MASS INTERCHANGE

Volume 24, Number 3 Summer 2010

2009 REVISIONS TO MUTCD

This issue will identify some revisions to help you get started, but check the web site for all changes:
http://mutcd.fhwa.dot.gov/kno_2009.htm

ORGANIZATION

All definitions now appear in Part 1 (Section 1A.13) and not in other parts. Approximately 70 NEW DEFINITIONS have been added and 35 EXISTING DEFINITIONS have been revised. You will also find that meanings of text headings (Standard, Guidance, Option, Support) have been relocated and clarified in this section. Metric values have been removed from the text, figures, and tables thus all dimensions and distances are provided in English units. Many sections have been "relocated" to other existing or new chapters. The Final Rule was published in the Federal Register on December 16, 2009.

SIGN COLORS

Optional use of fluorescent colors including fluorescent red

Added purple for panels and plaques for electronic toll collection registration requirements

Removed yellow for school area signs

Required fluorescent yellow-green for school area signs

Optional use of fluorescent yellow-green color for pedestrian and bicycle application signs.

LEDs ON SIGNS

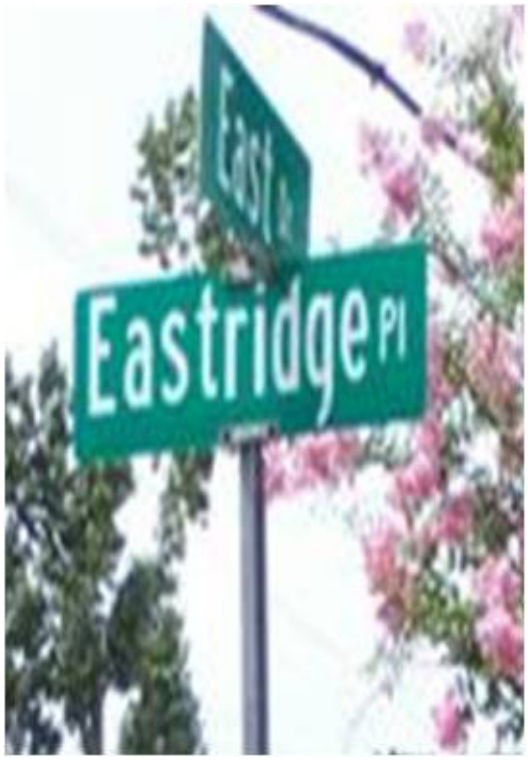
Optional for individual use within the border, or within the legend or symbol

Shall not be placed within background of a sign

Shall not be grouped as a "de-facto" beacon

For STOP or YIELD signs, LEDs may be placed within one border width from border.

Street Name Signs



A NEW requirement is added to expand and limit the only acceptable alternatives to green for the background color of Street Name signs to blue, brown, or white to eliminate a wide variation in practice among jurisdictions. The white background is only allowed with a black legend.

A NEW OPTION is also added allowing the border to be omitted as is common practice for post-mounted street name signs.

Sometimes inappropriate colors are being used because these are colors reserved for other traffic control device messages, or the colors used have poor contrast ratio between legend and background. The alternatives allow flexibility for communities in more densely developed areas to distinguish among themselves, providing additional navigational cues to road users.

There is a NEW table for letter heights on Street Name signs. See Table 2D-2 for recommended minimum sizes based on the mounting type, road classification, and speed limit.

Some Word Message Signs Are Deleted

The HILL, DIVIDED HIGHWAY, DIVIDED ROAD, DIVIDED HIGHWAY ENDS, DIVIDED ROAD ENDS, STOP AHEAD, YIELD AHEAD, AND SIGNAL AHEAD word signs are DELETED fron the *MUTCD* because symbol signs have been in use for more than 35 years and word signs have become obsolete.

Community Wayfinding Guide Signs

NEW provisions are added regarding the use of community wayfinding guide signs to direct road users to key local civic, cultural, visitor, and recreational sites and to other destinations within a city or a local urbanized or downtown area. Specific provisions regarding such design elements as background and legend colors, arrow placement, number of destinations, and general placement are included.

Regulatory Signs, Barricades & Gates

Larger sizes for certain signs on multi-lane roads with speed limits of 40 mph or more will enhance a driver's recognition.

Larger sizes for STOP signs for multi-lane roads require:

36" for any STOP sign facing a multi-lane approach,

36" for any multi-lane side road approach to a multi-lane road, and

36" for any side road approach to a multi-lane road with a speed limit of 45 mph or higher.

New guidance on factors to be considered when establishing intersection right-of-way control is based upon:

* Vehicular, bicycle & pedestrian volumes
* Number & angle of approaches
* Approach speeds
* Sight distance
* Reported crash performance.

The use of 2-WAY, 3-WAY, and 4-WAY plaques is PROHIBITED. ALL-WAY plaque remains as a "shall" if STOP signs are used on all approaches.

PROHIBITED

There is a NEW plaque that MAY be used with STOP signs under special conditions.

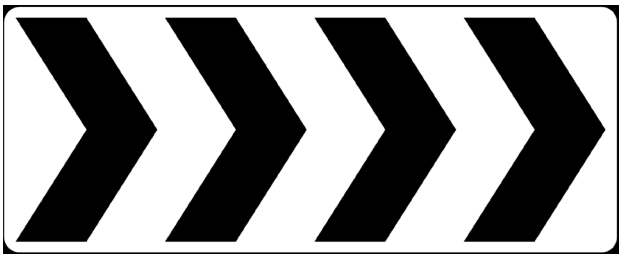
W16-15P

Signs on the back of STOP/YIELD signs and stickers and other messages on STOP/YIELD signs and posts cannot obscure the shape of a STOP or YIELD sign. For signs mounted back-to-back, STOP or YIELD signs should stay within the edges. Placing two STOP or YIELD signs on the same post for emphasis is now PROHIBITED.

INCORRECT INSTALLATION

A NEW NO STRAIGHT THROUGH symbolic sign is added using the Canadian standard symbol. The sign is useful at four-legged intersections where the through movement to be prohibited is onto a road that does not have a "Do Not Enter" condition.

And don't forget those roundabouts where NEW roundabout directional arrows should be installed on central islands and roundabout circulaton signs used as drivers approach (at mini-roundabouts combine these with a YIELD sign). Chevron signs may be mounted at a 4 foot height.



A NEW table below recommends spacing of chevron signs.

Advisory Speed (mph)	Curve Radius (feet)	Sign Spacing (feet)
15 or less	Less than 200	40
20 to 30	200 to 400	80
35 to 45	401 to 700	120
50 to 60	701 to 1,250	160
More than 60	More than 1,250	200

There are NEW optional signs for enforcement of start of turn lanes -- R3-20L and R3-20R indicate when a left or right turn lane begins. The two NEW plaques below may be mounted with regulatory signs.

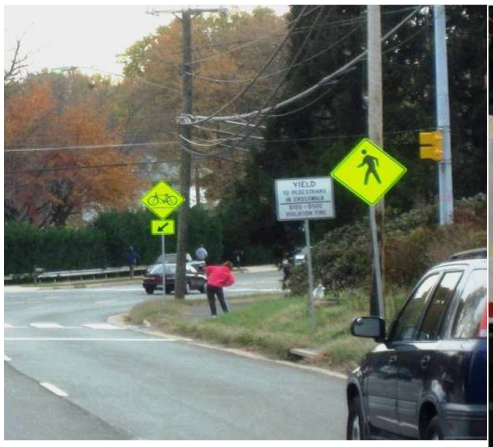
Pedestrians and Shoulders

Directions for pedestrians have been improved with overhead crossing signs R1-9 and R1-9a illustrated below. Follow regulations of in-street pedestrian crossing signs for placement locations. Backgrounds may be fluorescent yellow or yellow-green. Remember that supports for in-street crossing signs must be designed to bend over and bounce back when struck.

A NEW Combined Bicycle/Pedestrian sign and a NEW TRAIL X-ING supplemental plaque are added to provide warning of a shared-use path crossing that is used by both bicyclists and pedestrians. Under the provisions of the 2003 *MUTCD*, as shown in the lefthand photo, agencies needed to use both a pedestrian crossing signal and a bicycle crossing sign. This NEW sign combines both messages onto a single sign.

R1-6

R1-6a



W11-15
W11-15P

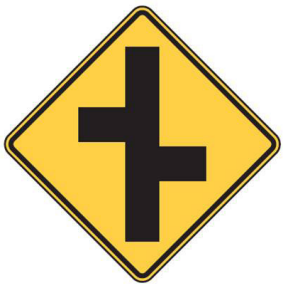
A NEW SHOULDER DROP-OFF supplemental plaque may be mounted below a W8-17 sign. NEW NO SHOULDER and SHOULDER ENDS word message signs have been added to warn drivers that shoulders do not exist along the roadway or that the shoulder ends. Inconsistencies were found in the legends of signs currently in use. These signs are **OPTIONAL**.

NEW Signs and Plaques Warn of Conditions that Primarily Affect Motorcycles

A NEW GROOVED PAVEMENT sign (W8-15), a NEW METAL BRIDGE DECK sign (W8-16), and a supplemental plaque (W8-15p) can warn motorcyclists of dangerous road surface conditions. Table 2C-4 in the *MUTCD* provides guidelines for advance placement of these warning signs based on posted speeds and conditions. A motorcycle (W8-15p) plaque MAY be mounted below or above a W8-15 or W8-16 sign if the warning is intended primarily for motorcyclists.

NEW Offset Side Roads and Double Side Roads

Intersection warning symbol signs are added, based on a study that showed variants of the W2-2 sign depicting offset side roads or two closely spaced side roads are used in many States. However, the relative distance between the two side roads and the relative stroke widths of the roadways varies significantly. As a result uniform designs have been added to *MUTCD* and there is now a maximum of three side roads depicted with maximum of two on same side.



Headlight Use Signs R16-5 to R16-11

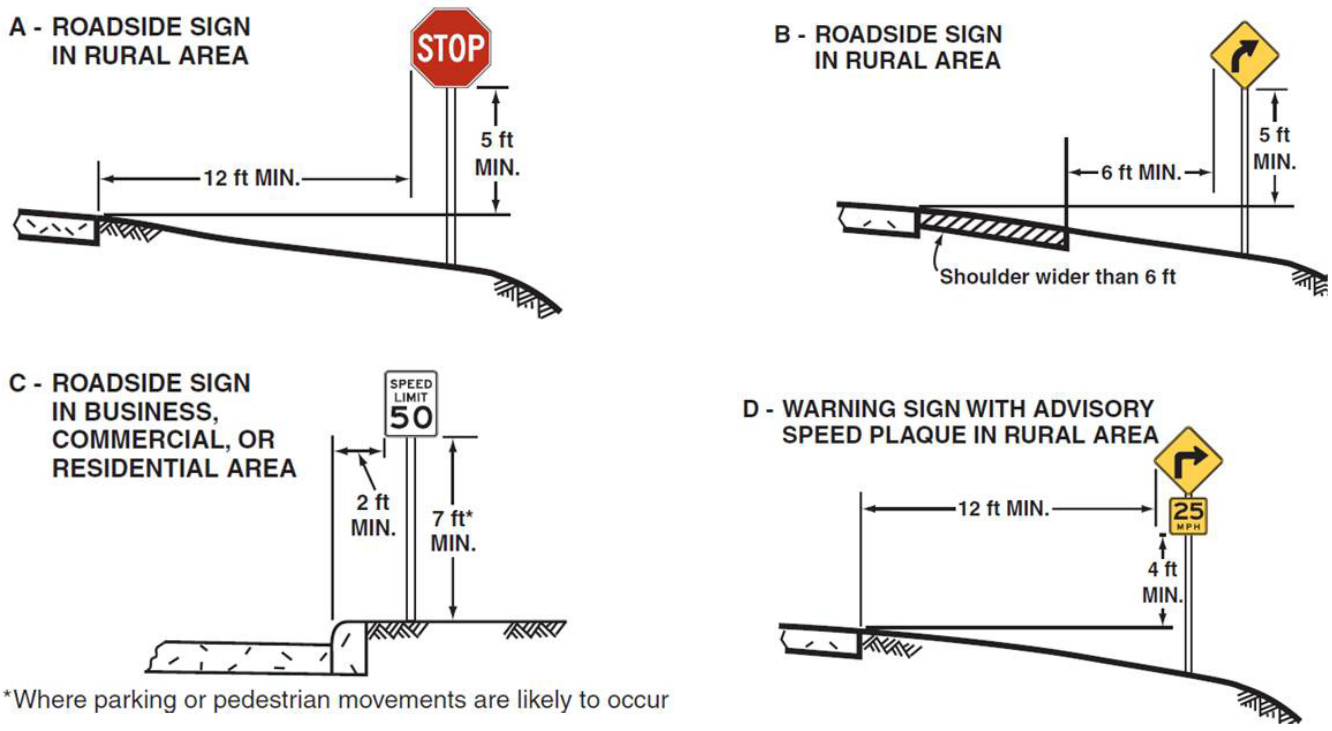
Some States require motorists to turn on their vehicle headlights under certain weather conditions as a safety measure on roadways experiencing high crash rates or in special situations such as driving through tunnels. This is **OPTIONAL**.

Table 2C-5. Horizontal Alignment Sign Selection

Type of Horizontal Alignment Sign	Difference Between Speed Limit and Advisory Speed				
	5 mph	10 mph	15 mph	20 mph	25 mph or more
Turn (W1-1), Curve (W1-2), Reverse Turn (W1-3), Reverse Curve (W1-4), Winding Road (W1-5), and Combination Horizontal Alignment/Intersection (W10-1) (see Section 2C.07 to determine which sign to use)	Recommended	Required	Required	Required	Required
Advisory Speed Plaque (W13-1P)	Recommended	Required	Required	Required	Required
Chevrons (W1-8) and/or One Direction Large Arrow (W1-6)	Optional	Recommended	Required	Required	Required
Exit Speed (W13-2) and Ramp Speed (W13-3) on exit ramp	Optional	Optional	Recommended	Required	Required

CLARIFICATION OF SECTION 2C.06 -- HORIZONTAL ALIGNMENT OF WARNING SIGNS (Paragraph 2) and TABLE 2C-5

FHWA has issued an official interpretation under the designation "2(09)-2(I) -- Determination of Speed Differential for Curve Warning Signs and Plaques." This will give agencies the flexibility to determine, based on engineering judgment, which speed value to use for the tangent approach to a horizontal curve (posted or statutory speed limit, 85th percentile speed or prevailing speed) in applying Table 2C-5. When it is determined that a curve warning sign with an advisory speed plaque will be installed for an approach to a curve, the decision as to which speed value to use shall be documented in the engineering study that is required in Section 2C.08 for the determination of the advisory speed.



The text of Sections 2A.18 and 2A.19 have been clarified and Figures 2A-2 and 2A-3 have been revised to conform to the text to clarify the minimum horizontal offset from the edge of a travel lane and/or shoulder.

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The Baystate Roads Program, which publishes ***Mass Interchange*** each quarter, is a Technology Transfer (T2) Center created under the Federal Highway Administration's (FHWA) Local Technical Assistance Program (LTAP). This newsletter is prepared in cooperation with the Massachusetts Department of Transportation (MassDOT) and the United States Department of Transportation Federal Highway Administration. FHWA is joined by MassDOT, UMass Transportation Center at the University of Massachusetts/Amherst, and local public works departments in an effort to share and apply the best in transportation technologies. In addition to publishing ***Mass Interchange***, the Baystate Roads Program facilitates information exchange by conducting workshops, providing reports and publications and videotapes on request, and offering one-to-one technical assistance on specific roadway issues. Because the program relies on input from many sources, inquiries, articles and ideas are encouraged.

LTAP Local Technical Assistance Program

To contact the Baystate Roads Program call (413) 545-2604 or FAX 413-545-6471

MassDOT
Federal Highway Administration
UMass Transportation Center

PART 9: TRAFFIC CONTROL FOR BICYCLE FACILITIES

A NEW shared lane pavement marking is added, along with Guidance on placement and spacing. This new pavement marking assists bicyclists in determining the appropriate line of travel, and cues motorists to pass with sufficient clearance. The purpose of this new marking is to reduce the number and severity of bicycle-vehicle crashes, particularly crashes involving bicycles colliding with suddenly opened doors of parallel parked vehicles. When repainting these graphics, pay attention to matching the refreshed logo with a previous application.

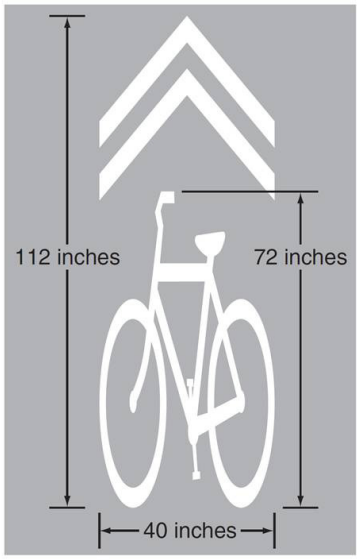

Figure 9-C in the *MUTCD* illustrates the word, symbol and arrow pavement markings for bicycle lanes.

Answer to Brain Teaser in last issue:
440 cubic feet or 16.3 cubic yards