



# National Committee on Uniform Traffic Control Devices

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Item No.: 24B-BIK-02

## NCUTCD PROPOSAL FOR CHANGES TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES

**COMMITTEE / TASK FORCE:** Bicycle Technical Committee  
**ITEM NUMBER:** 24B-BIK-02  
**TOPIC:** Definitions, Markings and Signs for Advisory Bicycle Lanes  
**ORIGIN OF REQUEST:** Advisory Bicycle Lane MCTF  
**AFFECTED SECTIONS OF MUTCD:** Section 1C.02 Definitions Acronyms, and Abbreviations Used in This Manual  
Section 2C.51a Modified Two-Way Traffic Sign (W6-3a)  
Section 9E.08a Markings for Advisory Bicycle Lanes

### DEVELOPMENT HISTORY:

Approved by Bicycle TC: 01/12/2023  
Approved by Markings TC: 01/12/2023  
Approved by RWSTC: 01/11/2024  
Approved by Edit Committee: 05/28/2024  
Approved by NCUTCD Council:

*This is a proposal for recommended changes to the MUTCD that has been developed by a technical committee or joint task force 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 provides guidance for the application of signage and markings for Advisory Bicycle Lanes (ABLs). This treatment is used to accommodate vulnerable road users on low-volume roads.

### DISCUSSION:

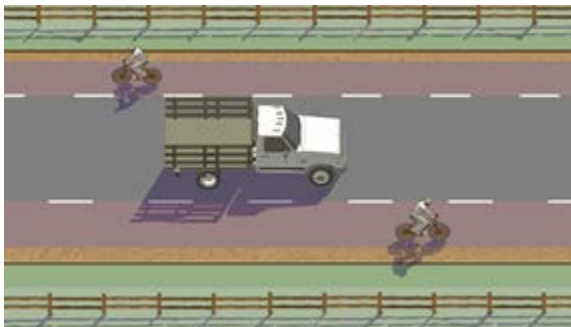
All of the components for an ABL are present in the current edition of the MUTCD; however, the combination of these elements is regarded as an experimental treatment by FHWA. Defining ABLs within the MUTCD will allow for the use of ABLs outside of the FHWA Request to Experiment process.

34 At the January 2019 meeting, the Bicycle Technical Committee (BTC) hosted a speaker on  
35 advisory bicycle lanes. The BTC formed a task force to explore the addition of ABLs into the  
36 MUTCD.

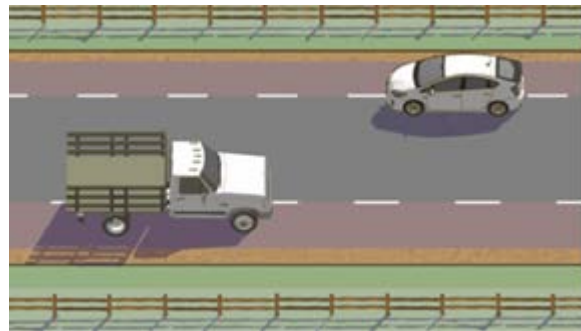
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38 The recommendations set forth in this proposal are consistent with the most recent draft (May  
39 2022) of the 5th Edition AASHTO Guide for the Development of Bicycle Facilities, which  
40 includes design guidance ABLs.

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42 An ABL-equipped road supports two-way vehicular traffic in a single center lane, while cyclists,  
43 pedestrians, or other vulnerable road users travel directionally in the outer lanes. The center  
44 lane does not include a marked centerline. The ABLs are delineated with broken white lines  
45 indicating a permissive condition as described in “Chapter 3D Markings for Preferential Lanes”  
46 of the MUTCD. Figure 1 shows proper road user position on an ABL-equipped road when there  
47 are no approaching motorists. When a motorist encounters an approaching vehicle, Figure 2  
48 illustrates proper positioning during a passing maneuver. Once the passing movement has  
49 completed, motorists return to the center lane as shown in Figure 1. This type of maneuver is  
50 common throughout the United States on narrow streets in residential neighborhoods, with well-  
51 used on-street parking.

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53  
54 **Figure 1: Proper road user position.**



55  
56 **Figure 2: Proper positioning during a passing maneuver.**

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58 **Image Source: 2016 FHWA Small Town and Rural Multimodal Networks Guide**

59

60 ABLs create preferential but not exclusive space on the roadway for vulnerable road users.  
61 Other potential benefits include reduction of vehicular speeds, reduction in certain types of  
62 vehicular crashes, and an increase in the predictability and clarity of the desired lateral  
63 placement of all road users.

64

65 The first mention of ABLs in official guidance are in the 2009 Fundamentals of Bicycle  
66 Boulevard Planning & Design Guide (1) and in the 2010 City of Portland Bicycle Plan for 2030,  
67 Appendix D Bikeway Facility Design: Survey of Best Practices (2).

68

69 Federal guidance includes the 2016 *FHWA Small Towns and Rural Multimodal Networks Guide*  
70 (3), where they are known as Advisory Shoulders and the 2019 *FHWA Bikeway Selection Guide*  
71 (4), where they are called Advisory Bike Lanes. Some design guidance exists on the FHWA  
72 webpage (5) that details requirements for Request to Experiment applications with this  
73 treatment; this webpage refers to the treatment as Dashed Bicycle Lanes but predates the  
74 *Small Towns and Rural Multimodal Networks Guide* and is considered less authoritative. The  
75 most recent draft of the *5th Edition AASHTO Guide for the Development of Bicycle Facilities* (as  
76 of May 2022) includes ABLs and uses both the Advisory Bike Lanes and Advisory Shoulders

75 terms. Canada has at least one published guide which includes the treatment, the 2019 *British*  
76 *Columbia Active Transportation Design Guide* (6).

77  
78 An early review of existing installations and current knowledge was published in 2017 (7). Two  
79 ITE Journal articles (8, 9) discuss the growth of the treatment, its safety performance, and  
80 alternative uses.

81  
82 A study submitted to TRB for publication in August 2020 used Empirical Bayes analysis on  
83 eleven American ABL facilities with five years of pre-installation crash data and three years of  
84 post-installation crash data. This analysis produced CMF values for each installation using the  
85 process defined in the 2010 *Highway Safety Manual*. All of the CMFs were under 1.0, indicating  
86 a reduction in crashes following installation. (10)

87  
88 ABLs have been popular in other countries for decades. A report from the 2013 International  
89 Transport Forum lists ten developed countries using this treatment with three countries reporting  
90 use predating 1970 (11). The Netherlands, the originator of the concept, has approximately a  
91 thousand road-kilometers of ABLs in their country (12).

92  
93 ABLs have enormous potential. According to 2016 FHWA statistics, the US has more than 2  
94 million miles of paved local and collector roads (13). ABLs can inexpensively provide facilities  
95 on many of these roads. This can be useful where roads are too narrow or lack the right-of-way  
96 for the addition of standard bicycle lanes. Further, ABLs can provide more horizontal clearance  
97 between bicyclists and traffic than standard bicycle lanes in some situations and are an  
98 excellent striping treatment for bicycle boulevards (9).

99  
100 Use of ABLs in the U.S. and Canada has grown since the first installation in 2011 (9); over 40  
101 installations were known as of October 1, 2020 (14). Given the millions of road-miles which are  
102 possible ABL candidates and the treatment's low cost, continued growth seems unavoidable.  
103 Numerous ABL installations have been submitted under the Request to Experiment and  
104 completed the two-year evaluation period. There are also additional projects that have recently  
105 started Request to Experiment, such as the ABL located at E Street SE between 12<sup>th</sup> and 17<sup>th</sup>  
106 SE in Washington DC.

107  
108 The FHWA *Small Town and Rural Multimodal Networks Guide* recommends use on low  
109 volume/low speed streets. Preferred conditions for siting are less than 3,000 ADT and a posted  
110 speed limit of 25 MPH or less. Potential conditions for siting are less than 6,000 ADT and a  
111 posted speed limit of 35 MPH or less. ABLs should not be considered an alternative to facilities  
112 that provide greater separation for vulnerable road users, such as separated bicycle lanes.  
113 ABLs provide support comparable to painted bike lanes, or bicycle boulevards.

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115 At the request of the Regulatory & Warning Sign Technical Committee, human factors testing on  
116 a modified Two-Way Traffic (W6-3) sign was conducted by Dr. Ron Van Houten at Western  
117 Michigan University. The testing found the over 90% of participant responses were "move to the  
118 side", "use caution when passing" or "take turns passing" when motorists encountered on-  
119 coming traffic on a roadway marked with advisory bicycle lanes.

## 120 REFERENCES

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170 **RECOMMENDED MUTCD CHANGES:**  
171 The following present the proposed changes to the current MUTCD within the context of the  
172 current MUTCD language. Proposed additions to the MUTCD are shown in blue underline and  
173 proposed deletions from the MUTCD are shown in ~~red strikethrough~~. Changes previously  
174 approved by NCUTCD Council (but not yet adopted by FHWA) are shown in green double  
175 underline for additions and ~~green double strikethrough~~ for deletions. In some cases,  
176 background comments may be provided with the MUTCD text. These comments are indicated  
177 by [bracketed white text in shaded green]. Deletions made by a technical committee or task  
178 force after initial distribution to sponsoring organizations are shown in ~~highlighted red~~  
179 ~~strikethrough and Helvetica text~~. Additions made by a technical committee or task force after  
180 initial distribution to sponsoring organizations are shown in underline blue and Helvetica text.

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182 **PART 1. GENERAL**

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184 **CHAPTER 1C. DEFINITIONS, ACRONYMS, AND ABBREVIATIONS USED IN THIS**  
185 **MANUAL**

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187 **Section 1C.02 Definitions of Words and Phrases Used in this Manual**

188 **Standard:**

189 <sup>03</sup> The following words and phrases, when used in this Manual, shall have the following  
190 meanings:

191 25d. Advisory Bicycle Lane – a bicycle lane, for preferential use by bicycles, on a low-speed,  
192 low-volume two-way travelled way of insufficient width to accommodate two lanes for motorized  
193 vehicles plus bicycle lanes, and without a marked centerline, that is marked to permit motorized  
194 vehicle traffic to enter the bicycle lane to avoid conflict with oncoming motorized vehicle traffic  
195 after yielding to bicycles and pedestrians.

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197 **PART 2. SIGNS**

198  
199 **CHAPTER 2C – WARNING SIGNS AND OBJECT MARKERS**

200  
201 **Section 2C.51a Modified Two-Way Traffic Sign (W6-3a)**

202 Option:

203 <sup>01</sup> A Modified Two-Way Traffic (W6-3a) sign may be used along a two-way traveled way marked with  
204 advisory bicycle lanes and having less than two full-width travel lanes.



205  
206 W6-3a

207  
208 **PART 9. TRAFFIC CONTROL FOR BICYCLE FACILITIES**

209  
210 **CHAPTER 9E. MARKINGS**

211  
212 **Section 9E.08a Markings for Advisory Bicycle Lanes**

213 **Standard:**

214 01 Advisory bicycle lanes shall be marked with a normal broken white line as shown in Figure 9E-  
215 8a.

216 **Option:**

217 02 Where additional emphasis of the advisory bicycle lanes is desired, a wide broken line may be used.  
218 03 Advisory bicycle lane markings may be supplemented by Modified Two-Way Traffic signs (W6-3a)  
219 (see Section 2B.51a).

220 04 The bicycle lane symbol marking consistent with Section 9C.04 may be used in advisory bicycle  
221 lanes (see Figure 9E-8a).

222 **Support:**

223 05 State vehicle code may regulate appropriate use of the bicycle symbol within the lane.

224 **Guidance:**

225 06 Broken white lines used for advisory bike lanes should have a nominal 3-foot segment with a 6-foot-  
226 gap.

227 07 Factors that should be considered when implementing advisory bicycle lanes include traffic volume,  
228 speed limit, geometry of the roadway, horizontal and vertical sight distance, intersection characteristics,  
229 directional volume split, bus and truck traffic, and other appropriate factors.

230 **Standard:**

231 08 A marked centerline shall not be used in combination with advisory bicycle lanes.

232 **Support:**

233 09 The omission of a marked centerline on the section of a roadway with advisory bikes lanes  
234 encourages motorists to operate within the center shared travel lane.

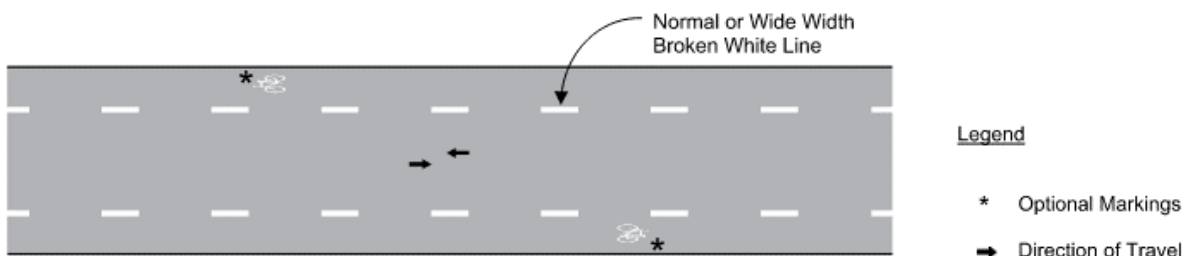
235 **Option:**

236 10 Where motorists are permitted to turn on to a roadway with advisory bicycle lanes, the advisory  
237 bicycle lanes may either continue to the intersection (see Figure 9E-8c) or terminate in advance of the  
238 intersection (see Figure 9C-8d) to develop full width travel lanes.

239 **Support:**

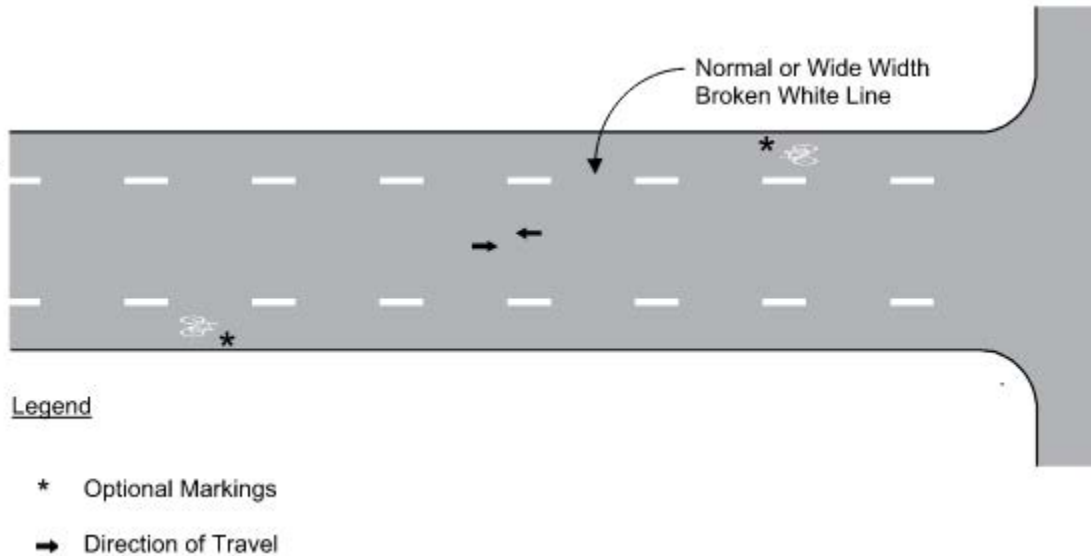
240 11 It may be desirable to terminate advisory bicycle lanes and provide full width travel lanes in advance  
241 of a yield-, stop-, traffic signal-controlled approach of an intersection to limit the potential for a vehicle in  
242 the center of the approach to block the space needed for an approaching vehicle to turn onto the roadway.  
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244 **Figure 9E-8a Typical Marking Treatment for Advisory Bicycle Lanes**



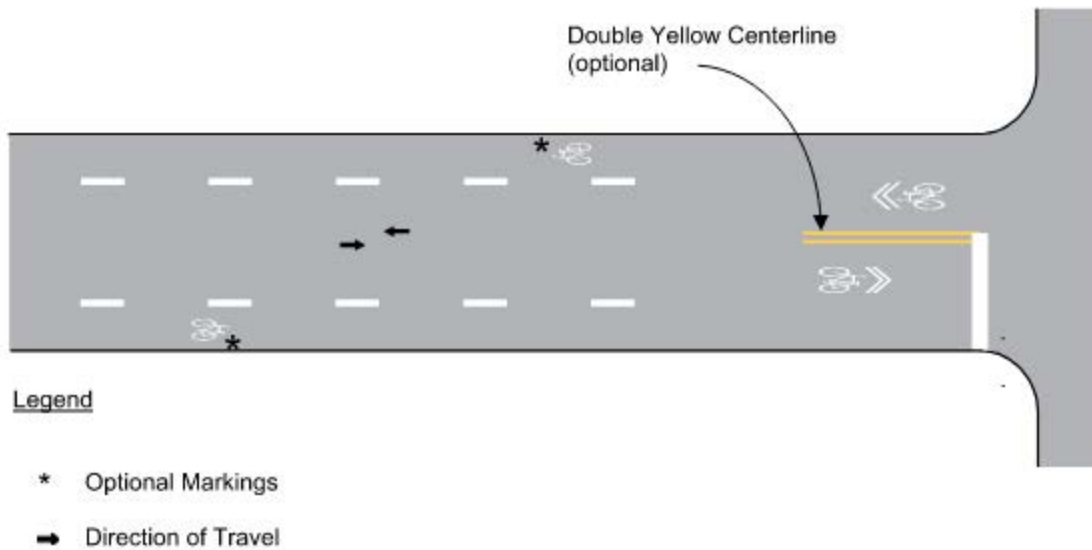
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**Figure 9E-8b Typical Marking Treatment for Advisory Bicycle Lanes Approaching an Intersection**



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**Figure 9E-8c Typical Marking Treatment for Advisory Bicycle Lanes Transitioning to Full-Width Lanes**



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