

TABLE OF CONTENTS

	Chapter 1: Introduction.....	1.1
	Chapter 2: Paved Shoulders.....	2.1
	Chapter 3: Bike Lane Design.....	3.1
	Chapter 4: Other On-Road Bicycle Facilities.....	4.1
	Chapter 5: Bicycle Guide Signing.....	5.1
	Chapter 6: Shared Use Paths.....	6.1
	Chapter 7: Pedestrian and Bicycle Access at Interchanges and Bridges...	7.1
	Chapter 8: Accommodating Bicyclists and Pedestrians in Work Zones ...	8.1
	Chapter 9: Sidewalk Design.....	9.1
	Chapter 10: Intersection Design.....	10.1
	Chapter 11: Pedestrian Signs and Signals.....	11.1
	Chapter 12: Other Pedestrian Facilities.....	12.1
	Appendix A: Bibliography.....	A.1
	Appendix B: Definitions.....	B.1
	Appendix C: Maryland Code Related to Bicycles and Pedestrians.....	C.1

TABLE OF FIGURES

Figure Number	Title	Page
2.1	Shoulder ends at intersection.....	2-2
2.2	Example of roadway retrofit to provide additional shoulder space for bicycles.....	2-2
2.3	Striping of shoulders at intersections to accommodate bicycle travel..	2-3
2.4	R4-4 Sign.....	2-4
2.5	Bypass lane with no bike accommodation.....	2-4
2.6	Bicycle accommodation for shoulder bypass lanes.....	2-5
2.7	Rumble strip pattern.....	2-6
2.8	Shoulder drop off.....	2-6
3.1	Bicycle Lane.....	3-1
3.2	Shared Road. Low Volume, Low Speed.....	3-1
3.3	Bicycle with Rider Symbol.....	3-2
3.4	Symbol Placement in Wide Shoulders.....	3-2
3.5	R3-17.....	3-3
3.6	R3-17 with subplate R3-17a.....	3-3
3.7	R3-17 with subplate R3-17b.....	3-3
3.8	R4-4.....	3-4

3.9	R5-1b with subplate R9-3c.....	3-4
3.10	Example of a bike lane on an open section roadway with no parking..	3-4
3.11	Designated Bike Lane: Open Section Midblock – No Parking.....	3-5
3.12	Example of a bike lane on a closed section roadway with no parking..	3-6
3.13	Designated Bike Lane: Closed Section Midblock – No Parking.....	3-7
3.14	Example of a bike lane on a closed section roadway with parking.....	3-6
3.15	Designated Bicycle Lane: Closed Section – With Parking.....	3-8
3.16	Dooring Warning Sign.....	3-9
3.17	Dooring Warning Markings.....	3-9
3.18	Example of use of smaller bicycle lane symbol.....	3-10
3.19	Example of back-in angled parking.....	3-10
3.20	Example Pocket Lane Striping – no bicycle symbol placed when lane is less than four feet in width.....	3-11
3.21	Examples of Intersection Pavement Markings – Designated Bicycle Lane with Left-Turn Area, Heavy Turn Volumes, Parking, One-Way Traffic, or Divided Highway.....	3-12
3.22	Example of Bicycle Lane Treatment at Right Turn Only Lane or Deceleration Lane.....	3-13
3.23	Example of Bicycle Lane Treatment at Right Turn Only Lane.....	3-14
3.24	Example of Shared Right Turn Lane with Bicycle Pocket Lane.....	3-15
3.25	Example of Bicycle Lane Placed to Right of Acceleration Lane Greater than 200 Feet in Length.....	3-16

3.26	Example of Bicycle Lane Place to the Left of Acceleration Lane Less than 200 Feet in Length.....	3-17
3.27	Curb Side Bicycle Lane Adjacent to Auxiliary Lane.....	3-19
3.28	Bicycle Lane Adjacent to Auxiliary Lane.....	3-20
3.29	Bicycle Lane Adjacent to Shoulder Bypass Lane.....	3-21
4.1	Share the road sign.....	4-1
4.2	Shared lane pavement marking.....	4-1
4.3	Shared use lane marking.....	4-2
4.4	Example shared lane marking placement.....	4-3
4.5	Wide curb lane.....	4-4
4.6	Example climbing lane.....	4-4
4.7	Railroad crossings.....	4-5
4.8	Skewed railroad crossing.....	4-5
4.9	Skewed railroad crossing warning sign.....	4-5
4.10	Bicycle loop detector marking symbol.....	4-5
4.11	Bicycle loop detector marking photo.....	4-6
4.12	Poor concrete seam placement.....	4-7
4.13	Guardrail placed to close to edge.....	4-7
4.14	Acceptable Grate Designs.....	4-7

5.1	Bicycle Guide Signs.....	5-3
5.2	Baltimore City Trail Sign for the Jones Fall Trail.....	5-3
5.3	Destination and distance information provided on the Gwynns Fall Trail in Baltimore City.....	5-3
5.4	East Coast Greenway Sign.....	5-4
6.1	Typical Shared Use Path Cross Section.....	6-2
6.2	Poorly designed trail surfaces will not support maintenance vehicles...	6-3
6.3	Example Thickened Pavement Edge.....	6-4
6.4	Minimum Sight Distance Triangle at an Intersection with a Sidewalk..	6-6
6.5	Shared Use Pathway Crosswalk Striping.....	6-7
6.6	Shared Use Path at Midblock Intersection.....	6-8
6.7	Median Refuge Design at Pathway Crossing.....	6-9
6.8	Bollards at an intersection.....	6-10
6.9	Path widening at an intersection.....	6-10
6.10	Intersection Warning Rumble Strips.....	6-12
7.1	Sidewalk and shoulder widths on urban and suburban bridges.....	7-2
7.2	Example of barrier between bikeway and travel lanes.....	7-2
7.3	Retrofitted bridge: Stewart Avenue Bridge over I-97.....	7-3
9.1	Sidewalk design.....	9-3

9.2	Example of a great sidewalk.....	9-2
9.3	Example of a sidewalk with buffer zone.....	9-2
9.4	Bifurcated roadway and sidewalks.....	9-5
9.5	Options for where street and building entrances are at different elevations.....	9-6
9.6	Example of building entrance higher than sidewalk.....	9-4
9.7	Example of a continuous pedestrian route over a depressed curb entrance where there is a buffer between the sidewalk and curb.....	9-4
9.8	Example of a continuous pedestrian route over a depressed curb entrance with horizontal deflection.....	9-7
9.9	Example of a continuous pedestrian route over a depressed curb entrance with vertical deflection.....	9-7
9.10	Example of a commercial two-way entrance.....	9-7
10.1	Examples of marked and unmarked crosswalks.....	10-1
10.2	Uncontrolled marked crosswalks.....	10-3
10.3	Engineering treatments for uncontrolled marked crosswalks.....	10-4
10.4	Crosswalks at uncontrolled legs of intersections.....	10-5
10.5	Crosswalk marking types.....	10-8
10.6	Example of decorative crosswalk markings.....	10-6
10.7	Example before road diet.....	10-11
10.8	Example after road diet.....	10-11
10.9	Continuous raised median.....	10-13

10.10	Raised crossing island.....	10-14
10.11	Curb extensions.....	10-15
10.12	Example of curb extension.....	10-12
10.13	Advance stop line at uncontrolled midblock crosswalk.....	10-16
10.14	Free flow right turn design for improved pedestrian safety.....	10-17
11.1	Pedestrian crossing signs.....	11-2
11.2	School Crossing Warning Sign S1-1.....	11-1
11.3	In-street pedestrian crossing sign.....	11-3
11.4	MUTCD Sign “Turning Traffic Must Yield to Pedestrians” R10-15.....	11-4
11.5	Pedestrian pushbutton.....	11-5
11.6	Countdown signal.....	11-5
11.7	In-roadway warning lights.....	11-7
11.8	Example of a pedestrian crossing signal.....	11-9
11.9	Hawk signal in Tucson, AZ.....	11-9
11.10	Pelican signal in Tucson, AZ.....	11-10
11.11	Toucan signal in Tucson, AZ.....	11-11
11.12	Example bicycle signal head.....	11-11
12.1	Recommended pedestrian illumination guidelines.....	12-1

12.2	Example of underpass in Salisbury, MD.....	12-3
12.3	Example of underpass in Salisbury, MD.....	12-3