

**MUTCD Proposed Revision No. 2 Change List
as reviewed by NCUTCD Bicycle Technical Committee
and approved by NCUTCD Council 21 June 2002**

KEY:

Original Change List text

Major change

Minor change

Editorial change

Part 9

1. **Cover of Part 9.** Change: “Incorporating: Errata No. 1 dated June 14, 2001” to: “Incorporating: Proposed Revision No. 2, Errata No. 1 dated June 14, 2001.”

Editorial change; BTC concurs.

2. **Page 9A-1, Section 9A.03, Definitions Relating to Bicycles.** Under Standard, add the following new item 1, and renumber the subsequent paragraphs accordingly:

1. Bicycle Facilities – a general term denoting improvements and provisions made by public agencies to accommodate or encourage bicycling, including parking and storage facilities, and shared roadways not specifically defined for bicycle use.

Major change, not initiated by NCUTCD. Approved by NCUTCD in June 2002 with modifications:

1. ~~Bicycle Facilities – a general term denoting improvements and provisions made by public agencies to~~ **that accommodate or encourage bicycling, including parking and storage facilities, and shared roadways not specifically defined for bicycle use.**

Justifications:

Agree with additional definition but see no need to limit it to public agencies. There are many bicycle facilities that are subject to the requirements of the MUTCD that are operated by non-governmental agencies. The removal of the "made by public agencies" clause does not materially change this definition and makes it more inclusive.

3. **Page 9B-2, Section 9B.01, Application and Placement of Signs.** Under Standard, in the fourth paragraph, change: “On shared-use paths, lateral sign clearance shall be a minimum of 0.9 m (3 ft) and a maximum of 1.8 m (6 ft) from the near edge of the sign to the near edge of the path.” to: “On shared-use paths, lateral sign clearance shall be a minimum of 0.9 m (3 ft) and a maximum of 1.8 m (6 ft) from the near edge of the sign to the near edge of the path (see Figure 9B-1).”; in the fifth paragraph, change: “Mounting height for ground-mounted signs on shared-

use paths shall be a minimum of 1.2 m (4 ft) and a maximum of 1.5 m (5 ft), measured from the bottom edge of the sign to the near edge of the path surface.” to: “Mounting height for ground-mounted signs on shared-use paths shall be a minimum of 1.2 m (4 ft) and a maximum of 1.5 m (5 ft), measured from the bottom edge of the sign to the near edge of the path surface (see Figure 9B-1).”; under Guidance, change: “Signs for the exclusive use of bicyclists should be located so that drivers are not confused by them.” to: “Signs for the exclusive use of bicyclists should be located so that other road users are not confused by them.”; remove the Support.

Minor changes; BTC concurs.

4. **Page 9B-2, Section 9B.02, Design of Bicycle Signs.** Under Standard, in the second paragraph, change:

The sign sizes for shared-use paths shall be those shown in Table 9B-1, and shall be used only for signs installed specifically for bicycle traffic applications. The sign sizes for shared use paths shall not be used for signs that are placed in a location that would have any application to other vehicles.

to:

The minimum sign sizes for bicycle facilities shall be those shown in Table 9B-1, and shall be used only for signs installed specifically for bicycle traffic applications. The minimum sign sizes for bicycle facilities shall not be used for signs that are placed in a location that would have any application to other vehicles.

Minor change; BTC concurs with the following clarification:

The minimum sign sizes for bicycle facilities shall be those shown in Table 9B-1, and shall be used only for signs installed specifically for bicycle traffic applications. The minimum sign sizes for ~~bicycle facilities~~ shared-use paths shall not be used for signs that are placed in a location that would have any application to other vehicles.

Under Option, change: “Larger size signs may be used on shared-use paths when appropriate” to: “Larger size signs may be used on bicycle facilities when appropriate”; under Guidance, change: “Except for size, the design of signs for bicycle facilities should be identical to that specified in this Manual for motor vehicular travel.” to: “ Except for size, the design of signs for bicycle facilities should be identical to that specified in this Manual for vehicular travel.”

Minor change; BTC concurs.

5. **Page 9B-3, Table 9B-1. Sign Sizes for Shared-Use Paths.** Change the table title from: to: “**Table 9B-1. Minimum Sign Sizes for Bicycle Facilities**”; replace the existing table in its entirety with the following table:

Sign	MUTCD Code	Minimum Sign Size – mm (in)	
		Path	Roadway
STOP	R1-1	450 x 450 (18 x 18)	750 x 750 (30 x 30)
YIELD	R1-2	600 x 600 x 600 (18 x 18 x 18)	750 x 750 x 750 (30 x 30 x 30)
BIKE LANE	R3-17	—	600 x 750 (24 x 30)
Bicycle Lane Supplemental Plaques	R3-17a,b	—	600 x 200 (24 x 8)
Movement Restriction	R4-1,2,3,7	300 x 450 (12 x 18)	450 x 600 (18 x 24)
Begin Right Turn Lane Yield to Bikes	R4-4	—	900 x 750 (36 x 30)
Bicycle Wrong Way	R5-1b	300 x 450 (12 x 18)	300 x 450 (12 x 18)
NO MOTOR VEHICLES	R5-3	600 x 600 (24 x 24)	600 x 600 (24 x 24)
Bicycle Prohibition	R5-6	600 x 600 (24 x 24)	600 x 600 (24 x 24)
NO PARKING BIKE LANE	R7-9,9a	300 x 450 (12 x 18)	300 x 450 (12 x 18)
Pedestrians Prohibited	R9-3a	450 x 450 (18 x 18)	450 x 450 (18 x 18)
RIDE WITH TRAFFIC	R9-3c	300 x 300 (12 x 12)	300 x 300 (12 x 12)
Bicycle Regulatory	R9-5,6	300 x 450 (12 x 18)	300 x 450 (12 x 18)
Shared-Use Path Restriction	R9-7	300 x 450 (12 x 18)	300 x 450 (12 x 18)
PUSH BUTTON FOR GREEN LIGHT	R10-3	225 x 300 (9 x 12)	225 x 300 (9 x 12)
To Request Green Wait on Symbol	R10-15	300 x 450 (12 x 18)	300 x 450 (12 x 18)
Railroad Crossbuck	R15-1	600 x 112 (24 x 4.5)	1200 x 225 (48 x 9)
Turn and Curve Warning	W1-1,2,3,4,5	450 x 450 (18 x 18)	600 x 600 (24 x 24)
Arrow Warning	W1-6,7	600 x 300 (24 x 12)	900 x 450 (36 x 18)
Intersection Warning	W2-1,2,3,4,5	450 x 450 (18 x 18)	600 x 600 (24 x 24)
Stop, Yield, Signal Ahead	W3-1a,2a,3	450 x 450 (18 x 18)	750 x 750 (30 x 30)

NARROW BRIDGE	W5-2	450 x 450 (18 x 18)	750 x 750 (30 x 30)
BIKEWAY NARROWS	W5-4a	450 x 450 (18 x 18)	750 x 750 (30 x 30)
Hill	W7-5	450 x 450 (18 x 18)	600 x 600 (24 x 24)
BUMP OR DIP	W8-1,2	450 x 450 (18 x 18)	600 x 600 (24 x 24)
Bicycle Surface Condition	W8-10	450 x 450 (18 x 18)	600 x 600 (24 x 24)
Bicycle Surface Condition Plaque	W8-10p	300 x 225 (12 x 9)	300 x 225 (12 x 9)
Advance Grade Crossing	W10-1	375 Dia. (15 Dia.)	375 Dia. (15 Dia.)
Bicycle Crossing	W11-1	450 x 450 (18 x 18)	600 x 600 (24 x 24)
Pedestrian Crossing	W11-2	450 x 450 (18 x 18)	600 x 600 (24 x 24)
Low Clearance	W12-2	450 x 450 (18 x 18)	750 x 750 (30 x 30)
Playground	W15-1	450 x 450 (18 x 18)	600 x 600 (24 x 24)
SHARE THE ROAD Plaque	W16-1	--	450 x 600 (18 x 24)
Supplemental Arrow Plaque	W16-7	--	600 x 300 (24 x 12)
Bicycle Guide	D1-1b	600 x 150 (24 x 6)	600 x 150 (24 x 6)
Street Name	D1-1c	450 x 150 (18 x 6)	450 x 150 (18 x 6)
Bicycle Parking	D4-3	300 x 450 (12 x 18)	300 x 450 (12 x 18)
BIKE ROUTE	D11-1	600 x 450 (24 x 18)	600 x 450 (24 x 18)
Bicycle Route Marker	M1-8	300 x 450 (12 x 18)	300 x 450 (12 x 18)
Interstate Bicycle Route Marker	M1-9	450 x 600 (18 x 24)	450 x 600 (18 x 24)
Bicycle Route Supplemental Plaques	M4-11,12,13	300 x 100 (12 x 4)	300 x 100 (12 x 4)
Route Marker Supplemental Plaques	M7-1,2,3,4,5,6,7	300 x 225 (12 x 9)	300 x 225 (12 x 9)

Major change approved by NCUTCD in January 2000.

6. **Page 9B-4, Section 9B.03, STOP and YIELD Signs (R1-1, R1-2).** Under Standard, change: “STOP (R1-1) signs shall be installed...” to: “STOP (R1-1) signs (see Figure 9B-2) shall be installed...”; change: “YIELD (R1-2) signs shall be installed...” to: “YIELD (R1-2) signs (see Figure 9B-2) shall be installed...”; under the Guidance, change: “When considering STOP

sign placement...” to: “When considering STOP or YIELD sign placement...”

Minor change; BTC concurs.

7. **Page 9B-4, Section 9B.04, Bicycle Lane Signs (R3-16, R3-17).** Change the section title to: “**Section 9B.04 Bicycle Lane Signs (R3-17, R3-17a, R3-17b)**”; under the Standard, change: “Bicycle Lane (R3-16 and R3-17) signs shall be used only in conjunction with the Bicycle Lane Symbol pavement marking.” to: “The BIKE LANE (R3-17) sign (see Figure 9B-2) shall be used only in conjunction with marked bicycle lanes as described in Chapter 9C, and shall be placed at periodic intervals along the bicycle lanes.”

Major change approved by NCUTCD in January 2000.

8. **Page 9B-5.** Add a figure number and title to this page of sign images: “**Figure 9B-2. Regulatory Signs for Bicycle Facilities**”; remove the sign images for the Bicycle Lane (R3-16, R3-16a, R3-17, and R3-17a) signs and replace with the BIKE LANE (R3-17), AHEAD (R3-17a), and ENDS (R3-17b) sign images. Add sign images for the Bicycle WRONG WAY (R5-1b), RIDE WITH TRAFFIC (R9-3c), and Bicycle Signal Actuation (R10-15) sign images.

Major change approved by NCUTCD in January 2000 and January 2001.

Note: "R10-15" has already been assigned to a different sign.

9. **Page 9B-6, Section 9B.04, Bicycle Lane Signs (R3-16, R3-17).** Remove the Standard paragraph at the top of the page; under the Guidance, change:

The R3-17 sign should be installed at periodic intervals along the bicycle lane.

to:

The BIKE LANE (R3-17) sign spacing should be determined by engineering judgment based on prevailing speed of bicycle and other traffic, block length, distances from adjacent intersections, and other considerations.

Major change approved by NCUTCD in June 2002.

Justification:

Language is similar to that in Section 2B.48 for other regulatory signs.

The AHEAD (R3-17a) sign (see Figure 9B-2) should be mounted directly below a R3-17 sign in advance of the beginning of a marked bicycle lane.

The ENDS (R3-17b) sign (see Figure 9B-2) should be mounted directly below a R3-17 sign at the end of a marked bicycle lane.

Remove the Option statement at the end of the section in its entirety.

Major change approved by NCUTCD in January 2000.

10. **Page 9B-6, Section 9B.05, BEGIN RIGHT TURN LANE YIELD TO BIKES Sign (R4-4).** Under Option, change: "...the BEGIN RIGHT TURN LANE YIELD TO BIKES (R4-4) sign may be used..." to: "...the BEGIN RIGHT TURN LANE YIELD TO BIKES (R4-4) sign (see Figure 9B-2) may be used..."

Minor change; BTC concurs.

11. **Page 9B-6.** Immediately following Section 9B.05, add a new Section numbered and titled, "**Section 9B.06 Bicycle WRONG WAY and RIDE WITH TRAFFIC Signs (R5-1b, R9-3c)**".

The new section reads:

Option:

The Bicycle WRONG WAY (R5-1b) and RIDE WITH TRAFFIC (R9-3c) signs (see Figure 9B-2) may be placed facing wrong-way bicycle traffic, such as on the left side of a roadway.

These signs may be mounted back-to-back with other signs to minimize visibility to other traffic.

Guidance:

The RIDE WITH TRAFFIC sign should be used only in conjunction with the Bicycle WRONG WAY sign, and should be mounted directly below the Bicycle WRONG WAY sign.

Major change approved by NCUTCD in January 2000.

12. **Page 9B-6, Section 9B.06, NO MOTOR VEHICLES Sign (R5-3).** Change the Section number to: "**Section 9B.07**"; under Option, change: "The NO MOTOR VEHICLES (R5-3) sign may be installed at the entrance to a shared-use path" to: "The NO MOTOR VEHICLES (R5-3) sign (see Figure 9B-2) may be installed at the entrance to a shared-use path."

Minor change; BTC concurs.

13. **Page 9B-6, Section 9B.07, Bicycle Prohibition Sign (R5-6).** Change the Section number to: "**Section 9B.08**"; under Guidance, change: "Where bicyclists are prohibited, the Bicycle Prohibition (R5-6) sign should be installed at the entrance to the facility." to: "Where bicyclists are prohibited, the Bicycle Prohibition (R5-6) sign (see Figure 9B-2) should be installed at the entrance to the facility."

Minor change; BTC concurs.

14. **Page 9B-7, Section 9B.08, No Parking Bicycle Lane Signs (R7-9, R7-9a).** Change the

Section number and title to: “**Section 9B.09 No Parking BIKE LANE Signs (R7-9, R7-9a)**”; under Standard, change: “...or the No Parking Bike Lane (R7-9 or R7-9a) signs shall be installed” to: “...or the No Parking BIKE LANE (R7-9, R7-9a) signs (see Figure 9B-2) shall be installed.”

Minor change; BTC concurs.

15. **Page 9B-7, Section 9B.09, Bicycle Regulatory Signs (R9-5, R9-6).** Change the Section number to: “**Section 9B.10**”; under Option, change:

The R9-5 sign may be used where the crossing of a street by bicyclists is controlled by pedestrian signal indications.

Where it is not intended for bicyclists to be controlled by pedestrian signal indications, the R10-3 sign (see Section 2B.40) may be used.

The R9-6 sign may be used where a bicyclist is required to cross or share a facility used by pedestrians and is required to yield to the pedestrians.

to:

The R9-5 sign (see Figure 9B-2) may be used where the crossing of a street by bicyclists is controlled by pedestrian signal indications.

Where it is not intended for bicyclists to be controlled by pedestrian signal indications, the R10-3 sign (see Figure 9B-2 and Section 2B.40) may be used.

The R9-6 sign (see Figure 9B-2) may be used where a bicyclist is required to cross or share a facility used by pedestrians and is required to yield to the pedestrians.

Minor change; BTC concurs.

16. **Page 9B-7, Section 9B.10, Shared-Use Path Restriction Sign (R9-7).** Change the Section number “**Section 9B.11**”; under Option, change: “The Shared-Use Path Restriction (R9-7) sign may be installed on facilities that are to be shared by pedestrians and bicyclists. The symbols may be switched as appropriate.” to: “The Shared-Use Path Restriction (R9-7) sign (see Figure 9B-2) may be installed on facilities that are to be shared by pedestrians and bicyclists. The symbols may be switched as appropriate.”

Minor change; BTC concurs.

17. **Page 9B-7.** Immediately before Section 9B.11, add a new Section numbered and titled, “**Section 9B.12 Bicycle Signal Actuation Sign (R10-15)**”. The new Section reads:

Option:

The Bicycle Signal Actuation (R10-15) sign (see Figure 9B-2) may be installed at signalized intersections where markings are used to indicate the location where a bicyclist is to be positioned to actuate the signal (see Section 9C.05).

Guidance:

If the Bicycle Signal Actuation sign is installed, it should be placed adjacent to the marking to emphasize the connection between the marking and the sign.

Major change approved by NCUTCD in January 2001.

Note: "R10-15" has already been assigned to a different sign.

18. **Page 9B-7, Section 9B.11, Other Regulatory Signs.** Change the Section number to: **"Section 9B.13"**.

Editorial change; BTC concurs.

19. **Page 9B-8, Section 9B.12, Turn or Curve Warning Signs (W1 Series).** Change the Section number to: **"Section 9B.14"**; under Guidance, change: "To warn bicyclists of unexpected changes in shared-used path direction, appropriate turn or curve (W1-1 through W1-7) signs should be used" to: "To warn bicyclists of unexpected changes in shared-use path direction, appropriate turn or curve (W1-1 through W1-7) signs (see Figure 9B-3) should be used."

Minor change; BTC concurs.

20. **Page 9B-8, Section 9B.13, Intersection Warning Signs (W2 Series).** Change the Section number to: **"Section 9B.15"**; under Option, change: "Intersection Warning (W2-1 through W2-5) signs may be used..." to: "Intersection Warning (W2-1 through W2-5) signs (see Figure 9B-3) may be used..."

Minor change; BTC concurs.

21. **Page 9B-8, Section 9B.14, Bicycle Surface Condition Warning Sign (W8-10).** Change the Section number to: **"Section 9B.16"**; under Option, change:

The Bicycle Surface Condition Warning (W8-10) sign may be installed where roadway or shared-use path conditions could cause a bicyclist to lose control of the bicycle. A supplemental plaque may be used to clarify the specific type of surface condition.

Other surface conditions that might be of concern to bicyclists include SLIPPERY WHEN WET (W8-10p), BUMP (W8-1), DIP (W8-2), and Pavement Ends (W8-3), but other word message supplemental plaques that describe surface conditions that are of concern to bicyclists may also be used.

to:

The Bicycle Surface Condition Warning (W8-10) sign (see Figure 9B-3) may be installed where roadway or shared-use path conditions could cause a bicyclist to lose control of the bicycle.

Signs warning of other conditions that might be of concern to bicyclists, including BUMP (W8-1), DIP (W8-2), PAVEMENT ENDS (W8-3), and any other word message that describes conditions that are of concern to bicyclists, may also be used.

A supplemental plaque may be used to clarify the specific type of surface condition.

Minor change; BTC concurs.

22. **Page 9B-9.** Add a figure number and title to this page of sign images: “**Figure 9B-3. Warning Signs for Bicycle Facilities (Sheet 1 of 2)**”; replace the Narrow Bridge symbol (W5-2a) sign with a NARROW BRIDGE (W5-2) sign; correct the BIKEWAY NARROWS (W5-4) sign to be a (W5-4a).

Editorial change; BTC concurs.

23. **Page 9B-10.** Add a figure number and title to this page of sign images: “**Figure 9B-3. Warning Signs for Bicycle Facilities (Sheet 2 of 2)**”; add sign images for the Pedestrian (W11-2) and the Playground (W15-1) signs.

Editorial change; BTC concurs.

24. **Page 9B-11, Section 9B.15, Bicycle Crossing Warning Sign (W11-1).** Change the Section number to: “**Section 9B.17**”; under Support, change: “The Bicycle Crossing Warning (W11-1) sign alerts the road user...” to: “The Bicycle Crossing Warning (W11-1) sign (see Figure 9B-3) alerts the road user...”; under Standard, change: “Bicycle Crossing Warning signs, when used at the location of the crossing, shall be supplemented with a diagonal downward pointing arrow (W16-7) plaque to show the location of the crossing.” to: “Bicycle Crossing Warning signs, when used at the location of the crossing, shall be supplemented with a diagonal downward pointing arrow (W16-7) plaque (see Figure 9B-3) to show the location of the crossing.”

Minor change; BTC concurs.

25. **Page 9B-11, Section 9B.16, Other Bicycle Warning Signs.** Change the Section number to: “**Section 9B.18**”.

Editorial change; BTC concurs.

26. **Pages 9B-11 and 9B-12, Section 9B.16, Other Bicycle Warning Signs.** Under Option, change: “Other bicycle warning signs such as BIKEWAY NARROWS (W5-4)...” to: “Other bicycle warning signs (see Figure 9B-3) such as BIKEWAY NARROWS (W5-4a)...”; change:

“...the SHARE THE ROAD (16-1) plaque may be used...” to: “the SHARE THE ROAD (16-1) plaque (see Figure 9B-3) may be used...”

Minor change; BTC concurs.

27. **Page 9B-12, Section 9B.17, Bicycle Route Guide Signs (D11-1).** Change the Section number to: “**Section 9B.19**”; under Guidance, change: “If used, Bicycle Route Guide (D11-1) signs should be provided...” to: “If used, Bicycle Route Guide (D11-1) signs (see Figure 9B-4) should be provided...”; under Support, change:

Figure 9B-2 shows an example of the signing for the junction of a bicycle route with a highway. Figure 9B-3 shows an example of signing and marking for the intersection of a shared-use path with a roadway.

to:

Figure 9B-5 shows an example of the signing for the beginning and end of a designated bicycle route on a shared-use path. Figure 9B-6 shows an example of signing for an on-roadway bicycle route. Figure 9B-7 shows examples of signing and markings for shared-use paths.

Minor change; BTC concurs.

28. **Page 9B-12, Section 9B.18, Bicycle Route Markers (M1-8, M1-9).** Change the Section number to: “**Section 9B.20**”; under Option, change: “...the Bicycle Route (M1-8) marker may be used” to: “...the Bicycle Route (M1-8) marker (see Figure 9B-4) may be used...”

Minor change; BTC concurs.

29. **Page 9B-13.** Add a figure number and title to this page of sign images: “**Figure 9B-4. Guide Signs for Bicycle Facilities**”.

Editorial change; BTC concurs.

30. **Page 9B-14, Figure 9B-2. Example of Signing for the Beginning and End of a Bike Route.** Change the figure number and title to: “**Figure 9B-5. Example of Signing for the Beginning and End of a Designated Bicycle Route on a Shared-Use Path**”; in the illustration, add Destination (D1-1) signs, change the placement distance for the Pedestrian (W11-1) signs from: “225 m (750 ft) rural, 75 m (250 ft) urban” to: “Varies-see Section 9B.17”, and add the word “optional” next to the Pedestrian (W11-1) signs.

Minor change; BTC concurs.

Note: the word "Pedestrian" before "(W11-1)" in the change list should say "Bicycle" (2 places).

31. **Page 9B-14.** Add a figure numbered and titled: “**Figure 9B-6. Example of Signing for an**

On-Roadway Bicycle Route.”

Major change approved by NCUTCD in January 2000.

Note: Center lines should be yellow to be consistent with NCUTCD-approved figure and Figure 4 of the 1999 AASHTO Guide for the Development of Bicycle Facilities.

32. **Page 9B-15, Figure 9B-3, Typical Signs and Markings for Shared-Use Paths.** Change the figure number to: “**Figure 9B-7**”; in the figure title, change: “Typical” to: “Examples of”; at top of illustration, next to sign “W11-1,” add “(optional)”; add a W11-1/M7-4 sign at the intersection in the illustration.

Minor change: Figure was modified slightly per NCUTCD request dated July 2001. The following errors appear in the NPA figure:

- 1. The "XING" and bicycle-symbol pavement markings on roadway are offset from their dimension lines. See original Figure 9B-3.**
- 2. The supplemental plaque below the W11-1 should be W16-7, not M7-4.**
- 3. The following callout text is missing beneath the W2-1 sign:
"(if no stop, yield, or signal control on path)"**

Justifications:

A note is added to the W2-1 sign to clarify that this sign should not be used with stop, yield, or signal control per Section 9B.13 (but may be used when the path does not have such traffic control).

33. **Page 9B-16, Section 9B.18, Bicycle Route Markers (M1-8, M1-9).** Under second Standard, change: “The Interstate Bicycle Route (M1-9) marker shall contain the assigned route number designation...” to: “The Interstate Bicycle Route (M1-9) marker (see Figure 9B-4) shall contain the assigned route number designation...”; under second Option, change: “The Bicycle Route Guide (D11-1) sign may be installed...” to: “The Bicycle Route Guide (D11-1) sign (see Figure 9B-4) may be installed...”

Minor change; BTC concurs.

34. **Page 9B-16, Section 9B.19, Destination Arrow and Supplemental Plaque Signs for Bicycle Route Signs.** Change the Section number to: “**Section 9B.21**”; under Option, in the first paragraph, change: “Destination (D1-1b and D1-1c) signs may be installed with Bicycle Route Guide Signs...” to: “Destination (D1-1b and D1-1c) signs (see Figure 9B-4) may be installed with Bicycle Route Guide Signs”; in the second paragraph, change: “The M4-11 through M4-13 supplemental plaques may be mounted above the appropriate Bicycle Route Guide signs...” to: “The M4-11 through M4-13 supplemental plaques (see Figure 9B-4) may be mounted above the appropriate Bicycle Route Guide signs...”

Minor change; BTC concurs.

35. **Page 9B-17, Section 9B.19, Destination Arrow and Supplemental Plaque Signs for Bicycle Route Signs.** Under Guidance, change: “If used, the appropriate arrow (M7-1 through M7-7) sign should be placed below the Bicycle Route Guide sign...” to: “If used, the appropriate arrow (M7-1 through M7-7) sign (see Figure 9B-4) should be placed below the Bicycle Route Guide sign”; under Standard, in the second paragraph, change: “The arrow signs and supplemental plaques used with the M1-9 sign...” to: “The arrow signs and supplemental plaques used with the M1-9 marker...”

Minor change; BTC concurs.

36. **Page 9B-17, Section 9B.20, Bicycle Parking Area Sign (D4-3).** Change the Section number to: “**Section 9B.22**”; under Option, change: “The Bicycle Parking Area (D4-3) sign may be installed...” to: “The Bicycle Parking Area (D4-3) sign (see Figure 9B-4) may be installed...”

Minor change; BTC concurs.

37. **Page 9C-1, Section 9C.01, Functions of Markings.** Under Support, remove the first sentence.

Minor change; BTC concurs.

38. **Page 9C-1, Section 9C.02, General Principles.** Under second Guidance, change: “Pavement marking symbols and/or word messages should be used in the bicycle lanes” to: “Pavement marking symbols and/or word messages should be used in bikeways where appropriate”; change: “...bicyclists in wet conditions.” to: “...bicyclists under wet conditions.”; insert the Standard from Section 9C.03 to follow the second Guidance in this Section and under the new Standard change: “The color, symbols, size and types of lines used...” to: “The colors, widths of lines, patterns of lines, and symbols used...”; under Support, change: “Figures 9C-1 through 9C-7 show examples of the application of lines, word messages, and symbols on designated bikeways with and without parking for motor vehicles” to: “Figures 9B-7 and 9C-1 through 9C-8 show examples of the application of lines, word messages, and symbols on designated bikeways.”

Minor change; BTC concurs.

39. **Page 9C-2, Figure 9C-1, Typical Intersection Pavement Markings – Designated Bicycle Lane with Left-Turn Area, Heavy Turn Volumes, Parking, One-Way Traffic, or Divided Highway.** In the figure title, change: “Typical” to: “Example of”; change the bicycle pavement marking at the bottom of the illustration from a bicycle symbol to “BIKE.”

Minor change; BTC concurs.

40. **Page 9C-3, Section 9C.03, Marking Patterns and Colors on Shared-Use Paths.**

Remove the Standard from this Section and insert it in Section 9C.02; remove the Support statement; under Guidance, add a new third paragraph:

Markings as shown in Figure 9C-2 should be used at the location of obstructions in the center of the path, including vertical elements, often called bollards, that are permanently or temporarily placed within the path to physically prevent unauthorized motorized vehicles from entering the path.

Major change approved by NCUTCD in June 2002 with modifications:

Markings as shown in Figure 9C-2 should be used at the location of obstructions in the center of the path, including vertical elements ~~, often called bollards, that are permanently or temporarily placed within the path~~ intended to physically prevent unauthorized motorized vehicles from entering the path.

Justification:

BTC concurs with the need to add the new third paragraph. Recommend simplifying the sentence to better explain the application.

Under second Option, in the first paragraph, change: “On shared-used paths, a solid white line may be used to separate different types of users.” to: “A solid white line may be used on shared-use paths to separate different types of users.”; and change: “The R9-7 sign may be used...” to: “The R9-7 sign (see Figure 9B-2) may be used...”; add a new paragraph (from Section 9C.05): “Smaller size letters and symbols may be used on shared-used paths. Where arrows are needed on shared-use paths, half-size layouts of the arrows may be used (see Section 3B.19)”, followed by adding the text from Section 9C.06: “Fixed objects adjacent to shared-use paths may be marked with object markers (Type 1,2, or 3)”; followed by adding the object marker illustrations from Section 9C.06;

Minor change; BTC concurs.

add the Standard from Section 9C.06 and under the new Standard change:

All object markers shall be retroreflective.

Markers such as those described in Section 3C.01 shall also be used on shared-use paths, if needed.

As indicated in section 3C.02, obstructions within the bikeway shall be marked with the appropriate object marker or delineation.

On Type 3 markers, the alternating black and retroreflective yellow stripes shall be sloped down at an angle of 45 degrees toward the side on which traffic is to pass the obstruction.

to:

All object markers shall be retroreflective.

Markers such as those described in Section 3C.01 shall also be used on shared-use paths, if needed.

Obstructions in the traveled way of a shared-use path shall be marked with retroreflectorized material or appropriate object markers.

On Type 3 markers, the alternating black and retroreflective yellow stripes shall be sloped down at an angle of 45 degrees toward the side on which traffic is to pass the obstruction.

Major change approved by NCUTCD in January 2000.

41. **Page 9C-3, Section 9C.04, Markings for Bicycle Lanes.** Under Support, change: “Pavement markings supplement signs to designate that portion of the roadway for preferential or exclusive use by bicyclists” to: “Pavement markings designate that portion of the roadway for preferential use by bicyclists.”

Minor change; BTC concurs.

42. **Page 9C-4, Figure 9C-2, Centerline Markings for Shared-use Paths.** On the illustration at the bottom of the page, change the dimensions between the obstruction and the normal solid yellow line from “0.6 m (2 ft)” to “0.3 m (1 ft).”

Minor change; BTC concurs.

43. **Page 9C-5, Section 9C.04, Markings For Bicycle Lanes.** Under Standard, change:

If used, the bicycle lane symbol shall be placed immediately after but not closer than 20 m (65 ft) from the crossroad, or other locations as needed. The bicycle lane symbol marking shall be white. If the bicycle lane symbol is used in conjunction with other word or symbol messages, it shall precede them.

Signs shall be used with preferential lane symbols.

to:

If used, the bicycle lane symbol marking (see Figure 9C-5) shall be placed immediately after an intersection and at other locations as needed. The bicycle lane symbol marking shall be white. If the bicycle lane symbol marking is used in conjunction with other word or symbol messages, it shall precede them.

Signs shall be used with preferential lane symbols.

Minor change; BTC concurs.

A through bicycle lane shall not be positioned to the right of a right turn only lane.

Major change approved by NCUTCD in January 2000.

Bicycle lanes shall not be provided on the circular roadway of a roundabout.

Major change, not initiated by NCUTCD. Approved by NCUTCD in June 2002.

Justification:

This is consistent with design guidance found in FHWA and AASHTO design references. Bike lane markings in a roundabout create conflicts between vehicles exiting and entering the roundabout and bicyclists continuing around the roundabout.

Under Support, change:

Typical bicycle lane markings at a right-turn lane are shown in Figures 9C-3 and 9C-4. Typical pavement markings for bicycle lanes on a two-way street are shown in Figure 9C-5.

to:

Examples of bicycle lane markings at right-turn lanes are shown in Figures 9C-1, 9C-3, and 9C-4. Examples of pavement markings for bicycle lanes on a two-way street are shown in Figure 9C-5. Pavement symbols and markings for bicycle lanes are shown in Figure 9C-6.

Editorial change; BTC concurs.

A bicyclist continuing straight through an intersection from the right of a right turn lane would be inconsistent with normal traffic behavior and would violate the expectations of right-turning drivers.

Major change approved by NCUTCD in January 2000.

Following the Support, add a Guidance statement that reads:

Guidance:

When the right through lane is dropped to become a right turn only lane, the bicycle lane markings should stop at least 100 feet before the beginning of the right turn lane. Through bicycle lane markings should resume to the left of the right turn only lane.

An optional through-right turn lane next to a right turn only lane should not be used where there is a through bicycle lane. If a capacity analysis indicates the need for an

optional through-right turn lane, the bicycle lane should be discontinued at the intersection approach.

Major change approved by NCUTCD in January 2001.

Posts or raised pavement markers should not be used to separate bicycle lanes from adjacent travel lanes.

Major change approved by NCUTCD in June 2002 with modifications:

Posts, or raised pavement markers, curbs, or other physical barriers within the traveled way should not be used to separate bicycle lanes from adjacent travel lanes.

Justification:

The BTC maintains that the misuse of curbs to delineate bike lanes is a persistent and continuing problem. Vendors are advertising curb-type products as a traffic control device and specifically for marking bike lanes, and agencies may still have the incorrect belief that curbs increase bike lane safety.

Following the Guidance, add a Support statement that reads:

Support:

Using raised devices to define a bicycle lane can cause problems in cleaning and maintaining the bicycle lane. In addition, raised devices can prevent vehicles turning right from merging with the bicycle lane, which is the preferred method for making the right turn.

Major change approved by NCUTCD in June 2002 with modifications:

Using raised devices creates a collision potential for bicyclists by placing fixed objects immediately adjacent to the travel path of the bicyclist. ~~Using raised devices to define a bicycle lane can cause problems in cleaning and maintaining the bicycle lane.~~ **In addition, raised devices can prevent vehicles turning right from merging with the bicycle lane, which is the preferred method for making the right turn. Raised devices used to define a bicycle lane can also cause problems in cleaning and maintaining the bicycle lane.**

Justification:

Support statement is reordered to prioritize hazards, and additional concerns are listed.

44. **Page 9C-5, Section 9C.05, Word Messages and Symbols Applied to the Pavement.** Remove this section and move the second paragraph of the Option to Section 9C.03.

Editorial change; BTC concurs.

45. **Page 9C-5, Section 9C.06, Object Markers on Shared-Use Paths.** Remove this section and move the Option statement and illustrations to Section 9C.03.

Editorial change; BTC concurs.

46. **Page 9C-6, Figure 9C-3, Typical Bicycle Lane Treatment at a Right Turn Only Lane.** In the figure title, change: “Typical” to: “Example of”; in the illustration, change the two symbols of a bicycle with rider pavement markings to two symbols of left facing bicycle pavement markings, and at right side of illustration, add “Dotted lines are optional.”

Minor change; BTC concurs.

47. **Page 9C-7, Figure 9C-4. Typical Bicycle Lane Treatment at Parking Lane Into a Right Turn Only Lane.** In the figure title, change: “Typical” to: “Example of”; in the illustration, change the two symbols of a bicycle with rider pavement markings to two symbols of left facing bicycle pavement markings, and at right side of illustration, add “Dotted lines are optional.”

Minor change; BTC concurs.

48. **Page 9C-8, Figure 9C-5. Typical Pavement Markings for Bicycle Lanes on a Two-Way Street.** In the figure title, change: “Typical” to: “Example of”; in the illustration revise the R3-17 signs.

Editorial change; BTC concurs.

49. **Page 9C-9, Figure 9C-6. Typical Optional Word and Symbol Pavement Markings for Bicycle Lanes.** In the figure title, change: “Typical” to: “Example of”; replace the illustration in its entirety.

Editorial change; BTC concurs.

50. **Page 9C-9, Section 9C.06 Object Markers on Shared-Use Paths.** Remove the Standard statement and add it to Section 9C.03.

Editorial change; BTC concurs.

51. **Page 9C-10.** Prior to Section 9C.07, add a new section numbered and titled: “**Section 9C.05 Bicycle Detector Symbol**”. The new section reads:

Option:

A symbol (see Figure 9C-7) may be placed on the pavement indicating the optimum position for a bicyclist to actuate the signal.

An R10-15 sign (see Section 9B.12 and Figure 9B-2) may be installed to supplement

the pavement marking.

Add a new figure numbered and titled: **“Figure 9C-7. Example of Bicycle Detector Pavement Marking.”**

Major change approved by NCUTCD in January 2000 and January 2001.

Note: "R10-15" has already been assigned to a different sign.

52. **Page 9C-10, Section 9C.07 Pavement Markings for Obstructions.** Change section number to: **“Section 9C.06”**; under Guidance, change the figure reference from: “Figure 9C-7” to: “Figure 9C-8.”

Editorial change; BTC concurs.

53. **Page 9C-10, Figure 9C-7. Typical Obstruction Pavement Marking.** Change the figure number to: **“Figure 9C-8”**; in the figure title, change: “Typical” to: “Example of”.

Editorial change; BTC concurs.

54. **Page 9D-1, Section 9D.02, Signal Operation for Bicycles.** Under Standard, in the second paragraph, change: “On bikeways, the needs of bicyclists shall be considered when setting signal timing” to: “On bikeways, signal timing and actuation shall be reviewed and adjusted to consider the needs of bicyclists.”

Major change approved by NCUTCD in January 2000.

Part 1

12. **Pages 1A-14 through 1A-22, Section 1A.13, Definitions of Words and Phrases in This Manual.** Under Standard, change:

68. Shared-Use Path – a bikeway physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right-of-way or within an independent alignment. Shared-used paths might also be used by pedestrians, skaters, wheelchair users, joggers, and other nonmotorized users.

to:

72. Shared-Use Path – a bikeway physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right-of-way or within an independent alignment. Shared-used paths might also be used by pedestrians, skaters, wheelchair users, joggers, and other nonmotorized users.

Editorial change, approved by NCUTCD in June 2002 with the following modification:

72. Shared-Use Path – a bikeway outside the traveled way and physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right-of-way or within an independent alignment. ~~Shared-used~~ Shared-use paths might also be used by pedestrians, skaters, wheelchair users, joggers, and other nonmotorized users.

Justification:

Shared-use paths by their nature are not part of the traveled way. Bikeways within the traveled way are bicycle lanes or signed shared roadways.