

1 **CHAPTER 9A. GENERAL**

2 **Section 9A.01 Requirements for Bicyclist Traffic Control Devices**

3 Support:

4 General information and definitions concerning traffic control devices are found in Part 1.

5 **Section 9A.02 Scope**

6 Support:

7 Part 9 covers signs, pavement markings, and highway traffic signals specifically related to bicycle  
8 operation on both roadways and shared-use paths.

9 Guidance:

10 Parts 1, 2, 3, and 4 should be reviewed for general provisions, signs, pavement markings, and signals.

11 **Standard:**

12 **None of the bikeway designations in this Manual shall be construed to preclude permitted bicycle**  
13 **travel on roadways or portions of roadways that do not have bikeway designations.**

14 **Section 9A.03 Definitions Relating to Bicycles**

15 **Standard:**

16 **The following terms shall be defined as follows when used in Part 9:**

- 17 **1. Bicycle Facilities—a general term denoting improvements and provisions that accommodate or**  
18 **encourage bicycling, including parking and storage facilities, and shared roadways not**  
19 **specifically defined for bicycle use.**
- 20 **2. Bicycle Lane—a portion of a roadway that has been designated by pavement markings and, if**  
21 **used, signs for preferential or exclusive use by bicyclists.**
- 22 **3. Bikeway—a generic term for any road, street, path, or way that in some manner is specifically**  
23 **designated for bicycle travel, regardless of whether such facilities are designated for the**  
24 **exclusive use of bicycles or are to be shared with other transportation modes.**
- 25 **4. Designated Bicycle Route—a system of bikeways designated by the jurisdiction having authority**  
26 **with appropriate directional and informational route signs, with or without specific bicycle**  
27 **route numbers.**
- 28 **5. Shared-Use Path—a bikeway outside the traveled way and physically separated from motorized**  
29 **vehicular traffic by an open space or barrier and either within the highway right-of-way or**  
30 **within an independent alignment. Shared-use paths are also used by pedestrians (including**  
31 **skaters, users of manual and motorized wheelchairs, and joggers) and other authorized**  
32 **motorized and non-motorized users.**

33 **Section 9A.04 Maintenance**

34 Guidance:

35 All signs, signals, and markings, including those on bicycle facilities, should be properly maintained to  
36 command respect from both the motorist and the bicyclist. When installing signs and markings on bicycle  
37 facilities, an agency should be designated to maintain these devices.

38 **Section 9A.05 Relation to Other Documents**

39 Support:

40 “The Uniform Vehicle Code and Model Traffic Ordinance” published by the National Committee on  
41 Uniform Traffic Laws and Ordinances (see Section 1A.11) has provisions for bicycles and is the basis for the  
42 traffic control devices included herein.

43 Informational documents used during the development of the signing and marking recommendations in  
44 Part 9 include the following:

- 45 A. “Guide for Development of Bicycle Facilities,” which is available from the American Association of  
46 State Highway and Transportation Officials (see Page i for the address); and
- 47 B. State and local government design guides.

48 Other publications that relate to the application of traffic control devices in general are listed in Section  
49 1A.11.

1 **Section 9A.06 Placement Authority**

2 Support:

3 Section 1A.08 contains information regarding placement authority for traffic control devices.

4 **Section 9A.07 Meaning of Standard, Guidance, Option, and Support**

5 Support:

6 The introduction to this Manual contains information regarding the meaning of the headings Standard,  
7 Guidance, Option, and Support, and the use of the words “shall,” “should,” and “may.”

8 **Section 9A.08 Colors**

9 Support:

10 Section 1A.12 contains information regarding the color codes.

11

## CHAPTER 9B. SIGNS

### Section 9B.01 Application and Placement of Signs

#### Standard:

Bicycle signs shall be standard in shape, legend, and color.

All signs shall be retroreflectorized for use on bikeways, including shared-use paths and bicycle lane facilities.

Where signs serve both bicyclists and other road users, vertical mounting height and lateral placement shall be as specified in Part 2.

Where used on a shared-use path, no portion of a sign or its support shall be placed less than 0.6 m (2 ft) laterally from the near edge of the path, or less than 2.4 m (8 ft) vertically over the entire width of the shared-use path (see Figure 9B-1).

Mounting height for post-mounted signs on shared-use paths shall be a minimum of 1.2 m (4 ft), measured vertically from the bottom of the sign to the elevation of the near edge of the path surface (see Figure 9B-1).

#### Guidance:

Signs for the exclusive use of bicyclists should be located so that other road users are not confused by them.

The clearance for overhead signs on shared-use paths should be adjusted when appropriate to accommodate path users requiring more clearance, such as equestrians, or typical maintenance or emergency vehicles.

### Section 9B.02 Design of Bicycle Signs

#### Standard:

If the sign or plaque applies to motorists and bicyclists, then the size shall be as shown for conventional roads in Tables 2B-1, 2C-2, or 2D-1.

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

#### Option:

Larger size signs and plaques may be used on bicycle facilities when appropriate (see Section 2A.11).

#### Guidance:

Except for size, the design of signs and plaques for bicycle facilities should be identical to that specified in this Manual for vehicular travel.

#### Support:

Uniformity in design of bicycle signs includes shape, color, symbols, wording, lettering, and illumination or retroreflectorization.

### Section 9B.03 STOP and YIELD Signs (R1-1, R1-2)

#### Standard:

STOP (R1-1) signs (see Figure 9B-2) shall be installed on shared-use paths at points where bicyclists are required to stop.

YIELD (R1-2) signs (see Figure 9B-2) shall be installed on shared-use paths at points where bicyclists have an adequate view of conflicting traffic as they approach the sign, and where bicyclists are required to yield the right-of-way to that conflicting traffic.

#### Option:

A 750 x 750 mm (30 x 30 in) STOP sign or a 900 x 900 x 900 mm (36 x 36 x 36 in) YIELD sign may be used on shared-use paths for added emphasis.

#### Guidance:

Where conditions require path users, but not roadway users, to stop or yield, the STOP or YIELD sign should be placed or shielded so that it is not readily visible to road users.

1 When placement of STOP or YIELD signs is considered, priority at a shared-use path/roadway  
2 intersection should be assigned with consideration of the following:

- 3 A. Relative speeds of shared-use path and roadway users,
- 4 B. Relative volumes of shared-use path and roadway traffic, and
- 5 C. Relative importance of shared-use path and roadway.

6 Speed should not be the sole factor used to determine priority, as it is sometimes appropriate to give  
7 priority to a high-volume shared-use path crossing a low-volume street, or to a regional shared-use path  
8 crossing a minor collector street.

9 When priority is assigned, the least restrictive control that is appropriate should be placed on the lower  
10 priority approaches. STOP signs should not be used where YIELD signs would be acceptable.

#### 11 **Section 9B.04 Bike Lane Signs and Plaques (R3-17, R3-17aP, R3-17bP)**

##### 12 **Standard:**

13 **The BIKE LANE (R3-17) sign (see Figure 9B-2), if used, shall be used only in conjunction with**  
14 **marked bicycle lanes as described in Section 9C.04.**

##### 15 **Guidance:**

16 Bike Lane signs and plaques should be used in advance of the upstream end of a marked bicycle lane, at  
17 the downstream end of the bicycle lane, and at periodic intervals along the bicycle lane.

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

21 The AHEAD (R3-17aP) plaque (see Figure 9B-2) should be mounted directly below a R3-17 sign in  
22 advance of the upstream end of a marked bicycle lane.

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

#### 25 **Section 9B.05 BEGIN RIGHT TURN LANE YIELD TO BIKES Sign (R4-4)**

##### 26 **Option:**

27 Where motor vehicles entering an exclusive right-turn lane must weave across bicycle traffic in bicycle  
28 lanes, the BEGIN RIGHT TURN LANE YIELD TO BIKES (R4-4) sign (see Figure 9B-2) may be used to  
29 inform both the motorist and the bicyclist of this weaving maneuver (see Figures 9C-1 and 9C-3).

##### 30 **Guidance:**

31 The R4-4 sign should not be used when bicyclists need to move left because of a right-turn lane drop  
32 situation.

#### 33 **Section 9B.06 Bicycles May Use Full Lane Sign (R4-11)**

##### 34 **Option:**

35 The Bicycles May Use Full Lane (R4-11) sign (see Figure 9B-2) may be used on roadways where no  
36 bicycle lanes or adjacent shoulders usable by bicyclists are present and where travel lanes are too narrow for  
37 bicyclists and motor vehicles to operate side by side.

38 The Bicycles May Use Full Lane sign may be used in locations where it is important to inform road users  
39 that bicyclists might occupy the travel lane.

##### 40 **Support:**

41 The Uniform Vehicle Code (UVC) defines a “substandard width lane” as a “lane that is too narrow for a  
42 bicycle and a vehicle to travel safely side by side within the same lane.”

#### 43 **Section 9B.07 Bicycle WRONG WAY Sign and RIDE WITH TRAFFIC Plaque (R5-1b, R9- 44 3cP)**

##### 45 **Option:**

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

48 This sign and plaque may be mounted back-to-back with other signs to minimize visibility to other traffic.

1 Guidance:

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

#### 4 **Section 9B.08 NO MOTOR VEHICLES Sign (R5-3)**

5 Option:

6 The NO MOTOR VEHICLES (R5-3) sign (see Figure 9B-2) may be installed at the entrance to a shared-  
7 use path.

#### 8 **Section 9B.09 Selective Exclusion Signs**

9 Option:

10 Where authorized by public officials under State or local statutes or ordinances, Selective Exclusion signs  
11 may be installed to notify road or facility users that designated types of traffic are excluded from using  
12 particular roadways or facilities.

13 **Standard:**

14 **If used, Selective Exclusion signs shall clearly indicate the type of traffic that is excluded.**

15 Guidance:

16 Where bicyclists are prohibited, the No Bicycles (R5-6) sign (see Figure 9B-2) should be installed at the  
17 entrance to the roadway or facility.

18 Where pedestrians are prohibited, the No Pedestrians (R9-3) sign (see Figure 9B-2) should be installed at  
19 the entrance to the roadway or facility.

20 Where skaters are prohibited, the No Skaters (R9-13) sign (see Figure 9B-2) should be installed at the  
21 entrance to the roadway or facility.

22 Where equestrians are prohibited, the No Equestrians (R9-14) sign (see Figure 9B-2) should be installed  
23 at the entrance to the roadway or facility.

24 Option:

25 Where bicyclists, pedestrians, and motor-driven cycles are all prohibited, it may be more desirable to use  
26 the R5-10a word message sign that is described in Section 2B.46.

#### 27 **Section 9B.10 No Parking Bike Lane Signs (R7-9, R7-9a)**

28 **Standard:**

29 **If the installation of signs is necessary to restrict parking, standing, or stopping in a bicycle lane,**  
30 **appropriate signs as described in Sections 2B.53 through 2B.55, or the No Parking Bike Lane (R7-9 or**  
31 **R7-9a) signs (see Figure 9B-2) shall be installed.**

#### 32 **Section 9B.11 Bicycle Regulatory Signs (R9-5, R9-6, R10-4, R10-24, R10-25, and R10-26)**

33 Option:

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

36 Where it is not intended for bicyclists to be controlled by pedestrian signal indications, the R10-4, R10-  
37 24, or R10-26 sign (see Figure 9B-2 and Section 2B.59) may be used.

38 Guidance:

39 If used, the R9-5, R10-4, R10-24, or R10-26 signs should be installed near the edge of the sidewalk in the  
40 vicinity of where bicyclists will be crossing the street.

41 Option:

42 If bicyclists are crossing a roadway where In-Roadway Warning Lights (see Section 4N.02) have been  
43 provided, the R10-25 sign (see Figure 9B-2) may be used.

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

#### 46 **Section 9B.12 Shared-Use Path Restriction Sign (R9-7)**

47 Option:

1 The Shared-Use Path Restriction (R9-7) sign (see Figure 9B-2) may be installed on facilities that are to be  
2 shared by pedestrians and bicyclists. The symbols may be switched as appropriate.

3 A designated pavement area may be provided for each mode of travel (see Section 9C.03).

#### 4 **Section 9B.13 Bicycle Signal Actuation Sign (R10-22)**

5 Option:

6 The Bicycle Signal Actuation (R10-22) sign (see Figure 9B-2) may be installed at signalized intersections  
7 where markings are used to indicate the location where a bicyclist is to be positioned to actuate the signal (see  
8 Section 9C.05).

9 Guidance:

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

#### 12 **Section 9B.14 Other Regulatory Signs**

13 Option:

14 Other regulatory signs described in Chapter 2B may be installed on bicycle facilities as appropriate.

#### 15 **Section 9B.15 Turn or Curve Warning Signs (W1 Series)**

16 Guidance:

17 To warn bicyclists of unexpected changes in shared-use path direction, appropriate turn or curve (W1-1  
18 through W1-7) signs (see Figure 9B-3) should be used.

19 The W1-1 through W1-5 signs should be installed no less than 15 m (50 ft) in advance of the beginning of  
20 the change of alignment.

#### 21 **Section 9B.16 Intersection Warning Signs (W2 Series)**

22 Option:

23 Intersection Warning (W2-1 through W2-5) signs (see Figure 9B-3) may be used on a roadway, street, or  
24 shared-use path in advance of an intersection to indicate the presence of an intersection and the possibility of  
25 turning or entering traffic.

26 Guidance:

27 When engineering judgment determines that the visibility of the intersection is limited on the shared-use  
28 path approach, Intersection Warning signs should be used.

29 Intersection Warning signs should not be used where the shared-use path approach to the intersection is  
30 controlled by a STOP sign, a YIELD sign, or a traffic control signal.

#### 31 **Section 9B.17 Bicycle Surface Condition Warning Sign (W8-10)**

32 Option:

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

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

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

#### 39 **Section 9B.18 Bicycle Warning and Combined Bicycle/Pedestrian Signs (W11-1 and W11-15)**

40 Support:

41 The Bicycle Warning (W11-1) sign (see Figure 9B-3) alerts the road user to unexpected entries into the  
42 roadway by bicyclists, and other crossing activities that might cause conflicts. These conflicts might be  
43 relatively confined, or might occur randomly over a segment of roadway.

44 Option:

45 The combined Bicycle/Pedestrian (W11-15) sign (see Figure 9B-3) may be used where both bicyclists and  
46 pedestrians might be crossing the roadway, such as at an intersection with a shared-use path. A TRAIL XING  
47 (W11-15P) supplemental plaque (see Figure 9B-3) may be mounted below the W11-15 sign.

1 A supplemental plaque with the legend AHEAD or XX METERS (FEET) may be used with the Bicycle  
2 Warning or combined Bicycle/Pedestrian sign.

3 Guidance:

4 If used in advance of a specific crossing point, the Bicycle Warning or combined Bicycle/Pedestrian sign  
5 should be placed at a distance in advance of the crossing location that conforms with the guidance given in  
6 Table 2C-4.

7 **Standard:**

8 **Bicycle Warning and combined Bicycle/Pedestrian signs, when used at the location of the crossing,**  
9 **shall be supplemented with a diagonal downward pointing arrow (W16-7P) plaque (see Figure 9B-3) to**  
10 **show the location of the crossing.**

11 Guidance:

12 A fluorescent yellow-green background color with a black legend and border should be used for Bicycle  
13 Warning and combined Bicycle/Pedestrian signs and supplemental plaques.

14 When the fluorescent yellow-green background color is used, a systematic approach featuring one  
15 background color within a zone or area should be used. The mixing of standard yellow and fluorescent  
16 yellow-green backgrounds within a zone or area should be avoided.

### 17 **Section 9B.19 Other Bicycle Warning Signs**

18 Option:

19 Other bicycle warning signs (see Figure 9B-3) such as PATH NARROWS (W5-4a) and Hill (W7-5) may  
20 be installed on shared-use paths to warn bicyclists of conditions not readily apparent.

21 In situations where there is a need to warn motorists to watch for bicyclists traveling along the highway,  
22 the SHARE THE ROAD (W16-1P) plaque (see Figure 9B-3) may be used in conjunction with the W11-1  
23 sign.

24 Guidance:

25 If used, other advance bicycle warning signs should be installed no less than 15 m (50 ft) in advance of  
26 the beginning of the condition.

27 Where temporary traffic control zones are present on bikeways, appropriate signs from Part 6 should be  
28 used.

29 Option:

30 Other warning signs described in Chapter 2C may be installed on bicycle facilities as appropriate.

### 31 **Section 9B.20 Bicycle Guide Signs (D1-1b, D1-1c, D1-2b, D1-2c, D1-3b, D1-3c, D11-1, D11-1c)**

32 Option:

33 Bike Route Guide (D11-1) signs (see Figure 9B-4) may be provided along designated bicycle routes to  
34 inform bicyclists of bicycle route direction changes and to confirm route direction, distance, and destination.

35 If used, Bike Route Guide signs may be repeated at regular intervals so that bicyclists entering from side  
36 streets will have an opportunity to know that they are on a bicycle route. Similar guide signing may be used  
37 for shared roadways with intermediate signs placed for bicyclist guidance.

38 Alternative Bike Route Guide (D11-1c) signs may be used to provide information on route direction,  
39 destination, and/or route name in place of the "BIKE ROUTE" wording on the D11-1 sign (see Figures 9B-4  
40 and 9B-6).

41 Destination (D1-1, D1-1a) signs, Street Name (D3) signs, or Bicycle Destination (D1-1b, D1-1c, D1-2b,  
42 D1-2c, D1-3b, D1-3c) signs (see Figure 9B-4) may be installed to provide direction, destination, and distance  
43 information as needed for bicycle travel. If several destinations are to be shown at a single location, they may  
44 be placed on a single panel with an arrow (and the distance, if desired) for each name. If more than one  
45 destination lies in the same direction, a single arrow may be used for the destinations.

46 Guidance:

47 Adequate separation should be made between any destination or group of destinations in one direction and  
48 those in other directions by suitable design of the arrow, spacing of lines of legend, heavy lines entirely across  
49 the panel, or separate panels.

50 **Standard:**

1        **An arrow pointing to the right, if used, shall be at the extreme right-hand side of the sign. An**  
2 **arrow pointing left or up, if used, shall be at the extreme left-hand side of the sign. The distance**  
3 **numerals, if used, shall be placed to the right of the destination names.**

4        **On Bicycle Destination signs, a bicycle symbol shall be placed next to each destination or group of**  
5 **destinations. If an arrow is at the extreme left, the bicycle symbol shall be placed to the right of the**  
6 **respective arrow.**

7        Guidance:

8        Unless a sloping arrow will convey a clearer indication of the direction to be followed, the directional  
9        arrows should be horizontal or vertical.

10       The bicycle symbol should be to the left of the destination legend.

11       If several individual name panels are assembled into a group, all panels in the assembly should have the  
12       same horizontal width.

13       Support:

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

### 17       **Section 9B.21 Bicycle Route Signs (M1-8, M1-8a, M1-9)**

18       Option:

19       To establish a unique identification (route designation) for a State or local bicycle route, the Bicycle  
20       Route (M1-8, M1-8a) sign (see Figure 9B-4) may be used.

21       **Standard:**

22       **The Bicycle Route (M1-8) sign shall contain a route designation and shall have a green background**  
23 **with a retroreflectorized white legend and border. The Bicycle Route (M1-8a) sign shall contain the**  
24 **same information as the M1-8 sign and in addition shall include a pictograph or words that are**  
25 **associated with the route or with the agency that has jurisdiction over the route.**

26       Guidance:

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

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

32       **Standard:**

33       **The U.S. Bicycle Route (M1-9) sign (see Figure 9B-4) shall contain the route designation as assigned**  
34 **by AASHTO and shall have a black legend and border with a retroreflectorized white background.**

35       Guidance:

36       If used, the Bicycle Route or U.S. Bicycle Route signs should be placed at intervals frequent enough to  
37       keep bicyclists informed of changes in route direction and to remind motorists of the presence of bicyclists.

38       Option:

39       Bicycle Route or U.S. Bicycle Route signs may be installed on shared roadways or on shared-use paths to  
40       provide guidance for bicyclists.

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

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

44       Option:

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

47       Guidance:

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



1 If used, Advance Turn Arrow (M5 series) and Directional Arrow (M6 series) auxiliary plaques (see Figure  
2 9B-4) should be mounted below the appropriate Bike Route Guide sign, Bicycle Route sign, or U.S. Bicycle  
3 Route sign.

4 Except for the M4-8 plaque, all route sign auxiliary plaques should match the color combination of the  
5 route sign that they supplement.

6 Route sign auxiliary plaques carrying word legends that are used on bicycle routes should have a  
7 minimum size of 300 x 150 mm (12 x 6 in). Route sign auxiliary plaques carrying arrow symbols that are  
8 used on bicycle routes should have a minimum size of 300 x 225 mm (12 x 9 in).

9 Option:

10 With route signs of larger sizes, auxiliary plaques may be suitably enlarged, but not such that they exceed  
11 the width of the route sign.

12 A route sign and any auxiliary plaques used with it may be combined on a single panel.

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

### 16 **Section 9B.23 Bicycle Parking Area Sign (D4-3)**

17 Option:

18 The Bicycle Parking Area (D4-3) sign (see Figure 9B-4) may be installed where it is desirable to show the  
19 direction to a designated bicycle parking area. The arrow may be reversed as appropriate.

20 **Standard:**

21 **The legend and border of the Bicycle Parking Area sign shall be green on a retroreflectorized white**  
22 **background.**

### 23 **Section 9B.24 Reference Location Signs (D10-1 through D10-3) and Intermediate Reference** 24 **Location Signs (D10-1a through D10-3a)**

25 Support:

26 There are two types of reference location signs:

- 27 A. Reference Location (D10-1, 2, and 3) signs show an integer distance point along a shared-use path;  
28 and  
29 B. Intermediate Reference Location (D10-1a, 2a, and 3a) signs also show a decimal between integer  
30 distance points along a shared-use path.

31 Option:

32 Reference Location (D10-1 to D10-3) signs (see Figure 9B-4) may be installed along any section of a  
33 shared-use path to assist users in estimating their progress, to provide a means for identifying the location of  
34 emergency incidents and crashes, and to aid in maintenance and servicing.

35 To augment the reference location sign system, Intermediate Reference Location (D10-1a to D10-3a)  
36 signs (see Figure 9B-4), which show the tenth of a kilometer (mile) with a decimal point, may be installed at  
37 one tenth of a kilometer (mile) intervals, or at some other regular spacing.

38 **Standard:**

39 **When Intermediate Reference Location (D10-1a to D10-3a) signs are used to augment the reference**  
40 **location sign system, the reference location sign at the integer kilometer (mile) point shall display a**  
41 **decimal point and a zero numeral.**

42 **When placed on shared-use paths, reference location signs shall contain 113 mm (4.5 in) white**  
43 **numerals on a green background that is at least 150 mm (6 in) wide with a white border. The signs**  
44 **shall contain the abbreviation km (MILE) in 56 mm (2.25 in) white letters.**

45 **Reference location signs shall have a minimum mounting height of 0.6 m (2 ft), measured vertically**  
46 **from the bottom of the sign to the elevation of the near edge of the shared-use path, and shall not be**  
47 **governed by the mounting height requirements prescribed in Section 9B.01.**

48 Option:

49 Reference location signs may be installed on one side of the shared-use path only and may be installed  
50 back-to-back.

1 If a reference location sign cannot be installed in the correct location, it may be moved in either direction  
2 as much as 15 m (50 ft).

3 Guidance:

4 If a reference location sign cannot be placed within 15 m (50 ft) of the correct location, it should be  
5 omitted.

6 Zero distance should begin at the south and west terminus points of shared-use paths.

7 Support:

8 Section 2I.02 contains additional information regarding reference location signs.

### 9 **Section 9B.25 Mode-Specific Guide Signs for Shared-Use Paths (D11-1a, D11-1b, D11-2, D11-** 10 **3, D11-4)**

11 Option:

12 Where separate pathways are provided for different types of users, Mode-Specific Guide (D11-1a, D11-  
13 1b, D11-2, D11-3, D11-4) signs (see Figure 9B-4) may be used to guide different types of users to the traveled  
14 way that is intended for their respective modes.

15 Mode-Specific Guide signs may be installed at the entrance to shared-use paths where the signed mode(s)  
16 are permitted or encouraged, and periodically along these facilities as needed.

17 The Bicycles Permitted (D11-1a) sign, when combined with the BIKE ROUTE supplemental plaque  
18 (D11-1bP), may be substituted for the D11-1 Bicycle Route Guide sign on paths and shared roadways.

19 When some, but not all, non-motorized user types are encouraged or permitted on a shared-use path,  
20 Mode-Specific Guide signs may be placed in combination with each other, and in combination with signs (see  
21 Section 9B.08) that prohibit travel by particular modes.

22 Support:

23 Figure 9B-8 shows an example of signing where separate pathways are provided for different non-  
24 motorized user types.

### 25 **Section 9B.26 Object Markers**

26 Option:

27 Fixed objects adjacent to shared-use paths may be marked with Type 1, Type 2, or Type 3 object markers  
28 (see Chapter 2L).

29 **Standard:**

30 **All object markers shall be retroreflective.**

31 **Markers such as those described in Section 2L.01 shall also be used on shared-use paths, if needed.**

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

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

## CHAPTER 9C. MARKINGS

### Section 9C.01 Functions of Markings

Support:

Markings indicate the separation of the lanes for road users, assist the bicyclist by indicating assigned travel paths, indicate correct position for traffic control signal actuation, and provide advance information for turning and crossing maneuvers.

### Section 9C.02 General Principles

Guidance:

Bikeway design guides (see Section 9A.05) should be used when designing markings for bicycle facilities.

**Standard:**

**Markings used on bikeways shall be retroreflectorized.**

Guidance:

Pavement marking symbols and/or word messages should be used in bikeways where appropriate. Consideration should be given to selecting pavement marking materials that will minimize loss of traction for bicycles under wet conditions.

**Standard:**

**The colors, width of lines, patterns of lines, and symbols used for marking bicycle facilities shall be as defined in Sections 3A.04, 3A.05, and 3B.20.**

Support:

Figures 9B-7 and 9C-1 through 9C-9 show examples of the application of lines, word messages, and symbols on designated bikeways.

Option:

A dotted line may be used to define a specific path for a bicyclist crossing an intersection (see Figure 9C-1) as described in Sections 3A.05 and 3B.08.

### Section 9C.03 Marking Patterns and Colors on Shared-Use Paths

Option:

Where shared-use paths are of sufficient width to designate two minimum width lanes, a solid yellow line may be used to separate the two directions of travel where passing is not permitted, and a broken yellow line may be used where passing is permitted (see Figure 9C-2).

Guidance:

Broken lines used on shared-use paths should have the usual 1-to-3 segment-to-gap ratio. A nominal 0.9 m (3 ft) segment with a 2.7 m (9 ft) gap should be used.

If conditions make it desirable to separate two directions of travel on shared-use paths at particular locations, a solid yellow line should be used to indicate no passing and no traveling to the left of the line.

Markings as shown in Figure 9C-2 should be used at the location of obstructions in the center of the path, including vertical elements intended to physically prevent unauthorized motor vehicles from entering the path.

Option:

A solid white line may be used on shared-use paths to separate different types of users traveling in the same direction. The R9-7 sign (see Figure 9B-2) may be used to supplement the solid white line.

Smaller size letters and symbols may be used on shared-use paths. Where arrows are needed on shared-use paths, half-size layouts of the arrows may be used (see Section 3B.20).

### Section 9C.04 Markings For Bicycle Lanes

Support:

Pavement markings designate that portion of the roadway for preferential use by bicyclists. Markings inform all road users of the restricted nature of the bicycle lane.

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.

1 **Standard:**

2 **Longitudinal pavement markings shall be used to define bicycle lanes.**

3 **The bicycle lane symbol marking shall be white. If the bicycle lane symbol marking is used in**  
4 **conjunction with other word or symbol messages, it shall precede them.**

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

6 Support:

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

9 Guidance:

10 If used, the bicycle lane symbol marking (see Figure 9C-6) should be placed at the beginning of a bicycle  
11 lane and at periodic intervals along the bicycle lane based on engineering judgment.

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

15 An optional through-right turn lane next to a right turn only lane should not be used where there is a  
16 through bicycle lane. If a capacity analysis indicates the need for an optional through-right turn lane, the  
17 bicycle lane should be discontinued at the intersection approach.

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

19 Support:

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

24 Option:

25 If the word or symbol pavement markings shown in Figure 9C-6 are used, Bike Lane signs (see Section  
26 9B.04) may also be used, but to avoid overuse of the signs not necessarily adjacent to every symbol.

27 **Standard:**

28 **Bicycle lanes shall not be provided on the circular roadway of a roundabout or other circular**  
29 **intersection.**

30 **Section 9C.05 Bicycle Detector Symbol**

31 Option:

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

34 An R10-22 sign (see Section 9B.13 and Figure 9B-2) may be installed to supplement the pavement  
35 marking.

36 **Section 9C.06 Pavement Markings for Obstructions**

37 Guidance:

38 In roadway situations where it is not practical to eliminate a drain grate or other roadway obstruction that  
39 is inappropriate for bicycle travel, white markings applied as shown in Figure 9C-8 should be used to guide  
40 bicyclists around the condition.

41 **Section 9C.07 Shared Lane Marking**

42 Option:

43 The Shared Lane Marking shown in Figure 9C-9 may be used to:

- 44 A. Assist bicyclists with lateral positioning in a shared lane with on-street parallel parking in order to  
45 reduce the chance of a bicyclist's impacting the open door of a parked vehicle,
- 46 B. Assist bicyclists with lateral positioning in lanes that are too narrow for a motor vehicle and a bicycle  
47 to travel side by side within the same traffic lane,
- 48 C. Alert road users of the lateral location bicyclists are likely to occupy within the traveled way,
- 49 D. Encourage safe passing of bicyclists by motorists, and

1 E. Reduce the incidence of wrong-way bicycling.

2 Guidance:

3 The Shared Lane Marking should not be placed on roadways that have a speed limit above 50 km/h or 35  
4 mph.

5 **Standard:**

6 **Shared Lane Markings shall not be used on shoulders or in designated bicycle lanes.**

7 **If used in a shared lane with on-street parallel parking, Shared Lane Markings shall be placed so**  
8 **that the centers of the markings are at least 3.4 m (11 ft) from the face of the curb, or from the edge of**  
9 **the pavement where there is no curb.**

10 Guidance:

11 If used on a street without on-street parking that has an outside travel lane that  
12 is less than 4.3 m (14 ft) wide, the centers of the Shared Lane Markings should be at  
13 least 1.2 m (4 ft) from the face of the curb, or from the edge of the pavement where  
14 there is no curb.

15 If used, the Shared Lane Marking should be placed immediately after an intersection and spaced at  
16 intervals not greater than 75 m (250 ft) thereafter.

17

## CHAPTER 9D. SIGNALS

1

### 2 **Section 9D.01 Application**

3 Support:

4 Part 4 contains information regarding signal warrants and other requirements relating to signal  
5 installations.

6 Option:

7 For purposes of signal warrant evaluation, bicyclists may be counted as either vehicles or pedestrians.

### 8 **Section 9D.02 Signal Operations for Bicycles**

9 **Standard:**

10 **At installations where visibility-limited signal faces are used, signal faces shall be adjusted so**  
11 **bicyclists for whom the indications are intended can see the signal indications. If the visibility-limited**  
12 **signal faces cannot be aimed to serve the bicyclist, then separate signal faces shall be provided for the**  
13 **bicyclist.**

14 **On bikeways, signal timing and actuation shall be reviewed and adjusted to consider the needs of**  
15 **bicyclists.**

16

## CHAPTER 9A. GENERAL

### Section 9A.01 Requirements for Bicyclist Traffic Control Devices

Support:

General information and definitions concerning traffic control devices are found in Part 1.

### Section 9A.02 Scope

Support:

Part 9 covers signs, pavement markings, and highway traffic signals specifically related to bicycle operation on both roadways and shared-use paths.

Guidance:

Parts 1, 2, 3, and 4 should be reviewed for general provisions, signs, pavement markings, and signals.

**Standard:**

**None of the bikeway designations in this Manual shall be construed to preclude permitted bicycle travel on roadways or portions of roadways that do not have bikeway designations.**

### Section 9A.03 Definitions Relating to Bicycles

**Standard:**

The following terms shall be defined as follows when used in Part 9:

1. **Bicycle Facilities**—a general term denoting improvements and provisions that accommodate or encourage bicycling, including parking and storage facilities, and shared roadways not specifically defined for bicycle use.
2. **Bicycle Lane**—a portion of a roadway that has been designated by ~~signs and~~ pavement markings and, if used, signs for preferential or exclusive use by bicyclists.
3. **Bikeway**—a generic term for any road, street, path, or way that in some manner is specifically designated for bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes.
4. **Designated Bicycle Route**—a system of bikeways designated by the jurisdiction having authority with appropriate directional and informational route signs, with or without specific bicycle route numbers. ~~Bicycle routes, which might be a combination of various types of bikeways, should establish a continuous routing.~~ relocated to Section 9B.21
5. **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-use paths are also used by pedestrians (including skaters, users of manual and motorized wheelchairs, and joggers) and other authorized motorized and non-motorized users.

### Section 9A.04 Maintenance

Guidance:

All signs, signals, and markings, including those on bicycle facilities, should be properly maintained to command respect from both the motorist and the bicyclist. When installing signs and markings on bicycle facilities, an agency should be designated to maintain these devices.

### Section 9A.05 Relation to Other Documents

Support:

“The Uniform Vehicle Code and Model Traffic Ordinance” published by the National Committee on Uniform Traffic Laws and Ordinances (see Section 1A.11) has provisions for bicycles and is the basis for the traffic control devices included herein.

Informational documents used during the development of the signing and marking recommendations in Part 9 include the following:

- A. “Guide for Development of Bicycle Facilities,” which is available from the American Association of State Highway and Transportation Officials (see Page i for the address); and
- B. State and local government design guides.

~~C. “Selecting Roadway Design Treatments to Accommodate Bicycles,” FHWA Publication No. FHWA-RD-92-073, which is available from the FHWA Research and Technology Report Center, 9701 Philadelphia Court, Unit Q, Lanham, MD 20106.~~

Other publications that relate to the application of traffic control devices in general are listed in Section 1A.11.

#### **Section 9A.06 Placement Authority**

Support:

Section 1A.08 contains information regarding placement authority for traffic control devices.

#### **Section 9A.07 Meaning of Standard, Guidance, Option, and Support**

Support:

The introduction to this Manual contains information regarding the meaning of the headings Standard, Guidance, Option, and Support, and the use of the words “shall,” “should,” and “may.”

#### **Section 9A.08 Colors**

Support:

Section 1A.12 contains information regarding the color codes.



## CHAPTER 9B. SIGNS

### Section 9B.01 Application and Placement of Signs

#### Standard:

Bicycle signs shall be standard in shape, legend, and color.

All signs shall be retroreflectorized for use on bikeways, including shared-use paths and bicycle lane facilities.

Where signs serve both bicyclists and other road users, vertical mounting height and lateral placement shall be as specified in Part 2.

~~Where used on a shared-use paths, lateral no portion of a sign clearance or its support shall be a minimum of 0.9 m (3 ft) and a maximum of 1.8 m (6 ft) placed less than 0.6 m (2 ft) laterally from the near edge of the sign to the near edge of the path, or less than 2.4 m (8 ft) vertically over the entire width of the shared-use path~~ (see Figure 9B-1).

Mounting height for ~~ground-~~ ~~post-mounted~~ ~~edited to increase consistency~~ 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 vertically from the bottom ~~edge~~ of the sign to the elevation of the near edge of the path surface (see Figure 9B-1).

~~When overhead signs are used on shared-use paths, the clearance from the bottom edge of the sign to the path surface directly under the sign shall be a minimum of 2.4 m (8 ft).~~

#### Guidance:

Signs for the exclusive use of bicyclists should be located so that other road users are not confused by them.

The clearance for overhead signs on shared-use paths should be adjusted when appropriate to accommodate path users requiring more clearance, such as equestrians, or typical maintenance or emergency vehicles.

### Section 9B.02 Design of Bicycle Signs

#### Standard:

If the sign or plaque applies to motorists and bicyclists, then the size shall be as shown for conventional roads in Tables 2B-1, 2C-2, or 2D-1.

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

#### Option:

Larger size signs and plaques may be used on bicycle facilities when appropriate (see Section 2A.11).

#### Guidance:

Except for size, the design of signs and plaques for bicycle facilities should be identical to that specified in this Manual for vehicular travel.

#### Support:

Uniformity in design of bicycle signs includes shape, color, symbols, wording, lettering, and illumination or retroreflectorization.

### Section 9B.03 STOP and YIELD Signs (R1-1, R1-2)

#### Standard:

**STOP (R1-1) signs** (see Figure 9B-2) shall be installed on shared-use paths at points where bicyclists are required to stop.

**YIELD (R1-2) signs** (see Figure 9B-2) shall be installed on shared-use paths at points where bicyclists have an adequate view of conflicting traffic as they approach the sign, and where bicyclists are required to yield the right-of-way to that conflicting traffic.

#### Option:

A 750 x 750 mm (30 x 30 in) STOP sign or a 900 x 900 x 900 mm (36 x 36 x 36 in) YIELD sign may be used on shared-use paths for added emphasis.

1 Guidance:

2 Where conditions require path users, but not roadway users, to stop or yield, the STOP ~~sign~~ **deleted to**  
3 **improve grammar** or YIELD sign should be placed or shielded so that it is not readily visible to road users.

4 When placement of STOP or YIELD signs is considered, priority at a shared-use path/roadway  
5 intersection should be assigned with consideration of the following:

- 6 A. Relative speeds of shared-use path and roadway users,
- 7 B. Relative volumes of shared-use path and roadway traffic, and
- 8 C. Relative importance of shared-use path and roadway.

9 Speed should not be the sole factor used to determine priority, as it is sometimes appropriate to give  
10 priority to a high-volume shared-use path crossing a low-volume street, or to a regional shared-use path  
11 crossing a minor collector street.

12 When priority is assigned, the least restrictive control that is appropriate should be placed on the lower  
13 priority approaches. STOP signs should not be used where YIELD signs would be acceptable.

#### 14 **Section 9B.04 ~~Bicycle Bike~~ **edited to increase consistency** Lane Signs and Plaques (R3-17, R3-** 15 **17aP, R3-17bP)**

16 **Standard:**

17 The BIKE LANE (R3-17) sign (see Figure 9B-2), **if used**, shall be used only in conjunction with  
18 marked bicycle lanes as described in Section 9C.04, ~~and shall be placed at periodic intervals along the~~  
19 ~~bicycle lanes.~~

20 Guidance:

21 Bike Lane signs and plaques should be used in advance of the upstream end of a marked bicycle lane, at  
22 the downstream end of the bicycle lane, and at periodic intervals along the bicycle lane.

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

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

28 The ENDS (R3-17bP) ~~sign~~ plaque (see Figure 9B-2) should be mounted directly below a R3-17 sign at  
29 the downstream end of a marked bicycle lane.

#### 30 **Section 9B.05 BEGIN RIGHT TURN LANE YIELD TO BIKES Sign (R4-4)**

31 **Option:**

32 Where motor vehicles entering an exclusive right-turn lane must weave across bicycle traffic in bicycle  
33 lanes, the BEGIN RIGHT TURN LANE YIELD TO BIKES (R4-4) sign (see Figure 9B-2) may be used to  
34 inform both the motorist and the bicyclist of this weaving maneuver (see Figures 9C-1 and 9C-3). **added to**  
35 **assist the reader**

36 **Guidance:**

37 The R4-4 sign should not be used when bicyclists need to move left because of a right-turn lane drop  
38 situation.

#### 39 **Section 9B.06 Bicycles May Use Full Lane Sign (R4-11)**

40 **Option:**

41 The Bicycles May Use Full Lane (R4-11) sign (see Figure 9B-2) may be used on roadways where no  
42 bicycle lanes or adjacent shoulders usable by bicyclists are present and where travel lanes are too narrow for  
43 bicyclists and motor vehicles to operate side by side.

44 The Bicycles May Use Full Lane sign may be used in locations where it is important to inform road users  
45 that bicyclists might occupy the travel lane.

46 **Support:**

47 The Uniform Vehicle Code (UVC) defines a “substandard width lane” as a “lane that is too narrow for a  
48 bicycle and a vehicle to travel safely side by side within the same lane.”

1 **Section ~~9B-06~~ 9B.07 Bicycle WRONG WAY Sign and RIDE WITH TRAFFIC Plaque (R5-1b,  
2 R9-3cP)**

3 Option:

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

6 This sign and plaque may be mounted back-to-back with other signs to minimize visibility to other traffic.

7 Guidance:

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

10 **Section ~~9B-07~~ 9B.08 NO MOTOR VEHICLES Sign (R5-3)**

11 Option:

12 The NO MOTOR VEHICLES (R5-3) sign (see Figure 9B-2) may be installed at the entrance to a shared-  
13 use path.

14 **Section ~~9B-08~~ 9B.09 No Bicycles Selective Exclusion Signs (R5-6)**

15 Option:

16 Where authorized by public officials under State or local statutes or ordinances, Selective Exclusion signs  
17 may be installed to notify road or facility users that designated types of traffic are excluded from using  
18 particular roadways or facilities.

19 Standard:

20 If used, Selective Exclusion signs shall clearly indicate the type of traffic that is excluded.

21 Guidance:

22 Where bicyclists are prohibited, the No Bicycles (R5-6) sign (see Figure 9B-2) should be installed at the  
23 entrance to the roadway or facility. added for consistency with the new first paragraph of this Section

24 Where pedestrians are prohibited, the No Pedestrians (R9-3) sign (see Figure 9B-2) should be installed at  
25 the entrance to the roadway or facility.

26 Where skaters are prohibited, the No Skaters (R9-13) sign (see Figure 9B-2) should be installed at the  
27 entrance to the roadway or facility.

28 Where equestrians are prohibited, the No Equestrians (R9-14) sign (see Figure 9B-2) should be installed  
29 at the entrance to the roadway or facility.

30 Option:

31 Where bicyclists, pedestrians, and motor-driven cycles are ~~also~~ all prohibited, it may be more desirable to  
32 use the R5-10a word message sign that is described in Section 2B.46.

33 **Section ~~9B-09~~ 9B.10 No Parking Bike Lane Signs (R7-9, R7-9a)**

34 **Standard:**

35 **If the installation of signs is necessary to restrict parking, standing, or stopping in a bicycle lane,**  
36 **appropriate signs as described in Sections 2B.53 through 2B.55, or the No Parking Bike Lane (R7-9 or**  
37 **R7-9a) signs (see Figure 9B-2) shall be installed.**

38 **Section ~~9B-10~~ 9B.11 Bicycle Regulatory Signs (R9-5, R9-6, ~~R10-3~~ R10-4, R10-24, R10-25, and**  
39 **R10-26)**

40 Option:

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

43 Where it is not intended for bicyclists to be controlled by pedestrian signal indications, the ~~R10-3~~ R10-4,  
44 R10-24, or R10-26 sign (see Figure 9B-2 and Section 2B.59) may be used.

45 Guidance:

46 If used, the R9-5, ~~or R10-3~~ R10-4, R10-24, or R10-26 signs should be installed near the edge of the  
47 sidewalk in the vicinity of where bicyclists will be crossing the street.

48 Option:

1 [If bicyclists are crossing a roadway where In-Roadway Warning Lights \(see Section 4N.02\) have been](#)  
2 [provided, the R10-25 sign \(see Figure 9B-2\) may be used.](#)

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

### 5 **Section ~~9B.11~~ [9B.12](#) Shared-Use Path Restriction Sign (R9-7)**

6 Option:

7 The Shared-Use Path Restriction (R9-7) sign (see Figure 9B-2) may be installed on facilities that are to be  
8 shared by pedestrians and bicyclists. The symbols may be switched as appropriate.

9 A designated pavement area may be provided for each mode of travel (see Section 9C.03).

### 10 **Section ~~9B.12~~ [9B.13](#) Bicycle Signal Actuation Sign (R10-22)**

11 Option:

12 The Bicycle Signal Actuation (R10-22) sign (see Figure 9B-2) may be installed at signalized intersections  
13 where markings are used to indicate the location where a bicyclist is to be positioned to actuate the signal (see  
14 Section 9C.05).

15 Guidance:

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

### 18 **Section ~~9B.13~~ [9B.14](#) Other Regulatory Signs**

19 Option:

20 Other regulatory signs described in Chapter 2B may be installed on bicycle facilities as appropriate.

### 21 **Section ~~9B.14~~ [9B.15](#) Turn or Curve Warning Signs (W1 Series)**

22 Guidance:

23 To warn bicyclists of unexpected changes in shared-use path direction, appropriate turn or curve (W1-1  
24 through W1-7) signs (see Figure 9B-3) should be used.

25 The W1-1 through W1-5 signs should be installed no less than 15 m (50 ft) in advance of the beginning of  
26 the change of alignment.

### 27 **Section ~~9B.15~~ [9B.16](#) Intersection Warning Signs (W2 Series)**

28 Option:

29 Intersection Warning (W2-1 through W2-5) signs (see Figure 9B-3) may be used on a roadway, street, or  
30 shared-use path in advance of an intersection to indicate the presence of an intersection and the possibility of  
31 turning or entering traffic.

32 Guidance:

33 When engineering judgment determines that the visibility of the intersection is limited on the shared-use  
34 path approach, Intersection Warning signs should be used.

35 Intersection Warning signs should not be used where the shared-use path approach to the intersection is  
36 controlled by a STOP sign, a YIELD sign, or a traffic control signal.

### 37 **Section ~~9B.16~~ [9B.17](#) Bicycle Surface Condition Warning Sign (W8-10)**

38 Option:

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

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

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

### 45 **Section ~~9B.17~~ [9B.18](#) Bicycle Warning and Combined Bicycle/Pedestrian Signs (W11-1 and 46 [W11-15\)](#)**

1 Support:

2 The Bicycle Warning (W11-1) sign (see Figure 9B-3) alerts the road user to unexpected entries into the  
3 roadway by bicyclists, and other crossing activities that might cause conflicts. These conflicts might be  
4 relatively confined, or might occur randomly over a segment of roadway.

5 Option:

6 [The combined Bicycle/Pedestrian \(W11-15\) sign \(see Figure 9B-3\) may be used where both bicyclists and](#)  
7 [pedestrians might be crossing the roadway, such as at an intersection with a shared-use path. A TRAIL XING](#)  
8 [\(W11-15P\) supplemental plaque \(see Figure 9B-3\) may be mounted below the W11-15 sign.](#)

9 A supplemental plaque with the legend AHEAD or ~~XXX~~ METERS (~~XXX~~ FEET) may be used with the  
10 Bicycle Warning [or combined Bicycle/Pedestrian](#) sign.

11 Guidance:

12 If used in advance of a specific crossing point, the Bicycle Warning [or combined Bicycle/Pedestrian](#) sign  
13 should be placed at a distance in advance of the crossing location that conforms with the guidance given in  
14 Table 2C-4.

15 **Standard:**

16 **Bicycle Warning [and combined Bicycle/Pedestrian](#) signs, when used at the location of the crossing,**  
17 **shall be supplemented with a diagonal downward pointing arrow (W16-7P) plaque (see Figure 9B-3) to**  
18 **show the location of the crossing.**

19 ~~Option~~ **Guidance:**

20 A fluorescent yellow-green background color with a black legend and border ~~may~~ **should** **edited to**  
21 **increase consistency** be used for Bicycle Warning [and combined Bicycle/Pedestrian](#) signs and supplemental  
22 plaques.

23 ~~Guidance:~~

24 When the fluorescent yellow-green background color is used, a systematic approach featuring one  
25 background color within a zone or area should be used. The mixing of standard yellow and fluorescent  
26 yellow-green backgrounds within a zone or area should be avoided.

## 27 **Section ~~9B.18~~ [9B.19](#) Other Bicycle Warning Signs**

28 Option:

29 Other bicycle warning signs (see Figure 9B-3) such as ~~BIKEWAY~~ [PATH](#) NARROWS (W5-4a) and Hill  
30 (W7-5) may be installed on ~~bicycle facilities~~ [shared-use paths](#) to warn bicyclists of conditions not readily  
31 apparent.

32 In situations where there is a need to warn motorists to watch for bicyclists traveling along the highway,  
33 the SHARE THE ROAD (W16-1P) plaque (see Figure 9B-3) may be used in conjunction with the W11-1  
34 sign.

35 Guidance:

36 If used, other advance bicycle warning signs should be installed no less than 15 m (50 ft) in advance of  
37 the beginning of the condition.

38 Where temporary traffic control zones are present on bikeways, appropriate signs from Part 6 should be  
39 used.

40 Option:

41 Other warning signs described in Chapter 2C may be installed on bicycle facilities as appropriate.

## 42 **Section ~~9B.19~~ [9B.20](#) Bicycle ~~Route~~ Guide Signs (D1-1b, D1-1c, D1-2b, D1-2c, D1-3b, D1-3c,** 43 **D11-1, D11-1c)**

44 ~~Guidance~~ **Option:**

45 ~~If used, Bicycle Bike~~ **edited to increase consistency** Route Guide (D11-1) signs (see Figure 9B-4) ~~should~~  
46 **may** be provided ~~at decision points~~ along designated bicycle routes, ~~including signs~~ to inform bicyclists of  
47 bicycle route direction changes and ~~confirmation signs for~~ [to confirm](#) route direction, distance, and  
48 destination.

49 If used, ~~Bicycle Bike~~ **edited to increase consistency** Route Guide signs ~~should~~ **may** be repeated at regular  
50 intervals so that bicyclists entering from side streets will have an opportunity to know that they are on a

1 bicycle route. Similar guide signing ~~should~~ may be used for shared roadways with intermediate signs placed  
2 for bicyclist guidance.

3 Alternative Bike Route Guide (D11-1c) signs may be used to provide information on route direction,  
4 destination, and/or route name in place of the "BIKE ROUTE" wording on the D11-1 sign (see Figures 9B-4  
5 and 9B-6).

6 Destination (D1-1, D1-1a) signs, Street Name (D3) signs, or Bicycle Destination (D1-1b, D1-1c, D1-2b,  
7 D1-2c, D1-3b, D1-3c) signs (see Figure 9B-4) may be installed to provide direction, destination, and distance  
8 information as needed for bicycle travel. If several destinations are to be shown at a single location, they may  
9 be placed on a single panel with an arrow (and the distance, if desired) for each name. If more than one  
10 destination lies in the same direction, a single arrow may be used for the destinations.

11 Guidance:

12 Adequate separation should be made between any destination or group of destinations in one direction and  
13 those in other directions by suitable design of the arrow, spacing of lines of legend, heavy lines entirely across  
14 the panel, or separate panels.

15 Standard:

16 An arrow pointing to the right, if used, shall be at the extreme right-hand side of the sign. An  
17 arrow pointing left or up, if used, shall be at the extreme left-hand side of the sign. The distance  
18 numerals, if used, shall be placed to the right of the destination names.

19 On Bicycle Destination signs, a bicycle symbol shall be placed next to each destination or group of  
20 destinations. If an arrow is at the extreme left, the bicycle symbol shall be placed to the right of the  
21 respective arrow.

22 Guidance:

23 Unless a sloping arrow will convey a clearer indication of the direction to be followed, the directional  
24 arrows should be horizontal or vertical.

25 The bicycle symbol should be to the left of the destination legend.

26 If several individual name panels are assembled into a group, all panels in the assembly should have the  
27 same horizontal width.

28 Support:

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

32 **Section ~~9B-20~~ 9B.21 Bicycle Route Signs (M1-8, M1-8a, M1-9)**

33 Option:

34 To establish a unique identification (route designation) for a State or local bicycle route, the Bicycle  
35 Route (M1-8, M1-8a) sign (see Figure 9B-4) may be used.

36 **Standard:**

37 **The Bicycle Route (M1-8) sign shall contain a route designation and shall have a green background**  
38 **with a retroreflectorized white legend and border. The Bicycle Route (M1-8a) sign shall contain the**  
39 **same information as the M1-8 sign and in addition shall include a pictograph or words that are**  
40 **associated with the route or with the agency that has jurisdiction over the route.**

41 ~~Option~~ Guidance:

42 Bicycle routes, which might be a combination of various types of bikeways, should establish a continuous  
43 routing. **relocated from Definition 4 in Section 9A.03**

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

48 **Standard:**

49 **The ~~Interstate~~ U.S. Bicycle Route (M1-9) sign (see Figure 9B-4) shall contain the ~~assigned~~ route**  
50 **~~number~~ designation as assigned by AASHTO and shall have a black legend and border with a**  
51 **retroreflectorized white background.**

1 Guidance:

2 If used, the Bicycle Route or ~~Interstate~~ U.S. Bicycle Route signs should be placed at intervals frequent  
3 enough to keep bicyclists informed of changes in route direction and to remind motorists of the presence of  
4 bicyclists.

5 Option:

6 Bicycle Route or ~~Interstate~~ U.S. Bicycle Route signs may be installed on shared roadways or on shared-  
7 use paths to provide guidance for bicyclists.

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

## 10 ~~Section 9B.24~~ 9B.22 Destination Arrow and Supplemental Plaque Signs for Bicycle Route 11 Signs Auxiliary Plaques

12 Option:

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

15 Guidance:

16 If used, ~~the M4-11 through M4-13 supplemental~~ Junction (M2-1), Cardinal Direction (M3 series), and  
17 Alternative Route (M4 series) auxiliary plaques (see Figure 9B-4) ~~may~~ should be mounted above the  
18 appropriate ~~Bicycle Bike~~ edited to increase consistency Route Guide signs, Bicycle Route signs, or ~~Interstate~~  
19 U.S. Bicycle Route signs.

20 If used, ~~the appropriate arrow (M7-1 through M7-7) sign~~ Advance Turn Arrow (M5 series) and  
21 Directional Arrow (M6 series) auxiliary plaques (see Figure 9B-4) should be ~~placed~~ mounted below the  
22 appropriate ~~Bicycle Bike~~ edited to increase consistency Route Guide sign, Bicycle Route sign, or ~~Interstate~~  
23 U.S. Bicycle Route sign.

24 Except for the M4-8 plaque, all route sign auxiliary plaques should match the color combination of the  
25 route sign that they supplement.

26 ~~Standard:~~

27 ~~The arrow signs and supplemental plaques used with the D11-1 or M1-8 signs shall have a white~~  
28 ~~legend and border on a green background.~~

29 ~~The arrow signs and supplemental plaques used with the M1-9 sign shall have a white legend and~~  
30 ~~border on a black background.~~

31 Route sign auxiliary plaques carrying word legends that are used on bicycle routes should have a  
32 minimum size of 300 x 150 mm (12 x 6 in). Route sign auxiliary plaques carrying arrow symbols that are  
33 used on bicycle routes should have a minimum size of 300 x 225 mm (12 x 9 in).

34 Option:

35 With route signs of larger sizes, auxiliary plaques may be suitably enlarged, but not such that they exceed  
36 the width of the route sign.

37 A route sign and any auxiliary plaques used with it may be combined on a single panel.

38 Destination (D1-1b and D1-1c) signs (see Figure 9B-4) may be mounted below ~~Bicycle Bike~~ edited to  
39 increase consistency Route Guide signs, Bicycle Route signs, or ~~Interstate~~ U.S. Bicycle Route signs to furnish  
40 additional information, such as directional changes in the route, or intermittent distance and destination  
41 information. relocated to end of Section

## 42 ~~Section 9B.22~~ 9B.23 Bicycle Parking Area Sign (D4-3)

43 Option:

44 The Bicycle Parking Area (D4-3) sign (see Figure 9B-4) may be installed where it is desirable to show the  
45 direction to a designated bicycle parking area. The arrow may be reversed as appropriate.

46 **Standard:**

47 **The legend and border of the Bicycle Parking Area sign shall be green on a retroreflectorized white**  
48 **background.**

## 49 Section 9B.24 Reference Location Signs (D10-1 through D10-3) and Intermediate Reference 50 Location Signs (D10-1a through D10-3a)

1 Support:

2 There are two types of reference location signs:

3 A. Reference Location (D10-1, 2, and 3) signs show an integer distance point along a shared-use path;  
4 and

5 B. Intermediate Reference Location (D10-1a, 2a, and 3a) signs also show a decimal between integer  
6 distance points along a shared-use path.

7 Option:

8 Reference Location (D10-1 to D10-3) signs (see Figure 9B-4) may be installed along any section of a  
9 shared-use path to assist users in estimating their progress, to provide a means for identifying the location of  
10 emergency incidents and crashes, and to aid in maintenance and servicing.

11 To augment the reference location sign system, Intermediate Reference Location (D10-1a to D10-3a)  
12 signs (see Figure 9B-4), which show the tenth of a kilometer (mile) with a decimal point, may be installed at  
13 one tenth of a kilometer (mile) intervals, or at some other regular spacing.

14 Standard:

15 When Intermediate Reference Location (D10-1a to D10-3a) signs are used to augment the reference  
16 location sign system, the reference location sign at the integer kilometer (mile) point shall display a  
17 decimal point and a zero numeral.

18 When placed on shared-use paths, reference location signs shall contain 113 mm (4.5 in) white  
19 numerals on a green background that is at least 150 mm (6 in) wide with a white border. The signs  
20 shall contain the abbreviation km (MILE) in 56 mm (2.25 in) white letters.

21 Reference location signs shall have a minimum mounting height of 0.6 m (2 ft), measured vertically  
22 from the bottom of the sign to the elevation of the near edge of the shared-use path, and shall not be  
23 governed by the mounting height requirements prescribed in Section 9B.01.

24 Option:

25 Reference location signs may be installed on one side of the shared-use path only and may be installed  
26 back-to-back.

27 If a reference location sign cannot be installed in the correct location, it may be moved in either direction  
28 as much as 15 m (50 ft).

29 Guidance:

30 If a reference location sign cannot be placed within 15 m (50 ft) of the correct location, it should be  
31 omitted.

32 Zero distance should begin at the south and west terminus points of shared-use paths.

33 Support:

34 Section 2I.02 contains additional information regarding reference location signs.

35 **Section 9B.25 Mode-Specific Guide Signs for Shared-Use Paths (D11-1a, D11-1b, D11-2, D11-**  
36 **3, D11-4)**

37 Option:

38 Where separate pathways are provided for different types of users, Mode-Specific Guide (D11-1a, D11-  
39 1b, D11-2, D11-3, D11-4) signs (see Figure 9B-4) may be used to guide different types of users to the traveled  
40 way that is intended for their respective modes.

41 Mode-Specific Guide signs may be installed at the entrance to shared-use paths where the signed mode(s)  
42 are permitted or encouraged, and periodically along these facilities as needed.

43 The Bicycles Permitted (D1-11a) sign, when combined with the BIKE ROUTE supplemental plaque  
44 (D11-1bP), may be substituted for the D11-1 Bicycle Route Guide sign on paths and shared roadways.

45 When some, but not all, non-motorized user types are encouraged or permitted on a shared-use path,  
46 Mode-Specific Guide signs may be placed in combination with each other, and in combination with signs (see  
47 Section 9B.08) that prohibit travel by particular modes.

48 Support:

49 Figure 9B-8 shows an example of signing where separate pathways are provided for different non-  
50 motorized user types.



1 Section 9B.26 Object Markers text for this new Section was relocated from Section 9C.03

2 Option:

3 Fixed objects adjacent to shared-use paths may be marked with [Type 1, Type 2, or Type 3](#) object markers  
4 (~~Type 1, 2, or 3~~) (see [Chapter 2L](#)).

5 **Standard:**

6 **All object markers shall be retroreflective.**

7 **Markers such as those described in Section 2L.01 shall also be used on shared-use paths, if needed.**

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

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

12

## CHAPTER 9C. MARKINGS

### Section 9C.01 Functions of Markings

Support:

Markings indicate the separation of the lanes for road users, assist the bicyclist by indicating assigned travel paths, indicate correct position for traffic control signal actuation, and provide advance information for turning and crossing maneuvers.

### Section 9C.02 General Principles

Guidance:

Bikeway design guides ([see Section 9A.05](#)) should be used when designing markings for bicycle facilities (~~see Section 9A.05~~).

**Standard:**

**Markings used on bikeways shall be retroreflectORIZED.**

Guidance:

Pavement marking symbols and/or word messages should be used in bikeways where appropriate. Consideration should be given to selecting pavement marking materials that will minimize loss of traction for bicycles under wet conditions.

**Standard:**

**The colors, width of lines, patterns of lines, and symbols used for marking bicycle facilities shall be as defined in Sections 3A.04, 3A.05, and 3B.20.**

Support:

Figures 9B-7 and 9C-1 through 9C-9 show examples of the application of lines, word messages, and symbols on designated bikeways.

Option:

A dotted line may be used to define a specific path for a bicyclist crossing an intersection (see Figure 9C-1) as described in Sections 3A.05 and 3B.08.

### Section 9C.03 Marking Patterns and Colors on Shared-Use Paths **last five paragraphs were relocated to a new Section 9B.26**

Option:

Where shared-use paths are of sufficient width to designate two minimum width lanes, a solid yellow line may be used to separate the two directions of travel where passing is not permitted, and a broken yellow line may be used where passing is permitted (see Figure 9C-2).

Guidance:

Broken lines used on shared-use paths should have the usual 1-to-3 segment-to-gap ratio. A nominal 0.9 m (3 ft) segment with a 2.7 m (9 ft) gap should be used.

If conditions make it desirable to separate two directions of travel on shared-use paths at particular locations, a solid yellow line should be used to indicate no passing and no traveling to the left of the line.

Markings as shown in Figure 9C-2 should be used at the location of obstructions in the center of the path, including vertical elements intended to physically prevent unauthorized motor vehicles from entering the path.

Option:

A solid white line may be used on shared-use paths to separate different types of users [traveling in the same direction](#). The R9-7 sign (see Figure 9B-2) may be used to supplement the solid white line.

Smaller size letters and symbols may be used on shared-use paths. Where arrows are needed on shared-use paths, half-size layouts of the arrows may be used (see Section 3B.20).

### Section 9C.04 Markings For Bicycle Lanes

~~Guidance:~~

~~Longitudinal pavement markings should be used to define bicycle lanes.~~

Support:

1 Pavement markings designate that portion of the roadway for preferential use by bicyclists. Markings  
2 inform all road users of the restricted nature of the bicycle lane.

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

6 **Standard:**

7 Longitudinal pavement markings shall be used to define bicycle lanes.

8 ~~If used, the bicycle lane symbol marking (see Figure 9C-6) shall be placed immediately after an~~  
9 ~~intersection and at other locations as needed.~~ The bicycle lane symbol marking shall be white. If the  
10 bicycle lane symbol marking is used in conjunction with other word or symbol messages, it shall  
11 precede them.

12 ~~If the word or symbol pavement markings shown in Figure 9C-6 are used, Bicycle Lane signs (see~~  
13 ~~Section 9B.04) shall also be used, but the signs need not be adjacent to every symbol to avoid overuse of~~  
14 ~~the signs.~~

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

16 **Support:**

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

19 **Guidance:**

20 If used, the bicycle lane symbol marking (see Figure 9C-6) should be placed at the beginning of a bicycle  
21 lane and at periodic intervals along the bicycle lane based on engineering judgment.

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

25 An optional through-right turn lane next to a right turn only lane should not be used where there is a  
26 through bicycle lane. If a capacity analysis indicates the need for an optional through-right turn lane, the  
27 bicycle lane should be discontinued at the intersection approach.

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

29 **Support:**

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

34 Option:

35 If the word or symbol pavement markings shown in Figure 9C-6 are used, Bike Lane signs (see Section  
36 9B.04) may also be used, but to avoid overuse of the signs not necessarily adjacent to every symbol.

37 **Standard:**

38 **Bicycle lanes shall not be provided on the circular roadway of a roundabout ~~intersection~~ or other**  
39 **circular intersection.**

40 **Section 9C.05 Bicycle Detector Symbol**

41 **Option:**

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

44 An R10-22 sign (see Section 9B.13 and Figure 9B-2) may be installed to supplement the pavement  
45 marking.

46 **Section 9C.06 Pavement Markings for Obstructions**

47 **Guidance:**

48 In roadway situations where it is not practical to eliminate a drain grate or other roadway obstruction that  
49 is inappropriate for bicycle travel, white markings applied as shown in Figure 9C-8 should be used to guide  
50 bicyclists around the condition.

1 **Section 9C.07 Shared Lane Marking**

2 Option:

3 The Shared Lane Marking shown in Figure 9C-9 may be used to:

- 4 A. Assist bicyclists with lateral positioning in a shared lane with on-street parallel parking in order to  
5 reduce the chance of a bicyclist's impacting the open door of a parked vehicle.  
6 B. Assist bicyclists with lateral positioning in lanes that are too narrow for a motor vehicle and a bicycle  
7 to travel side by side within the same traffic lane.  
8 C. Alert road users of the lateral location bicyclists are likely to occupy within the traveled way.  
9 D. Encourage safe passing of bicyclists by motorists, and  
10 E. Reduce the incidence of wrong-way bicycling.

11 Guidance:

12 The Shared Lane Marking should not be placed on roadways that have a speed limit above 50 km/h or 35  
13 mph.

14 **Standard:**

15 **Shared Lane Markings shall not be used on shoulders or in designated bicycle lanes.**

16 **If used in a shared lane with on-street parallel parking, Shared Lane Markings shall be placed so**  
17 **that the centers of the markings are at least 3.4 m (11 ft) from the face of the curb, or from the edge of**  
18 **the pavement where there is no curb.**

19 Guidance:

20 If used on a street without on-street parking that has an outside travel lane that  
21 is less than 4.3 m (14 ft) wide, the centers of the Shared Lane Markings should be at  
22 least 1.2 m (4 ft) from the face of the curb, or from the edge of the pavement where  
23 there is no curb.

24 If used, the Shared Lane Marking should be placed immediately after an intersection and spaced at  
25 intervals not greater than 75 m (250 ft) thereafter.

1 **CHAPTER 9D. SIGNALS**

2 **Section 9D.01 Application**

3 Support:

4 Part 4 contains information regarding signal warrants and other requirements relating to signal  
5 installations.

6 Option:

7 For purposes of signal warrant evaluation, bicyclists may be counted as either vehicles or pedestrians.

8 **Section 9D.02 Signal Operations for Bicycles**

9 **Standard:**

10 **At installations where visibility-limited signal faces are used, signal faces shall be adjusted so**  
11 **bicyclists for whom the indications are intended can see the signal indications. If the visibility-limited**  
12 **signal faces cannot be aimed to serve the bicyclist, then separate signal faces shall be provided for the**  
13 **bicyclist.**

14 **On bikeways, signal timing and actuation shall be reviewed and adjusted to consider the needs of**  
15 **bicyclists.**

16

**Table 9B-1. Bicycle Facility Sign and Plaque Minimum Sizes (Sheet 1 of 2)**

Sign or Plaque	Sign Designation	Minimum Sign Size	
		Shared-Use Path	Roadway
Stop	R1-1	450 x 450 (18 x 18)	750 x 750 (30 x 30)
Yield	R1-2	450 x 450 x 450 (18 x 18 x 18)	750 x 750 x 750 (30 x 30 x 30)
Bicycle Lane	R3-17	—	750 x 600 (30 x 24)
Bicycle Lane (plaques)	R3-17aP, R3-17bP	—	750 x 300 (30 x 12)
Movement Restriction	R4-1a, 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)
Bicycles May Use Full Lane	R4-11	—	750 x 750 (30 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)
No Bicycles	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)
No Pedestrians	R9-3	450 x 450 (18 x 18)	450 x 450 (18 x 18)
Ride With Traffic (plaque)	R9-3cP	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)	—
No Skaters	R9-13	450 x 450 (18 x 18)	450 x 450 (18 x 18)
No Equestrians	R9-14	450 x 450 (18 x 18)	450 x 450 (18 x 18)
Push Button for Green Light	R10-4	225 x 300 (9 x 12)	225 x 300 (9 x 12)
To Request Green Wait on Symbol	R10-22	300 x 450 (12 x 18)	300 x 450 (12 x 18)
Bike Push Button for Green Light	R10-24	225 x 375 (9 x 15)	225 x 375 (9 x 15)
Push Button to Turn On Warning Lights	R10-25	225 x 300 (9 x 12)	225 x 300 (9 x 12)
Bike Push Button for Green Light (arrow)	R10-26	225 x 375 (9 x 15)	225 x 375 (9 x 15)
Railroad Crossbuck	R15-1	600 x 112 (24 x 4.5)	1200 x 225 (48 x 9)
Number of Tracks (plaque)	R15-2P	337 x 225 (13.5 x 9)	675 x 450 (27 x 18)
Look	R15-8	450 x 225 (18 x 9)	900 x 450 (36 x 18)
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	W3-1,2,3	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)
Path Narrows	W5-4a	450 x 450 (18 x 18)	750 x 750 (30 x 30)
Hill	W7-5	450 x 450 (18 x 18)	750 x 750 (30 x 30)
Bump or Dip	W8-1,2	450 x 450 (18 x 18)	600 x 600 (24 x 24)
Pavement Ends	W8-3	450 x 450 (18 x 18)	750 x 750 (30 x 30)
Bicycle Surface Condition	W8-10	450 x 450 (18 x 18)	750 x 750 (30 x 30)
Slippery When Wet (plaque)	W8-10P	300 x 225 (12 x 9)	300 x 225 (12 x 9)
Advance Grade Crossing	W10-1	750 Dia. (30 Dia.)	900 Dia. (36 Dia.)
Skewed Crossing	W10-12	450 x 450 (18 x 18)	900 x 900 (36 x 36)

- Notes: 1. Larger signs may be used when appropriate.  
2. Dimensions are shown in millimeters followed by inches in parentheses and are shown as width x height.

**Table 9B-1. Bicycle Facility Sign and Plaque Minimum Sizes (Sheet 2 of 2)**

Sign or Plaque	Sign Designation	Minimum Sign Size	
		Shared-Use Path	Roadway
Bicycle Warning	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)
Combination Bike and Ped Crossing	W11-15	450 x 450 (18 x 18)	750 x 750 (30 x 30)
Trail Crossing (plaque)	W11-15P	450 x 300 (18 x 12)	600 x 450 (24 x 18)
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)	W16-1P	—	450 x 600 (18 x 24)
XX Meters or Feet	W16-2P	450 x 300 (18 x 12)	600 x 450 (24 x 18)
XX m or Ft	W16-2aP	—	600 x 300 (24 x 12)
Diagonal Arrow (plaque)	W16-7P	—	600 x 300 (24 x 12)
Ahead (plaque)	W16-9P	—	600 x 300 (24 x 12)
Destination (1 line)	D1-1, D1-1a	varies x 150 (varies x 6)	varies x 450 (varies x 18)
Bicycle Destination (1 line)	D1-1b, D1-1c	varies x 150 (varies x 6)	varies x 150 (varies x 6)
Destination (2 lines)	D1-2, D1-2a	varies x 300 (varies x 12)	varies x 750 (varies x 30)
Bicycle Destination (2 lines)	D1-2b, D1-2c	varies x 300 (varies x 12)	varies x 300 (varies x 12)
Destination (3 lines)	D1-3, D1-3a	varies x 450 (varies x 18)	varies x 1050 (varies x 42)
Bicycle Destination (3 lines)	D1-3b, D1-3c	varies x 450 (varies x 18)	varies x 450 (varies x 18)
Street Name	D3-1	varies x 150 (varies x 6)	varies x 200 (varies x 8)
Bicycle Parking	D4-3	300 x 450 (12 x 18)	300 x 450 (12 x 18)
Reference Location (1-digit)	D10-1	150 x 300 (6 x 12)	250 x 450 (10 x 18)
Intermediate Reference Location (1-digit)	D10-1a	150 x 450 (6 x 18)	250 x 675 (10 x 27)
Reference Location (2-digit)	D10-2	150 x 450 (6 x 18)	250 x 675 (10 x 27)
Intermediate Reference Location (2-digit)	D10-2a	150 x 600 (6 x 24)	250 x 900 (10 x 36)
Reference Location (3-digit)	D10-3	150 x 600 (6 x 24)	250 x 900 (10 x 36)
Intermediate Reference Location (3-digit)	D10-3a	150 x 750 (6 x 30)	250 x 1200 (10 x 48)
Bike Route	D11-1, D11-1c	600 x 450 (24 x 18)	600 x 450 (24 x 18)
Bicycles Permitted	D11-1a	450 x 450 (18 x 18)	—
Bike Route (plaque)	D11-1bP	450 x 150 (18 x 6)	—
Pedestrians Permitted	D11-2	450 x 450 (18 x 18)	—
Skaters Permitted	D11-3	450 x 450 (18 x 18)	—
Equestrians Permitted	D11-4	450 x 450 (18 x 18)	—
Bicycle Route	M1-8, M1-8a	300 x 450 (12 x 18)	300 x 450 (12 x 18)
U.S. Bicycle Route	M1-9	450 x 600 (18 x 24)	450 x 600 (18 x 24)
Bicycle Route Auxiliary Signs	M2-1, M3-1, 2, 3, 4, M4-1, 1a M4-2, 3, 5, 6, 7, 7a, 8, 14	300 x 150 (12 x 6)	300 x 150 (12 x 6)
Bicycle Route Arrow Signs	M5-1, 2 M6-1, 2, 3, 4, 5, 6, 7	300 x 225 (12 x 9)	300 x 225 (12 x 9)

Notes: 1. Larger signs may be used when appropriate.

2. Dimensions are shown in millimeters followed by inches in parentheses and are shown as width x height.

**Figure 9B-1. Sign Placement on Shared-Use Paths**

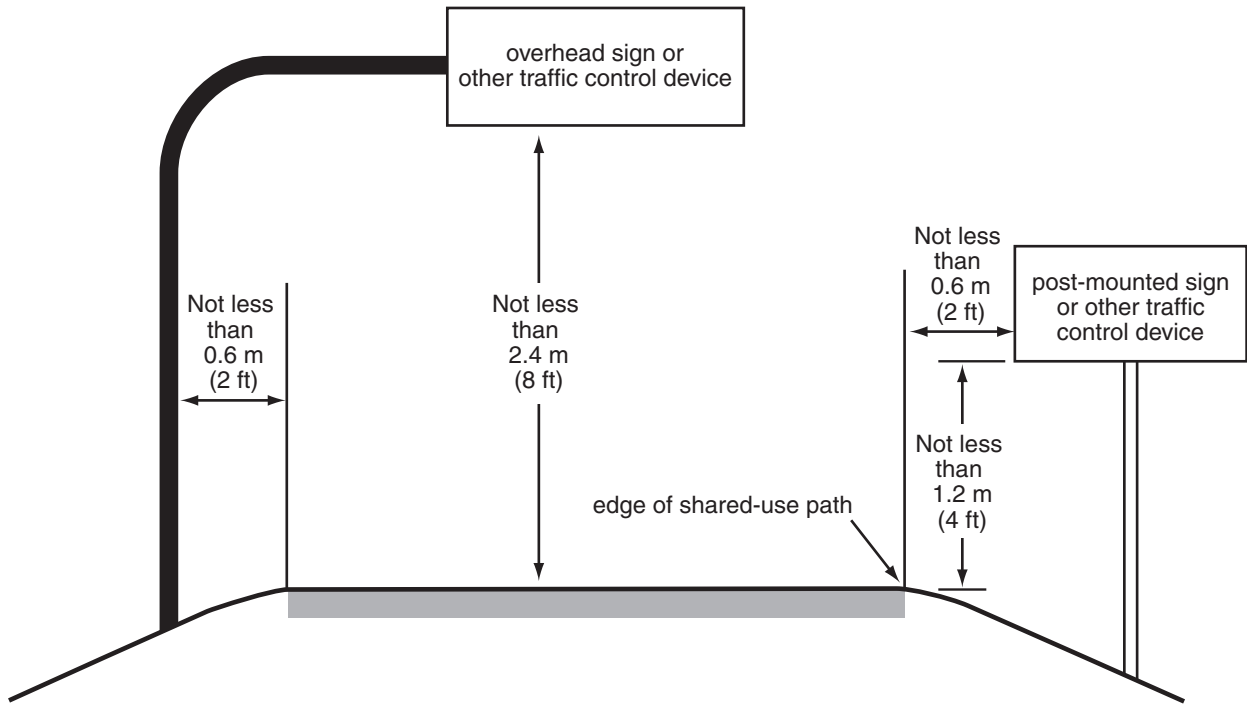
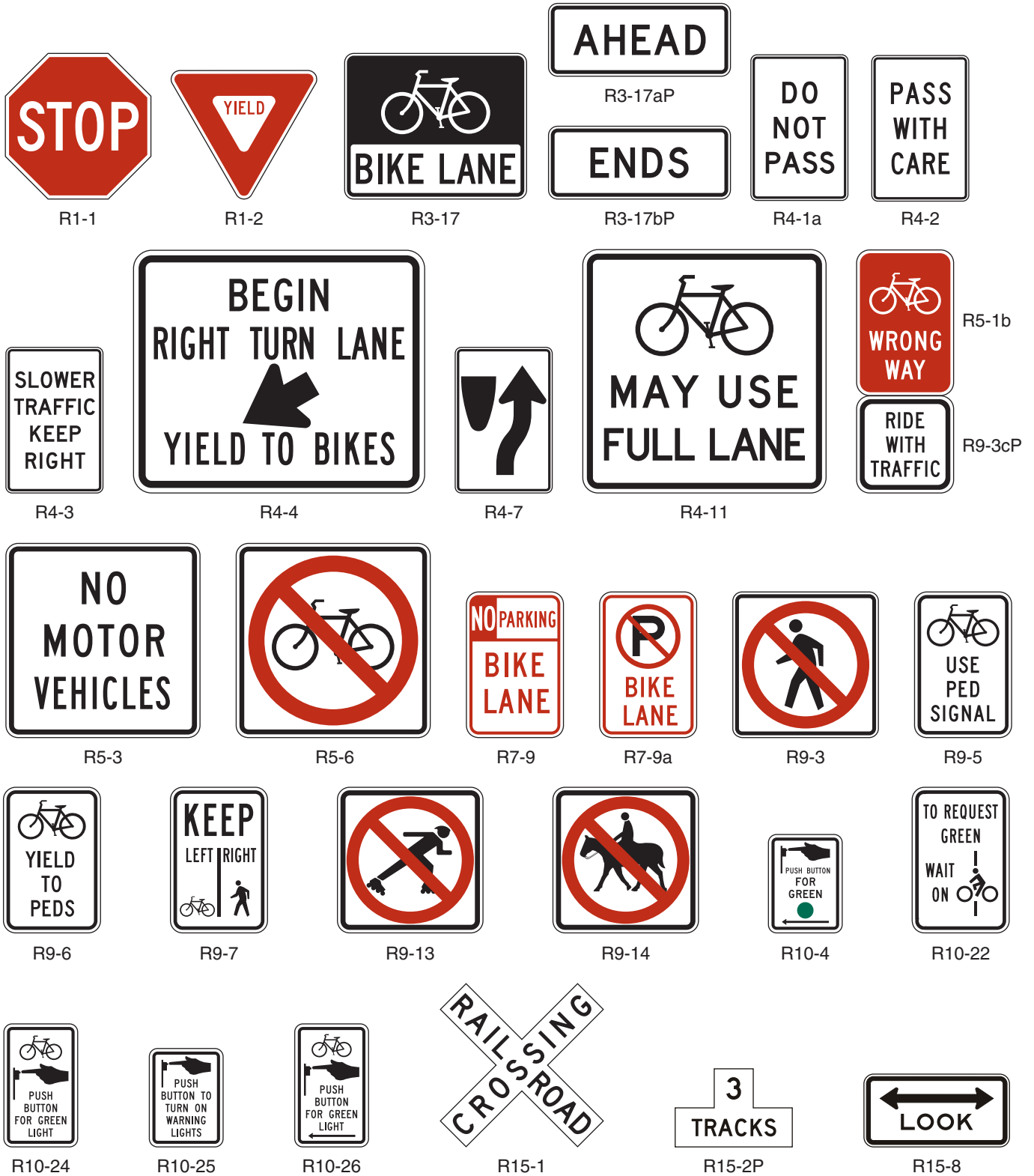




Figure 9B-2. Regulatory Signs and Plaques for Bicycle Facilities



**Figure 9B-3. Warning Signs and Plaques for Bicycle Facilities (Sheet 1 of 2)**



W1-1



W1-2



W1-3



W1-4



W1-5



W1-6



W1-7



W2-1



W2-2



W2-3



W2-4



W2-5



W3-1



W3-2



W3-3



W5-2



W5-4a



W7-5



W8-1



W8-2



W8-3



W8-10



W8-10P

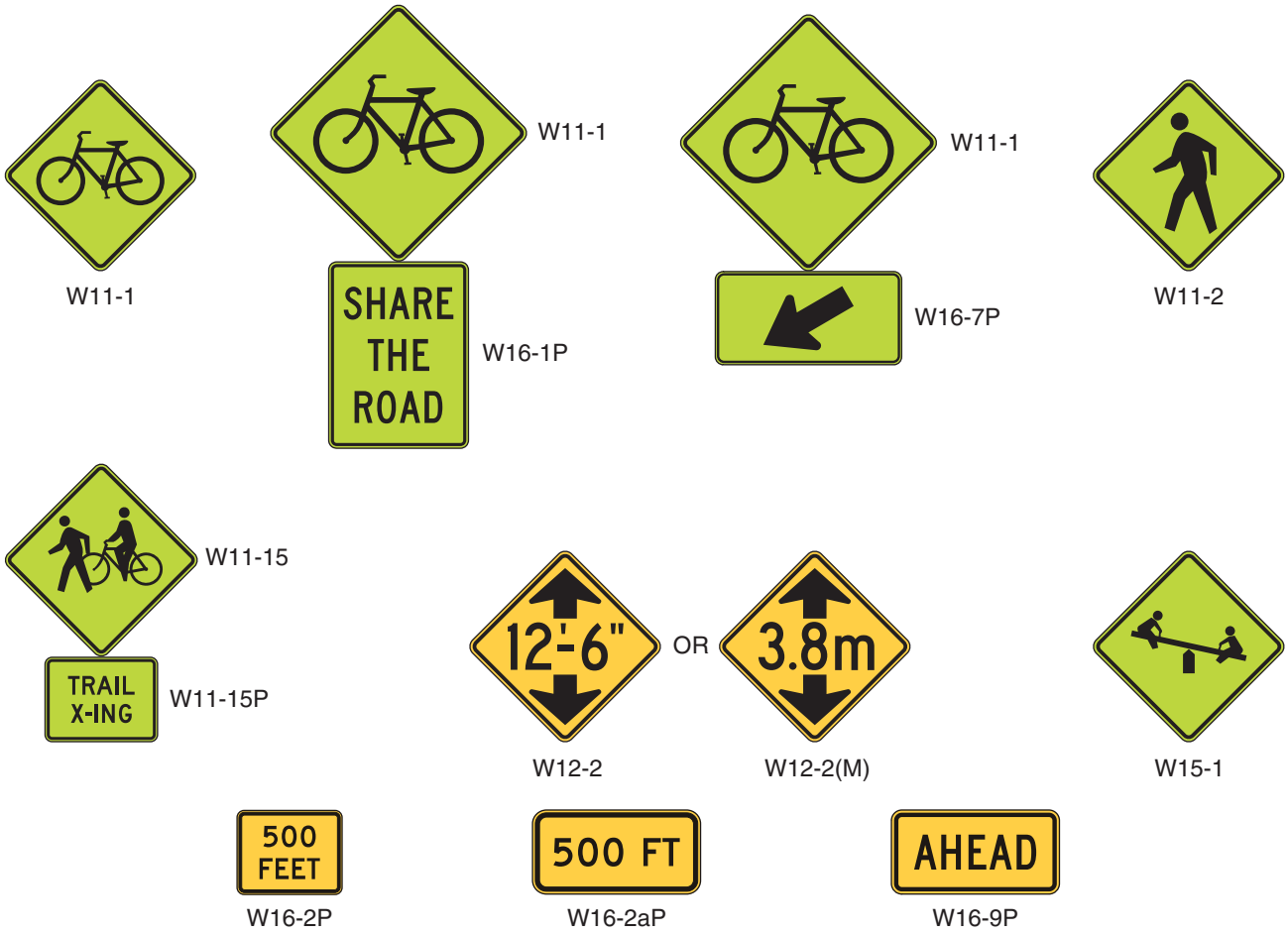


W10-1



W10-12

Figure 9B-3. Warning Signs and Plaques for Bicycle Facilities (Sheet 2 of 2)



**Figure 9B-4. Guide Signs and Plaques for Bicycle Facilities (Sheet 1 of 2)**



D1-1



D1-1a



D1-1b



D1-1c



D1-2



D1-2a



D1-2b



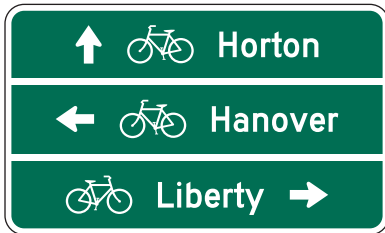
D1-2c



D1-3



D1-3a



D1-3b



D1-3c



D3-1



D4-3



D10-1



D10-1a



D10-2



D10-2a



D10-3



D10-3a

Figure 9B-4. Guide Signs and Plaques for Bicycle Facilities (Sheet 2 of 2)



D11-1



D11-1a



D11-1bP



D11-1c



D11-2



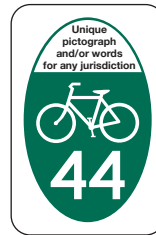
D11-3



D11-4



M1-8



M1-8a



M1-9



M2-1



M3-1



M3-2



M3-3



M3-4



M4-1



M4-1a



M4-2



M4-3



M4-5



M4-6



M4-7



M4-7a



M4-8



M4-14



M5-1



M5-2



M6-1



M6-2



M6-3



M6-4



M6-5

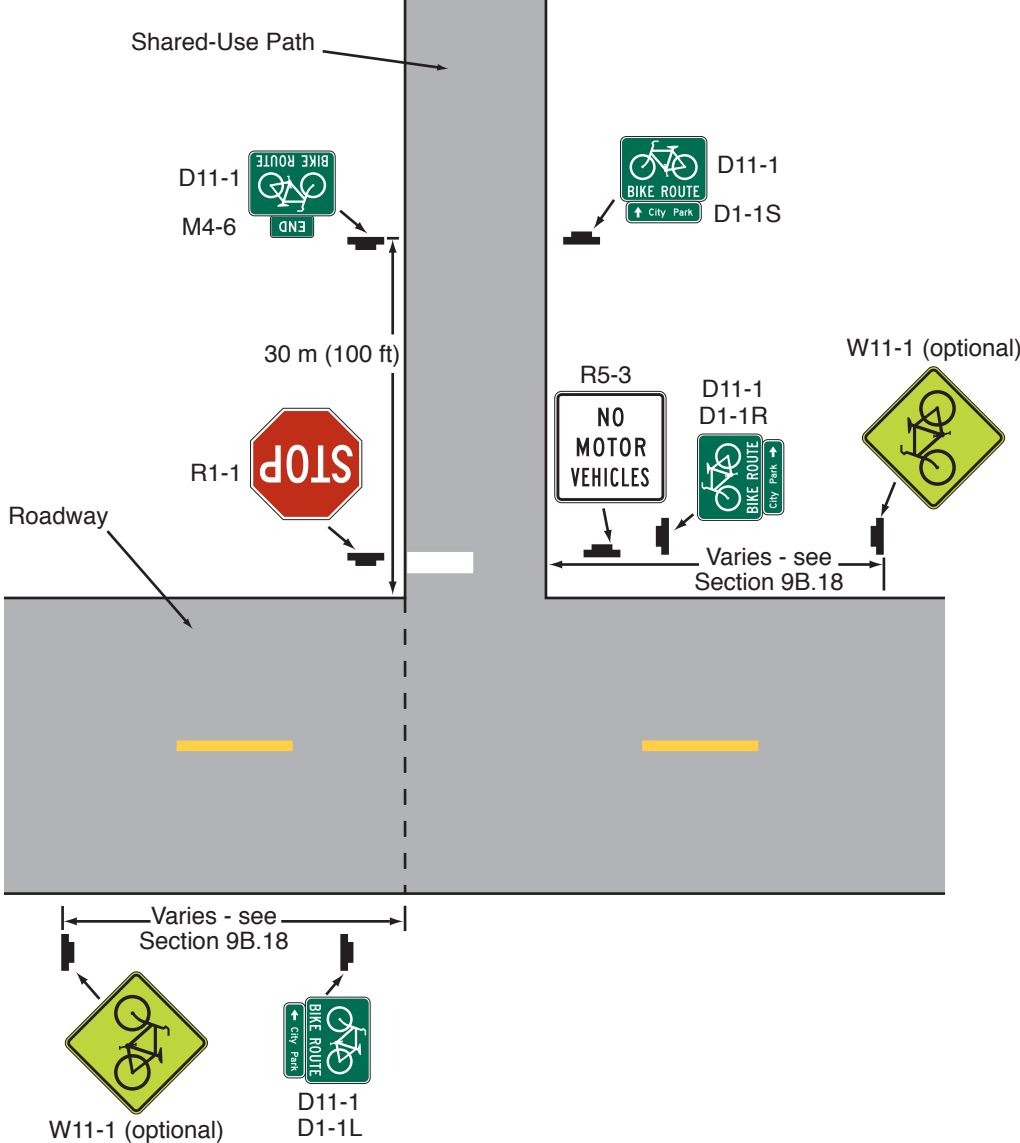


M6-6

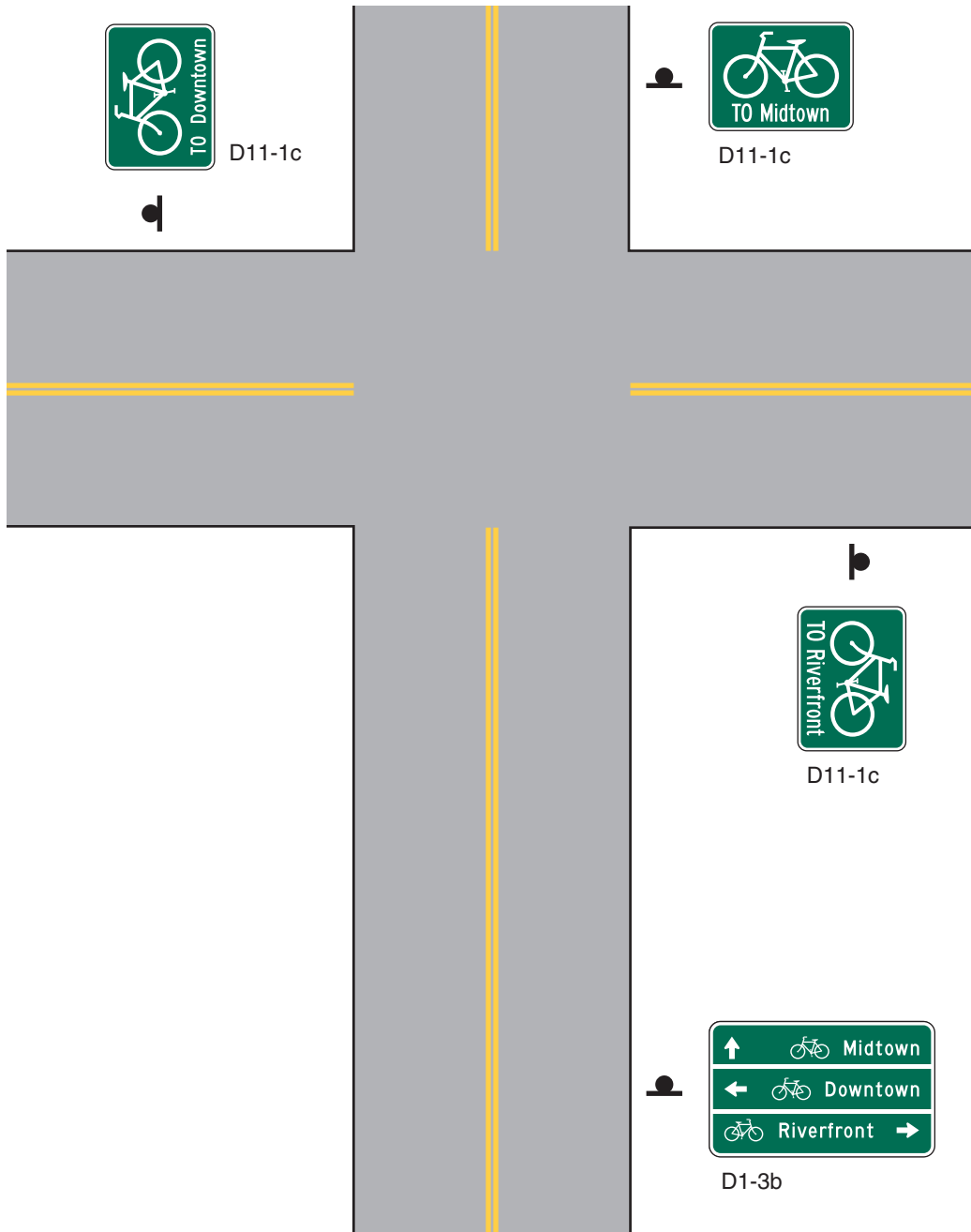


M6-7

**Figure 9B-5. Example of Signing for the Beginning and End of a Designated Bicycle Route on a Shared-Use Path**



**Figure 9B-6. Example of Bicycle Guide Signing**



**Figure 9B-7. Examples of Signing and Markings for Shared-Use Paths**

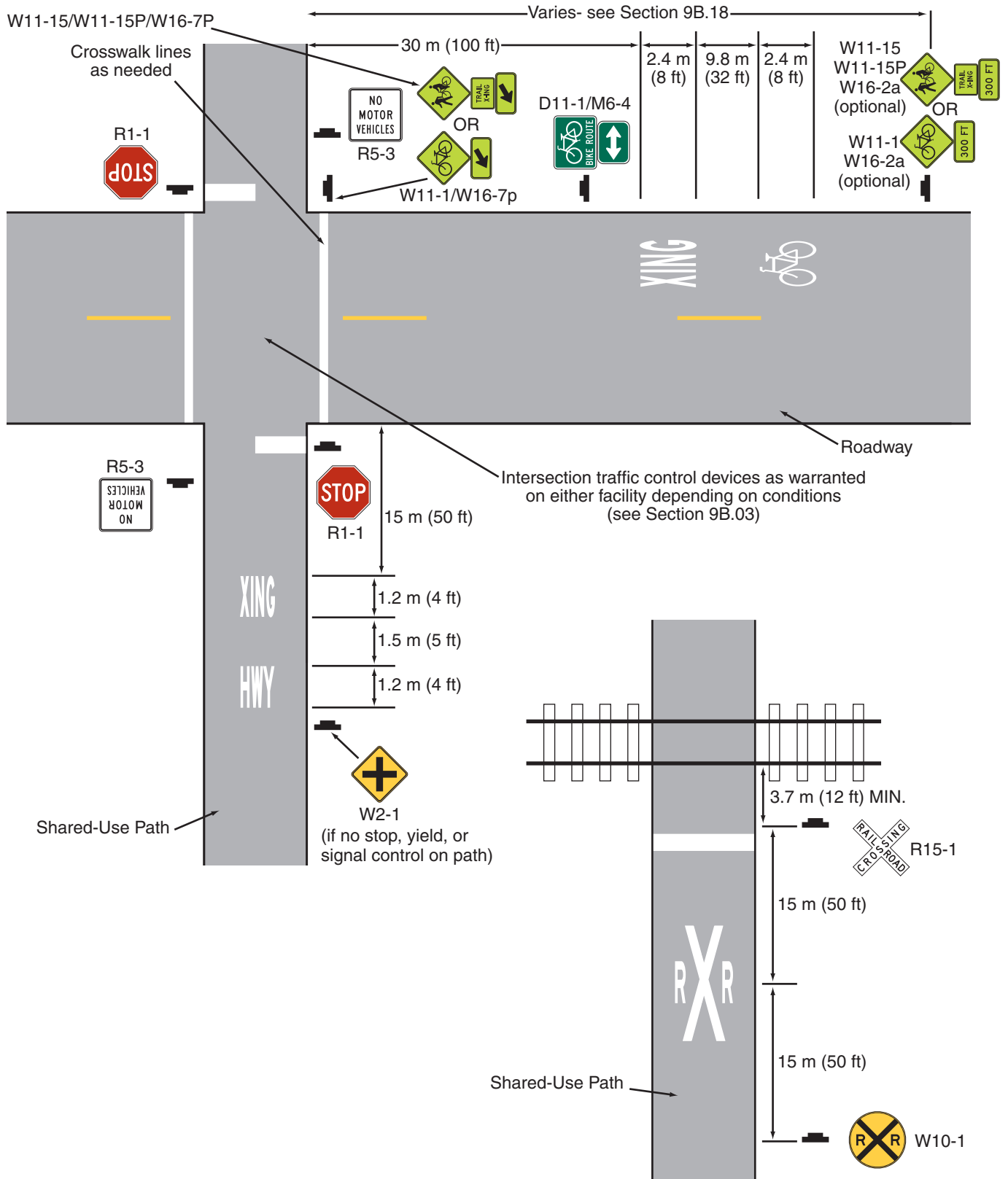
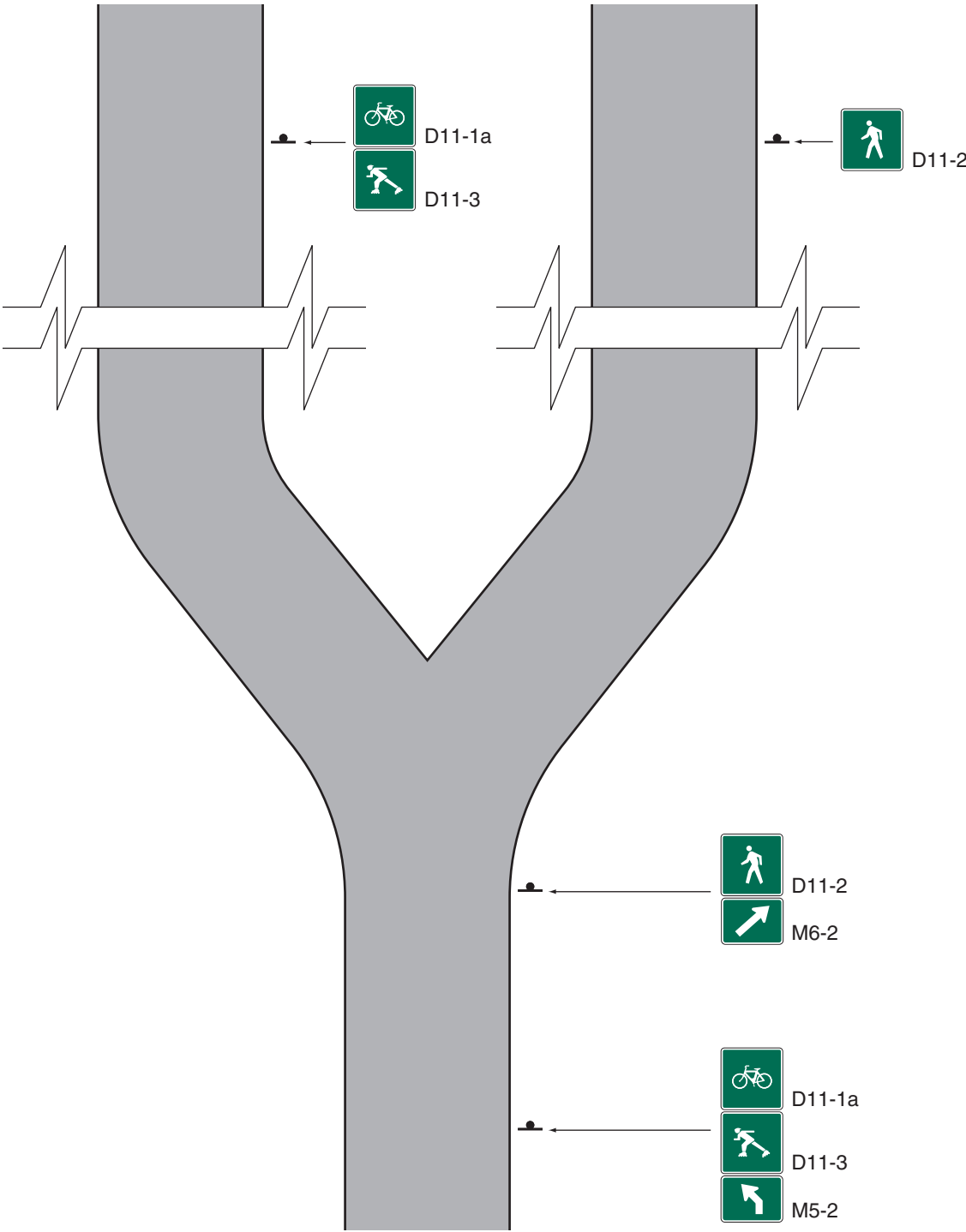
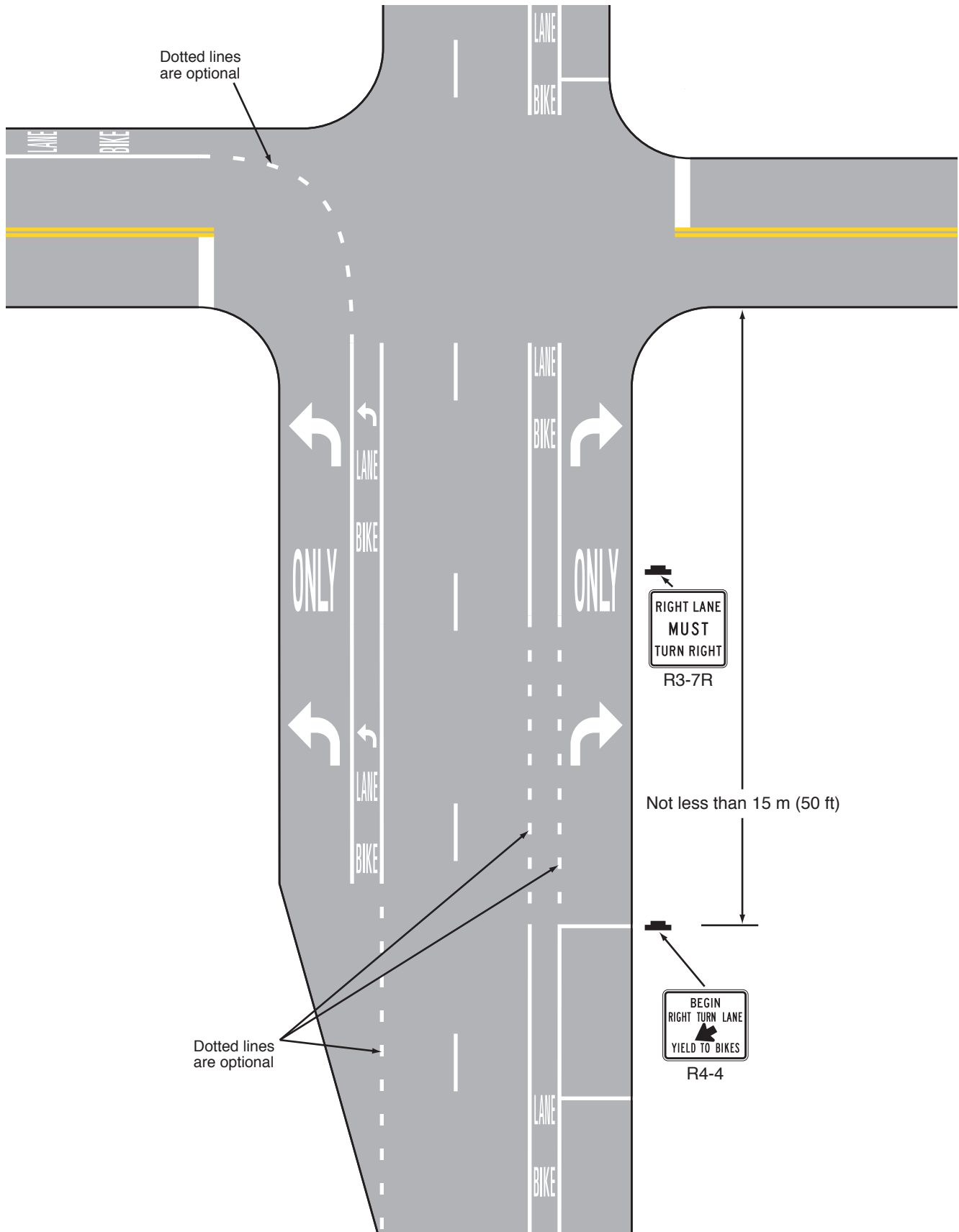




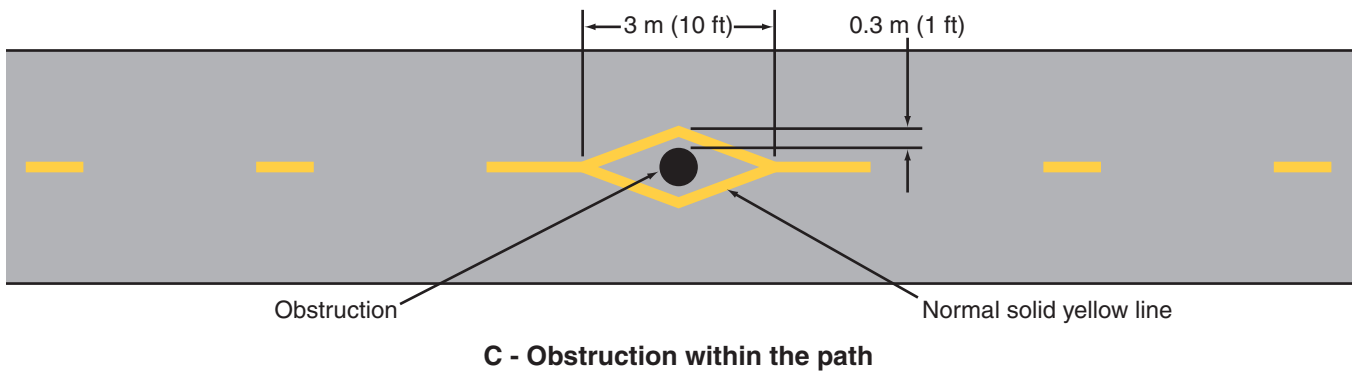
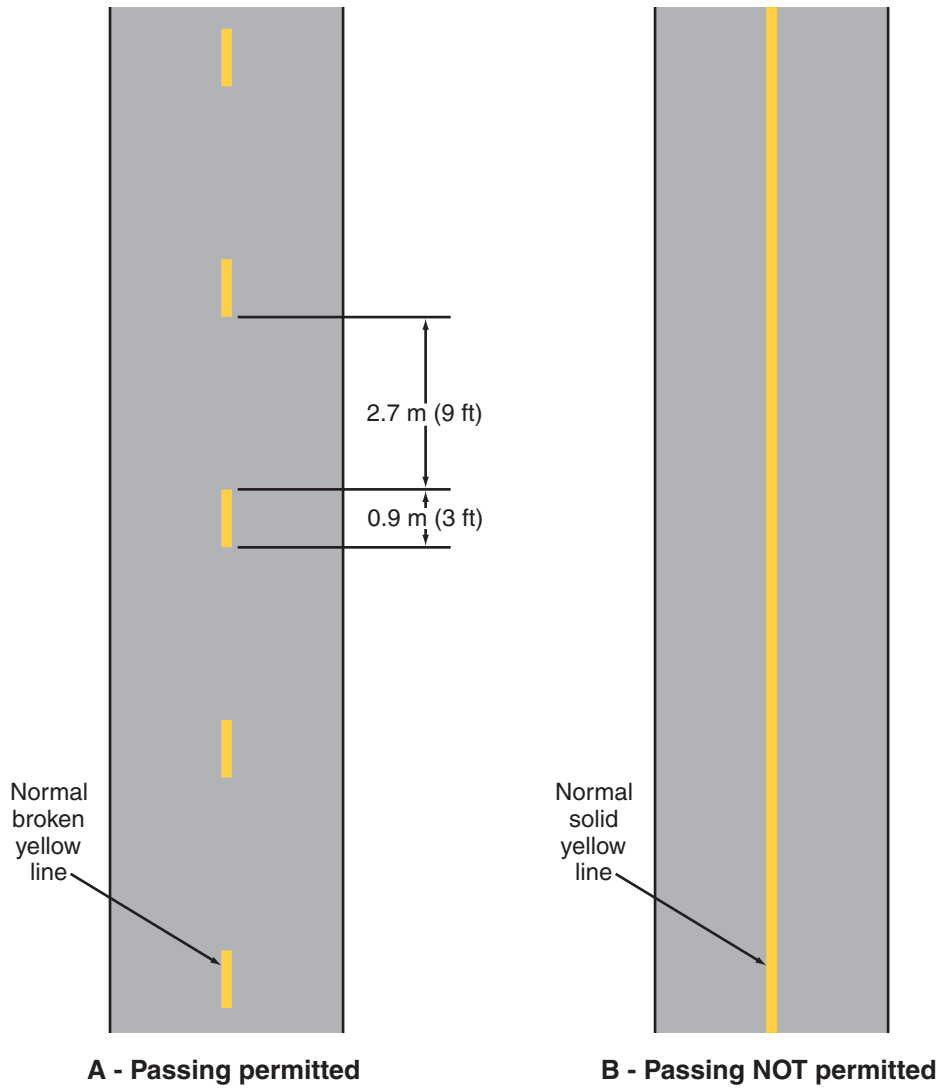
Figure 9B-8. Example of Mode-Specific Guide Signing on a Shared-Use Path



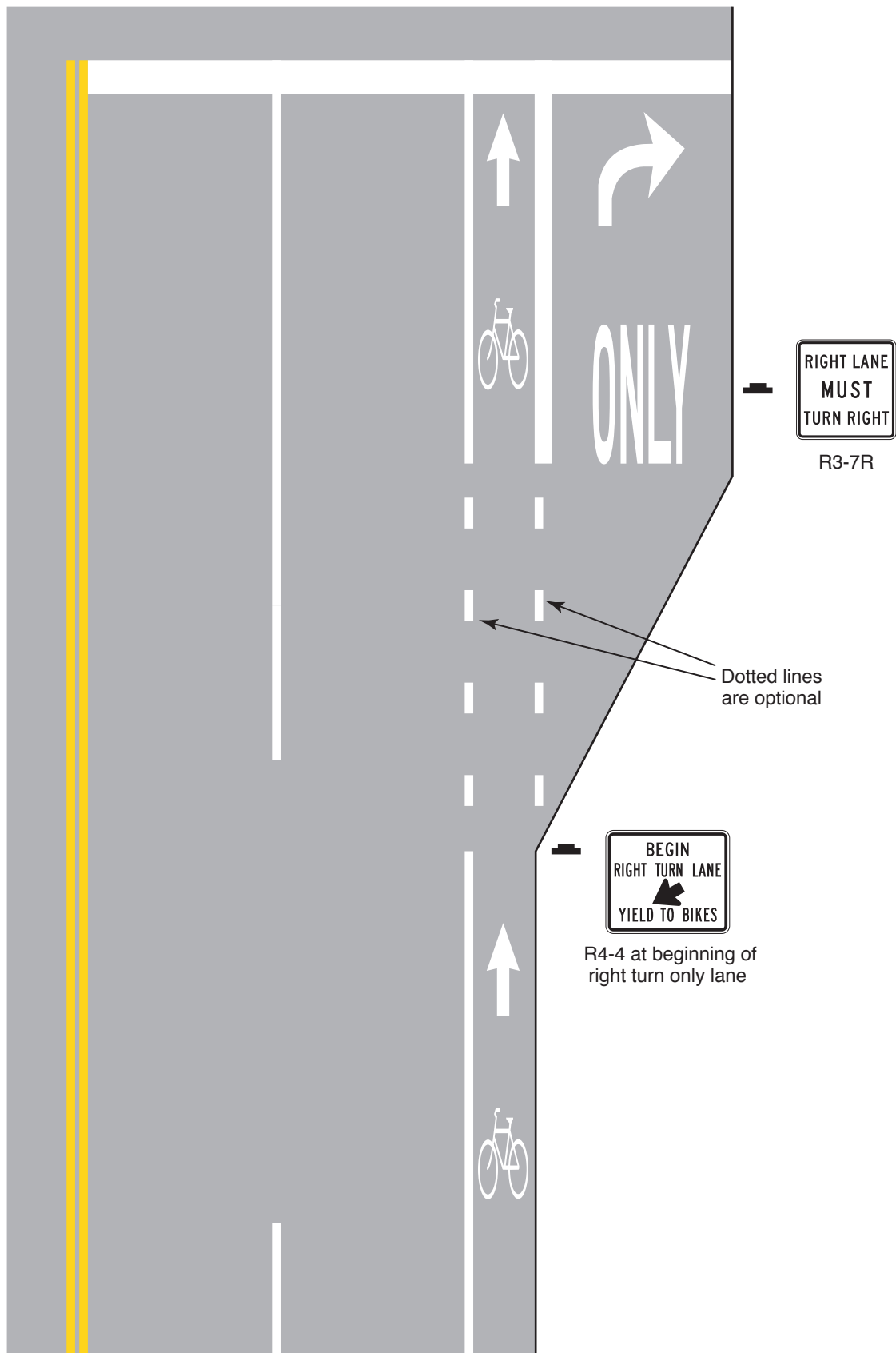
**Figure 9C-1. Example of Intersection Pavement Markings—Designated Bicycle Lane with Left-Turn Area, Heavy Turn Volumes, Parking, One-Way Traffic, or Divided Highway**



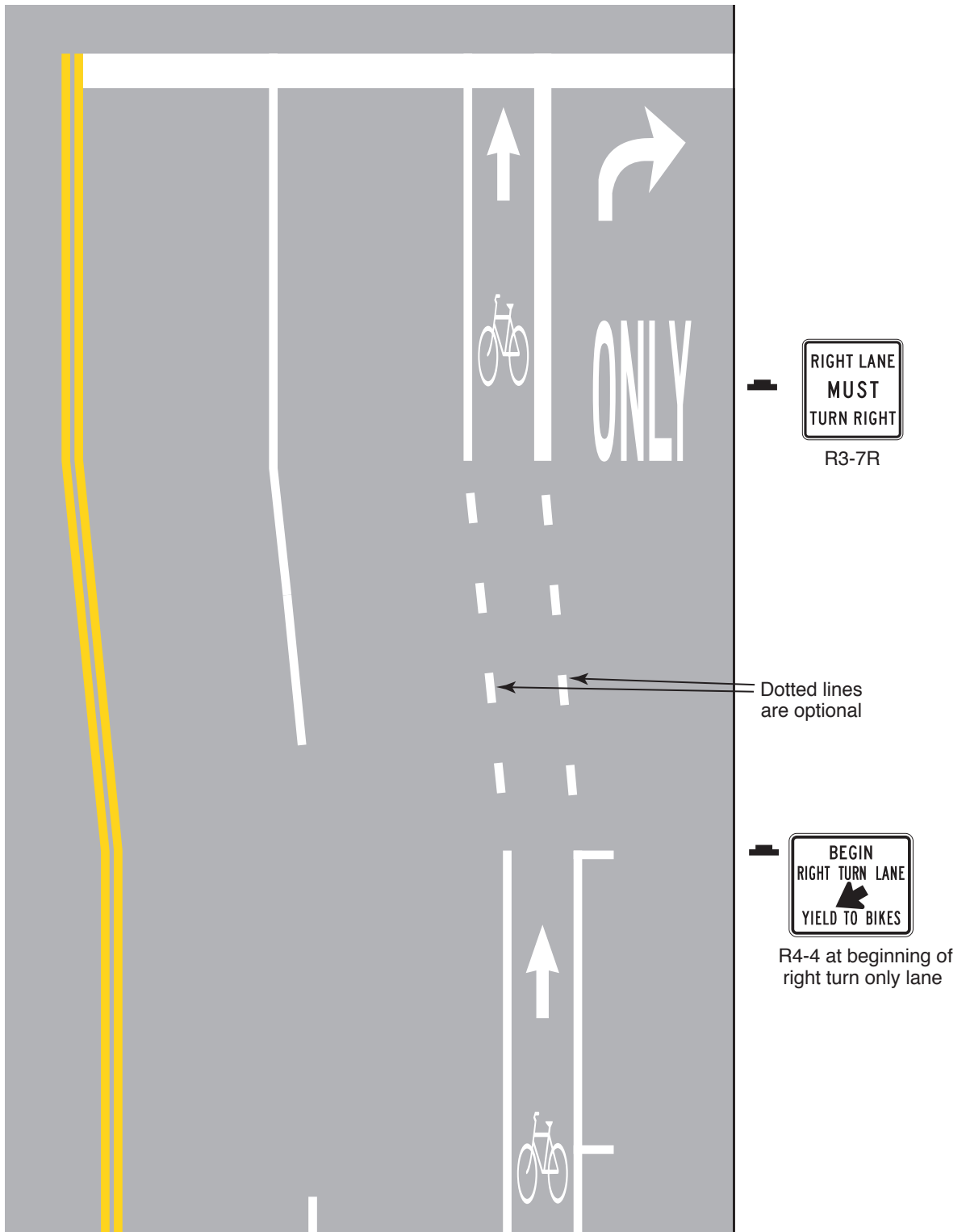
**Figure 9C-2. Examples of Center Line Markings for Shared-Use Paths**



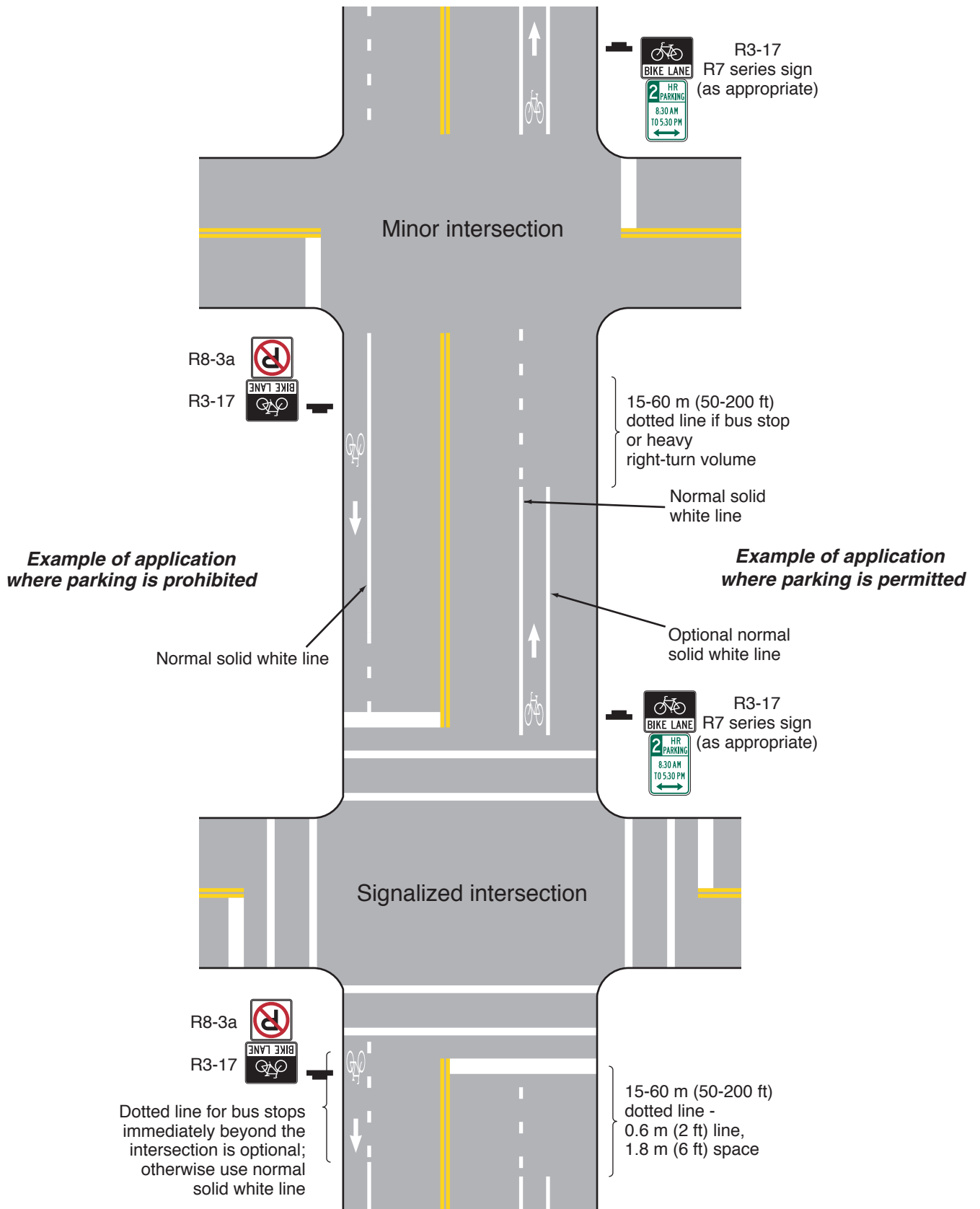
**Figure 9C-3. Example of Bicycle Lane Treatment at a Right Turn Only Lane**



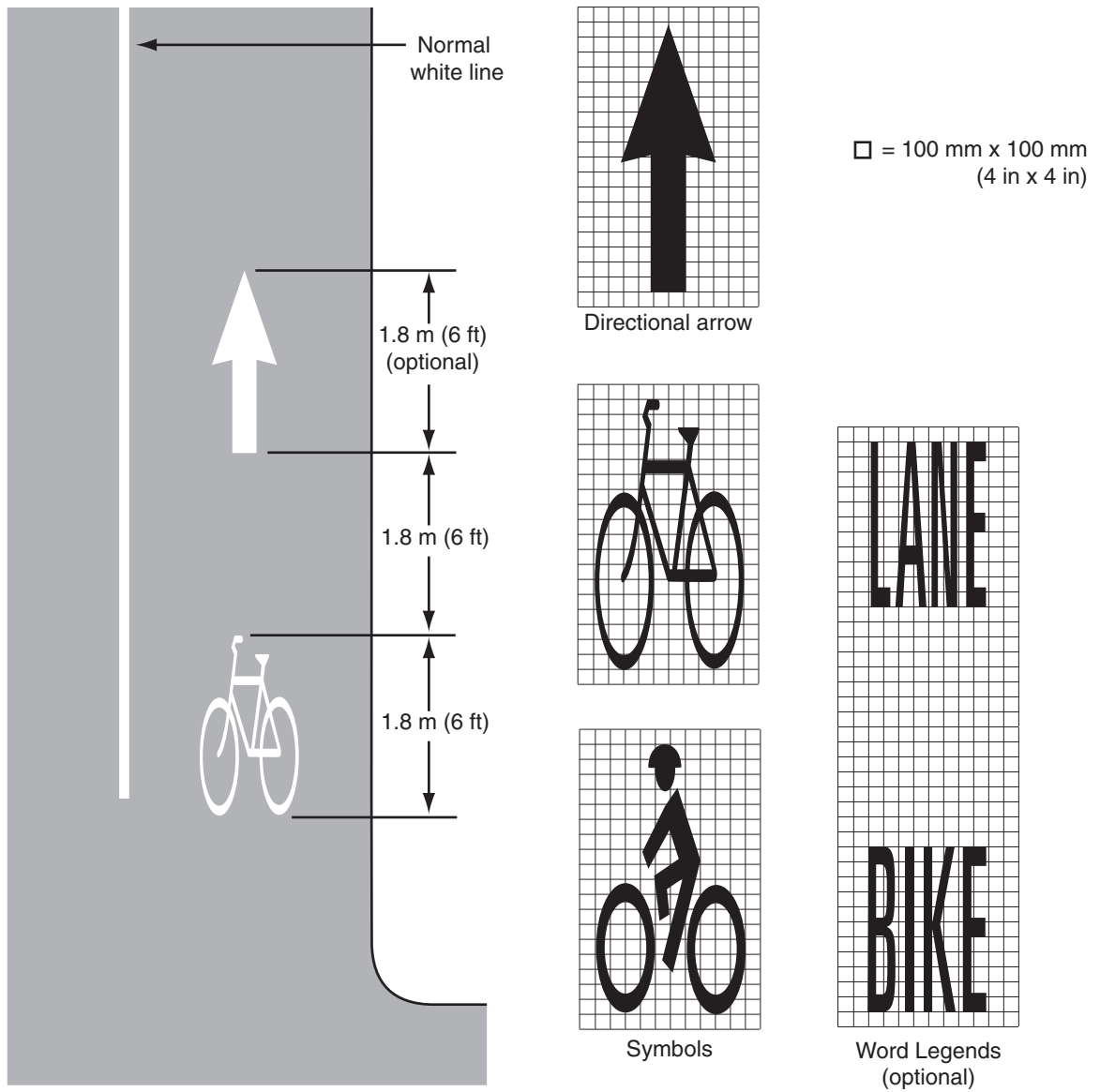
**Figure 9C-4. Example of Bicycle Lane Treatment at Parking Lane into a Right Turn Only Lane**



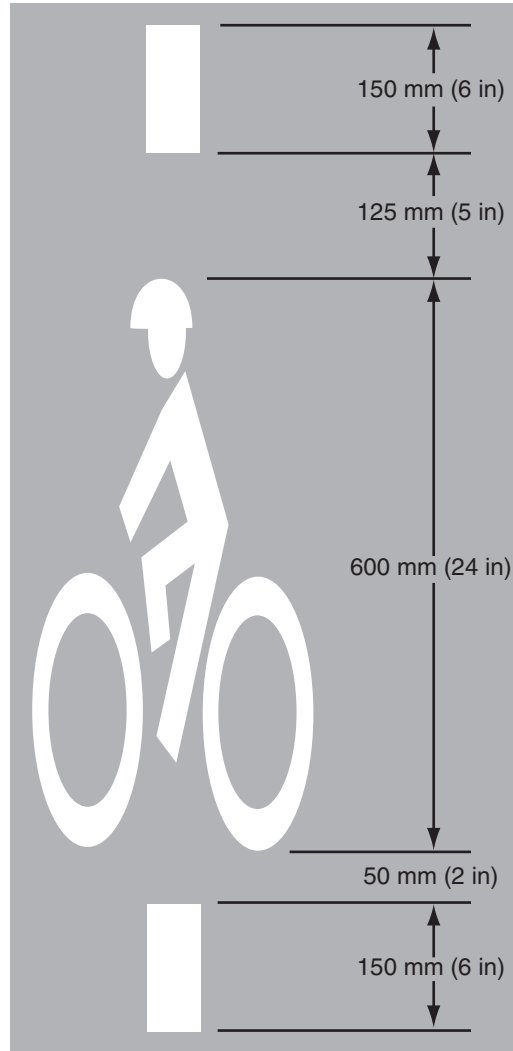
**Figure 9C-5. Example of Pavement Markings for Bicycle Lanes on a Two-Way Street**



**Figure 9C-6. Optional Word and Symbol Pavement Markings for Bicycle Lanes**

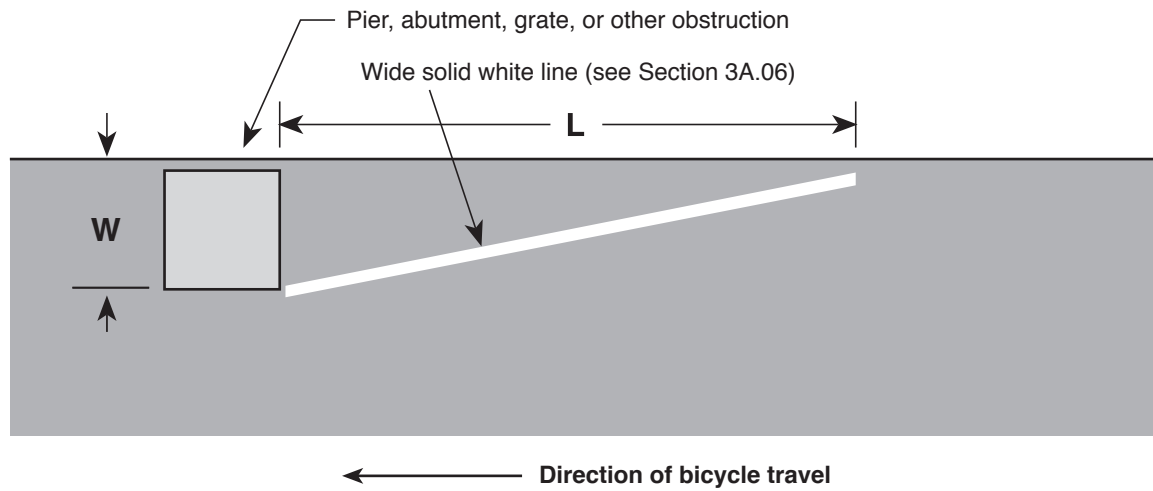


**Figure 9C-7. Bicycle Detector Pavement Marking**





**Figure 9C-8. Example of Obstruction Pavement Marking**



**For metric units:**

$L = 0.6 WS$ , where  $S$  is bicycle approach speed in kilometers per hour

**For English units:**

$L = WS$ , where  $S$  is bicycle approach speed in miles per hour

**Figure 9C-9. Shared Lane Marking**

