	9B.06	12 x 12	12 x 12
	R9-5	9B.11	12 x 18	12 x 18
	R9-6	9B.12	12 x 18	12 x 18
Shared-Use Path Restriction	R9-7	9B.13	12 x 18*	—
No Skaters	R9-13	9B.08	18 x 18	18 x 18
No Equestrians	R9-14	9B.08	18 x 18	18 x 18
No Snowmobiles	R9-15	9B.08	18 x 18	18 x 18
No All-Terrain Vehicles	R9-16	9B.08	18 x 18	18 x 18
Bicycles Allowed Use of Full Lane	R9-20	9B.14	—	30 x 30
Bicycles Use Shoulder Only	R9-21	9B.16	—	24 x 30
Bicycles Must Exit	R9-22	9B.17	—	24 x 30
Bicycle All Turns from Bike Lane	R9-23	9B.18	—	12 x 18
Bicycle Left Turn from Bike Lane	R9-23a	9B.18	—	12 x 18
Bicycle Left Turn Must Use Turn Box	R9-23b, R9-23c	9B.18	—	12 x 18
Bicycle All Turns	R9-24,24a	9B.19	—	24 x 6
Bicycle U and Left Turns	R9-25,25a,25b	9B.19	—	24 x 9
Bicycle U Turn	R9-26,26a,26b	9B.19	—	24 x 6
Bicycle Left Turn	R9-27,27a,27b	9B.19	—	24 x 6
Push Button for Green	R10-4	9B.20	9 x 12	9 x 12
Left Turn Yield to Bicycle	R10-12b	9B.21	—	30 x 36
Bicycle Detector	R10-22	9B.20	12 x 18	12 x 18
Bike Push Button for Green Light	R10-24	9B.20	9 x 15	9 x 15
change Legend on R9-23b and R9-23c to Bicycle Left (Right) Turn Must Use Turn Box	R10-25	9B.20	9 x 12	9 x 12
	R10-26	9B.20	9 x 15	9 x 15
	R10-40, R10-40a, R10-41, R10-41a, R10-41b, R10-41c	9B.22	12 x 21	12 x 21
	R15-1	9B.23	24 x 4.5	48 x 9
P B B G N L H	R15-2P	9B.23	13.5 x 9	27 x 18
	R15-8	9B.23	18 x 9	36 x 18
	W1-1,2,3,4,5	9C.01	18 x 18	—
Large Arrow	W1-6,7	9C.01	24 x 12	—
Intersection Warning	W2-1,2,3,4,5	9C.02	18 x 18	—

[Change legend on R9-23b and R9-23c to "Bicycle Left (Right) Must use Turn Box"]

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63 CHAPTER 9B. REGULATORY SIGNS

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65 Section 9B.18 Two-Stage Bicycle Turn Box Regulatory Signing (R9-23 Series)

66 Support:

67 01 Where two-stage bicycle turn boxes are provided in an intersection, the design of an approach to that
68 intersection will determine whether the use of a two-stage bicycle turn box is required by bicycles to
69 facilitate a turn.

70 02 Situations in which a two-stage bicycle turn box might be necessary to facilitate turns include, but
71 are not limited to, those in which:

- 72 A. A separated bicycle facility is provided where upstream access to a lane used to facilitate turns
- 73 by motor vehicle traffic is physically inaccessible to bicycles;
- 74 B. Left turns are prohibited from the left-most lane, or right turns are prohibited from the right-
- 75 most lane, at an intersection; or
- 76 C. Locations where physical or operational conditions make it impracticable or unsafe for a
- 77 bicyclist to merge and make the appropriate turn as would any other vehicle.

78 Option:

79 02a A two-stage bicycle turn box may be used for turns from a left-side bicycle lane on a one-way street
80 or from a two-way separated bicycle lane.

81 **Standard:**

82 03 **Where bicycles are required to use a two-stage bicycle turn box (see Figure 9B-5), the Two-**
83 **Stage Bicycle Turn Box regulatory sign series (see Figure 9B-5) shall be used.**

84 04 **Where bicycles are required to use a two-stage bicycle turn box, the Bicycles All Turns from**
85 **Bike Lane (R9-23) or Bicycle Left (Right) Turn from Bike Lane (R9-23a) advance regulatory sign**
86 **shall be mounted in advance of the intersection, and at least one Bicycle Left (Right) Turn Must**
87 **Use Turn Box (R9-23b or R9-23c) sign shall be used at the intersection.**

88 05 **Where used, the Bicycle Left (Right) Turn Must Use Turn Box (R9-23b) sign shall be mounted**
89 **at the near side of the intersection.**

90 06 **Where used, the Bicycle Left (Right) Turn Must Use Turn Box location (R9-23c) sign shall be**
91 **mounted at the far side of the intersection.**

92 **[Adding ‘Bicycle Right Turn’ version of R9-23 series sign as per IA-20 in format consistent with current**
93 **MUTCD format.]**

94 Option:

95 07 Where use of a two-stage bicycle turn box is optional, the Two-Stage Bicycle Turn Box guide sign
96 series (see Section 9D.13) may be used to provide directional information.

97 08 If used, an appropriately sized Street Name (D3-1) sign (see Section 2D.45) may be installed below
98 the All Turns from Bike Lane sign or Bicycle Left (Right) Turn from Bike Lane sign to identify the
99 crossroad where the turn box will be available.

100 Support:

101 09 Section 9E.11 contains information regarding pavement markings and turning restrictions for two-
102 stage turn boxes.

104 **CHAPTER 9D. GUIDE AND SERVICE SIGNS**

105 **Section 9D.13 Two-Stage Bicycle Turn Box Guide Signs (D11-20 Series)**

107 Support:

108 01 Two-stage bicycle turn boxes provide a way for a bicyclist to make a turn in a manner such that a
109 merge across the general-purpose lanes is not required.

110 02 Section 9B.18 provides information about situations when the use of a two-stage bicycle turn box is
111 required and also contains information about the Two-Stage Bicycle Turn Box (R9-23 series) regulatory
112 signs.

113 03 Section 9E.11 contains information regarding pavement markings for two-stage bicycle turn boxes.

114 Option:

115 04 Where a two-stage bicycle turn box is provided, the Two-Stage Bicycle Turn Box guide sign series
116 (see Figure 9D-1) may be used.

117 **Standard:**

118 05 **Where used, the Two-Stage Bicycle Left (Right) Turn Box Advance (D11-20) guide sign shall**
119 **be mounted in advance of the intersection where the turn box is located.**

120 06 **Where used, the Two-Stage Bicycle Left (Right) Turn Box (D11-20a) guide sign shall be**
121 **mounted on the far side of the intersection.**

122 **[Adding “Bicycle Right Turn” version of D11-20 series signs as per IA-20 and consistent with current**
123 **MUTCD format.]**

124 Option:

125 07 Where the Two-Stage Bicycle Turn Box Advance (D11-20) guide sign is used, an additional Two-
126 Stage Bicycle Turn Box Advance guide sign may be mounted on the near side of the intersection where
127 the turn box is located.

128 08 If used, an appropriately-sized Street Name (D3-1) sign (see Section 2D.45) may be installed below
129 the Two-Stage Bicycle Turn Box Advance guide sign to identify the crossroad where the turn box will be
130 available.

131 09 Figure 9D-7 shows an example of Two-Stage Bicycle Turn Box guide signs at a location where the
132 use of the turn box is optional.