2012 Changes to the 2011 MMUTCD
September 2012

The following changes were made to the 2011 MMUTCD in recognition of changes to the Federal version (labeled at Rev. 1) and known errors.

Introduction

Table I-2, P. I-5 – I-10, Target Compliance Dates

- As part of Revision 1 replaced pages I-5 through I-10 (6 sheets) with I-5 through I-6 (2 sheets).

Part 1

Section 1A.09, P. 4

- In Paragraph 7, the word "Technology" was changed to "Technical" in two places.

Section 1A.14, P. 24

- "LRT—light rail transit" was added as a new Item 46.

Table 1A-1, P. 25

- In the row for "US Numbered Route", the "US" in the second column was changed to "(See Table 1A-2)".

Table 1A-2, P. 25a

- In the row for "State, county, or other non-US or non-Interstate numbered route", the double asterisk in the second column was replaced with a single asterisk, and a double asterisk was added after "[Number]" in the fourth column.

- A new row was added between the rows for "Upper" and "Vehicle(s)" that has "US Numbered Route" in the first column, "US*" in the second column, a dash in the third column, and "[Number]**" in the fourth column.

Part 2

Section 2A.18, P. 42

- In Paragraph 12, the reference to "Section 2D.31" was changed to "Section 2D.12."

Table 2B-1 (all four sheets), P. 46 - 49

- The asterisks associated with the message to see Table 9B-1 for minimum sign sizes for bicycle facilities are only to be shown next to the size in the Minimum column for the following signs: R1-1, R1-2, R4-1, R4-2, R4-3, R4-7, R4-16, and R5-6.

Table 2B-1 (Sheet 3 of 4), P. 48

- In the Sign or Plaque column, the name of the R9-3 sign was changed from "No Pedestrian Crossing (symbol)" to "No Pedestrians" to be consistent with the names of the R9-13 and R9-14 signs.

Table 2C-2 (Sheet 1 of 3), P. 105

- In the Sign or Plaque column, the name of the W3-1,2,3 signs was changed from "Advanced Traffic Control" to "Stop, Yield, or Signal Ahead" to be more descriptive and to be consistent with Table 9B-1.

- In the Sign or Plaque column, the name of the W4-1 sign was changed from "Merge" to "Merging Traffic" to be more descriptive and to be consistent with Table 6F-1.

Section 2D.43, P. 163

- As part of Revision 1 added new option (paragraph 24) regarding historic street name signs.

Section 2D.MI.56, P. 180

- In the title the sign designation "D11-2" was changed to D11-5".

Section 2F.10, P. 242

- In Paragraph 1, the reference to "Sections 2E.30 and 2E.33" was changed to "Sections 2E.33 and 2E.36."

Section 2G.08, P. 264

- In Paragraph 5, the phrase "that that are wider" was changed to "that are wider".

Section 2G.12, P. 270

- In Paragraph 4, the word "Option:" at the end of the paragraph was deleted.

Table 2I-1 (Sheet 2 of 2), P. 300

- In the Conventional Road column, the size of the D12-5 sign is "48 x 60" instead of "42 x 60."

Section 2I.02, P. 302

- In Paragraph 19 at the end of the first line and in the second occurrence in the second line, the word "sign" was changed to "plaque." In Paragraph 19, the designations "D9-13a," "D9-13b," "D9-13c," and "D9-13d" was changed to "D9-13aP," "D9-13bP," "D9-13cP," and "D9-13dP," respectively.

Figure 2I-8, P. 310

- In the note, the reference to "Section 2I.08" was changed to "Section 2I.10."

Part 6
Section 6E.03, P. 566

- In paragraph 2, last sentence "(minimum 72 inches to the bottom of the sign)" was inserted after "tall enough".

Table 6F-1 (Sheet 1 of 3), P. 578

- In the Sign or Plaque column, the name of the R3-7 sign was changed from "Mandatory Movement (text)" to "Right (Left) Lane Must Turn Right (Left)" to be consistent with Table 2B-1.

- In the Sign or Plaque column, the name of the W1-8 sign was changed from “Chevron” to “Chevron Alignment” to be consistent with Table 2C-2.

Figure 6F-4 (Sheet 3 of 3), P. 590

- The image for the W20-5 sign was shown incorrectly. The correct image is “RIGHT LANE” first line, “CLOSED” second line.

Notes for Figure 6H-10, Typical Application 10, P. 652

- Changed note 6 from “between the Traffic Regulator sign and the ONE LANE ROAD sign” to “after the Traffic Regulator sign”.

Part 9

Table 9B-1 (Sheet 1 of 2), P. 791

- In the Sign or Plaque column, the name of the W1-1,2,3,4,5 signs was changed from “Turn and Curve Warning” to “Horizontal Alignment” to be consistent with Table 2C-2.

Table 9B-1 (Sheet 2 of 2), P. 792

- In the Sign or Plaque column, the numbers of digits for the D10-1a, D10-2a, and D10-3a signs was changed to 2, 3, and 4, respectively, to be consistent with Table 2H-1.

2012 Changes to the 2011 MMUTCD
Part 6 (Separate Publication)

The following changes were made to the 2011 MMUTCD, Part 6 (Separate Publication) in recognition of known errors.

Part 6 (Separate Publication)
Section 6E.03, P. 566

- In paragraph 2, last sentence "(minimum 72 inches to the bottom of the sign)" was inserted after "tall enough".

Table 6F-1 (Sheet 1 of 3), P. 578

- In the Sign or Plaque column, the name of the R3-7 sign was changed from "Mandatory Movement (text)" to "Right (Left) Lane Must Turn Right (Left)" to be consistent with Table 2B-1.

- In the Sign or Plaque column, the name of the W1-8 sign was changed from "Chevron" to "Chevron Alignment" to be consistent with Table 2C-2.

Figure 6F-4 (Sheet 3 of 3), P. 590

- The image for the W20-5 sign was shown incorrectly. The correct image is "RIGHT LANE" first line, "CLOSED" second line.

Notes for Figure 6H-10, Typical Application 10, P. 652

- Changed note 6 from "between the Traffic Regulator sign and the ONE LANE ROAD sign" to "after the Traffic Regulator sign".

Section 6H.01, P. 653

- Channelizing devices in both merging tapers were faint to non-existent. The channelizing devices are displayed in the full manual.

Table I-2. Target Compliance Dates Established by the MMUTCD (Sheet 1 of 2)

Rev. 1

2011 MMUTCD Section Number(s)	2011 MMUTCD Section Title	Specific Provision	Compliance Date
2A.08	Minimum Retroreflectivity Levels	Implementation and continued use of an assessment or management method that is designed to maintain regulatory and warning sign retroreflectivity at or above the established minimum levels.	June 13, 2014*
2A.19	Lateral Offset	Crashworthiness of sign supports on roads with posted speed limit of 50 mph or higher. Sign supports within the clear zone for roads with posted speed limit of 50 mph or higher shall be crashworthy (NCHRP Report 350) unless shielded with a longitudinal barrier or crash cushion.	August 15, 2015 (a)
2B.40	ONE WAY Signs (R6-1, R6-2)	New requirement in the 2009 Federal MUTCD for the number and locations of ONE WAY and Keep Right signs. Compliance approximately 10 years from the effective date of Final Rule.	December 31, 2019
2C.06 thru 2C.14	Horizontal Alignment Warning Signs	Revised requirements and applications in the 2009 Federal MUTCD regarding the use of various horizontal alignment signs based on curve differential speed. Compliance approximately 10 years from the effective date of Final Rule.	December 31, 2019
2E.31, 2E.33, and 2E.36	Plaques for Left-Hand Exits	New requirement in the 2009 Federal MUTCD to use E1-5aP and E1-5bP plaques for left-hand exits. A left exit number (E1–5bP) plaque shall be used at the top left edge of the sign for numbered exits to the left to alert road users that the exit is to the left, which is often not expected. For non-numbered exits to the left, a LEFT (E1-5aP) plaque shall be added to the top left-hand edge of the sign. This change also required that the "LEFT" portion of the message be black on a yellow background. Compliance approximately 5 years from the effective date of Final Rule.	December 31, 2014
4D.26	Yellow Change and Red Clearance Intervals	New requirement in the 2009 Federal MUTCD that the durations of the yellow change and red clearance intervals shall be determined using engineering practices. Compliance approximately 5 years from the effective date of Final Rule or when timing adjustments are made to the individual intersection and/or corridor, whichever occurs first.	December 31, 2014, or when timing adjustments are made to the individual intersection and/or corridor, whichever occurs first
4E.06	Pedestrian Intervals and Signal Phases	New requirement in the 2009 Federal MUTCD that the pedestrian change interval shall not extend into the red clearance interval and shall be followed by a buffer interval of at least 3 seconds. Compliance approximately 5 years from the effective date of Final Rule or when timing adjustments are made to the individual intersection and/or corridor, whichever occurs first.	December 31, 2014, or when timing adjustments are made to the individual intersection and/or corridor, whichever occurs first
6D.03	Worker Safety Considerations	New requirement in the 2009 Federal MUTCD that all workers within the right-of-way on all highways (Federal-aid and non-Federal-aid) shall wear high-visibility apparel. Compliance approximately 2 years from the effective date of Final Rule.	December 31, 2011(**)
6E.02	High-Visibility Safety Apparel	New requirement in the 2009 Federal MUTCD that all Traffic Regulators within the right-of-way on all highways (Federal-aid and non-Federal-aid) shall wear high-visibility apparel. Compliance approximately 2 years from the effective date of Final Rule.	December 31, 2011(**)
7D.04	Uniform of Adult Crossing Guards	New requirement in the 2009 Federal MUTCD for high-visibility apparel for law enforcement officers and adult crossing guards performing school crossing supervision on all highways (Federal-aid and non-Federal-aid). Compliance approximately 2 years from the effective date of Final Rule.	December 31, 2011(**)
8B.04	Grade Crossing (Crossbuck) Signs and Supports	Retroreflective strip on crossbuck sign and support. A strip of retroreflective white material, not less than 2 inches in width, shall be used on the back of each blade of each Crossbuck sign for the length of each blade, at all grade crossings where Crossbuck signs have been installed except those where Crossbuck signs have been installed back-to-back. A vertical strip of retroreflective white material, not less than 2 inches in width, shall be used on each Crossbuck support at passive grade crossing for the full length of the front (if support does not include a YIELD or STOP sign) and back of support from the Crossbuck sign or Number of Tracks plaque to within 2 feet above the ground. The vertical strip of retroreflective material may be omitted from the back sides of Crossbuck sign supports installed on one-way streets or where crossbuck signs have been installed back-to-back.	December 31, 2019

Table I-2. Target Compliance Dates Established by the MMUTCD (Sheet 2 of 2)

2011 MMUTCD Section Number(s)	2011 MMUTCD Section Title	Specific Provision	Compliance Date
8B.04	Crossbuck Assemblies with YIELD or STOP Signs at Passive Grade Crossings	New requirement in the 2009 Federal MUTCD for the use of STOP or YIELD signs with Crossbuck signs at passive grade crossings. The YIELD or STOP sign shall be installed either on the same support as the Crossbuck sign or on a separate support at a point where the highway vehicle is to stop, or as near to that point as practical, but in either case, the YIELD or STOP sign is considered to be a part of the Crossbuck Assembly. Compliance approximately 10 years from the effective date of Final Rule.	December 31, 2019

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(a) Date established in the 2005 MMUTCD
(**) MUTCD requirement is a result of a legislative mandate
(*) Types of signs other than regulatory or warning are to be added to an agency's management or assessment method as resources allow.

05 All States have officially adopted the National MUTCD either in its entirety, with supplemental provisions, or as a separate published document.

Guidance:

06 *These individual State manuals or supplements should be reviewed for specific provisions relating to that State.*

Support:

07 The National MUTCD has also been adopted by the National Park Service, the U.S. Forest Service, the U.S. Military Command, the Bureau of Indian Affairs, the Bureau of Land Management, and the U.S. Fish and Wildlife Service.

08 Paragraph 08 Guidance deleted

Section 1A.08 Authority for Placement of Traffic Control Devices

Standard:

01 **Traffic control devices, advertisements, announcements, and other signs or messages within the highway right-of-way shall be placed only as authorized by a public authority or the official having jurisdiction, or, in the case of private roads open to public travel, by the private owner or private official having jurisdiction, for the purpose of regulating, warning, or guiding traffic.**

02 **When the public agency or the official having jurisdiction over a street or highway or, in the case of private roads open to public travel, the private owner or private official having jurisdiction, has granted proper authority, others such as contractors and public utility companies shall be permitted to install temporary traffic control devices in temporary traffic control zones. Such traffic control devices shall conform with the Standards of this Manual.**

03 **All regulatory traffic control devices shall be supported by laws, ordinances, or regulations.**

Support:

04 Provisions of this Manual are based upon the concept that effective traffic control depends upon both appropriate application of the devices and reasonable enforcement of the regulations.

05 Although some highway design features, such as curbs, median barriers, guardrails, speed humps or tables, and textured pavement, have a significant impact on traffic operations and safety, they are not considered to be traffic control devices and provisions regarding their design and use are generally not included in this Manual.

06 Certain types of signs and other devices that do not have any traffic control purpose are sometimes placed within the highway right-of-way by or with the permission of the public agency or the official having jurisdiction over the street or highway. Most of these signs and other devices are not intended for use by road users in general, and their message is only important to individuals who have been instructed in their meanings. These signs and other devices are not considered to be traffic control devices and provisions regarding their design and use are not included in this Manual. Among these signs and other devices are the following:

A. Devices whose purpose is to assist highway maintenance personnel. Examples include markers to guide snowplow operators, devices that identify culvert and drop inlet locations, and devices that precisely identify highway locations for maintenance or mowing purposes.
B. Devices whose purpose is to assist fire or law enforcement personnel. Examples include markers that identify fire hydrant locations, signs that identify fire or water district boundaries, speed measurement pavement markings, small indicator lights to assist in enforcement of red light violations, and photo enforcement systems.
C. Devices whose purpose is to assist utility company personnel and highway contractors, such as markers that identify underground utility locations.
D. Signs posting local non-traffic ordinances.
E. Signs giving civic organization meeting information.

Standard:

07 **Signs and other devices that do not have any traffic control purpose that are placed within the highway right-of-way shall not be located where they will interfere with, or detract from, traffic control devices.**

Guidance:

08 *Any unauthorized traffic control device or other sign or message placed on the highway right-of-way by a private organization or individual constitutes a public nuisance and should be removed. All unofficial or non-essential traffic control devices, signs, or messages should be removed.*

Support:

09 The "Michigan Vehicle Code" (see Section 1A.11) has the following provisions in Section 257.615 (c) and (d) for unauthorized placement of traffic control devices or other sign or message placed on the highway right-of-way and in Section 257.616 for interference of a traffic control device.

MICHIGAN VEHICLE CODE (EXCERPT)

Act 300 of 1949

257.615 Signs or lights resembling traffic-control devices or emergency vehicles; commercial advertising on traffic signs; prohibition; public nuisance; removal; placement of street decorations and banners.

Sec. 615. (c) Every such prohibited sign, signal, marking, device, decoration or banner is hereby declared to be a public nuisance and the authority having jurisdiction over the highway is hereby empowered to remove the same or cause to be removed without notice.

(d) Decorations or banners which may be placed over the traveled portion of any street or highway shall be placed not closer than 10 feet on either side of traffic lights or signals and shall be so placed as to not obstruct a clear view of such traffic lights or signals.

History: 1949, Act 300, Eff. Sept. 23, 1949; – Am. 1955, Act 245, Eff. Oct. 14, 1955; – Am. 1957, Act 112, Eff. Sept. 27, 1957; – Am. 1958, Act 98, Eff. Sept. 13, 1958

MICHIGAN VEHICLE CODE (EXCERPT)

Act 300 of 1949

257.616 Traffic-control devices or railroad signs or signals; interference prohibited.

Sec. 616. No person shall without lawful authority attempt to or in fact alter, deface, injure, knock down, or remove any traffic-control device or any railroad sign or signal or any inscription, shield, or insignia thereon, or any other part thereof.

History: 1949, Act 300, Eff. Sept. 23, 1949.

Section 1A.09 Engineering Study and Engineering Judgment

Support:

01 Definitions of an engineering study and engineering judgment are contained in Section 1A.13.

Standard:

02 **This Manual describes the application of traffic control devices, but shall not be a legal requirement for their installation.**

Guidance:

03 *The decision to use a particular device at a particular location should be made on the basis of either an engineering study or the application of engineering judgment. Thus, while this Manual provides Standards, Guidance, and Options for design and application of traffic control devices, this Manual should not be considered a substitute for engineering judgment.*

04 *Engineering judgment should be exercised in the selection and application of traffic control devices, as well as in the location and design of the roads and streets that the devices complement.*

05 *Early in the processes of location and design of roads and streets, engineers should coordinate such location and design with the design and placement of the traffic control devices to be used with such roads and streets.*

06 *Jurisdictions, or owners of private roads open to public travel, with responsibility for traffic control that do not have engineers on their staffs who are trained and/or experienced in traffic control devices should seek engineering assistance from others, such as the State transportation agency, their county, a nearby large city, or a traffic engineering consultant.*

Support:

07 As part of the Federal-aid Program, each State is required to have a Local Technical Assistance Program (LTAP) and to provide technical assistance to local highway agencies. Requisite technical training in the application of the principles of the MUTCD is available from the State's Local Technical Assistance Program for needed engineering guidance and assistance.

Section 1A.10 Interpretations, Experimentations, Changes, and Interim Approvals

Standard:

01 **Design, application, and placement of traffic control devices other than those adopted in this Manual shall be prohibited unless the provisions of this Section are followed.**

252. **Warning Sign—a sign that gives notice to road users of a situation that might not be readily apparent.**
253. **Warrant—a warrant describes a threshold condition based upon average or normal conditions that, if found to be satisfied as part of an engineering study, shall result in analysis of other traffic conditions or factors to determine whether a traffic control device or other improvement is justified. Warrants are not a substitute for engineering judgment. The fact that a warrant for a particular traffic control device is met is not conclusive justification for the installation of the device.**
254. **Wayside Equipment—the signals, switches, and/or control devices for railroad or light rail transit operations housed within one or more enclosures located along the railroad or light rail transit right-of-way and/or on railroad or light rail transit property.**
255. **Wayside Horn System—a stationary horn (or series of horns) located at a grade crossing that is used in conjunction with train-activated or light rail transit-activated warning systems to provide audible warning of approaching rail traffic to road users on the highway or pathway approaches to a grade crossing, either as a supplement or alternative to the sounding of a locomotive horn.**
256. **Worker—a person on foot whose duties place him or her within the right-of-way of a street, highway, or pathway, such as street, highway, or pathway construction and maintenance forces, survey crews, utility crews, responders to incidents within the street, highway, or pathway right-of-way, and law enforcement personnel when directing traffic, investigating crashes, and handling lane closures, obstructed roadways, and disasters within the right-of-way of a street, highway, or pathway.**
257. **Wrong-Way Arrow—a slender, elongated, white pavement marking arrow placed upstream from the ramp terminus to indicate the correct direction of traffic flow. Wrong-way arrows are intended primarily to warn wrong-way road users that they are going in the wrong direction.**
258. **Yellow Change Interval—the first interval following the green or flashing arrow interval during which the steady yellow signal indication is displayed.**
259. **Yield Line—a row of solid white isosceles triangles pointing toward approaching vehicles extending across approach lanes to indicate the point at which the yield is intended or required to be made.**

Section 1A.14 Meanings of Acronyms and Abbreviations in this Manual

Standard:

01 **The following acronyms and abbreviations, when used in this Manual, shall have the following meanings:**

1. **AADT—annual average daily traffic**
2. **AASHTO—American Association of State Highway and Transportation Officials**
3. **ADA—Americans with Disabilities Act**
4. **ADAAG—Americans with Disabilities Accessibility Guidelines**
5. **ADT—average daily traffic**
6. **AFAD—Automated Flagger Assistance Device**
7. **ANSI—American National Standards Institute**
8. **CFR—Code of Federal Regulations**
9. **CMS—changeable message sign**
10. **dBA—A-weighted decibels**
11. **EPA—Environmental Protection Agency**
12. **ETC—electronic toll collection**
13. **EV—electric vehicle**
14. **FHWA—Federal Highway Administration**
15. **FRA—Federal Railroad Administration**
16. **FTA—Federal Transit Administration**
17. **HOT—high occupancy tolls**
18. **HOTM—FHWA's Office of Transportation Management**
19. **HOTO—FHWA's Office of Transportation Operations**
20. **HOV—high-occupancy vehicle**
21. **ILEV—inherently low emission vehicle**
22. **ISEA—International Safety Equipment Association**
23. **ITE—Institute of Transportation Engineers**
24. **ITS—intelligent transportation systems**
25. **LED—light emitting diode**
26. **LP—liquid petroleum**
27. **LRT—light rail transit**
28. **MPH or mph—miles per hour**
29. **MUTCD—Manual on Uniform Traffic Control Devices**

30. **NCHRP—National Cooperative Highway Research Program**
31. **ORT—open-road tolling**
32. **PCMS—portable changeable message sign**
33. **PRT—perception-response time**
34. **RPM—raised pavement marker**
35. **RRPM—raised retroreflective pavement marker**
36. **RV—recreational vehicle**
37. **TDD—telecommunication devices for the deaf**
38. **TRB—Transportation Research Board**
39. **TTC—temporary traffic control**
40. **U.S.—United States**
41. **U.S.C.—United States Code**
42. **USDOT—United States Department of Transportation**
43. **UVC—Uniform Vehicle Code**
44. **VPH or vph—vehicles per hour**
45. **MVC-Michigan Vehicle Code**
46. **LRT-light rail transit**

Section 1A.15 Abbreviations Used on Traffic Control Devices

Standard:

01 **When the word messages shown in Table 1A-1 need to be abbreviated in connection with traffic control devices, the abbreviations shown in Table 1A-1 shall be used.**

02 **When the word messages shown in Table 1A-2 need to be abbreviated on a portable changeable message sign, the abbreviations shown in Table 1A-2 shall be used. Unless indicated by an asterisk, these abbreviations shall only be used on portable changeable message signs.**

Guidance:

03 *The abbreviations for the words listed in Table 1A-2 that also show a prompt word should not be used on a portable changeable message sign unless the prompt word shown in Table 1A-2 either precedes or follows the abbreviation, as applicable.*

Standard:

04 **The abbreviations shown in Table 1A-3 shall not be used in connection with traffic control devices because of their potential to be misinterpreted by road users.**

Guidance:

05 *If multiple abbreviations are permitted in Table 1A-1 or 1A-2, the same abbreviation should be used throughout a single jurisdiction.*

06 *Except as otherwise provided in Table 1A-1 or 1A-2 or unless necessary to avoid confusion, periods, commas, apostrophes, question marks, ampersands, and other punctuation marks or characters that are not letters or numerals should not be used in any abbreviation.*

Table 1A-1. Acceptable Abbreviations

Word Message	Standard Abbreviation
Afternoon / Evening	PM
Alternate	ALT
AM Radio	AM
Avenue	AVE, AV
Bicycle	BIKE
Boulevard	BLVD*
Bridge	(See Table 1A-2)
CB Radio	CB
Center (as part of a place name)	CTR
Circle	CIR*
Civil Defense	CD
Compressed Natural Gas	CNG
Court	CT*
Crossing (other than highway-rail)	X-ING
Drive	DR*
East	E
Electric Vehicle	EV
Expressway	EXPWY*
Feet	FT
FM Radio	FM
Freeway	FRWY, FWY*
Friday	FRI
Hazardous Material	HAZMAT
High Occupancy Vehicle	HOV

Word Message	Standard Abbreviation
Highway	HWY*
Hospital	HOSP
Hour(s)	HR, HRS
Information	INFO
Inherently Low Emission Vehicle	ILEV
International	INTL
Interstate	(See Table 1A-2)
Junction / Intersection	JCT
Lane	(See Table 1A-2)
Liquid Propane Gas	LP-GAS
Maximum	MAX
Mile(s)	MI
Miles Per Hour	MPH
Minimum	MIN
Minute(s)	MIN
Monday	MON
Morning / Late Night	AM
Mount	MT
Mountain	MTN
National	NATL
North	N
Parkway	PKWY*
Pedestrian	PED
Place	PL*

Word Message	Standard Abbreviation
Pounds	LBS
Road	RD*
Saint	ST
Saturday	SAT
South	S
State, county, or other non-US or non-Interstate numbered route	(See Table 1A-2)
Street	ST*
Sunday	SUN
Telephone	PHONE
Temporary	TEMP
Terrace	TER*
Thursday	THURS
Thruway	THWY*
Tons of Weight	T
Trail	TR*
Tuesday	TUES
Turnpike	TPK*
Two-Way Intersection	2-WAY
US Numbered Route	(See Table 1A-2)
Wednesday	WED
West	W

*This abbreviation shall not be used for any application other than the name of a roadway.

Table 1A-2. Abbreviations That Shall be Used Only on Portable Changeable Message Signs

Word Message	Standard Abbreviation	Prompt Word That Should Precede the Abbreviation	Prompt Word That Should Follow the Abbreviation
Access	ACCS	—	Road
Ahead	AHD	Fog	—
Blocked	BLKD	Lane	—
Bridge	BR*	[Name]	—
Cannot	CANT	—	—
Center	CNTR	—	Lane
Chemical	CHEM	—	Spill
Condition	COND	Traffic	—
Congested	CONG	Traffic	—
Construction	CONST	—	Ahead
Crossing	XING	—	—
Do Not	DONT	—	—
Downtown	DWNTN	—	Traffic
Eastbound	E-BND	—	—
Emergency	EMER	—	—
Entrance, Enter	ENT	—	—
Exit	EX	Next	—
Express	EXP	—	Lane
Frontage	FRNTG	—	Road
Hazardous	HAZ	—	Driving
Highway-Rail Grade Crossing	RR XING	—	—
Interstate	I-*	—	[Number]
It Is	ITS	—	—
Lane	LN	[Roadway Name]*,Right, Left, Center	—
Left	LFT	—	—
Local	LOC	—	Traffic
Lower	LWR	—	Level
Maintenance	MAINT	—	—
Major	MAJ	—	Accident
Minor	MNR	—	Accident
Normal	NORM	—	—
Northbound	N-BND	—	—
Oversized	OVRSZ	—	Load
Parking	PKING	—	—
Pavement	PVMT	Wet	—
Prepare	PREP	—	To Stop
Quality	QLTY	Air	—
Right	RT	Keep, Next	—
Right	RT	—	Lane
Roadwork	RDWK	—	Ahead, [Distance]
Route	RT, RTE	Best	—
Service	SERV	—	—
Shoulder	SHLDR	—	—
Slippery	SLIP	—	—
Southbound	S-BND	—	—
Speed	SPD	—	—
State, county, or other non-US or non-Interstate numbered route	[Route Abbreviation determined by highway agency]*	—	[Number]**
Tires With Lugs	LUGS	—	—
Traffic	TRAF	—	—
Travelers	TRVLRS	—	—
Two-Wheeled Vehicles	CYCLES	—	—
Upper	UPR	—	Level
US Numbered Route	US*	—	[Number]**
Vehicle(s)	VEH, VEHS	—	—
Warning	WARN	—	—
Westbound	W-BND	—	—
Will Not	WONT	—	—

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* This abbreviation, when accompanied by the prompt word, may be used on traffic control devices other than portable changeable message signs.

** A space and no dash shall be placed between the abbreviation and the number of the route.

Support:

07 The clear zone is the total roadside border area, starting at the edge of the traveled way, available for use by errant vehicles. The width of the clear zone is dependent upon traffic volumes, speeds, and roadside geometry. Additional information can be found in AASHTO's "Roadside Design Guide" (see Section 1A.11).

Guidance:

08 *With the increase in traffic volumes and the desire to provide road users regulatory, warning, and guidance information, an order of priority for sign installation should be established.*

Support:

09 An order of priority is especially critical where space is limited for sign installation and there is a demand for several different types of signs. Overloading road users with too much information is not desirable.

Guidance:

10 *Because regulatory and warning information is more critical to the road user than guidance information, regulatory and warning signing whose location is critical should be displayed rather than guide signing in cases where conflicts occur. Community wayfinding and acknowledgment guide signs should have a lower priority as to placement than other guide signs. Information of a less critical nature should be moved to less critical locations or omitted.*

Option:

11 Under some circumstances, such as on curves to the right, signs may be placed on median islands or on the left-hand side of the road. A supplementary sign located on the left-hand side of the roadway may be used on a multi-lane road where traffic in a lane to the right might obstruct the view to the right.

Guidance:

12 *In urban areas where crosswalks exist, signs should not be placed within 4 feet in advance of the crosswalk (see Drawing D in Figure 2A-3).*

Section 2A.17 Overhead Sign Installations

Guidance:

01 *Overhead signs should be used on freeways and expressways, at locations where some degree of lane-use control is desirable, and at locations where space is not available at the roadside.*

Support:

02 The operational requirements of the present highway system are such that overhead signs have value at many locations. The factors to be considered for the installation of overhead sign displays are not definable in specific numerical terms.

Option:

03 The following conditions (not in priority order) may be considered in an engineering study to determine if overhead signs would be beneficial:

A. Traffic volume at or near capacity,
B. Complex interchange design,
C. Three or more lanes in each direction,
D. Restricted sight distance,
E. Closely-spaced interchanges,
F. Multi-lane exits,
G. Large percentage of trucks,
H. Street lighting background,
I. High-speed traffic,
J. Consistency of sign message location through a series of interchanges,
K. Insufficient space for post-mounted signs,
L. Junction of two freeways, and
M. Left exit ramps.

04 Over-crossing structures may be used to support overhead signs.

Support:

05 Under some circumstances, the use of over-crossing structures as sign supports might be the only practical solution that will provide adequate viewing distance. The use of such structures as sign supports might eliminate the need for the foundations and sign supports along the roadside.

Section 2A.18 Mounting Height

Standard:

01 **The provisions of this Section shall apply unless specifically stated otherwise for a particular sign or object marker elsewhere in this Manual.**

Support:

02 The mounting height requirements for object markers are provided in Chapter 2C.

03 In addition to the provisions of this Section, information affecting the minimum mounting height of signs as a function of crash performance can be found in AASHTO's "Roadside Design Guide" (see Section 1A.11).

Standard:

04 **The minimum height, measured vertically from the bottom of the sign to the elevation of the near edge of the pavement, of signs installed at the side of the road in rural areas shall be 5 feet (see Figure 2A-2).**

05 **The minimum height, measured vertically from the bottom of the sign to the top of the curb, or in the absence of curb, measured vertically from the bottom of the sign to the elevation of the near edge of the traveled way, of signs installed at the side of the road in business, commercial, or residential areas where parking or pedestrian movements are likely to occur, or where the view of the sign might be obstructed, shall be 7 feet (see Figure 2A-2).**

Option:

06 The height to the bottom of a secondary sign mounted below another sign may be 1 foot less than the height specified in Paragraphs 4 and 5.

Standard:

07 **The minimum height, measured vertically from the bottom of the sign to the sidewalk, of signs installed above sidewalks shall be 7 feet.**

08 **If the bottom of a secondary sign that is mounted below another sign is mounted lower than 7 feet above a pedestrian sidewalk or pathway (see Section 6D.02), the secondary sign shall not project more than 4 inches into the pedestrian facility.**

Option:

09 Signs that are placed 30 feet or more from the edge of the traveled way may be installed with a minimum height of 5 feet, measured vertically from the bottom of the sign to the elevation of the near edge of the pavement.

Standard:

10 **Directional signs on freeways and expressways shall be installed with a minimum height of 7 feet, measured vertically from the bottom of the sign to the elevation of the near edge of the pavement. All route signs, warning signs, and regulatory signs on freeways and expressways shall be installed with a minimum height of 7 feet, measured vertically from the bottom of the sign to the elevation of the near edge of the pavement. If a secondary sign is mounted below another sign on a freeway or expressway, the major sign shall be installed with a minimum height of 8 feet and the secondary sign shall be installed with a minimum height of 5 feet, measured vertically from the bottom of the sign to the elevation of the near edge of the pavement.**

11 **Where large signs having an area exceeding 50 square feet are installed on multiple breakaway posts, the clearance from the ground to the bottom of the sign shall be at least 7 feet.**

Option:

12 A route sign assembly consisting of a route sign and auxiliary signs (see Section 2D.12) may be treated as a single sign for the purposes of this Section.

13 The mounting height may be adjusted when supports are located near the edge of the right-of-way on a steep backslope in order to avoid the sometimes less desirable alternative of placing the sign closer to the roadway.

Standard:

14 **Overhead signs shall provide a vertical clearance of not less than 17 feet to the sign, light fixture, or sign bridge over the entire width of the pavement and shoulders except where the structure on which the overhead signs are to be mounted or other structures along the roadway near the sign structure have a lesser vertical clearance.**

Option:

15 If the vertical clearance of other structures along the roadway near the sign structure is less than 16 feet, the vertical clearance to an overhead sign structure or support may be as low as 1 foot higher than the vertical clearance of the other structures in order to improve the visibility of the overhead signs.

CHAPTER 2B. REGULATORY SIGNS, BARRICADES, AND GATES

Section 2B.01 Application of Regulatory Signs

Standard:

01 **Regulatory signs shall be used to inform road users of selected traffic laws or regulations and indicate the applicability of the legal requirements.**

02 **Regulatory signs shall be installed at or near where the regulations apply. The signs shall clearly indicate the requirements imposed by the regulations and shall be designed and installed to provide adequate visibility and legibility in order to obtain compliance.**

03 **Regulatory signs shall be retroreflective or illuminated (see Section 2A.07) to show the same shape and similar color by both day and night, unless specifically stated otherwise in the text discussion in this Manual for a particular sign or group of signs.**

04 **The requirements for sign illumination shall not be considered to be satisfied by street or highway lighting.**

Support:

05 Section 1A.09 contains information regarding the assistance that is available to jurisdictions that do not have engineers on their staffs who are trained and/or experienced in traffic control devices.

Section 2B.02 Design of Regulatory Signs

Standard:

01 **Regulatory signs shall be rectangular unless specifically designated otherwise. Regulatory signs shall be designed in accordance with the sizes, shapes, colors, and legends contained in the "Standard Highway Signs and Markings" book (see Section 1A.11).**

Option:

02 Regulatory word message signs other than those classified and specified in this Manual and the "Standard Highways Signs and Markings" book (see Section 1A.11) may be developed to aid the enforcement of other laws or regulations.

03 Except for symbols on regulatory signs, minor modifications may be made to the design provided that the essential appearance characteristics are met.

Support:

04 The use of educational plaques to supplement symbol signs is described in Section 2A.12.

Guidance:

05 *Changeable message signs displaying a regulatory message incorporating a prohibitory message that includes a red circle and slash on a static sign should display a red symbol that approximates the same red circle and slash as closely as possible.*

Section 2B.03 Size of Regulatory Signs

Standard:

01 **Except as provided in Section 2A.11, the sizes for regulatory signs shall be as shown in Table 2B-1.**

Support:

02 Section 2A.11 contains information regarding the applicability of the various columns in Table 2B-1.

Standard:

03 **Except as provided in Paragraphs 4 and 5, the minimum sizes for regulatory signs facing traffic on multi-lane conventional roads shall be as shown in the Multi-lane column of Table 2B-1.**

Option:

04 Where the posted speed limit is 35 mph or less on a multi-lane highway or street, other than for a STOP sign, the minimum size shown in the Single Lane column in Table 2B-1 may be used.

05 Where a regulatory sign, other than a STOP sign, is placed on the left-hand side of a multi-lane roadway in addition to the installation of the same regulatory sign on the right-hand side or the roadway, the size shown in the Single Lane column in Table 2B-1 may be used for both the sign on the right-hand side and the sign on the left-hand side of the roadway.

Standard:

06 **A minimum size of 36 x 36 inches shall be used for STOP signs that face multi-lane approaches.**

Table 2B-1. Regulatory Sign and Plaque Sizes (Sheet 1 of 4)

Sign or Plaque	Sign Designation	Section	Conventional Road		Expressway	Freeway	Minimum	Oversized
			Single Lane	Multi-Lane				
Stop	R1-1	2B.05	30 x 30*	36 x 36	36 x 36	—	30 x 30*	48 x 48
Yield	R1-2	2B.08	36x36x36*	48x48x48	48x48x48	60x60x60	30x30x30*	—
To Oncoming Traffic (plaque)	R1-2aP	2B.10	24 x 18	24 x 18	36 x 30	48 x 36	24 x 18	—
All Way (plaque)	R1-3P	2B.05	18 x 6	18 x 6	—	—	—	30 x 12
Yield Here to Peds	R1-5	2B.11	—	36 x 36	—	—	—	36 x 36
Yield Here to Pedestrians	R1-5a	2B.11	—	36 x 48	—	—	—	36 x 48
Stop Here for Peds	R1-5b	2B.11	—	36 x 36	—	—	—	36 x 36
Stop Here for Pedestrians	R1-5c	2B.11	—	36 x 48	—	—	—	36 x 48
In-Street Ped Crossing	R1-6,6a	2B.12	12 x 36	12 x 36	—	—	—	—
Overhead Ped Crossing	R1-9,9a	2B.12	90 x 24	90 x 24	—	—	—	—
Except Right Turn (plaque)	R1-10P	2B.05	24 x 18	24 x 18	—	—	—	—
Speed Limit	R2-1	2B.13	24 x 30*	30 x 36	36 x 48	48 x 60	18 x 24	30 x 36
Truck Speed Limit (plaque)	R2-2P	2B.14	24 x 24	24 x 24	36 x 36	48 x 48	—	36 x 36
Night Speed Limit (plaque)	R2-3P	2B.15	24 x 24	24 x 24	36 x 36	48 x 48	—	36 x 36
Minimum Speed Limit (plaque)	R2-4P	2B.16	24 x 30	24 x 30	36 x 48	48 x 60	—	36 x 48
Combined Speed Limit	R2-4a	2B.16	24 x 48	24 x 48	36 x 72	48 x 96	—	36 x 72
Unless Otherwise Posted (plaque)	R2-5P	2B.13	24 x 18	24 x 18	—	—	—	—
Citywide (plaque)	R2-5aP	2B.13	24 x 6	24 x 6	—	—	—	—
Neighborhood (plaque)	R2-5bP	2B.13	24 x 6	24 x 6	—	—	—	—
Residential (plaque)	R2-5cP	2B.13	24 x 6	24 x 6	—	—	—	—
Fines Higher (plaque)	R2-6P	2B.17	24 x 18	24 x 18	36 x 24	48 x 36	—	36 x 24
Fines Double (plaque)	R2-6aP	2B.17	24 x 18	24 x 18	36 x 24	48 x 36	—	36 x 24
$XX Fine (plaque)	R2-6bP	2B.17	24 x 18	24 x 18	36 x 24	48 x 36	—	36 x 24
Begin Higher Fines Zone	R2-10	2B.17	24 x 30	24 x 30	36 x 48	48 x 60	—	36 x 48
End Higher Fines Zone	R2-11	2B.17	24 x 30	24 x 30	36 x 48	48 x 60	—	36 x 48
Movement Prohibition	R3-1,2,3,4,18,27	2B.18	24 x 24*	36 x 36	36 x 36	—	—	48 x 48
Mandatory Movement Lane Control	R3-5,5a	2B.20	30 x 36	30 x 36	—	—	—	—
Left Lane (plaque)	R3-5bP	2B.20	30 x 12	30 x 12	—	—	—	—
HOV 2+ (plaque)	R3-5cP	2B.20	24 x 12	24 x 12	—	—	—	—
Taxi Lane (plaque)	R3-5dP	2B.20	30 x 12	30 x 12	—	—	—	—
Center Lane (plaque)	R3-5eP	2B.20	30 x 12	30 x 12	—	—	—	—
Right Lane (plaque)	R3-5fP	2B.20	30 x 12	30 x 12	—	—	—	—
Bus Lane (plaque)	R3-5gP	2B.20	30 x 12	30 x 12	—	—	—	—
Optional Movement Lane Control	R3-6	2B.21	30 x 36	30 x 36	—	—	—	—
Right (Left) Lane Must Turn Right (Left)	R3-7	2B.20	30 x 30*	36 x 36	—	—	—	—
Advance Intersection Lane Control	R3-8,8a,8b	2B.22	Varies x 30	Varies x 30	—	—	—	Varies x 36
Two-Way Left Turn Only (overhead)	R3-9a	2B.24	30 x 36	30 x 36	—	—	—	—
Two-Way Left Turn Only (post-mounted)	R3-9b	2B.24	24 x 36	24 x 36	—	—	—	36 x 48
BEGIN	R3-9cP	2B.25	30 x 12	30 x 12	—	—	—	—
END	R3-9dP	2B.25	30 x 12	30 x 12	—	—	—	—
Reversible Lane Control (symbol)	R3-9e	2B.26	108 x 48	108 x 48	—	—	—	—
Reversible Lane Control (post-mounted)	R3-9f	2B.26	30 x 42*	36 x 54	—	—	—	—
Advance Reversible Lane Control Transition Signing	R3-9g,9h	2B.26	108 x 36	108 x 36	—	—	—	—
End Reverse Lane	R3-9i	2B.26	108 x 48	108 x 48	—	—	—	—
Begin Right (Left) Turn Lane	R3-20	2B.20	24 x 36	24 x 36	—	—	—	—
All Turns (U Turn) from Right Lane	R3-23,23a	2B.27	60 x 36	60 x 36	—	—	—	—
All Turns (U Turn) with arrow	R3-24,24b, 25,25b,26a	2B.27	72 x 18	72 x 18	—	—	—	—
U and Left Turns with arrow	R3-24a,25a,26	2B.27	60 x 24	60 x 24	—	—	—	—
Right Lane Must Exit	R3-33	2B.23	—	—	78 x 36	78 x 36	—	—

Table 2B-1. Regulatory Sign and Plaque Sizes (Sheet 2 of 4)

Sign or Plaque	Sign Designation	Section	Conventional Road		Expressway	Freeway	Minimum	Oversized
			Single Lane	Multi-Lane				
Do Not Pass	R4-1	2B.28	24 x 30	24 x 30	36 x 48	48 x 60	18 x 24*	36 x 48
Pass With Care	R4-2	2B.29	24 x 30	24 x 30	36 x 48	48 x 60	18 x 24*	36 x 48
Slower Traffic Keep Right	R4-3	2B.30	24 x 30	24 x 30	36 x 48	48 x 60	18 x 24*	36 x 48
Trucks Use Right Lane	R4-5	2B.31	24 x 30	24 x 30	36 x 48	48 x 60	—	36 x 48
Keep Right	R4-7,7a,7b	2B.32	24 x 30	24 x 30	36 x 48	48 x 60	18 x 24*	36 x 48
Narrow Keep Right	R4-7c	2B.32	18 x 30	18 x 30	—	—	—	—
Keep Left	R4-8,8a,8b	2B.32	24 x 30	24 x 30	36 x 48	48 x 60	18 x 24	36 x 48
Narrow Keep Left	R4-8c	2B.32	18 x 30	18 x 30	—	—	—	—
Stay in Lane	R4-9	2B.33	24 x 30	24 x 30	36 x 48	48 x 60	18 x 24	36 x 48
Runaway Vehicles Only	R4-10	2B.34	48 x 48	48 x 48	—	—	—	—
Slow Vehicles with XX or More Following Vehicles Must Use Turn-Out	R4-12	2B.35	42 x 24	42 x 24	—	—	—	—
Slow Vehicles Must Use Turn-Out Ahead	R4-13	2B.35	42 x 24	42 x 24	—	—	—	—
Slow Vehicles Must Turn Out	R4-14	2B.35	30 x 42	30 x 42	—	—	—	—
Keep Right Except to Pass	R4-16	2B.30	24 x 30	24 x 30	36 x 48	48 x 60	18 x 24*	36 x 48
Do Not Drive on Shoulder	R4-17	2B.36	24 x 30	24 x 30	36 x 48	48 x 60	18 x 24	36 x 48
Do Not Pass on Shoulder	R4-18	2B.36	24 x 30	24 x 30	36 x 48	48 x 60	18 x 24	36 x 48
Do Not Enter	R5-1	2B.37	30 x 30*	36 x 36	36 x 36	48 x 48	—	36 x 36
Wrong Way	R5-1a	2B.38	36 x 24*	42 x 30	36 x 24*	42 x 30	30 x 18	42 x 30
No Trucks	R5-2,2a	2B.39	24 x 24	24 x 24	30 x 30	36 x 36	—	36 x 36
No Motor Vehicles	R5-3	2B.39	24 x 24	24 x 24	—	—	24 x 24	—
No Commercial Vehicles	R5-4	2B.39	24 x 30	24 x 30	36 x 48	36 x 48	—	—
No Vehicles with Lugs	R5-5	2B.39	24 x 30	24 x 30	36 x 48	48 x 60	—	—
No Bicycles	R5-6	2B.39	24 x 24	24 x 24	30 x 30	36 x 36	24 x 24*	48 x 48
No Non-Motorized Traffic	R5-7	2B.39	30 x 24	30 x 24	42 x 24	48 x 30	—	42 x 24
No Motor-Driven Cycles	R5-8	2B.39	30 x 24	30 x 24	42 x 24	48 x 30	—	42 x 24
No Pedestrians, Bicycles, Motor-Driven Cycles	R5-10a	2B.39	30 x 36	30 x 36	—	—	—	—
No Pedestrians or Bicycles	R5-10b	2B.39	30 x 18	30 x 18	—	—	—	—
No Pedestrians	R5-10c	2B.39	24 x 12	24 x 12	—	—	—	—
Authorized Vehicles Only	R5-11	2B.39	30 x 24	30 x 24	—	—	—	—
One Way	R6-1	2B.40	36 x 12*	54 x 18	54 x 18	54 x 18	—	54 x 18
One Way	R6-2	2B.40	24 x 30*	30 x 36	36 x 48	48 x 60	18 x 24	36 x 48
Divided Highway Crossing	R6-3,3a	2B.42	30 x 24	30 x 24	36 x 30	—	—	36 x 30
Roundabout Directional (2 chevrons)	R6-4	2B.43	30 x 24	30 x 24	—	—	—	—
Roundabout Directional (3 chevrons)	R6-4a	2B.43	48 x 24	48 x 24	—	—	—	—
Roundabout Directional (4 chevrons)	R6-4b	2B.43	60 x 24	60 x 24	—	—	—	—
Roundabout Circulation (plaque)	R6-5P	2B.44	30 x 30	30 x 30	—	—	—	—
BEGIN ONE WAY	R6-6	2B.40	24 x 30	30 x 36	—	—	—	—
END ONE WAY	R6-7	2B.40	24 x 30	30 x 36	—	—	—	—
Parking Restrictions	R7-1, 2,2a,3,4,5,6,7,8, 21,21a,22,23, 23a,107,108	2B.46	12 x 18	12 x 18	—	—	—	—
Van Accessible (plaque)	R7-8P	2B.46	12 x 6	12 x 6	—	—	—	—
Fee Station	R7-20	2B.46	24 x 18	24 x 18	—	—	—	—
No Parking (with transit logo)	R7-107a	2B.46	12 x 30	12 x 30	—	—	—	—
No Parking/Restricted Parking (combined sign)	R7-200	2B.46	24 x 18	24 x 18	—	—	—	—
No Parking/Restricted Parking (combined sign)	R7-200a	2B.46	12 x 30	12 x 30	—	—	—	—
Tow Away Zone (plaque)	R7-201P,201aP	2B.46	12 x 6	12 x 6	—	—	—	—
This Side of Sign (plaque)	R7-202P	2B.46	12 x 6	12 x 6	—	—	—	—

Table 2B-1. Regulatory Sign and Plaque Sizes (Sheet 3 of 4)

Sign or Plaque	Sign Designation	Section	Conventional Road		Expressway	Freeway	Minimum	Oversized
			Single Lane	Multi-Lane				
Emergency Snow Route	R7-203	2B.46	18 x 24	18 x 24	—	—	—	24 x 30
No Parking on Pavement	R8-1	2B.46	24 x 30	24 x 30	36 x 48	48 x 60	—	36 x 48
No Parking Except on Shoulder	R8-2	2B.46	24 x 30	24 x 30	36 x 48	48 x 60	—	36 x 48
No Parking (symbol)	R8-3	2B.46	24 x 24*	30 x 30	36 x 36	48 x 48	12 x 12	36 x 36
No Parking	R8-3a	2B.46	24 x 30	24 x 30	36 x 36	48 x 48	18 x 24	36 x 36
Except Sundays and Holidays (plaque)	R8-3bP	2B.46	24 x 18	24 x 18	—	—	12 x 9	30 x 24
On Pavement (plaque)	R8-3cP	2B.46	24 x 18	24 x 18	—	—	12 x 9	30 x 24
On Bridge (plaque)	R8-3dP	2B.46	24 x 18	24 x 18	—	—	12 x 9	30 x 24
On Tracks (plaque)	R8-3eP	2B.46	12 x 9	12 x 9	—	—	—	30 x 24
Except on Shoulder (plaque)	R8-3fP	2B.46	24 x 18	24 x 18	—	—	12 x 9	30 x 24
Loading Zone (plaque)	R8-3gP	2B.46	24 x 18	24 x 18	—	—	12 x 9	30 x 24
Times of Day (plaque)	R8-3hP	2B.46	24 x 18	24 x 18	—	—	12 x 9	30 x 24
Emergency Parking Only	R8-4	2B.49	30 x 24	30 x 24	30 x 24	48 x 36	—	48 x 36
No Stopping on Pavement	R8-5	2B.46	24 x 30	24 x 30	36 x 48	48 x 60	—	36 x 48
No Stopping Except on Shoulder	R8-6	2B.46	24 x 30	24 x 30	36 x 48	48 x 60	—	36 x 48
Emergency Stopping Only	R8-7	2B.49	30 x 24	30 x 24	48 x 36	48 x 36	—	48 x 36
Walk on Left Facing Traffic	R9-1	2B.50	18 x 24	18 x 24	—	—	—	—
Cross Only at Crosswalks	R9-2	2B.51	12 x 18	12 x 18	—	—	—	—
No Pedestrians	R9-3	2B.51	18 x 18	18 x 18	24 x 24	30 x 30	—	30 x 30
No Pedestrian Crossing	R9-3a	2B.51	12 x 18	12 x 18	—	—	—	—
Use Crosswalk (plaque)	R9-3bP	2B.51	18 x 12	18 x 12	—	—	—	—
No Hitchhiking (symbol)	R9-4	2B.50	18 x 18	18 x 18	—	—	—	24 x 24
No Hitchhiking	R9-4a	2B.50	18 x 24	18 x 24	—	—	12 x 18	—
No Skaters	R9-13	2B.39	18 x 18	18 x 18	24 x 24	30 x 30	—	30 x 30
No Equestrians	R9-14	2B.39	18 x 18	18 x 18	24 x 24	30 x 30	—	30 x 30
Cross Only On Green	R10-1	2B.52	12 x 18	12 x 18	—	—	—	—
Pedestrian Signs and Plaques	R10-2, 3,3b,3c,3d,4	2B.52	9 x 12	9 x 12	—	—	—	—
Pedestrian Signs	R10-3a,3e,3f, 3g,3h,3i,4a	2B.52	9 x 15	9 x 15	—	—	—	—
Left on Green Arrow Only	R10-5	2B.53	30 x 36	30 x 36	48 x 60	—	24 x 30	48 x 60
Stop Here on Red	R10-6	2B.53	24 x 36	24 x 36	—	—	—	36 x 48
Stop Here on Red	R10-6a	2B.53	24 x 30	24 x 30	—	—	—	36 x 42
Do Not Block Intersection	R10-7	2B.53	24 x 30	24 x 30	—	—	—	—
Use Lane with Green Arrow	R10-8	2B.53	36 x 42	36 x 42	36 x 42	—	—	60 x 72
Left (Right) Turn Signal	R10-10	2B.53	30 x 36	30 x 36	—	—	—	—
No Turn on Red	R10-11	2B.54	24 x 30*	36 x 48	—	—	—	36 x 48
No Turn on Red	R10-11a	2B.54	30 x 36*	36 x 48	—	—	—	—
No Turn on Red	R10-11b	2B.54	36 x 36	36 x 36	—	—	—	—
No Turn on Red Except From Right Lane	R10-11c	2B.54	30 x 42	30 x 42	—	—	—	—
No Turn on Red From This Lane	R10-11d	2B.54	30 x 42	30 x 42	—	—	—	—
Left Turn Yield on Green	R10-12	2B.53	30 x 36	30 x 36	—	—	—	—
Emergency Signal	R10-13	2B.53	42 x 30	42 x 30	—	—	—	—
Emergency Signal - Stop on Flashing Red	R10-14	2B.53	36 x 42	36 x 42	—	—	—	—
Emergency Signal - Stop on Flashing Red (overhead)	R10-14a	2B.53	60 x 24	60 x 24	—	—	—	—
Stop Here on Flashing Red	R10-14b		24 x 36	24 x 36	—	—	—	36 x 48
Turning Vehicles Yield to Peds	R10-15	2B.53	30 x 30	30 x 30	—	—	—	—
U-Turn Yield to Right Turn	R10-16	2B.53	30 x 36	30 x 36	—	—	—	—
Right on Red Arrow After Stop	R10-17a	2B.54	36 x 48	36 x 48	—	—	—	—
MON—FRI (and times) (3 lines) (plaque)	R10-20aP	2B.53	24 x 24	24 x 24	—	—	—	—

Table 2B-1. Regulatory Sign and Plaque Sizes (Sheet 4 of 4)

Sign or Plaque	Sign Designation	Section	Conventional Road		Expressway	Freeway	Minimum	Oversized
			Single Lane	Multi-Lane				
SUNDAY (and times) (2 lines) (plaque)	R10-20aP	2B.53	24 x 18	24 x 18	—	—	—	—
Crosswalk, Stop on Red	R10-23	2B.53	24 x 30	24 x 30	—	—	—	—
Push Button To Turn On Warning Lights	R10-25	2B.52	9 x 12	9 x 12	—	—	—	—
Left Turn Yield on Flashing Red Arrow After Stop	R10-27	2B.53	30 x 36	30 x 36	—	—	—	—
XX Vehicles Per Green	R10-28	2B.56	24 x 30	24 x 30	—	—	—	—
XX Vehicles Per Green Each Lane	R10-29	2B.56	36 x 24	36 x 24	—	—	—	—
Right Turn on Red Must Yield to U-Turn	R10-30	2B.54	30 x 36	30 x 36	—	—	—	—
At Signal (plaque)	R10-31P	2B.53	24 x 9	24 x 9	—	—	—	—
Push Button for 2 Seconds for Extra Crossing Time	R10-32P	2B.52	9 x 12	9 x 12	—	—	—	—
Keep Off Median	R11-1	2B.57	24 x 30	24 x 30	—	—	—	—
Road Closed	R11-2	2B.58	48 x 30	48 x 30	—	—	—	—
Road Closed - Local Traffic Only	R11-3a,3b,4	2B.58	60 x 30	60 x 30	—	—	—	—
Weight Limit	R12-1,2	2B.59	24 x 30	24 x 30	36 x 48	—	—	36 x 48
Weight Limit	R12-3	2B.59	24 x 36	24 x 36	—	—	—	—
Weight Limit	R12-4	2B.59	36 x 24	36 x 24	—	—	—	—
Weight Limit	R12-5	2B.59	24 x 36	24 x 36	36 x 48	48 x 60	—	—
Weigh Station	R13-1	2B.60	72 x 54	72 x 54	96 x 72	120 x 90	—	—
Truck Route	R14-1	2B.61	24 x 18	24 x 18	—	—	—	—
Hazardous Material	R14-2,3	2B.62	24 x 24	24 x 24	30 x 30	36 x 36	—	42 x 42
National Network	R14-4,5	2B.63	30 x 30	30 x 30	36 x 36	36 x 36	—	42 x 42
Fender Bender Move Vehicles	R16-4	2B.65	36 x 24	36 x 24	48 x 36	60 x 48	—	48 x 36
Lights On When Using Wipers or Raining	R16-5,6	2B.64	24 x 30	24 x 30	36 x 48	48 x 60	—	36 x 48
Turn On Headlights Next XX Miles	R16-7	2B.64	48 x 15	48 x 15	72 x 24	96 x 30	—	72 x 24
Turn On, Check Headlights	R16-8,9	2B.64	30 x 15	30 x 15	48 x 24	60 x 30	—	48 x 24
Begin, End Daytime Headlight Section	R16-10,11	2B.64	48 x 15	48 x 15	72 x 24	96 x 30	—	72 x 24

* See Table 9B-1 for minimum size required for signs on bicycle facilities

Notes: 1. Larger signs may be used when appropriate
2. Dimensions in inches are shown as width x height

07 **Where side roads intersect a multi-lane street or highway that has a speed limit of 45 mph or higher, the minimum size of the STOP signs facing the side road approaches, even if the side road only has one approach lane, shall be 36 x 36 inches.**

08 **Where side roads intersect a multi-lane street or highway that has a speed limit of 40 MPH or lower, the minimum size of the STOP signs facing the side road approaches shall be as shown in the Single Lane or Multi-lane columns of Table 2B-1 based on the number of approach lanes on the side street approach.**

Guidance:

09 *The minimum sizes for regulatory signs facing traffic on exit and entrance ramps should be as shown in the column of Table 2B-1 that corresponds to the mainline roadway classification (Expressway or Freeway). If a minimum size is not provided in the Freeway column, the minimum size in the Expressway column should be used. If a minimum size is not provided in the Freeway or Expressway Column, the size in the Oversized column should be used.*

Section 2B.04 Right-of-Way at Intersections

Support:

01 Section 257.649 of the "Michigan Vehicle Code" (see Section 1A.11) establish the right-of-way rule at intersections having no regulatory traffic control signs such that the driver of a vehicle approaching an intersection must yield the right-of-way to any vehicle already in the intersection. When two vehicles approach an intersection from different streets or highways at approximately the same time, the right-of-way rule requires

the driver of the vehicle on the left to yield the right-of-way to the vehicle on the right. The right-of-way can be modified at through streets or highways by placing YIELD (R1-2) signs (see Sections 2B.08 and 2B.09) or STOP (R1-1) signs (see Sections 2B.05 through 2B.07) on one or more approaches.

Guidance:

02 *Engineering judgment should be used to establish intersection control. The following factors should be considered:*

A. Vehicular, bicycle, and pedestrian traffic volumes on all approaches;
B. Number and angle of approaches;
C. Approach speeds;
D. Sight distance available on each approach; and
E. Reported crash experience.

03 *YIELD or STOP signs should be used at an intersection if one or more of the following conditions exist:*

A. An intersection of a less important road with a main road where application of the normal right-of-way rule would not be expected to provide reasonable compliance with the law;
B. A street entering a designated through highway or street; and/or
C. An unsignalized intersection in a signalized area.

04 *In addition, the use of YIELD or STOP signs should be considered at the intersection of two minor streets or local roads where the intersection has more than three approaches and where one or more of the following conditions exist:*

A. The combined vehicular, bicycle, and pedestrian volume entering the intersection from all approaches averages more than 2,000 units per day;
B. The ability to see conflicting traffic on an approach is not sufficient to allow a road user to stop or yield in compliance with the normal right-of-way rule if such stopping or yielding is necessary; and/or
C. Crash records indicate that five or more crashes that involve the failure to yield the right-of-way at the intersection under the normal right-of-way rule have been reported within a 3-year period, or that three or more such crashes have been reported within a 2-year period.

Standard:

05 **YIELD or STOP signs shall not be used for speed control.**

Support:

06 Section 2B.07 contains provisions regarding the application of multi-way STOP control at an intersection.

Guidance:

07 *Once the decision has been made to control an intersection, the decision regarding the appropriate roadway to control should be based on engineering judgment. In most cases, the roadway carrying the lowest volume of traffic should be controlled.*

08 A YIELD or STOP sign should not be installed on the higher volume roadway unless justified by an engineering study.

Support:

09 The following are considerations that might influence the decision regarding the appropriate roadway upon which to install a YIELD or STOP sign where two roadways with relatively equal volumes and/or characteristics intersect:

A. Controlling the direction that conflicts the most with established pedestrian crossing activity or school walking routes;
B. Controlling the direction that has obscured vision, dips, or bumps that already require drivers to use lower operating speeds; and
C. Controlling the direction that has the best sight distance from a controlled position to observe conflicting traffic.

Standard:

10 **Because the potential for conflicting commands could create driver confusion, YIELD or STOP signs shall not be used in conjunction with any traffic control signal operation, except in the following cases:**

A. If the signal indication for an approach is a flashing red at all times;
B. If a minor street or driveway is located within or adjacent to the area controlled by the traffic control signal, but does not require separate traffic signal control because an extremely low potential for conflict exists; or
C. If a channelized turn lane is separated from the adjacent travel lanes by an island and the channelized turn lane is not controlled by a traffic control signal.

Table 2C-2. Warning Sign and Plaque Sizes (Sheet 1 of 3)

Sign or Plaque	Sign Designation	Section	Conventional Road		Expressway	Freeway	Minimum	Oversized
			Single Lane	Multi-Lane				
Horizontal Alignment	W1-1,2,3,4,5	2C.07	30 x 30*	36 x 36	36 x 36	36 x 36	—	48 x 48
Combination Horizontal Alignment/Advisory Speed	W1-1a,2a	2C.10	36 x 36	36 x 36	48 x 48	48 x 48	—	48 x 48
One-Direction Large Arrow	W1-6	2C.12	48 x 24	48 x 24	60 x 30	60 x 30	—	60 x 30
Two-Direction Large Arrow	W1-7	2C.47	48 x 24	48 x 24	—	—	—	60 x 30
Chevron Alignment	W1-8	2C.09	18 x 24	18 x 24	30 x 36	36 x 48	—	24 x 30
Combination Horizontal Alignment/Intersection	W1-10,10a, 10b,10c,10d, 10e	2C.11	36 x 36	36 x 36	36 x 36	48 x 48	—	—
Hairpin Curve	W1-11	2C.07	30 x 30	30 x 30	36 x 36	48 x 48	—	48 x 48
Truck Rollover	W1-13	2C.13	36 x 36	36 x 36	36 x 36	48 x 48	—	36 x 36
270-degree Loop	W1-15	2C.07	30 x 30	30 x 30	36 x 36	48 x 48	—	48 x 48
Intersection Warning	W2-1, 2,3,4,5,6,7,8	2C.46	30 x 30	30 x 30	36 x 36	—	24 x 24	48 x 48
Stop, Yield, or Signal Ahead	W3-1,2,3	2C.36	30 x 30	30 x 30	48 x 48	48 x 48	30 x 30	—
Be Prepared to Stop	W3-4	2C.36	36 x 36	36 x 36	48 x 48	48 x 48	30 x 30	—
Reduced Speed Limit Ahead	W3-5	2C.38	36 x 36	36 x 36	48 x 48	48 x 48	—	—
XX MPH Speed Zone Ahead	W3-5a	2C.38	36 x 36	36 x 36	48 x 48	48 x 48	—	—
Draw Bridge	W3-6	2C.39	36 x 36	36 x 36	48 x 48	—	—	60 x 60
Ramp Meter Ahead	W3-7	2C.37	36 x 36	36 x 36	—	—	—	—
Ramp Metered When Flashing	W3-8	2C.37	36 x 36	36 x 36	—	—	—	—
Merging Traffic	W4-1	2C.40	36 x 36	36 x 36	48 x 48	48 x 48	30 x 30*	—
Lane Ends	W4-2	2C.42	36 x 36	36 x 36	48 x 48	48 x 48	30 x 30*	—
Added Lane	W4-3	2C.41	36 x 36	36 x 36	48 x 48	48 x 48	30 x 30*	—
Cross Traffic Does Not Stop (plaque)	W4-4P	2C.59	24 x 12	24 x 12	36 x 18	—	—	48 x 24
Traffic From Left (Right) Does Not Stop (plaque)	W4-4aP	2C.59	24 x 12	24 x 12	36 x 18	—	—	48 x 24
Oncoming Traffic Does Not Stop (plaque)	W4-4bP	2C.59	24 x 12	24 x 12	36 x 18	—	—	48 x 24
Entering Roadway Merge	W4-5	2C.40	36 x 36	36 x 36	48 x 48	—	—	—
No Merge Area (plaque)	W4-5P	2C.40	18 x 24	18 x 24	24 x 30	—	—	—
Entering Roadway Added Lane	W4-6	2C.41	36 x 36	36 x 36	48 x 48	—	—	—
Road Narrows	W5-1	2C.19	36 x 36	36 x 36	48 x 48	48 x 48	30 x 30*	—
Narrow Bridge	W5-2	2C.20	36 x 36	36 x 36	48 x 48	48 x 48	30 x 30*	—
One Lane Bridge	W5-3	2C.21	36 x 36	36 x 36	48 x 48	48 x 48	30 x 30*	—
Divided Highway	W6-1	2C.22	36 x 36	36 x 36	48 x 48	48 x 48	—	—
Divided Highway Ends	W6-2	2C.23	36 x 36	36 x 36	48 x 48	48 x 48	—	—
Two-Way Traffic	W6-3	2C.44	36 x 36	36 x 36	48 x 48	48 x 48	—	—
Hill	W7-1	2C.16	30 x 30*	36 x 36	36 x 36	36 x 36	24 x 24*	48 x 48
Hill with Grade	W7-1a	2C.16	30 x 30*	36 x 36	36 x 36	36 x 36	24 x 24*	48 x 48
Use Low Gear (plaque)	W7-2P	2C.57	24 x 18	24 x 18	—	—	—	—
Trucks Use Lower Gear (plaque)	W7-2bP	2C.57	24 x 18	24 x 18	—	—	—	—
XX% Grade (plaque)	W7-3P	2C.57	24 x 18	24 x 18	—	—	—	—
Next XX Miles (plaque)	W7-3aP	2C.55	24 x 18	24 x 18	—	—	—	—
XX% Grade, XX Miles (plaque)	W7-3bP	2C.57	24 x 18	24 x 18	—	—	—	—
Runaway Truck Ramp XX Miles	W7-4	2C.17	78 x 48	78 x 48	78 x 48	78 x 48	—	—
Runaway Truck Ramp (with arrow)	W7-4b	2C.17	78 x 60	78 x 60	78 x 60	78 x 60	—	—
Truck Escape Ramp	W7-4c	2C.17	78 x 60	78 x 60	78 x 60	78 x 60	—	—
Sand, Gravel, Paved (plaques)	W7-4dP, 4eP,4fP	2C.17	24 x 12	24 x 12	24 x 12	24 x 12	—	—
Hill Blocks View	W7-6	2C.18	30 x 30*	36 x 36	36 x 36	—	—	48 x 48
Bump or Dip	W8-1,2	2C.28	30 x 30*	36 x 36	36 x 36	48 x 48	24 x 24*	48 x 48

Table 2C-2. Warning Sign and Plaque Sizes (Sheet 2 of 3)

Sign or Plaque	Sign Designation	Section	Conventional Road		Expressway	Freeway	Minimum	Oversized
			Single Lane	Multi-Lane				
Pavement Ends	W8-3	2C.30	36 x 36	36 x 36	48 x 48	—	30 x 30*	—
Soft Shoulder	W8-4	2C.31	36 x 36	36 x 36	48 x 48	48 x 48	24 x 24*	48 x 48
Slippery When Wet	W8-5	2C.32	30 x 30*	36 x 36	36 x 36	48 x 48	24 x 24*	48 x 48
Road Condition (plaques)	W8-5P,5bP,5cP	2C.32	24 x 18	24 x 18	30 x 24	36 x 30	—	36 x 30
Ice	W8-5aP	2C.32	24 x 12	24 x 12	30 x 18	30 x 18	—	—
Truck Crossing	W11-10a	2C.49	36 x 36	36 x 36	36 x 36	48 x 48	24 x 24*	48 x 48
Loose Gravel	W8-7	2C.32	36 x 36	36 x 36	36 x 36	—	24 x 24*	48 x 48
Rough Road	W8-8	2C.32	36 x 36	36 x 36	36 x 36	48 x 48	24 x 24*	48 x 48
Low Shoulder	W8-9	2C.31	36 x 36	36 x 36	36 x 36	48 x 48	24 x 24*	48 x 48
Uneven Lanes	W8-11	2C.32	36 x 36	36 x 36	36 x 36	48 x 48	—	48 x 48
No Center Line	W8-12	2C.34	36 x 36	36 x 36	36 x 36	48 x 48	—	—
Bridge Ices Before Road	W8-13	2C.32	36 x 36	36 x 36	36 x 36	48 x 48	24 x 24*	48 x 48
Fallen Rocks	W8-14	2C.32	30 x 30*	36 x 36	36 x 36	48 x 48	24 x 24*	48 x 48
Grooved Pavement	W8-15	2C.33	30 x 30*	36 x 36	36 x 36	48 x 48	24 x 24*	48 x 48
Motorcycle (plaque)	W8-15P	2C.33	24 x 18	24 x 18	30 x 24	36 x 30	—	36 x 30
Metal Bridge Deck	W8-16	2C.33	30 x 30*	36 x 36	36 x 36	48 x 48	24 x 24*	48 x 48
Shoulder Drop Off (symbol)	W8-17	2C.31	30 x 30*	36 x 36	36 x 36	48 x 48	24 x 24*	48 x 48
Shoulder Drop-Off (plaque)	W8-17P	2C.31	24 x 18	24 x 18	30 x 24	36 x 30	—	36 x 30
Road May Flood	W8-18	2C.35	36 x 36	36 x 36	36 x 36	48 x 48	24 x 24*	48 x 48
Flood Gauge	W8-19	2C.35	12 x 72	12 x 72	—	—	—	—
Gusty Winds Area	W8-21	2C.35	36 x 36	36 x 36	36 x 36	48 x 48	24 x 24*	48 x 48
Fog Area	W8-22	2C.35	36 x 36	36 x 36	36 x 36	48 x 48	24 x 24*	48 x 48
No Shoulder	W8-23	2C.31	36 x 36	36 x 36	36 x 36	48 x 48	24 x 24*	48 x 48
Shoulder Ends	W8-25	2C.31	30 x 30*	36 x 36	36 x 36	48 x 48	24 x 24*	48 x 48
Left (Right) Lane Ends	W9-1	2C.42	36 x 36	36 x 36	36 x 36	48 x 48	30 x 30*	48 x 48
Lane Ends Merge Left (Right)	W9-2	2C.42	36 x 36	36 x 36	36 x 36	48 x 48	30 x 30*	48 x 48
Right (Left) Lane Exit Only Ahead	W9-7	2C.43	132 x 72	132 x 72	132 x 72	132 x 72	—	—
Bicycle	W11-1	2C.49	30 x 30	30 x 30	36 x 36	—	24 x 24*	48 x 48
Pedestrian	W11-2	2C.50	30 x 30*	36 x 36	36 x 36	—	24 x 24*	48 x 48
Large Animals	W11-3,4,16,17,18,19,20,21,22	2C.50	30 x 30*	36 x 36	36 x 36	—	24 x 24*	48 x 48
Farm Vehicle	W11-5,5a	2C.49	30 x 30*	36 x 36	36 x 36	—	24 x 24*	48 x 48
Snowmobile	W11-6	2C.50	30 x 30*	36 x 36	36 x 36	—	24 x 24*	48 x 48
Equestrian	W11-7	2C.50	30 x 30*	36 x 36	36 x 36	—	24 x 24*	48 x 48
Emergency Vehicle	W11-8	2C.49	30 x 30*	36 x 36	36 x 36	—	24 x 24*	48 x 48
Handicapped	W11-9	2C.50	30 x 30*	36 x 36	36 x 36	—	—	48 x 48
Truck	W11-10	2C.49	30 x 30*	36 x 36	36 x 36	—	24 x 24*	48 x 48
Golf Cart	W11-11	2C.49	30 x 30*	36 x 36	36 x 36	—	24 x 24*	48 x 48
Emergency Signal Ahead (plaque)	W11-12P	2C.49	36 x 30	36 x 30	36 x 30	—	—	—
Horse-Drawn Vehicle	W11-14	2C.49	30 x 30*	36 x 36	36 x 36	—	24 x 24*	48 x 48
Bicycle / Pedestrian	W11-15	2C.49	30 x 30*	36 x 36	36 x 36	—	24 x 24*	48 x 48
Trail Crossing	W11-15a	2C.49	30 x 30*	36 x 36	36 x 36	—	24 x 24*	48 x 48
Trail X-ing (plaque)	W11-15P	2C.49	24 x 18	24 x 18	30 x 24	—	—	36 x 30
Double Arrow	W12-1	2C.25	30 x 30*	36 x 36	36 x 36	—	—	—
Low Clearance (with arrows)	W12-2	2C.27	36 x 36	36 x 36	48 x 48	48 x 48	30 x 30*	—
Low Clearance	W12-3	2C.27	78 x 24	78 x 24	—	—	—	—
Advisory Speed (plaque)	W13-1P	2C.08	18 x 18	18 x 18	24 x 24	30 x 30	—	30 x 30
Advisory Exit or Ramp Speed	W13-2,3	2C.14	24 x 30	24 x 30	36 x 48	48 x 60	—	48 x 60
Combination Horizontal Alignment/Advisory Exit or Ramp Speed	W13-6,7	2C.15	24 x 42	24 x 42	36 x 60	36 x 60	—	48 x 84
Dead End, No Outlet	W14-1,2	2C.26	30 x 30*	36 x 36	36 x 36	—	24 x 24*	48 x 48

Table 2D-2. Recommended Minimum Letter Heights on Street Name Signs

Type of Mounting	Type of Street or Highway	Speed Limit	Recommended Minimum Letter Height	
			Initial Upper-Case	Lower-Case
Overhead	All types	All speed limits	12 inches	9 inches
Post-mounted	Multi-lane	More than 40 mph	8 inches	6 inches
Post-mounted	Multi-lane	40 mph or less	6 inches	4.5 inches
Post-mounted	2-lane	All speed limits	6 inches*	4.5 inches*

* On local two-lane streets with speed limits of 25 mph or less, 4-inch initial upper-case letters with 3-inch lower-case letters may be used.

16 An alternative background color other than the normal guide sign color of green may be used for Street Name (D3-1 or D3-1a) signs where the highway agency determines this is necessary to assist road users in determining jurisdictional authority for roads.

Standard:

17 **Alternative background colors shall not be used for Advance Street Name (D3-2) signs (see Section 2D.44).**

18 **The only acceptable alternative background colors for Street Name (D3-1 or D3-1a) signs shall be blue, brown, or white. Regardless of whether green, blue, or brown is used as the background color for Street Name (D3-1 or D3-1a) signs, the legend (and border, if used) shall be white. For Street Name signs that use a white background, the legend (and border, if used) shall be black.**

Guidance:

19 *An alternative background color for Street Name signs, if used, should be applied to the Street Name (D3-1 or D3-1a) signs on all roadways under the jurisdiction of a particular highway agency.*

20 *In business or commercial areas and on principal arterials, Street Name signs should be placed at least on diagonally opposite corners. In residential areas, at least one Street Name sign should be mounted at each intersection. Signs naming both streets should be installed at each intersection. They should be mounted with their faces parallel to the streets they name.*

Option:

21 To optimize visibility, Street Name signs may be mounted overhead. Street Name signs may also be placed above a regulatory or STOP or YIELD sign with no required vertical separation.

Guidance:

22 *In urban or suburban areas, especially where Advance Street Name signs for signalized and other major intersections are not used, the use of overhead Street Name signs should be strongly considered.*

Option:

23 At intersection crossroads where the same road has two different street names for each direction of travel, both street names may be displayed on the same sign along with directional arrows.

24 On lower speed roadways, historic street name signs within locally identified historic districts that are consistent with the criteria contained in 36 CFR 60.4 for such structures and districts may be used without complying with the provisions of Paragraphs 3, 4, 6, 9, 12 through 14, and 18 through 20 of this section. Rev. 1

Support:

25 Information regarding the use of street names on supplemental plaques for use with intersection-related warning signs is contained in Section 2C.58.

Section 2D.44 Advance Street Name Signs (D3-2)

Support:

01 Advance Street Name (D3-2) signs (see Figure 2D-10) identify an upcoming intersection. Although this is often the next intersection, it could also be several intersections away in cases where the next signalized intersection is referenced.

Standard:

02 **Advance Street Name (D3-2) signs, if used, shall supplement rather than be used instead of the Street Name (D3-1) signs at the intersection.**

Option:

03 Advance Street Name (D3-2) signs may be installed in advance of signalized or unsignalized intersections to provide road users with advance information to identify the name(s) of the next intersecting street to prepare for crossing traffic and to facilitate timely deceleration and/or lane changing in preparation for a turn.

Guidance:

04 *On arterial highways in rural areas, Advance Street Name signs should be used in advance of all signalized intersections and in advance of all intersections with exclusive turn lanes.*

05 *In urban areas, Advance Street Name signs should be used in advance of all signalized intersections on major arterial streets, except where signalized intersections are so closely spaced that advance placement of the signs is impractical.*

06 *The heights of the letters on Advance Street Name signs should be the same as those used for Street Name signs (see Section 2D.43).*

Standard:

07 **If used, Advance Street Name signs shall have a white legend and border on a green background.**

08 **If used, Advance Street Name signs shall provide the name(s) of the intersecting street(s) on the top line(s) of the legend and the distance to the intersecting streets or messages such as NEXT SIGNAL, NEXT INTERSECTION, NEXT ROUNDABOUT, or directional arrow(s) on the bottom line of the legend.**

09 **Pictographs shall not be displayed on Advance Street Name signs.**

Option:

10 Directional arrow(s) may be placed to the right or left of the street name or message such as NEXT SIGNAL, as appropriate, rather than on the bottom line of the legend. Curved-stem arrows may be used on Advance Street Name signs on approaches to circular intersections.

11 For intersecting crossroads where the same road has a different street name for each direction of travel, the different street names may be displayed on the same Advance Street Name sign along with directional arrows.

12 In advance of two closely-spaced intersections where it is not practical to install separate Advance Street Name signs, the Advance Street Name sign may include the street names for both intersections along with appropriate supplemental legends for both street names, such as NEXT INTERSECTION, 2ND INTERSECTION, or NEXT LEFT and NEXT RIGHT, or directional arrows.

Guidance:

13 *If two street names are used on the Advance Street Name sign, the street names should be displayed in the following order:*

A. For a single intersection where the same road has a different street name for each direction of travel, the name of the street to the left should be displayed above the name of the street to the right; or

B. For two closely-spaced intersections, the name of the first street encountered should be displayed above the name of the second street encountered, and the arrow associated with the second street encountered should be an advance arrow, such as the arrow shown on the W16-6P arrow plaque (see Figure 2C-12).

Option:

14 An Advance Street Name (W16-8P or W16-8aP) plaque (see Section 2C.58) with black legend on a yellow background, installed supplemental to an Intersection (W2 series) or Advance Traffic Control (W3 series) warning sign may be used instead of an Advance Street Name guide sign.

Section 2D.45 Signing on Conventional Roads on Approaches to Interchanges

Support:

01 Because there are a number of different ramp configurations that are commonly used at interchanges with conventional roads, drivers on the conventional road cannot reliably predict whether they will be required to turn left or right in order to enter the correct ramp to access the freeway or expressway in the desired direction of travel. Consistently applied signing for conventional road approaches to freeway or expressway interchanges is highly desirable.

Standard:

02 **On multi-lane conventional roads approaching an interchange, guide signs shall be provided to identify which direction of turn is to be made and/or which specific lane to use for ramp access to each direction of the freeway or expressway.**

Guidance:

03 *The signing of conventional roads with one lane of traffic approaching an interchange should consist of a sequence containing the following signs (see Figure 2D-11):*

A. Junction Assembly
B. Destination sign
C. Directional Assembly or Entrance Direction sign for the first ramp
D. Advance Route Turn Assembly or Advance Entrance Direction sign with an advance turn arrow
E. Directional Assembly or Entrance Direction sign for the second ramp

Section 2D.53 Signing of Named Highways

Option:

01 Guide signs may contain street or highway names if the purpose is to enhance driver communication and guidance; however, they are to be considered as supplemental information to route numbers.

Standard:

02 **Highway names shall not replace official numeral designations.**

03 **Memorial names (see Section 2M.10) shall not appear on supplemental signs or on any other information sign on or along the highway or its intersecting routes.**

04 **The use of route signs shall be restricted to signs officially used for guidance of traffic in accordance with this Manual and the "Purpose and Policy" statement of the American Association of State Highway and Transportation Officials that applies to Interstate and U.S. numbered routes (see Page i for AASHTO's address).**

Option:

05 Unnumbered routes having major importance to proper guidance of traffic may be signed if carried out in accordance with the aforementioned policies. For unnumbered highways, a name to enhance route guidance may be used where the name is applied consistently throughout its length.

Guidance:

06 *Only one name should be used to identify any highway, whether numbered or unnumbered.*

Section 2D.54 Crossover Signs (D13-1 and D13-2)

Option:

01 Crossover signs may be installed on divided highways to identify median openings not otherwise identified by warning or other guide signs.

Standard:

02 **A CROSSOVER (D13-1) sign (see Figure 2D-21) shall not be used to identify a median opening that is permitted to be used only by official or authorized vehicles. If used, the sign shall be a horizontal rectangle of appropriate size to carry the word CROSSOVER and a horizontal directional arrow. The CROSSOVER sign shall have a white legend and border on a green background.**

Guidance:

03 *If used, the CROSSOVER sign should be installed immediately beyond the median opening, either on the right-hand side of the roadway or in the median.*

Option:

04 The Advance Crossover (D13-2) sign (see Figure 2D-21) may be installed in advance of the CROSSOVER sign to provide advance notice of the crossover.

Standard:

05 **If used, the Advance Crossover sign shall be a horizontal rectangle of appropriate size to carry the word CROSSOVER and the distance to the median opening. The sign shall have white legend and border on a green background.**

Guidance:

06 *The distance displayed on the Advance Crossover sign should be 1 MILE, 1/2 MILE, or 1/4 MILE, unless unusual conditions require some other distance. If used, the sign should be installed either on the right-hand side of the roadway or in the median at approximately the distance displayed on the sign.*

Section 2D.55 National Scenic Byways Signs (D6-4, D6-4a)

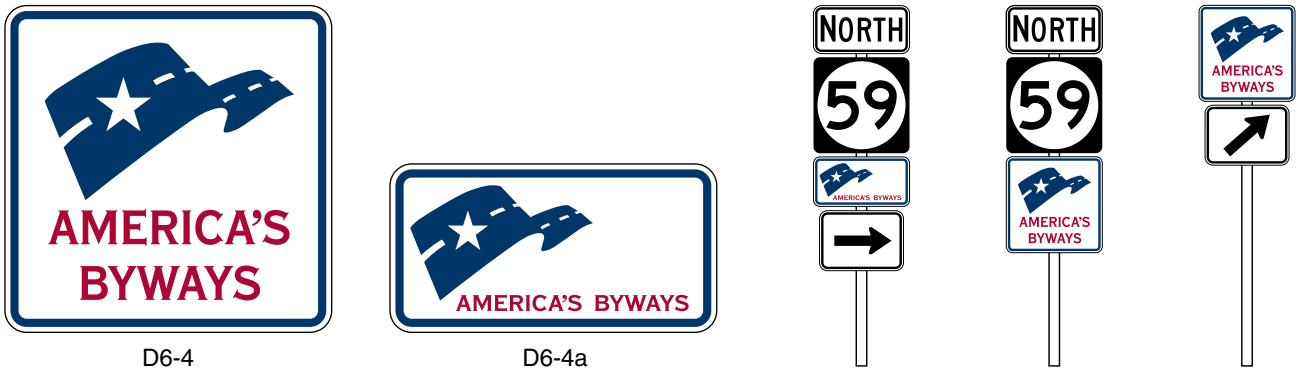
Support:

01 Certain roads have been designated by the U.S. Secretary of Transportation as National Scenic Byways or All-American Roads based on their archeological, cultural, historic, natural, recreational, or scenic qualities.

Option:

02 State and local highway agencies may install the National Scenic Byways (D6-4 or D6-4a) signs at entrance points to a route that has been recognized by the U.S. Secretary of Transportation as a National Scenic Byway or an All-American Road. The D6-4 or D6-4a sign may be installed on route sign assemblies (see Figure 2D-22) or as part of larger roadside structures. National Scenic Byways signs may also be installed at periodic intervals along the designated route and at intersections where the designated route turns or follows a different numbered highway. At locations where roadside features have been developed to enhance the traveler's experience such as rest areas, historic sites, interpretive facilities, or scenic overlooks, the National Scenic Byways sign may be placed on the associated sign assembly to inform travelers that the site contributes to the byway travel experience.

Figure 2D-22. Examples of Use of the National Scenic Byways Sign



D6-4 D6-4a

Standard:

03 **When a National Scenic Byways sign is installed on a National Scenic Byway or an All-American Road, the design shown for the D6-4 or D6-4a sign in Figure 2D-22 shall be used. Use of this design shall be limited to routes that have been designated as a National Scenic Byway or All-American Road by the U.S. Secretary of Transportation.**

04 **If used, the D6-4 or D6-4a sign shall be placed such that the roadway route signs have primary visibility for the road user.**

Section 2D.MI56 (Michigan) Snowmobile Route Sign (D11-5)

Standard:

01 **The Snowmobile Route (D11-5) sign shall be used to indicate officially designated snowmobile routes.**

Option:

02 Where required a supplemental panel may be placed below the Snowmobile Route sign to post supplementary guide information such as ROUTE BEGINS (Panel 2), NEXT 5 MILES, or similar legends, The supplemental panel may post certain restrictions such as PROHIBITED (Panel 3), NO PARKING (Panel 4), SINGLE FILE ONLY (Panel 5), BACK OF SHOULDER ONLY (Panel 6), or similar legends. The Advance Turn (M5-1, M5-2) or Directional (M 6 series) Arrow Auxiliary Signs (white on green) may be used with the Snowmobile Route sign.

Guidance:

03 *The width of the supplemental panel should not exceed 24 inches.*

Standard:

04 **Guide supplemental panels shall have a white message and border on a green background. Regulatory supplemental panels shall have a white background and red message and border for prohibiting or black message and borders for operational requirements. The PERMITTED ON RIGHT-OF-WAY OR SHOULDER OF ALL COUNTY ROADS (Panel 7) shall be placed below the Snowmobile Route sign at the county line on all state and county roadways when all county roadways outside the corporate limits of a city or village are for snowmobile use.**

Support:

05 The requirements for snowmobile route signing per Michigan State Statute 324.82119(e). Snowmobiles may be operated on a highway in a county road system that is not normally snowplowed for vehicular traffic and on the plowed right-of-way or shoulder when no right-of-way exists on a snowplowed highway in the county road system, outside the corporate limits of a city or village, that is designated and marked for snowmobile use by the county road commission having jurisdiction. Upon the request of a county road commission that has designated all county roads outside the corporate limits of a city or village for snowmobile use, the state transportation department shall erect at county road commission expense and shall maintain, in accordance with the Michigan manual of uniform traffic control devices standards, the basic snowmobile sign unit together with a supplemental panel stating "permitted on right-of-way or shoulder of all ..... (county name) roads — MCL 324.82119" at the county line on all state trunk line highways and county roads. A sign erected before the effective date of the 2005 amendatory act that amended this section may cite 1968 PA 74 instead of citing this section.

04 An additional W9-6 sign may be installed approximately 2 miles in advance of a mainline toll plaza. This sign may be either overhead or post-mounted.

05 If the visibility of a ramp toll plaza at which some or all lanes are required to come to a stop to pay a toll is limited, the W9-6 sign may also be installed in advance of the ramp toll plaza.

Section 2F.07 Pay Toll Advance Warning Plaque (W9-6P)

Option:

01 The Pay Toll Advance Warning (W9-6P) plaque (see Figure 2F-3) may be installed above the appropriate guide sign(s) relating to toll payment types at the 1-mile and/or 1/2-mile advance locations on the approach to a toll plaza if there is insufficient space for the W9-6 sign (see Section 2F.06) at those advance locations.

Standard:

02 **The W9-6P plaque shall be a horizontal rectangle with black legend and border on a yellow background. The legend shall include the distance to the toll plaza and, except for toll-ticket facilities, the toll for passenger or 2-axle vehicles. Where the toll for passenger or 2-axle vehicles is variable by time of day, a changeable message element shall be incorporated into the W9-6P plaque to display the toll in effect. For toll plazas where road users entering a toll-ticket facility are issued a toll ticket, the legend PAY TOLL shall be replaced with a suitable legend such as TAKE TICKET.**

Option:

03 The distance to the toll plaza may be omitted from the W9-6P plaque if the distance is displayed on the guide sign that the plaque accompanies.

04 The toll for passenger or 2-axle vehicles may be omitted from the W9-6P plaque if the toll information is displayed on the guide sign that the plaque accompanies.

Figure 2F-3. Toll Plaza Warning Signs and Plaques

W9-6

W9-6a

W9-6P

W9-6aP

W16-16P

Section 2F.08 Stop Ahead Pay Toll Warning Sign (W9-6a)

Standard:

01 **The Stop Ahead Pay Toll (W9-6a) sign shall be a horizontal rectangle with a black legend and border on a yellow background. The legend shall include STOP AHEAD PAY TOLL and, except for toll-ticket facilities, the toll for passenger or 2-axle vehicles (see Figure 2F-3). Where the toll for passenger or 2-axle vehicles is variable by time of day, a changeable message element shall be incorporated into the W9-6a sign to display the toll in effect. For toll plazas where road users entering a toll-ticket facility are issued a toll ticket, the legend PAY TOLL shall be replaced with a suitable legend such as TAKE TICKET.**

Guidance:

02 *The Stop Ahead Pay Toll sign should be installed overhead downstream from the W9-6 sign that is 1/2 mile in advance of a mainline toll plaza where some or all of the lanes are required to come to a stop to pay a toll (see Sections 2F.14 and 2F.15). The location of the overhead sign should coincide with the approximate location where the mainline lanes begin to widen on the approach to the toll plaza lanes.*

03 *Where open-road tolling is used in addition to a toll plaza at a particular location, the W9-6a sign should be located such that the message is clearly related to the lanes that access the toll plaza and not to the open-road tolling lanes.*

Option:

04 If there is insufficient space for the W9-6a sign at the recommended location, the Stop Ahead Pay Toll (W9-6aP) plaque (see Section 2F.09) may be installed at that location above the appropriate guide sign that relates to toll payment types.

05 If the visibility of a ramp toll plaza at which some or all lanes are required to come to a stop to pay a toll is limited, the W9-6a sign may also be installed in advance of the ramp toll plaza.

Section 2F.09 Stop Ahead Pay Toll Warning Plaque (W9-6aP)

Option:

01 The Stop Ahead Pay Toll (W9-6aP) plaque (see Figure 2F-3) may be installed above the appropriate guide sign at the location specified for the Stop Ahead Pay Toll (W9-6a) sign (see Section 2F.08) if there is insufficient space for the W9-6a sign at that location.

Standard:

02 **The W9-6aP plaque shall be a horizontal rectangle with black legend and border on a yellow background. The legend shall include STOP AHEAD PAY TOLL and, except for toll-ticket facilities, the toll for passenger or 2-axle vehicles. Where the toll for passenger or 2-axle vehicles is variable by time of day, a changeable message element shall be incorporated into the W9-6aP plaque to display the toll in effect. For toll plazas where road users entering a toll-ticket facility are issued a toll ticket, the legend PAY TOLL shall be replaced with a suitable legend such as TAKE TICKET.**

Option:

03 The toll for passenger or 2-axle vehicles may be omitted from the W9-6aP plaque if the toll information is displayed on the guide sign that the plaque accompanies.

Section 2F.10 LAST EXIT BEFORE TOLL Warning Plaque (W16-16P)

Guidance:

01 *The LAST EXIT BEFORE TOLL (W16-16P) plaque (see Figure 2F-3) should be used to notify road users of the last exit from a highway before it becomes a facility on which toll payments are required. The plaque should be installed above or below the appropriate guide signs for the exit (see Sections 2E.33 and 2E.36).*

Standard:

02 **The W16-16P plaque shall have a black legend and border on a yellow background.**

Section 2F.11 TOLL Auxiliary Sign (M4-15)

Standard:

01 **The TOLL (M4-15) auxiliary sign (see Figure 2F-4) shall have a black legend and border on a yellow background and shall be mounted directly above the route sign of a numbered toll highway or, if used, above the cardinal direction and alternative route auxiliary signs, in any route sign assembly providing directions from a non-toll highway to the toll highway or to a segment of a highway on which the payment of a toll is required.**

Section 2G.06 Preferential Lane Advance Regulatory Signs (R3-12, R3-12e, R3-12f, R3-15, R3-15a, and R3-15d)

Guidance:

01 *The Preferential Lane Advance (R3-12, R3-12f, R3-15, and R3-15d) signs should be used for advance notification of a barrier-separated, buffer-separated, or contiguous preferential lane that is added to the general-purpose lanes (see Figure 2G-12).*

02 *The Preferential Lane Advance (R3-12e and R3-15a) signs should be used for advance notification of a general-purpose lane that becomes a preferential lane (see Figure 2G-13).*

Option:

03 The legends on the R3-12f and R3-15d signs may be modified to suit the type of preferential lane.

Guidance:

04 *On conventional roads, for general-purpose lanes that become preferential lanes, a post-mounted (R3-12e) or overhead (R3-15a) Preferential Lane Advance sign should be installed in advance of the beginning of or initial entry point to the preferential lane at a distance determined by engineering judgment based on speed, traffic characteristics, and other site-specific considerations. The distance selected should provide adequate opportunity for ineligible vehicles to vacate the lane prior to the beginning of the restriction.*

05 *On freeways and expressways, for general-purpose lanes that become preferential lanes, an overhead Preferential Lane Advance (R3-15a) sign should be installed at least 1 mile in advance of the beginning of the preferential lane restriction.*

Option:

06 Additional post-mounted or overhead Preferential Lane Advance signs may be placed farther in advance of or closer to the beginning or initial entry points to a preferential lane.

Section 2G.07 Preferential Lane Ends Regulatory Signs (R3-12a, R3-12b, R3-12c, R3-12d, R3-12g, R3-12h, R3-15b, R3-15c, and R3-15e)

Standard:

01 **A post-mounted Preferential Lane Ends (R3-12b or R3-12h) sign shall be installed at least 1/2 mile in advance of the termination of a preferential lane.**

02 **Except as provided in Paragraph 6, a post-mounted Preferential Lane Ends (R3-12a or R3-12g) sign shall be installed at the point where a preferential lane and restriction end and traffic must merge into the general-purpose lanes.**

03 **A post-mounted Preferential Lane Ends (R3-12d) sign shall be installed at least 1/2 mile in advance of the point where a preferential lane restriction ends and the lane becomes a general-purpose lane.**

04 **Except as provided in Paragraph 7, a post-mounted Preferential Lane Ends (R3-12c) sign shall be installed at the point where a preferential lane restriction ends and the lane becomes a general-purpose lane.**

Option:

05 The legends on the R3-12g and R3-15e signs may be modified to suit the type of preferential lane.

06 An overhead Preferential Lane Ends (R3-15b or R3-15e) sign may be installed instead of or in addition to a post-mounted R3-12a or R3-12g sign at the point where a preferential lane and restriction ends and traffic must merge into the general-purpose lanes.

07 An overhead Preferential Lane Ends (R3-15c) sign may be installed instead of or in addition to a post-mounted R3-12c sign at the point where the preferential lane restriction ends and the lane becomes a general-purpose lane.

Section 2G.08 Warning Signs on Median Barriers for Preferential Lanes

Option:

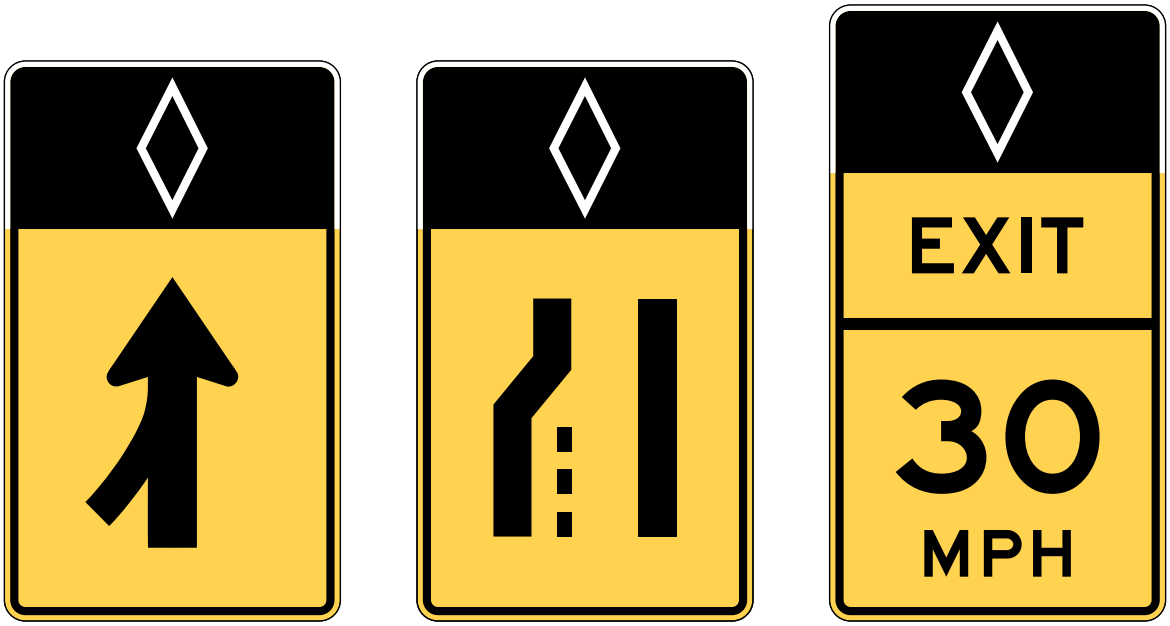
01 When a warning sign applicable only to a preferential lane is installed on a median barrier with limited lateral clearance to the adjacent travel lanes or shoulders, the warning sign may have a vertical rectangular shape. For a High Occupancy Vehicle lane, such signs may be used instead of using the HOV Plaque (W16-11P) (see Section 2G.09) with a standard diamond-shaped warning sign.

Standard:

02 **When a vertical rectangular-shaped warning sign applicable only to a preferential lane is installed on a median barrier, the top portion of the sign shall be comprised of a white symbol or legend denoting the type of preferential lane (such as the diamond symbol for HOV or the legend BUS LANE) on a black background with a white border, and the bottom portion of the sign shall be comprised of the standard word message or symbol of the standard warning sign as a black legend on a yellow background with a black border (see Figure 2G-4).**

Figure 2G-4. Examples of Warning Signs and Plaques Applicable Only to Preferential Lanes

A - BARRIER-MOUNTED RECTANGULAR WARNING SIGNS



W4-1L (modified) W4-2L (modified) W13-2 (modified)

B - WARNING PLAQUE FOR USE ABOVE STANDARD DIAMOND-SHAPED WARNING SIGNS

W16-11P

Note: An HOV lane example (diamond symbol) is illustrated. For other types of preferential lanes, the appropriate symbol or word message (see Section 2G.03) shall be displayed in white on the black background of the top portion of these signs.

Guidance:

03 *Where lateral clearance is limited, such as when a post-mounted warning sign applicable only to a preferential lane is installed on a median barrier, the edges of the sign should not project beyond the outer edges of the barrier.*

Option:

04 Where lateral clearance is limited, warning signs applicable only to a preferential lane that are post-mounted on a median barrier and that are 72 inches or less in width may be skewed up to 45 degrees in order to fit within the barrier width or may be mounted higher, such that the vertical clearance to bottom of the sign, light fixture, or its structural support, whichever is lowest, is not less than 14 feet above any portion of the pavement and shoulders.

Standard:

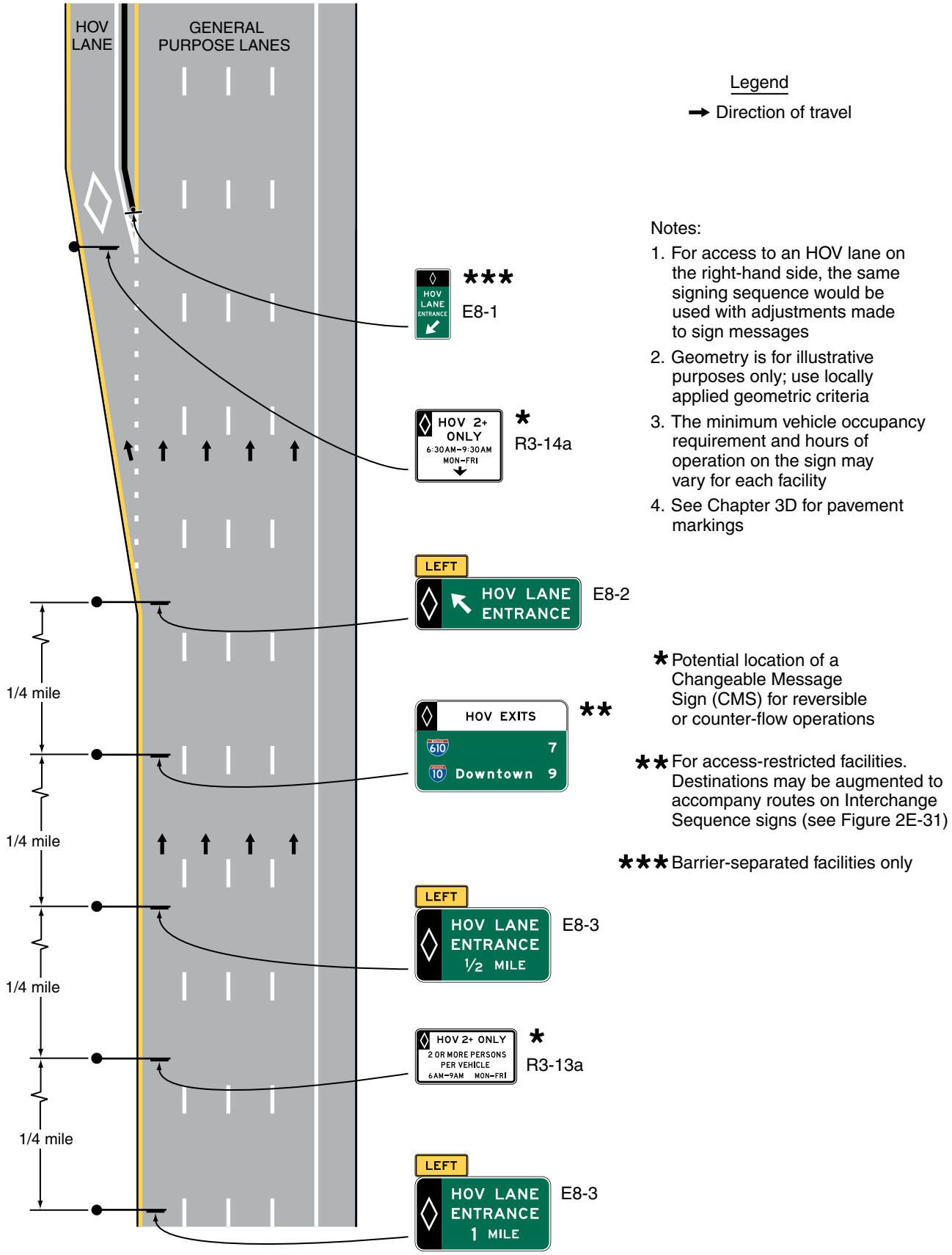
05 **Where lateral clearance is limited, Preferential Lane warning signs that are post-mounted on a median barrier and that are wider than 72 inches shall be mounted with a vertical clearance that complies with the provisions of Section 2A.18 for overhead mounting.**

Section 2G.09 High-Occupancy Vehicle (HOV) Plaque (W16-11P)

Option:

01 In situations where there is a need to warn drivers in an HOV lane of a specific condition, a HOV (W16-11P) plaque (see Figure 2G-4) may be used above a warning sign. The HOV plaque may be used to differentiate a warning sign specific for HOV lanes when the sign is also visible to traffic on the adjacent general-purpose roadway. Among the warning signs that may be possible applications of the HOV plaque are the Advisory Exit Speed, Added Lane, and Merge signs.

Figure 2G-8. Example of Signing for an Entrance to Access-Restricted HOV Lanes



Standard:

04 **The Advance Guide signs, if used for intermediate entry points to a preferential lane from the general-purpose lanes, shall be overhead.**

Option:

05 Advance Guide signs may be provided at approximately 1/2 mile, 1 mile, and 2 miles in advance of intermediate entry points from the general-purpose lanes to a preferential lane.

Standard:

06 **Advance Guide and Preferential Lane Entrance Direction signs for intermediate entry points shall not include the word "EXIT" (see Section 2G.10).**

Guidance:

07 *Exit Destination guide signs, identifying the final destination and downstream exit locations accessible from the preferential lane, should be installed in advance of intermediate entry points from the general-purpose lanes to access-restricted preferential lanes.*

Support:

08 Section 2G.11 contains information on the design and placement of Preferential Lane Exit Destination guide signs.

09 Figures 2G-9 and 2G-10 show examples of signs for various geometric configurations of intermediate entry to a barrier- or buffer-separated preferential lane where access is restricted to designated locations.

Section 2G.13 Guide Signs for Egress from Preferential Lanes to General-Purpose Lanes

Standard:

01 **For barrier-separated, buffer-separated, and contiguous preferential lanes where egress is restricted only to designated points, post-mounted Advance Guide and post-mounted Intermediate Egress Direction signs (see Figure 2G-11) shall be installed in the median or on median barriers that separate two directions of traffic prior to and at the intermediate exit points from the preferential lanes to the general-purpose lanes (see Figure 2G-9).**

02 **The legends of these signs shall refer to the next exit or exits from the general-purpose lanes by displaying the appropriate destination information, exit number(s), or both. The Intermediate Egress Direction signs for egress from the preferential lanes to the general-purpose lanes shall not refer to the egress as an exit.**

Support:

03 Section 2G.10 contains information on the design of post-mounted guide signs applicable to a preferential lane when installed on a median barrier. Figures 2G-9 and 2G-12 show examples of signs for various geometric configurations of intermediate egress from a barrier- or buffer-separated preferential lane where access is restricted to designated locations.

Guidance:

04 *Where two or more adjacent preferential lanes are present in a single direction, consideration should be given to the use of overhead guide signs to display the information related to egress from the preferential lanes.*

05 *For barrier-separated and buffer-separated preferential lanes where egress from a preferential lane to the general-purpose lanes is restricted only to designated points via a separate lane or ramp, the Advance Guide and Intermediate Egress Direction signs for the egress should be mounted overhead and a Pull-Through sign should be mounted with the Intermediate Egress Direction sign (see Figure 2G-12).*

Standard:

06 **For preferential lanes that incorporate a vehicle occupancy requirement, the design of the overhead Advance Guide and Egress Direction signs for intermediate egress from the preferential lanes to the general-purpose lanes shall display a white diamond symbol on a black background at the left-hand edge of the signs.**

07 **The design of Pull-Through signs when used in conjunction with an Egress Direction sign at an intermediate egress from the preferential lanes to the general-purpose lanes shall be distinguished from those applicable to general-purpose lanes by inclusion of an upper section with the applicable black legend on a white background, such as HOV LANE. For preferential lanes that incorporate a vehicle occupancy requirement, the white diamond symbol on a black background shall be displayed at the left-hand edge of this upper section.**

CHAPTER 2I. GENERAL SERVICE SIGNS

Section 2I.01 Sizes of General Service Signs

Standard:

01 **Except as provided in Section 2A.11, the sizes of General Service signs that have a standardized design shall be as shown in Table 2I-1.**

Support:

02 Section 2A.11 contains information regarding the applicability of the various columns in Table 2I-1.

Option:

03 Signs larger than those shown in Table 2I-1 may be used (see Section 2A.11).

Table 2I-1. General Service Sign and Plaque Sizes (Sheet 1 of 2)

Sign or Plaque	Sign Designation	Section	Conventional Road	Freeway or Expressway
Rest Area XX Miles	D5-1	2I.05	66 x 36*	96 x 54*
Rest Area Next Right	D5-1a	2I.05	78 x 36*	120 x 60* (F) 114 x 48* (E)
Rest Area (with arrow)	D5-2	2I.05	66 x 36*	96 x 54*
Rest Area Gore	D5-2a	2I.05	42 x 48*	78 x 78* (F) 66 x 72* (E)
Rest Area (with horizontal arrow)	D5-5	2I.05	42 x 48*	—
Next Rest Area XX Miles	D5-6	2I.05	60 x 48*	90 x 72*
Rest Area Tourist Info Center XX Miles	D5-7	2I.08	90 x 72*	114 x 102* (F) 132 x 96* (E)
Rest Area Tourist Info Center (with arrow)	D5-8	2I.08	84 x 72*	120 x 102* (F) 120 x 96* (E)
Rest Area Tourist Info Center Next Right	D5-11	2I.08	90 x 72*	144 x 102* (F) 132 x 96* (E)
Interstate Oasis	D5-12	2I.04	—	156 x 78
Interstate Oasis (plaque)	D5-12P	2I.04	—	114 x 48
Brake Check Area XX Miles	D5-13	2I.06	84 x 48	126 x 72
Brake Check Area (with arrow)	D5-14	2I.06	78 x 60	96 x 72
Chain-Up Area XX Miles	D5-15	2I.07	66 x 48	96 x 72
Chain-Up Area (with arrow)	D5-16	2I.07	72 x 54	96 x 66
Telephone	D9-1	2I.02	24 x 24	30 x 30
Hospital	D9-2	2I.02	24 x 24	30 x 30
Camping	D9-3	2I.02	24 x 24	30 x 30
Trailer Camping	D9-3a	2I.02	24 x 24	30 x 30
Litter Container	D9-4	2I.02	24 x 30	36 x 48
Handicapped	D9-6	2I.02	24 x 24	30 x 30
Van Accessible (plaque)	D9-6P	2I.02	18 x 9	—
Gas	D9-7	2I.02	24 x 24	30 x 30
Food	D9-8	2I.02	24 x 24	30 x 30
Lodging	D9-9	2I.02	24 x 24	30 x 30
Tourist Information	D9-10	2I.02	24 x 24	30 x 30
Diesel Fuel	D9-11	2I.02	24 x 24	30 x 30
Alternative Fuel - Compressed Natural Gas	D9-11a	2I.02	24 x 24	30 x 30
Electric Vehicle Charging	D9-11b	2I.02	24 x 24	30 x 30
Electric Vehicle Charging (plaque)	D9-11bP	2I.02	24 x 18	30 x 24
Alternative Fuel - Ethanol	D9-11c	2I.02	24 x 24	30 x 30
RV Sanitary Station	D9-12	2I.02	24 x 24	30 x 30
Emergency Medical Services	D9-13	2I.02	24 x 24	30 x 30

Table 2I-1. General Service Sign and Plaque Sizes (Sheet 2 of 2)

Sign or Plaque	Sign Designation	Section	Conventional Road	Freeway or Expressway
Hospital (plaque)	D9-13aP	2I.02	24 x 12	30 x 12
Ambulance Station (plaque)	D9-13bP	2I.02	24 x 12	30 x 15
Emergency Medical Care (plaque)	D9-13cP	2I.02	24 x 18	30 x 24
Trauma Center (plaque)	D9-13dP	2I.02	24 x 12	30 x 15
Police	D9-14	2I.02	24 x 24	30 x 30
Propane Gas	D9-15	2I.02	24 x 24	30 x 30
Truck Parking	D9-16	2I.02	24 x 24	30 x 30
Next Services XX Miles (plaque)	D9-17P	2I.02	102 x 24	156 x 30
General Services (up to 6 symbols)	D9-18	2I.03	—	96 x 60
General Services	D9-18a	2I.03	—	96 x 60
General Services (up to 6 symbols) with Action or Exit Information	D9-18b	2I.03	108 x 84	132 x 114 (F) 132 x 108 (E)
General Services with Action or Exit Information	D9-18c	2I.03	72 x 60**	132 x 108** (F) 108 x 84** (E)
Pharmacy	D9-20	2I.02	24 x 24	30 x 30
24-Hour (plaque)	D9-20aP	2I.02	24 x 12	30 x 12
Telecommunication Device for the Deaf	D9-21	2I.05	24 x 24	30 x 30
Wireless Internet	D9-22	2I.05	24 x 24	30 x 30
Weather Information	D12-1	2I.09	84 x 48	132 x 84
Carpool Information	D12-2	2I.11	60 x 42	96 x 66
Channel 9 Monitored	D12-3	2I.09	84 x 48	132 x 84
Emergency Call 911	D12-4	2I.09	66 x 30	96 x 48
Travel Info Call 511 (pictograph)	D12-5	2I.10	48 x 60	66 x 78
Travel Info Call 511	D12-5a	2I.10	48 x 36	66 x 48

* The size shown is for a sign with a REST AREA and/or TOURIST INFO CENTER legend. The size should be appropriately adjusted if an alternate legend is used.

** The size shown is for a sign with four lines of services. The size should be appropriately adjusted depending on the amount of legend displayed.

Notes: 1. Larger signs may be used when appropriate
2. Dimensions in inches are shown as width x height
3. Where two sizes are shown, the larger size is for freeways (F) and the smaller size is for expressways (E)

Section 2I.02 General Service Signs for Conventional Roads

Support:

01 On conventional roads, commercial services such as gas, food, and lodging generally are within sight and are available to the road user at reasonably frequent intervals along the route. Consequently, on this class of road there usually is no need for special signs calling attention to these services. Moreover, General Service signing is usually not required in urban areas except for hospitals, law enforcement assistance, tourist information centers, and camping.

Option:

02 General Service signs (see Figure 2I-1) may be used where such services are infrequent and are found only on an intersecting highway or crossroad.

Standard:

03 **All General Service signs and supplemental sign panels shall have white letters, symbols, arrows, and borders on a blue background.**

Guidance:

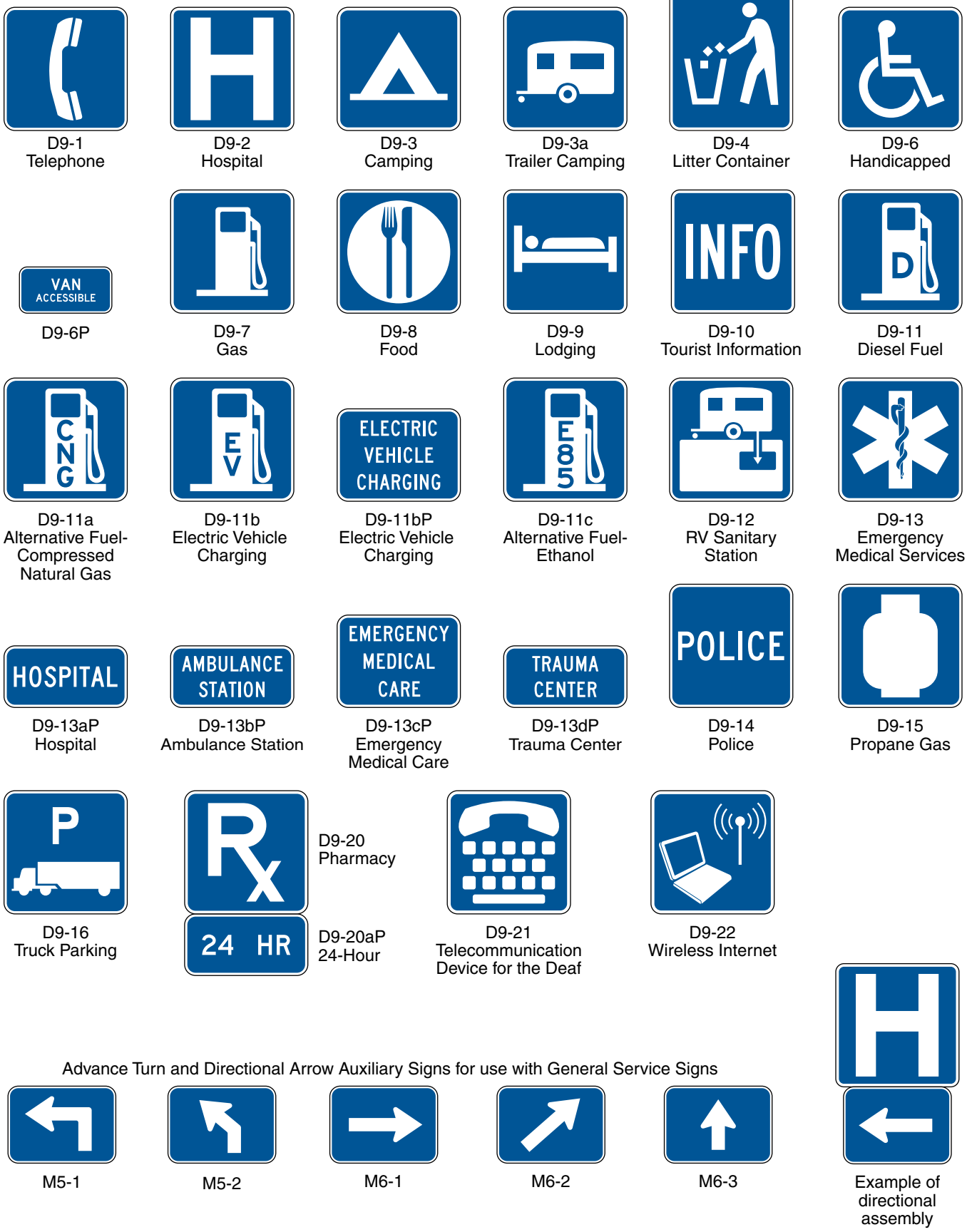
04 *General Service signs should be installed at a suitable distance in advance of the turn-off point or intersecting highway.*

05 *States that elect to provide General Service signing should establish a statewide policy or warrant for its use, and criteria for the availability of services. Local jurisdictions electing to use such signing should follow State policy for the sake of uniformity.*

Option:

06 Individual States may sign for whatever alternative fuels are available at appropriate locations.

Figure 2I-1. General Service Signs and Plaques



Standard:

07 **General Service signs, if used at intersections, shall be accompanied by a directional message.**

Option:

08 The Advance Turn (M5 series) or Directional Arrow (M6 series) auxiliary signs with white arrows on blue backgrounds as shown in Figure 2I-1 may be used with General Service symbol signs to create a General Service Directional Assembly.

09 The General Service sign legends may be either symbols or word messages.

Standard:

10 **Symbols and word message General Service legends shall not be intermixed on the same sign. The Pharmacy (D9-20) sign shall only be used to indicate the availability of a pharmacy that is open, with a State-licensed pharmacist present and on duty, 24 hours per day, 7 days per week, and that is located within 3 miles of an interchange on the Federal-aid system. The D9-20 sign shall have a 24 HR (D9-20aP) plaque mounted below it.**

Support:

11 Formats for displaying different combinations of these services are described in Section 2I.03.

Option:

12 If the distance to the next point at which services are available is 10 miles or more, a NEXT SERVICES XX MILES (D9-17P) plaque (see Figure 2I-2) may be installed below the General Service sign.

Figure 2I-2. Example of Next Services Plaque

D9-17P

13 The International Symbol of Accessibility for the Handicapped (D9-6) sign may be used beneath General Service signs where paved ramps and rest room facilities accessible to, and usable by, the physically handicapped are provided.

Guidance:

14 *When the D9-6 sign is used in accordance with Paragraph 13, and van-accessible parking is available at the facility, a VAN ACCESSIBLE (D9-6P) plaque (see Figure 2I-1) should be mounted below the D9-6 sign.*

Option:

15 The Recreational Vehicle Sanitary Station (D9-12) sign may be used as needed to indicate the availability of facilities designed for the use of dumping wastes from recreational vehicle holding tanks.

16 The Litter Container (D9-4) sign may be placed in advance of roadside turnouts or rest areas, unless it distracts the driver's attention from other more important regulatory, warning, or directional signs.

17 The Emergency Medical Services (D9-13) symbol sign may be used to identify medical service facilities that have been included in the Emergency Medical Services system under a signing policy developed by the State and/or local highway agency.

Standard:

18 **The Emergency Medical Services symbol sign shall not be used to identify services other than qualified hospitals, ambulance stations, and qualified free-standing emergency medical treatment centers. If used, the Emergency Medical Services symbol sign shall be supplemented by a sign identifying the type of service provided.**

Option:

19 The Emergency Medical Services symbol sign may be used above the HOSPITAL (D9-13aP) plaque or Hospital (D9-2) symbol plaque or above a plaque with the legend AMBULANCE STATION (D9-13bP), EMERGENCY MEDICAL CARE (D9-13cP), or TRAUMA CENTER (D9-13dP). The Emergency Medical Services symbol sign may also be used to supplement Telephone (D9-1), Channel 9 Monitored (D12-3), or POLICE (D9-14) signs.

Standard:

20 **The legend EMERGENCY MEDICAL CARE shall not be used for services other than qualified free-standing emergency medical treatment centers.**

Guidance:

21 *Each State should develop guidelines for the implementation of the Emergency Medical Services symbol sign.*

Standard:

03 **Tourist Information or Welcome Center signs (see Figure 2I-7) shall have a white legend and border on a blue background. Continuously staffed or unstaffed operation at least 8 hours per day, 7 days per week, shall be required.**

04 **If operated only on a seasonal basis, the Tourist Information or Welcome Center signs shall be removed or covered during the off seasons.**

Guidance:

05 *For freeway or expressway rest area locations that also serve as tourist information or welcome centers, the following signing criteria should be used:*

A. The locations for tourist information and welcome center Advance Guide, Exit Direction, and Exit Gore signs should meet the General Service signing requirements described in Section 2I.03.

B. If the signing for the tourist information or welcome center is to be accomplished in conjunction with the initial signing for the rest areas, the message on the Advance Guide (D5-7) sign should be REST AREA, TOURIST INFO CENTER, XX MILES or REST AREA, STATE NAME (optional), WELCOME CENTER XX MILES. On the Exit Direction (D5-8 or D5-11) sign the message should be REST AREA, TOURIST INFO CENTER with a diagonally upward-pointing directional arrow (or NEXT RIGHT), or REST AREA, STATE NAME (optional), WELCOME CENTER with a diagonally upward-pointing directional arrow (or NEXT RIGHT).

C. If the initial rest area Advance Guide and Exit Direction signing is in place, these signs should include, on supplemental signs, the legend TOURIST INFO CENTER or STATE NAME (optional), WELCOME CENTER.

D. The Exit Gore sign should contain only the legend REST AREA with the arrow and should not be supplemented with any legend pertaining to the tourist information center or welcome center.

Option:

06 An alternative to the supplemental TOURIST INFO CENTER legend is the Tourist Information (D9-10) sign (see Figure 2I-1), which may be appended beneath the REST AREA advance guide sign.

07 The name of the State or local jurisdiction may appear on the Advance Guide and Exit Direction tourist information/welcome center signs if the jurisdiction controls the operation of the tourist information or welcome center and the center meets the operating criteria set forth in this Manual and is consistent with State policies.

Guidance:

08 *For tourist information centers that are located off the freeway or expressway facility, additional signing criteria should be as follows:*

A. Each State should adopt a policy establishing the maximum distance that a tourist information center can be located from the interchange in order to be included on official signs.

B. The location of signing should be in accordance with requirements pertaining to General Service signing (see Section 2I.03).

C. Signing along the crossroad should be installed to guide the road user from the interchange to the tourist information center and back to the interchange.

Option:

09 As an alternative, the Tourist Information (D9-10) sign (see Figure 2I-1) may be appended to the guide signs for the exit that provides access to the tourist information center. As a second alternative, the Tourist Information sign may be combined with General Service signing.

Figure 2I-7. Examples of Tourist Information and Welcome Center Signs

D5-7 D5-8 D5-11

Note: Alternate legends may be substituted for the TOURIST INFO CENTER legend, such as WELCOME CENTER and (State Name) WELCOME CENTER.

Section 2I.09 Radio Information Signing

Option:

01 Radio-Weather Information (D12-1) signs (see Figure 2I-8) may be used in areas where difficult driving conditions commonly result from weather systems. Radio-Traffic Information signs may be used in conjunction with traffic management systems.

Standard:

02 **Radio-Weather and Radio-Traffic Information signs shall have a white legend and border on a blue background. Only the numerical indication of the radio frequency shall be used to identify a station broadcasting travel-related weather or traffic information. No more than three frequencies shall be displayed on each sign. Only radio stations whose signal will be of value to the road user and who agree to broadcast either of the following two items shall be identified on Radio-Weather and Radio-Traffic Information signs:**

- **A. Periodic weather warnings at a rate of at least once every 15 minutes during periods of adverse weather; or**
- **B. Driving condition information (affecting the roadway being traveled) at a rate of at least once every 15 minutes, or when required, during periods of adverse traffic conditions, and when supplied by an official agency having jurisdiction.**

Figure 2I-8. Radio, Telephone, and Carpool Information Signs

D12-1

D12-2

D12-3

D12-4

* The pictograph of the transportation agency or the travel information service or program may be used in place of the 511 pictograph (see Section 2I.10)

D12-5*

D12-5a

07 **Except as provided in Paragraph 8, firefighters or other emergency responders working within the right-of-way shall wear high-visibility safety apparel as described in this Section.**

Option:

08 Firefighters or other emergency responders working within the right-of-way and engaged in emergency operations that directly expose them to flame, fire, heat, and/or hazardous materials may wear retroreflective turn-out gear that is specified and regulated by other organizations, such as the National Fire Protection Association.

09 The following are additional elements of TTC management that may be considered to improve worker safety:

A. Shadow Vehicle—in the case of mobile and constantly moving operations, such as pothole patching and striping operations, a shadow vehicle, equipped with appropriate lights and warning signs, may be used to protect the workers from impacts by errant vehicles. The shadow vehicle may be equipped with a rear-mounted impact attenuator.
B. Road Closure—if alternate routes are available to handle road users, the road may be closed temporarily. This may also facilitate project completion and thus further reduce worker vulnerability.
C. Law Enforcement Use—in highly vulnerable work situations, particularly those of relatively short duration, law enforcement units may be stationed to heighten the awareness of passing vehicular traffic and to improve safety through the TTC zone.
D. Lighting—for nighttime work, the TTC zone and approaches may be lighted.
E. Special Devices—these include rumble strips, changeable message signs, hazard identification beacons, flags, and warning lights. Intrusion warning devices may be used to alert workers to the approach of errant vehicles.

Standard:

09A **Where nighttime work is performed the work location shall be lighted per MIOHSA General Rule R408.40133.**

Support:

10 Judicious use of the special devices described in Item E in Paragraph 9 might be helpful for certain difficult TTC situations, but misuse or overuse of special devices or techniques might lessen their effectiveness.

CHAPTER 6E. TRAFFIC REGULATOR CONTROL

Section 6E.01 Qualifications for Traffic Regulators

Guidance:

01 *Because traffic regulators are responsible for public safety and make the greatest number of contacts with the public of all highway workers, they should be trained in safe traffic control practices and public contact techniques. Traffic regulators should be able to satisfactorily demonstrate the following abilities:*

A. Ability to receive and communicate specific instructions clearly, firmly, and courteously;
B. Ability to move and maneuver quickly in order to avoid danger from errant vehicles;
C. Ability to control signaling devices (such as paddles and flags) in order to provide clear and positive guidance to drivers approaching a TTC zone in frequently changing situations;
D. Ability to understand and apply safe traffic control practices, sometimes in stressful or emergency situations; and
E. Ability to recognize dangerous traffic situations and warn workers in sufficient time to avoid injury.

Section 6E.02 High-Visibility Safety Apparel

Standard:

01 **For daytime and nighttime activity, traffic regulators shall wear high-visibility safety apparel that meets the Performance Class 2 or 3 requirements of the ANSI/ISEA 107–2004 publication entitled "American National Standard for High-Visibility Apparel and Headwear" (see Section 1A.11) and labeled as meeting the ANSI 107-2004 standard performance for Class 2 or 3 risk exposure. The apparel background (outer) material color shall be fluorescent orange-red, fluorescent yellow-green, or a combination of the two as defined in the ANSI standard. The retroreflective material shall be orange, yellow, white, silver,**
yellow-green, or a fluorescent version of these colors, and shall be visible at a minimum distance of 1,000 feet. The retroreflective safety apparel shall be designed to clearly identify the wearer as a person.

Guidance:

02 *For nighttime activity, high-visibility safety apparel that meets the Performance Class 3 requirements of the ANSI/ISEA 107–2004 publication entitled "American National Standard for High-Visibility Apparel and Headwear" (see Section 1A.11) and labeled as meeting the ANSI 107-2004 standard performance for Class 3 risk exposure should be considered for traffic regulator wear.*

Standard:

03 **When uniformed law enforcement officers are used to direct traffic within a TTC zone, they shall wear high-visibility safety apparel as described in this Section.**

Option:

04 In lieu of ANSI/ISEA 107-2004 apparel, law enforcement personnel within the TTC zone may wear high-visibility safety apparel that meets the performance requirements of the ANSI/ISEA 207-2006 publication entitled "American National Standard for High-Visibility Public Safety Vests" (see Section 1A.11) and labeled as ANSI 207-2006.

Section 6E.03 Hand-Signaling Devices

Standard:

01 **The STOP/SLOW paddle shall be the primary and preferred hand-signaling device because the STOP/SLOW paddle gives road users more positive guidance than red flags.**

Guidance:

01A *Use of flags should be limited to emergency situations.*

Support:

01B Additional information and a detailed outline of the traffic regulator procedures and conduct is contained in the Michigan Department of Transportation "Traffic Regulators Instruction Manual.

Standard:

02 **The STOP/SLOW (R1-1a) paddle shall have an octagonal shape on a rigid handle. STOP/SLOW (R1-1a) paddles shall be at least 18 inches wide with letters at least 6 inches high. The STOP (R1-1) face shall have white letters and a white border on a red background. The SLOW (W20-8) face shall have black letters and a black border on an orange background. When used at night, the STOP/SLOW (R1-1a) paddle shall be retroreflectorized. The STOP/SLOW (R1-1a) paddle shall be placed on a rigid staff that is tall enough (minimum 72 inches to the bottom of the sign) that when the end of the staff is resting on the ground, the message is high enough to be seen by approaching or stopped traffic.**

Standard:

08 **When standard orange flags or flashing warning lights are used in conjunction with signs, they shall not block the sign face.**

09 **Except as provided in Section 2A.11, the sizes for TTC signs and plaques shall be as shown in Table 6F-1. The sizes in the minimum column shall only be used on local streets or roadways where the 85th-percentile speed or posted speed limit is less than 35 mph.**

Option:

10 The dimensions of signs and plaques shown in Table 6F-1 may be increased wherever necessary for greater legibility or emphasis.

Standard:

11 **Deviations from standard sizes as prescribed in this Manual shall be in 6-inch increments.**

Support:

12 Sign design details are contained in the "Standard Highway Signs and Markings" book (see Section 1A.11).

13 Section 2A.06 contains additional information regarding the design of signs, including an Option allowing the development of special word message signs if a standard word message or symbol sign is not available to convey the necessary regulatory, warning, or guidance information.

Standard:

14 **All signs used at night shall be either retroreflective with a material that has a smooth, sealed outer surface or illuminated to show the same shape and similar color both day and night.**

15 **The requirement for sign illumination shall not be considered to be satisfied by street, highway, or strobe lighting.**

Option:

16 Sign illumination may be either internal or external.

17 Signs may be made of rigid or flexible material.

Section 6F.03 Sign Placement

Guidance:

01 *Signs should be located on the right-hand side of the roadway unless otherwise provided in this Manual.*

Option:

02 Where special emphasis is needed, signs may be placed on both the left-hand and right-hand sides of the roadway. Signs mounted on portable supports may be placed within the roadway itself. Signs may also be mounted on or above barricades.

Support:

03 The provisions of this Section regarding mounting height apply unless otherwise provided for a particular sign elsewhere in this Manual.

Standard:

04 **For post mounted signs the minimum height, measured vertically from the bottom of the sign to the elevation of the near edge of the pavement, of signs installed at the side of the road in rural areas shall be 5 feet (see Figure 6F-1).**

05 **For post mounted signs the minimum height, measured vertically from the bottom of the sign to the top of the curb, or in the absence of curb, measured vertically from the bottom of the sign to the elevation of the near edge of the traveled way, of signs installed at the side of the road in business, commercial, or residential areas where parking or pedestrian movements are likely to occur, or where the view of the sign might be obstructed, shall be 7 feet (see Figure 6F-1).**

06 **For post mounted signs the minimum height, measured vertically from the bottom of the sign to the sidewalk, of signs installed above sidewalks shall be 7 feet.**

Option:

07 The height to the bottom of a secondary sign mounted below another sign may be 1 foot less than the height provided in Paragraphs 4 through 6.

Guidance:

08 *Sign supports should not be located on sidewalks, bicycle facilities, or areas designated for pedestrian or bicycle traffic. If the bottom of a secondary sign that is mounted below another sign is mounted lower than 7 feet above a pedestrian sidewalk or pathway (see Section 6D.02), the secondary sign should not project more than 4 inches into the pedestrian facility.*

Table 6F-1. Temporary Traffic Control Zone Sign and Plaque Sizes (Sheet 1 of 3)

Sign or Plaque	Sign Designation	Section	Conventional Road	Freeway or Expressway	Minimum
Stop	R1-1	6F.06	30 x 30*	—	—
Stop (on Stop/Slow Paddle)	R1-1a	6E.03	18 x 18	—	—
Yield	R1-2	6F.06	36 x 36 x 36*	—	30 x 30 x 30
To Oncoming Traffic (plaque)	R1-2aP	6F.06	36 x 30	48 x 36	24 x 18
Wait on Stop	R1-7	6E.05	24 x 30	24 x 30	—
Go on Slow	R1-8	6E.05	24 x 30	24 x 30	—
Speed Limit	R2-1	6F.12	24 x 30*	36 x 48	—
Fines Higher (plaque)	R2-6P	6F.12	24 x 18	36 x 24	—
Fines Double (plaque)	R2-6aP	6F.12	24 x 18	36 x 24	—
$XX Fine (plaque)	R2-6bP	6F.12	24 x 18	36 x 24	—
Begin Higher Fines Zone	R2-10	6F.12	24 x 30	36 x 48	—
End Higher Fines Zone	R2-11	6F.12	24 x 30	36 x 48	—
End Work Zone Speed Limit	R2-12	6F.12	24 x 36	36 x 54	—
Movement Prohibition	R3-1,2,3,4,18,27	6F.06	24 x 24*	36 x 36	—
Mandatory Movement (1 lane)	R3-5	6F.06	30 x 36	—	—
Optional Movement (1 lane)	R3-6	6F.06	30 x 36	—	—
Right (Left) Lane Must Turn Right (Left)	R3-7	6F.06	30 x 30*	—	—
Advance Intersection Lane Control	R3-8	6F.06	Varies x 30	—	—
Do Not Pass	R4-1	6F.06	24 x 30	36 x 48	—
Pass With Care	R4-2	6F.06	24 x 30	36 x 48	—
Keep Right	R4-7	6F.06	24 x 30	36 x 48	—
Narrow Keep Right	R4-7c	6F.06	18 x 30	—	—
Stay in Lane	R4-9	6F.11	24 x 30	36 x 48	—
Do Not Enter	R5-1	6F.06	30 x 30*	36 x 36	—
Wrong Way	R5-1a	6F.06	36 x 24*	42 x 30	—
One Way	R6-1	6F.06	36 x 12*	54 x 18	—
One Way	R6-2	6F.06	24 x 30*	36 x 48	—
No Parking (symbol)	R8-3	6F.06	24 x 24	36 x 36	—
Pedestrian Crosswalk	R9-8	6F.13	36 x 18	—	—
Sidewalk Closed	R9-9	6F.14	24 x 12	—	—
Sidewalk Closed, Use Other Side	R9-10	6F.14	24 x 12	—	—
Sidewalk Closed Ahead, Cross Here	R9-11	6F.14	24 x 18	—	—
Sidewalk Closed, Cross Here	R9-11a	6F.14	24 x 12	—	—
Road Closed	R11-2	6F.08	48 x 30	—	—
Road Closed - Local Traffic Only	R11-3a,3b,4	6F.09	60 x 30	—	—
Weight Limit	R12-1,2	6F.10	24 x 30	36 x 48	—
Weight Limit (with symbols)	R12-5	6F.10	24 x 36	36 x 48	—
Turn and Curve Signs	W1-1,2,3,4	6F.16	36 x 36	48 x 48	30 x 30
Reverse Curve (2 or more lanes)	W1-4b,4c	6F.48	36 x 36	48 x 48	30 x 30
One-Direction Large Arrow	W1-6	6F.16	48 x 24	60 x 30	—
Chevron Alignment	W1-8	6F.16	18 x 24	30 x 36	—
Stop Ahead	W3-1	6F.16	36 x 36	48 x 48	30 x 30
Yield Ahead	W3-2	6F.16	36 x 36	48 x 48	30 x 30
Signal Ahead	W3-3	6F.16	36 x 36	48 x 48	30 x 30
Be Prepared to Stop	W3-4	6F.16	36 x 36	48 x 48	30 x 30
Reduced Speed Limit Ahead	W3-5	6F.16	36 x 36	48 x 48	30 x 30

Figure 6F-4. Warning Signs and Plaques in Temporary Traffic Control Zones
(Sheet 2 of 3)

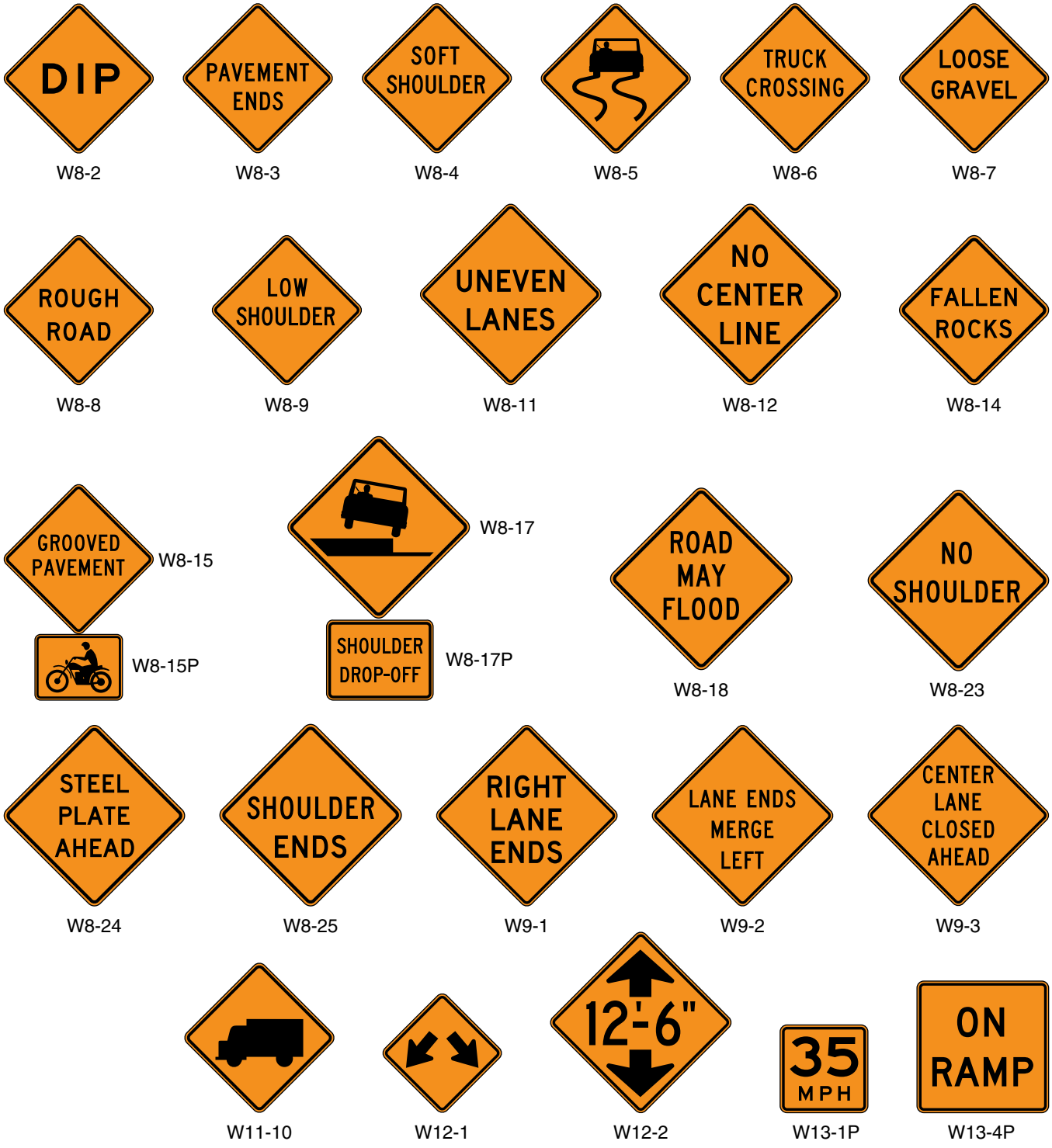
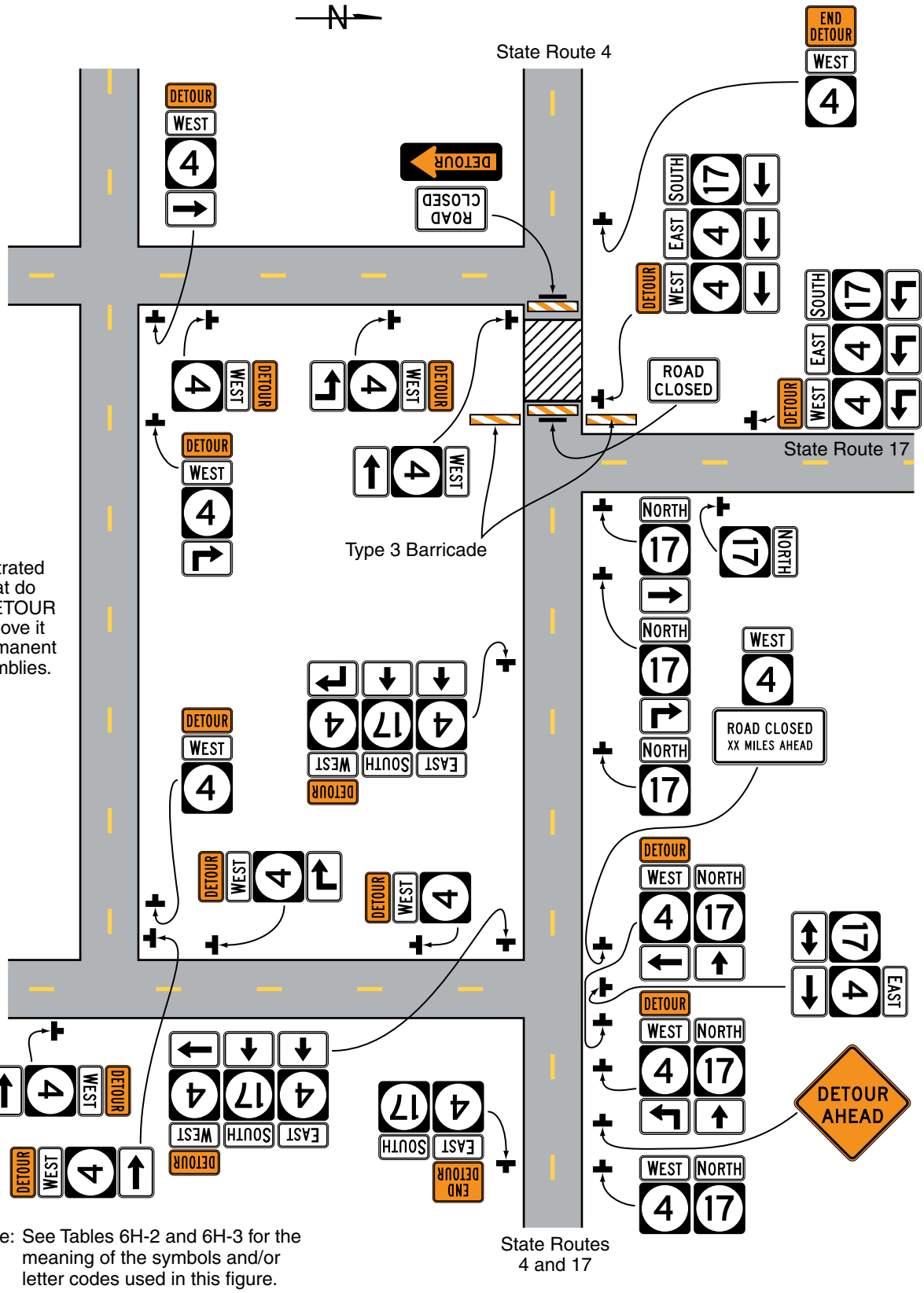


Figure 6F-4. Warning Signs and Plaques in Temporary Traffic Control Zones (Sheet 3 of 3)

* An optional STREET WORK word message sign is shown in the “Standard Highway Signs and Markings” book.
** An optional STREET CLOSED word message sign is shown in the “Standard Highway Signs and Markings” book.
**** An optional FRESH TAR word message sign is show in the “Standard Highway Signs and Markings” book.

Figure 6H-9. Overlapping Routes with a Detour (TA-9)



Note:
All route sign assemblies illustrated on this figure that do not include a DETOUR auxiliary sign above it are existing permanent route sign assemblies.

Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

Typical Application 9

Notes for Figure 6H-10—Typical Application 10
Lane Closure on a Two-Lane Road Using Traffic Regulators

Option:

1. For low-volume situations with short work zones on straight roadways where the traffic regulator is visible to road users approaching from both directions, a single traffic regulator, positioned to be visible to road users approaching from both directions, may be used (see Chapter 6E).
2. The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short-duration operations.
3. Flashing warning lights and/or flags may be used to call attention to the advance warning signs. A BE PREPARED TO STOP sign may be added to the sign series.

Guidance:

4. *The buffer space should be extended so that the two-way traffic taper is placed before a horizontal (or crest vertical) curve to provide adequate sight distance for the traffic regulator and a queue of stopped vehicles.*

Standard:

5. **At night, traffic regulator stations shall be illuminated, except in emergencies.**

Guidance:

6. *When used, the BE PREPARED TO STOP sign should be located after the Traffic Regulator sign.*
7. *When a grade crossing exists within or upstream of the transition area and it is anticipated that queues resulting from the lane closure might extend through the grade crossing, the TTC zone should be extended so that the transition area precedes the grade crossing.*
8. *When a grade crossing equipped with active warning devices exists within the activity area, provisions should be made for keeping traffic regulators informed as to the activation status of these warning devices.*
9. *When a grade crossing exists within the activity area, drivers operating on the left-hand side of the normal center line should be provided with comparable warning devices as for drivers operating on the right-hand side of the normal center line.*
10. *Early coordination with the railroad company or light rail transit agency should occur before work starts.*

Option:

11. A traffic regulator or a uniformed law enforcement officer may be used at the grade crossing to minimize the probability that vehicles are stopped within 15 feet of the grade crossing, measured from both sides of the outside rails.

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

Sign or Plaque	Sign Designation	Section	Shared-Use Path	Roadway
Stop	R1-1	2B.05, 9B.03	18 x 18	30 x 30
Yield	R1-2	2B.08, 9B.03	18 x 18 x 18	30 x 30 x 30
Bike Lane	R3-17	9B.04	—	24 x 18
Bike Lane (plaques)	R3-17aP, R3-17bP	9B.04	—	24 x 8
Movement Restriction	R4-1,2,3,7,16	2B.28,29,30,32; 9B.14	12 x 18	18 x 24
Begin Right Turn Lane Yield to Bikes	R4-4	9B.05	—	36 x 30
Bicycle Wrong Way	R5-1b	9B.07	12 x 18	12 x 18
No Motor Vehicles	R5-3	9B.08	24 x 24	24 x 24
No Bicycles	R5-6	9B.09	18 x 18	24 x 24
No Parking Bike Lane	R7-9,9a	9B.10	—	12 x 18
No Pedestrians	R9-3	9B.09	18 x 18	18 x 18
Ride With Traffic (plaque)	R9-3cP	9B.07	12 x 12	12 x 12
Bicycle Regulatory	R9-5,6	9B.11	12 x 18	12 x 18
Shared-Use Path Restriction	R9-7	9B.12	12 x 18	—
No Skaters	R9-13	9B.09	18 x 18	18 x 18
No Equestrians	R9-14	9B.09	18 x 18	18 x 18
Push Button for Green Light	R10-4	9B.11	9 x 12	9 x 12
To Request Green Wait on Symbol	R10-22	9B.13	12 x 18	12 x 18
Bike Push Button for Green Light	R10-24	9B.11	9 x 15	9 x 15
Push Button to Turn On Warning Lights	R10-25	9B.11	9 x 12	9 x 12
Bike Push Button for Green Light (arrow)	R10-26	9B.11	9 x 15	9 x 15
Grade Crossing (Crossbuck)	R15-1	8B.03, 9B.14	24 x 4.5	48 x 9
Number of Tracks (plaque)	R15-2P	8B.03, 9B.14	13.5 x 9	27 x 18
Look	R15-8	8B.17, 9B.14	18 x 9	36 x 18
Horizontal Alignment	W1-1,2,3,4,5	2C.04, 9B.15	18 x 18	24 x 24
Arrow Warning	W1-6,7	2C.12, 2C.47, 9B.15	24 x 12	36 x 18
Intersection Warning	W2-1,2,3,4,5	2C.46, 9B.16	18 x 18	24 x 24
Stop,Yield, Signal Ahead	W3-1,2,3	2C.36, 9B.19	18 x 18	30 x 30
Narrow Bridge	W5-2	2C.20, 9B.19	18 x 18	30 x 30
Path Narrows	W5-4a	9B.19	18 x 18	—
Hill	W7-5	9B.19	18 x 18	30 x 30
Bump or Dip	W8-1,2	2C.28, 9B.17	18 x 18	24 x 24
Pavement Ends	W8-3	2C.30, 9B.17	18 x 18	30 x 30
Bicycle Surface Condition	W8-10	9B.17	18 x 18	30 x 30
Slippery When Wet (plaque)	W8-10P	9B.17	12 x 9	12 x 9
Grade Crossing Advance Warning	W10-1	8B.06, 9B.19	24 Dia.	36 Dia.
No Train Horn (plaque)	W10-9P	8B.21, 9B.19	18 x 12	30 x 24
Skewed Crossing	W10-12	8B.25, 9B.19	18 x 18	36 x 36
Bicycle Warning	W11-1	9B.18	18 x 18	24 x 24
Pedestrian Crossing	W11-2	2C.50, 9B.19	18 x 18	24 x 24
Combination Bike and Ped Crossing	W11-15	9B.18	18 x 18	30 x 30
Trail Crossing (plaque)	W11-15P	9B.18	18 x 12	24 x 18
Low Clearance	W12-2	2C.27, 9B.19	18 x 18	30 x 30
Playground	W15-1	2C.51, 9B.19	18 x 18	24 x 24
Share the Road (plaque)	W16-1P	2C.60, 9B.19	—	18 x 24

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

Sign or Plaque	Sign Designation	Section	Shared-Use Path	Roadway
XX Feet (plaque)	W16-2P	2C.55, 9B.18	18 x 12	24 x 18
XX Ft (plaque)	W16-2aP	2C.55, 9B.18	18 x 9	24 x 12
Diagonal Arrow (plaque)	W16-7P	9B.18	—	24 x 12
Ahead (plaque)	W16-9P	9B.18	—	24 x 12
Destination (1 line)	D1-1, D1-1a	2D.37, 9B.20	varies x 6	varies x 18
Bicycle Destination (1 line)	D1-1b, D1-1c	9B.20	varies x 6	varies x 6
Destination (2 lines)	D1-2, D1-2a	2D.37, 9B.20	varies x 12	varies x 30
Bicycle Destination (2 lines)	D1-2b, D1-2c	9B.20	varies x 12	varies x 12
Destination (3 lines)	D1-3, D1-3a	2D.37, 9B.20	varies x 18	varies x 42
Bicycle Destination (3 lines)	D1-3b, D1-3c	9B.20	varies x 18	varies x 18
Street Name	D3-1	2D.43, 9B.20	varies x 6	varies x 8
Bicycle Parking Area	D4-3	9B.23	12 x 18	12 x 18
Reference Location (1-digit)	D10-1	2H.02, 9B.24	6 x 12	10 x 18
Intermediate Reference Location (2-digit)	D10-1a	2H.02, 9B.24	6 x 18	10 x 27
Reference Location (2-digit)	D10-2	2H.02, 9B.24	6 x 18	10 x 27
Intermediate Reference Location (3-digit)	D10-2a	2H.02, 9B.24	6 x 24	10 x 36
Reference Location (3-digit)	D10-3	2H.02, 9B.24	6 x 24	10 x 36
Intermediate Reference Location (4-digit)	D10-3a	2H.02, 9B.24	6 x 30	10 x 48
Bike Route	D11-1, D11-1c	9B.20	24 x 18	24 x 18
Bicycles Permitted	D11-1a	9B.25	18 x 18	—
Bike Route (plaque)	D11-1bP	9B.25	18 x 6	—
Pedestrians Permitted	D11-2	9B.25	18 x 18	—
Skaters Permitted	D11-3	9B.25	18 x 18	—
Equestrians Permitted	D11-4	9B.25	18 x 18	—
Bicycle Route	M1-8, M1-8a	9B.21	12 x 18	18 x 24
U.S. Bicycle Route	M1-9	9B.21	12 x 18	18 x 24
Bicycle Route Auxiliary Signs	M2-1; M3-1,2,3,4; M4-1,1a,2,3,5,6,7,7a,8,14	9B.22	12 x 6	12 x 6
Bicycle Route Arrow Signs	M5-1,2; M6-1,2,3,4,5,6,7	9B.22	12 x 9	12 x 9
Type 3 Object Markers	OM3-L,C,R	2C.63, 9B.26	6 x 18	12 x 36

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

Guidance:

04 *Except for size, the design of signs and plaques for bicycle facilities should be identical to that provided in this Manual for signs and plaques for streets and highways.*

Support:

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

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

Standard:

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

02 **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.**