

Manual on **Uniform Traffic Control Devices**

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2009 Federal Edition*



U.S. Department of Transportation
**Federal Highway
Administration**

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The Manual on Uniform Traffic Control Devices (MUTCD) is approved by the Federal Highway Administrator as the National Standard in accordance with Title 23 U.S. Code, Sections 109(d), 114(a), 217, 315, and 402(a), 23 CFR 655, and 49 CFR 1.48(b)(8), 1.48(b)(33), and 1.48(c)(2). The Federal MUTCD can be downloaded at <http://mutcd.fhwa.dot.gov/>.

Addresses for Publications Referenced in the MUTCD

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Heathrow, FL 32746
www.aaa.com
800-222-4357

American Association of State Highway and Transportation Officials (AASHTO)
444 North Capitol Street, NW, Suite 249
Washington, DC 20001
www.transportation.org
202-624-5800

American National Standards Institute (ANSI)
1819 L Street, NW, 6th Floor
Washington, DC 20036
www.ansi.org
202-293-8020

American Railway Engineering and Maintenance-of-Way Association (AREMA)
10003 Derekwood Lane, Suite 210
Lanham, MD 20706
www.arema.org
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Federal Highway Administration Report Center
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report.center@fhwa.dot.gov

Illuminating Engineering Society (IES)
120 Wall Street, Floor 17
New York, NY 10005
www.iesna.org
212-248-5000

Institute of Makers of Explosives
1120 19th Street, NW, Suite 310
Washington, DC 20036-3605
www.ime.org
202-429-9280

Institute of Transportation Engineers (ITE)
1099 14th Street, NW, Suite 300 West
Washington, DC 20005-3438
www.ite.org
202-289-0222

International Organization for Standardization
1, ch. de la Voie-Creuse
Case Postale 56
CH-1211
Geneva 20, Switzerland
www.iso.ch
011-41-22-749-0111

International Safety Equipment Association (ISEA)
1901 North Moore Street, Suite 808
Arlington, VA 22209
www.safetyequipment.org
703-525-1695

National Committee on Uniform Traffic Laws and Ordinances (NCUTLO)
107 South West Street, Suite 110
Alexandria, VA 22314
www.ncutlo.org
800-807-5290

National Electrical Manufacturers Association (NEMA)
1300 North 17th Street, Suite 1752
Rosslyn, VA 22209
www.nema.org
703-841-3200

Occupational Safety and Health Administration (OSHA)
U.S. Department of Labor
200 Constitution Avenue, NW
Washington, DC 20210
www.osha.gov
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Transportation Research Board (TRB)
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STATE OF MICHIGAN

December 1, 2011

The Federal Highway Administration has approved and issued the 2009 Edition of the Manual on Uniform Traffic Control Devices as the National Standard for all highways open to public travel in accordance with Title 23 U.S. Code of Federal Regulations (CFR) Sections 109(d), 114(a), 217, 315, and 402(a), and 23 CFR 655, and 49 CFR 1.48(b)(33) and 1.48(c)(2).

Pursuant to the provisions contained in Section 257.608 of the Michigan Vehicle Code (Public Act 300 of 1949), we certify we have examined this Manual on Uniform Traffic Control Devices. We hereby declare the Federal manual is adopted as the official manual for a uniform system of traffic control devices for the State of Michigan subject to such amendments as are set forth in Michigan to address unique State laws and policies. Taken together, the Michigan Amendments and the Federal Manual become the 2011 Michigan Manual on Uniform Traffic Control Devices. We hereby certify the provisions of the 2011 Michigan Manual on Uniform Traffic Control Devices constitute the prescribed standards of design, construction, and application of traffic control devices for use upon roadways and public parking areas within this State and declare these to be the standards for adoption by the State, counties, and municipalities. The provisions contained herein shall supersede the policies and standards established by all official manuals published previously.

Kirk T. Steudle, Director
Michigan Department of Transportation

Colonel Kriste Kibbey Etue, Director
Michigan State Police



MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES **INTRODUCTION TO MICHIGAN EDITION**

As noted in the preceding certification, the 2011 edition of the *Michigan Manual on Uniform Traffic Control Devices* (MMUTCD) consists of the 2009 edition of the *Federal Manual on Uniform Traffic Control Devices* (MUTCD), including subsequent official revisions thereto, as amended by this Michigan Edition.

The part, section, and paragraph numbers used in this state specific edition match the like numbers used in the MUTCD. Pages with revisions are identified with a (MI) next to the page number. Where no reference is made to a part, section, or paragraph of the MUTCD, said part, section, or paragraph has not been amended. Unless specifically noted, none of the provisions of the MUTCD are omitted. Where a section number appears in this supplement with the letters MI added before the paragraph number followed by (Michigan), such as 2C.MI67 (Michigan), such paragraph has no direct counterpart in the MUTCD. All modifications in the MMUTCD are identified by a State of Michigan Symbol in the page margin. New language added which differs from the MUTCD is highlighted.

The meanings of the text headings of “Standard,” “Guidance,” “Option,” and “Support” have the same meanings in this state specific edition as they do in the MUTCD. Direct references from Michigan Statute are current at publication date. All references to the Standard Highway Signs book will pertain to the Michigan version.

From time to time, there will be revisions to the Federal MUTCD and the MMUTCD. These revisions will be incorporated in the manual upon review and approval of both the Michigan Department of Transportation and the Michigan State Police. The MUTCD makes reference to the Uniform Vehicle Code (UVC). However, the Michigan Vehicle Code (Public Act 300 of 1949) (MVC) shall govern over the UVC. Section 257.608 of the MVC contains the authority for the MMUTCD. Sections 257.609 and 257.610 establish the responsibility for the erection and maintenance of traffic control devices on state highways and on county and local roads. Various other sections of the MVC, particularly in Chapter 257, deal with specific traffic regulations and control devices. All references from Michigan Statute, as shown in the manual, may not be current; therefore, Michigan Statute takes precedence.

MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES

INTRODUCTION

Standard:

-  **01** Traffic control devices shall be defined as all signs, signals, markings, and devices placed or erected by authority of a public body or official having jurisdiction, for the purpose of regulating, warning or guiding traffic as per Section 257.70 of the "Michigan Vehicle Code".
- 01A** A peace officer may enter upon a private road that is open to the general public to enforce provisions of this act if signs meeting the requirements of the manual are posted on the private road per Section 257.601a(2) of the "Michigan Vehicle Code".
- 01B** A sign or other traffic control device required in a parking area shall conform to the requirements of the manual per Michigan State Statue 257.942b.
- 02** The Manual on Uniform Traffic Control Devices (MUTCD) is incorporated by reference in 23 Code of Federal Regulations (CFR), Part 655, Subpart F and shall be recognized as the national standard for all traffic control devices installed on any street, highway, bikeway, or private road open to public travel (see definition in Section 1A.13) in accordance with 23 U.S.C. 109(d) and 402(a). The policies and procedures of the Federal Highway Administration (FHWA) to obtain basic uniformity of traffic control devices shall be as described in 23 CFR 655, Subpart F.
-  **03** In accordance with 23 CFR 655.603(a), and Michigan State Statue for the purposes of applicability of the MUTCD:
- A.** Toll roads under the jurisdiction of public agencies or authorities or public-private partnerships shall be considered to be public highways;
 - B.** Private roads open to public travel shall be as defined in Section 1A.13; and
 - C.** Per Michigan State Statue 257.941, parking area means an area used by the public as a means of access to and egress from, and for the free parking of motor vehicles by patrons of a shopping center, business, factory, hospital, institution, or similar building or location. Shopping center means a minimum area of 3 acres of land on which there is located 1 or more stores or business establishments, and where there is provided a parking area.
- 04** Any traffic control device design or application provision contained in this Manual shall be considered to be in the public domain. Traffic control devices contained in this Manual shall not be protected by a patent, trademark, or copyright, except for the Interstate Shield and any items owned by FHWA.
- Support:
- 05** Pictographs, as defined in Section 1A.13, are embedded in traffic control devices but the pictographs themselves are not considered traffic control devices for the purposes of Paragraph 4.
-  **06** The need for uniform standards was recognized long ago. The American Association of State Highway Officials (AASHO), now known as the American Association of State Highway and Transportation Officials (AASHTO), published a manual for rural highways in 1927, and the National Conference on Street and Highway Safety (NCSHS) published a manual for urban streets in 1930. In the early years, the necessity for unification of the standards applicable to the different classes of road and street systems was obvious. To meet this need, a joint committee of AASHO and NCSHS developed and published the original edition of this Manual on Uniform Traffic Control Devices (MUTCD) in 1935. That committee, now called the National Committee on Uniform Traffic Control Devices (NCUTCD), though changed from time to time in name, organization, and personnel, has been in continuous existence and has contributed to periodic revisions of this Manual. The FHWA has administered the MUTCD since the 1971 edition. The FHWA and its predecessor organizations have participated in the development and publishing of the previous editions. There were nine previous editions of the MUTCD, and several of those editions were revised one or more times. Table I-1 traces the evolution of the MUTCD, including the two manuals developed by AASHO and NCSHS. Table I-1a shows the history of the Michigan Manual.
- Standard:**
- 07** The U.S. Secretary of Transportation, under authority granted by the Highway Safety Act of 1966, decreed that traffic control devices on all streets and highways open to public travel in accordance with 23 U.S.C. 109(d) and 402(a) in each State shall be in substantial conformance with the Standards issued or endorsed by the FHWA.
- Support:
-  **08** The "Uniform Vehicle Code (UVC)" is one of the publications referenced in the MUTCD. The UVC contains a model set of motor vehicle codes and traffic laws for use throughout the United States. In Michigan, the "Michigan Vehicle Code" (MVC) contains motor vehicle codes and traffic laws for use in Michigan. The MVC takes precedent over the UVC. Where appropriate, sections from Michigan State Statue including the MVC have been added to this manual. All references from the MVC may not be current; therefore, current Michigan Statue takes precedence.

**Standard:**

09

MICHIGAN VEHICLE CODE (EXCERPT)**Act 300 of 1949****257.601a Private road open to general public; contract.**

Sec. 601a. (1) A city, township, or village may contract with a person who owns or is in charge of a private road that is open to the general public, at that person's request or with that person's consent, to enforce provisions of this act on that private road.

(2) Subject to subsection (1) and section 906, a peace officer may enter upon a private road that is open to the general public to enforce provisions of this act if signs meeting the requirements of the Michigan manual of uniform traffic control devices are posted on the private road.

(3) The owner or person in charge of a private road open to the general public who enters into a contract as described in subsection (1) is responsible for the cost and the posting of signs described in subsection (2).

(4) This section shall not be construed to affect a contract entered into between a city, township, or village and the person who owns or is in charge of a private road open to the general public before the effective date of the amendatory act that added this section.

History: Add. 2006, Act 549, Imd. Eff. Dec. 29, 2006.

Compiler's note: Former MCL 257.601a, which pertained to certain vehicle owned and operated by state and local authorities and vehicles transporting hazardous materials, was repealed by Act 248 of 1995, Imd. Eff. Dec. 27, 1995.



09A

CONTROL OF TRAFFIC IN PARKING AREAS (EXCERPT)**Act 235 of 1969****257.942b Signs or other traffic control devices.**

Sec. 2b. A sign or other traffic control device required in a parking area shall conform to the requirements of the Michigan manual of uniform traffic control devices.

History: Add. 1978, Act 630, Imd. Eff. Jan. 8, 1979.

Table I-1. Evolution of the MUTCD

Year	Name	Month / Year Revised
1927	Manual and Specifications for the Manufacture, Display, and Erection of U.S. Standard Road Markers and Signs (for rural roads)	4/29, 12/31
1930	Manual on Street Traffic Signs, Signals, and Markings (for urban streets)	No revisions
1935	Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD)	2/39
1942	Manual on Uniform Traffic Control Devices for Streets and Highways — War Emergency Edition	No revisions
1948	Manual on Uniform Traffic Control Devices for Streets and Highways	9/54
1961	Manual on Uniform Traffic Control Devices for Streets and Highways	No revisions
1971	Manual on Uniform Traffic Control Devices for Streets and Highways	11/71, 4/72, 3/73, 10/73, 6/74, 6/75, 9/76, 12/77
1978	Manual on Uniform Traffic Control Devices for Streets and Highways	12/79, 12/83, 9/84, 3/86
1988	Manual on Uniform Traffic Control Devices for Streets and Highways	1/90, 3/92, 9/93, 11/94, 12/96, 6/98, 1/00
2000	Manual on Uniform Traffic Control Devices for Streets and Highways — Millennium Edition	7/02
2003	Manual on Uniform Traffic Control Devices for Streets and Highways	11/04, 12/07
2009	Manual on Uniform Traffic Control Devices for Streets and Highways	

**Table I-1a. History of the MMUTCD**

Year	Name	Month / Year Revised
1939	Michigan Manual of Uniform Traffic Control Devices	
1952	Michigan Manual of Uniform Traffic Control Devices	08/55, 08/57, 01/58
1963	Michigan Manual of Uniform Traffic Control Devices	05/64, 07/68, 01/69, 08/69, 11/71, 05/72, 10/72, 11/72
1973	Michigan Manual of Uniform Traffic Control Devices	10/73, 03/75, 01/78, 03/78, 09/78, 08/80
1981	Michigan Manual of Uniform Traffic Control Devices	08/82, 10/82, 12/85, 01/87
1994	Michigan Manual of Uniform Traffic Control Devices	03/95, 05/95, 01/01
2005	Michigan Manual on Uniform Traffic Control Devices for Streets and Highways	08/06, 7/07, 4/09, 05/09
2011	Michigan Manual on Uniform Traffic Control Devices for Streets and Highways	

Support:

- 10 The Standard, Guidance, Option, and Support material described in this edition of the MUTCD provide the transportation professional with the information needed to make appropriate decisions regarding the use of traffic control devices on streets, highways, bikeways, and private roads open to public travel (see definition in Section 1A.13).
- 11 Throughout this Manual the headings Standard, Guidance, Option, and Support are used to classify the nature of the text that follows. Figures and tables, including the notes contained therein, supplement the text and might constitute a Standard, Guidance, Option, or Support. The user needs to refer to the appropriate text to classify the nature of the figure, table, or note contained therein.

Standard:

- 12 **When used in this Manual, the text headings of Standard, Guidance, Option, and Support shall be as defined in Paragraph 1 of Section 1A.13.**

Support:

- 13 Throughout this Manual all dimensions and distances are provided in English units. Appendix A2 contains tables for converting each of the English unit numerical values that are used in this Manual to the equivalent Metric (International System of Units) values.

Guidance:

- 14 *If Metric units are to be used in laying out distances or determining sizes of devices, such units should be specified on plan drawings and made known to those responsible for designing, installing, or maintaining traffic control devices.*
- 15 *Except when a specific numeral is required or recommended by the text of a Section of this Manual, numerals displayed on the images of devices in the figures that specify quantities such as times, distances, speed limits, and weights should be regarded as examples only. When installing any of these devices, the numerals should be appropriately altered to fit the specific situation.*

Support:

- 16 The following information will be useful when reference is being made to a specific portion of text in this Manual.
- 17 There are nine Parts in this Manual and each Part is comprised of one or more Chapters. Each Chapter is comprised of one or more Sections. Parts are given a numerical identification, such as Part 2 – Signs. Chapters are identified by the Part number and a letter, such as Chapter 2B – Regulatory Signs, Barricades, and Gates. Sections are identified by the Chapter number and letter followed by a decimal point and a number, such as Section 2B.03 – Size of Regulatory Signs.

- 18 Each Section is comprised of one or more paragraphs. The paragraphs are indented and are identified by a number. Paragraphs are counted from the beginning of each Section without regard to the intervening text headings (Standard, Guidance, Option, or Support). Some paragraphs have lettered or numbered items. As an example of how to cite this Manual, the phrase “Not less than 40 feet beyond the stop line” that appears in Section 4D.14 of this Manual would be referenced in writing as “Section 4D.14, P1, A.1,” and would be verbally referenced as “Item A.1 of Paragraph 1 of Section 4D.14.”

Standard:

- 19 **In accordance with 23 CFR 655.603(b)(3), States or other Federal agencies that have their own MUTCDs or Supplements shall revise these MUTCDs or Supplements to be in substantial conformance with changes to the National MUTCD within 2 years of the effective date of the Final Rule for the changes. Substantial conformance of such State or other Federal agency MUTCDs or Supplements shall be as defined in 23 CFR 655.603(b)(1).**
- 20 **After the effective date of a new edition of the MUTCD or a revision thereto, or after the adoption thereof by the State, whichever occurs later, new or reconstructed devices installed shall be in compliance with the new edition or revision.**
- 21 **In cases involving Federal-aid projects for new highway or bikeway construction or reconstruction, the traffic control devices installed (temporary or permanent) shall be in conformance with the most recent edition of the National MUTCD before that highway is opened or re-opened to the public for unrestricted travel [23 CFR 655.603(d)(2) and (d)(3)].**
-  22 **Unless a particular device is no longer serviceable, non-compliant devices on existing highways and bikeways shall be brought into compliance with the current edition of the National MUTCD as part of the systematic upgrading of substandard traffic control devices (and installation of new required traffic control devices) required pursuant to the Highway Safety Program, 23 U.S.C. §402(a). The FHWA has the authority to establish other target compliance dates for implementation of particular changes to the MUTCD [23 CFR 655.603(d)(1)]. These target compliance dates established by the FHWA and the state of Michigan shall be as shown in Table I-2.**
- 23 **Except as provided in Paragraph 24, when a non-compliant traffic control device is being replaced or refurbished because it is damaged, missing, or no longer serviceable for any reason, it shall be replaced with a compliant device.**
- Option:
- 24 A damaged, missing, or otherwise non-serviceable device that is non-compliant may be replaced in kind if engineering judgment indicates that:
- A. One compliant device in the midst of a series of adjacent non-compliant devices would be confusing to road users; and/or
 - B. The schedule for replacement of the whole series of non-compliant devices will result in achieving timely compliance with the MUTCD.

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

Rev. 1, 3

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 nonnumbered 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
3A.03	Maintaining Minimum Retroreflectivity	Implementation and continued use of a method that is designed to maintain retroreflectivity of longitudinal pavement markings (see Paragraph 1).	4 years from the effective date of this revision of the MUTCD
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.	June 13, 2017, 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.	June 13, 2017, 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(**)

**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
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
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
(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.			

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