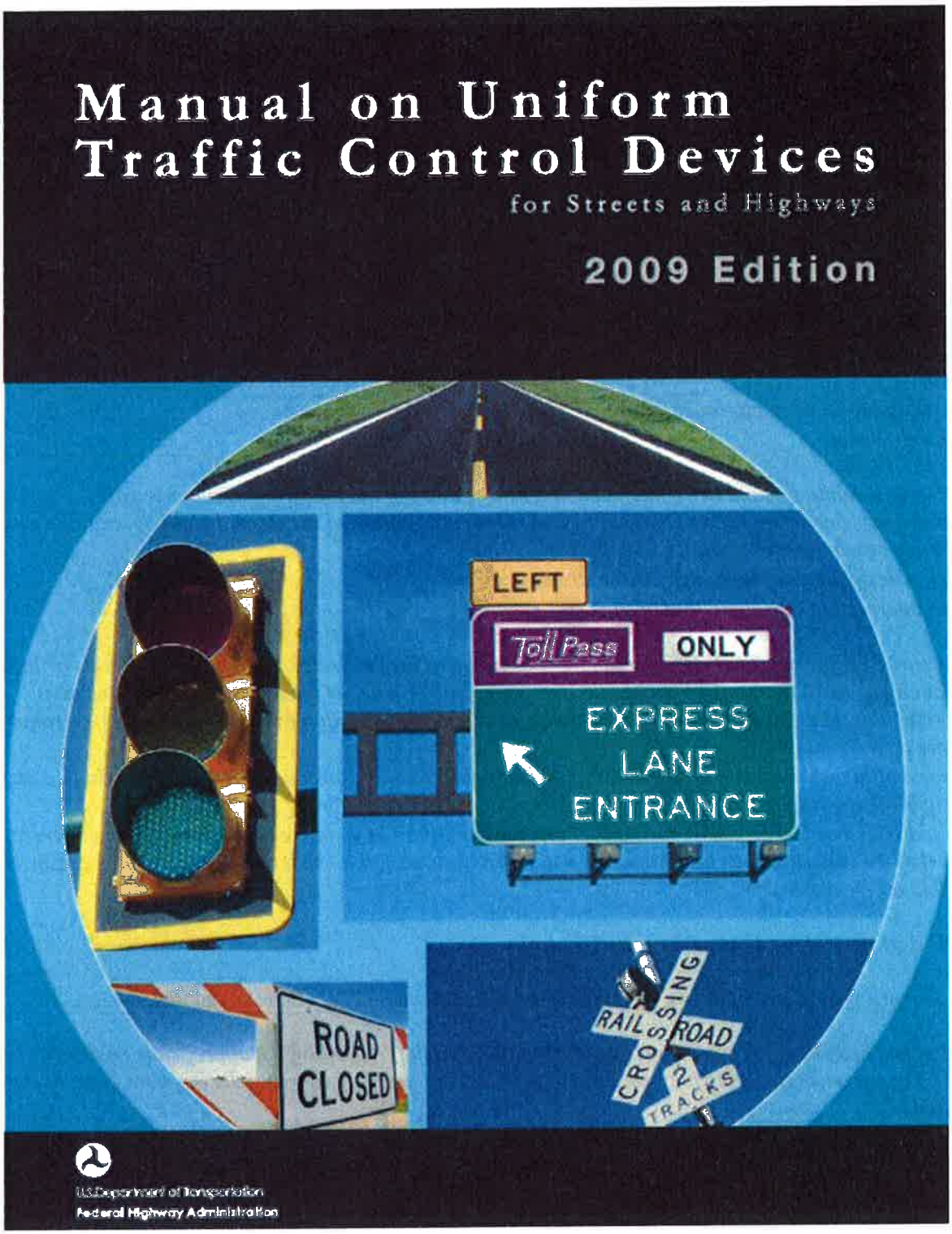

Manual on Uniform Traffic Control Devices
for Streets and Highways
2009 Edition
LEFT
Toll Pass
ONLY
EXPRESS LANE ENTRANCE
ROAD CLOSED
RAIL ROAD CROSSING
2 TRACKS
U.S. Department of Transportation
Federal Highway Administration

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

Support:

01 State or local laws written in accordance with the "Uniform 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 or pedestrian 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.

05 *YIELD or STOP signs should 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.

11 **Except as provided in Section 2B.09, STOP signs and YIELD signs shall not be installed on different approaches to the same unsignalized intersection if those approaches conflict with or oppose each other.**
12 **Portable or part-time STOP or YIELD signs shall not be used except for emergency and temporary traffic control zone purposes.**
13 **A portable or part-time (folding) STOP sign that is manually placed into view and manually removed from view shall not be used during a power outage to control a signalized approach unless the maintaining agency establishes that the signal indication that will first be displayed to that approach upon restoration of power is a flashing red signal indication and that the portable STOP sign will be manually removed from view prior to stop-and-go operation of the traffic control signal.**
Option:
14 A portable or part-time (folding) STOP sign that is electrically or mechanically operated such that it only displays the STOP message during a power outage and ceases to display the STOP message upon restoration of power may be used during a power outage to control a signalized approach.
Support:
15 Section 9B.03 contains provisions regarding the assignment of priority at a shared-use path/roadway intersection.

Section 2B.05 STOP Sign (R1-1) and ALL WAY Plaque (R1-3P)

Standard:
01 **When it is determined that a full stop is always required on an approach to an intersection, a STOP (R1-1) sign (see Figure 2B-1) shall be used.**
02 **The STOP sign shall be an octagon with a white legend and border on a red background.**
03 **Secondary legends shall not be used on STOP sign faces.**
04 **At intersections where all approaches are controlled by STOP signs (see Section 2B.07), an ALL WAY supplemental plaque (R1-3P) shall be mounted below each STOP sign. The ALL WAY plaque (see Figure 2B-1) shall have a white legend and border on a red background.**
05 **The ALL WAY plaque shall only be used if all intersection approaches are controlled by STOP signs.**
06 **Supplemental plaques with legends such as 2-WAY, 3-WAY, 4-WAY, or other numbers of ways shall not be used with STOP signs.**
Support:
07 The use of the CROSS TRAFFIC DOES NOT STOP (W4-4P) plaque (and other plaques with variations of this word message) is described in Section 2C.59.
Guidance:
08 *Plaques with the appropriate alternative messages of TRAFFIC FROM LEFT (RIGHT) DOES NOT STOP (W4-4aP) or ONCOMING TRAFFIC DOES NOT STOP (W4-4bP) should be used at intersections where STOP signs control all but one approach to the intersection, unless the only non-stopped approach is from a one-way street.*
Option:
09 An EXCEPT RIGHT TURN (R1-10P) plaque (see Figure 2B-1) may be mounted below the STOP sign if an engineering study determines that a special combination of geometry and traffic volumes is present that makes it possible for right-turning traffic on the approach to be permitted to enter the intersection without stopping.
Support:
10 The design and application of Stop Beacons are described in Section 4L.05.

Figure 2B-1. STOP and YIELD Signs and Plaques

Section 2B.06 STOP Sign Applications

Guidance:

01 *At intersections where a full stop is not necessary at all times, consideration should first be given to using less restrictive measures such as YIELD signs (see Sections 2B.08 and 2B.09).*

02 *The use of STOP signs on the minor-street approaches should be considered if engineering judgment indicates that a stop is always required because of one or more of the following conditions:*

A. The vehicular traffic volumes on the through street or highway exceed 6,000 vehicles per day;

B. A restricted view exists that requires road users to stop in order to adequately observe conflicting traffic on the through street or highway; and/or

C. Crash records indicate that three or more crashes that are susceptible to correction by the installation of a STOP sign have been reported within a 12-month period, or that five or more such crashes have been reported within a 2-year period. Such crashes include right-angle collisions involving road users on the minor-street approach failing to yield the right-of-way to traffic on the through street or highway.

Support:

03 The use of STOP signs at grade crossings is described in Sections 8B.04 and 8B.05.

Section 2B.07 Multi-Way Stop Applications

Support:

01 Multi-way stop control can be useful as a safety measure at intersections if certain traffic conditions exist. Safety concerns associated with multi-way stops include pedestrians, bicyclists, and all road users expecting other road users to stop. Multi-way stop control is used where the volume of traffic on the intersecting roads is approximately equal.

02 The restrictions on the use of STOP signs described in Section 2B.04 also apply to multi-way stop applications.

Guidance:

03 *The decision to install multi-way stop control should be based on an engineering study.*

04 *The following criteria should be considered in the engineering study for a multi-way STOP sign installation:*

A. Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.

B. Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions.

C. Minimum volumes:

1. The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and

2. The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but

3. If the 85th-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in Items 1 and 2.

D. Where no single criterion is satisfied, but where Criteria B, C.1, and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition.

Option:

05 Other criteria that may be considered in an engineering study include:

A. The need to control left-turn conflicts;

B. The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes;

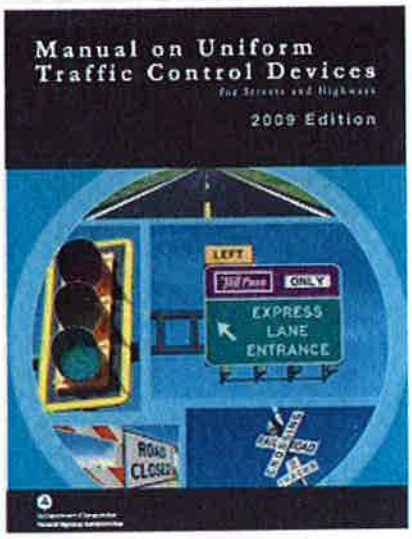
C. Locations where a road user, after stopping, cannot see conflicting traffic and is not able to negotiate the intersection unless conflicting cross traffic is also required to stop; and

D. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multi-way stop control would improve traffic operational characteristics of the intersection.

Manual on Uniform Traffic Control Devices

From Wikipedia, the free encyclopedia

The ***Manual on Uniform Traffic Control Devices*** (**MUTCD**) is a document issued by the Federal Highway Administration (FHWA) of the United States Department of Transportation (USDOT) to specify the standards by which traffic signs, road surface markings, and signals are designed, installed, and used. These specifications include the shapes, colors, and fonts used in road markings and signs. In the United States, all traffic control devices must generally conform to these standards. The manual is used by state and local agencies as well as private construction firms to ensure that the traffic control devices they use conform to the national standard. While some state agencies have developed their own sets of standards, including their own MUTCDs, these must substantially conform to the federal MUTCD.



Cover of 2009 edition

The National Committee on Uniform Traffic Control Devices (NCUTCD) advises the FHWA on additions, revisions, and changes to the MUTCD.

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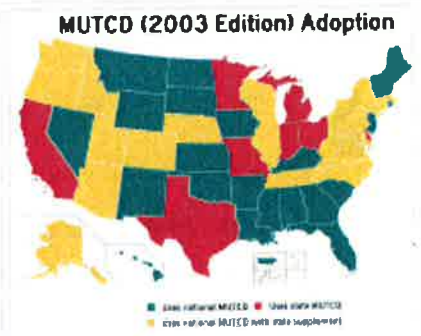
History

At the start of the 20th century—the early days of the rural highway—each road was promoted and maintained by automobile clubs of private individuals, who generated revenue through club membership and increased business along cross-country routes. However, each highway had its own set of signage, usually designed to promote the highway rather than to assist in the direction and safety of travelers. In fact, conflicts between these automobile clubs frequently led to multiple sets of signs—sometimes as many as eleven—being erected on the same highway.

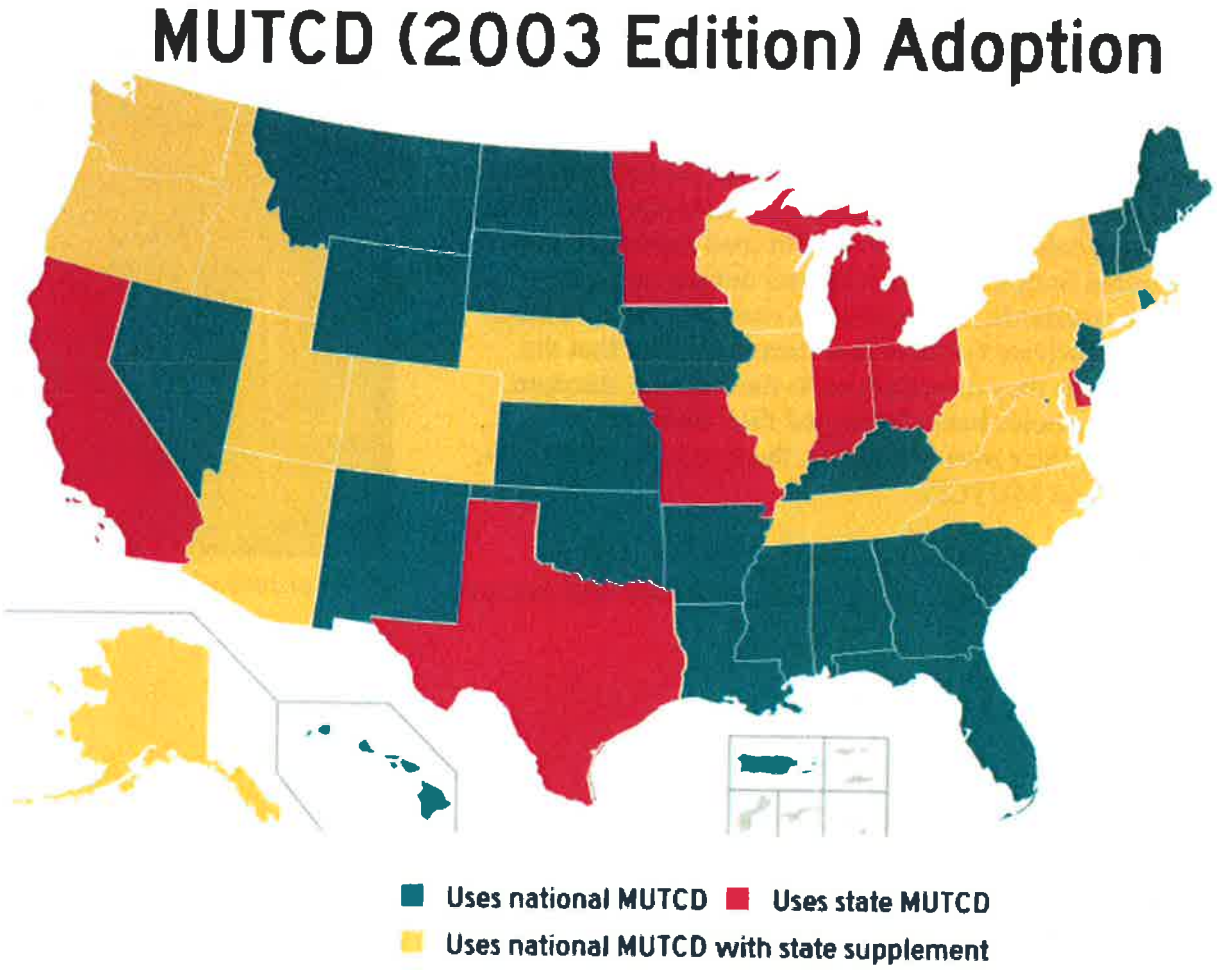


Map showing state adoption of the 2003 MUTCD

Government action to begin resolving the wide variety of signage that had cropped up did not occur until the early 1920s, when groups from Indiana, Minnesota, and Wisconsin began surveying the existing road signs in order to develop a standard. They reported their findings to the Mississippi Valley Association of Highway Departments, which adopted the report's suggestions for the shapes to be used for road signs. These suggestions included the familiar circular railroad crossing sign and octagonal stop sign.

File:MUTCD (2003-Edition) Adoption.svg

From Wikipedia, the free encyclopedia



Size of this preview: 709 × 600 pixels.
Full resolution (SVG file, nominally 936 × 792 pixels, file size: 88 KB)

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Description	Modified to show MUTCD (2003 Edition) compliance of states
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This is a ***retouched picture***, which means that it has been digitally altered from its original version.
Modifications: *Modified to show MUTCD (2003 Edition) compliance of states*. The original can be viewed here: **Blank_USA,_w_territories.svg**. Modifications made by *Overpush*.

In 1927, the American Association of State Highway Officials, or AASHO, published the *Manual and Specifications for the Manufacture, Display, and Erection of U.S. Standard Road Markers and Signs* to set standards for traffic control devices used on rural roads. This was followed by the *Manual on Street Traffic Signs, Signals, and Markings*, which set similar standards for urban settings. While these manuals set similar standards for each environment, the use of two manuals was decided to be unwieldy, and so the AASHO began work in 1932 with the National Conference on Street and Highway Safety, or NCSHS, to develop a uniform standard for all settings. This standard was the MUTCD.

The MUTCD was first released in 1935, and set standards for both road signs and pavement markings. Since that time, eight more editions of the manual have been published with numerous minor updates occurring between, each taking into consideration changes in usage and size of the nation's system of roads as well as improvements in technology.

In 1966, Congress passed the Highway Safety Act, P.L. 89-564, 72 Stat. 885 (1966), which is now codified at 23 U.S.C. § 401 *et seq.* It required all states to create a highway safety program by December 31, 1968, and to adhere to uniform standards promulgated by the U.S. Department of Transportation as a condition of receiving federal highway-aid funds.[1] The penalty for noncompliance was a 10% reduction in funding. In turn, taking advantage of broad rulemaking powers granted in 23 U.S.C. § 402, the Department simply adopted the entire MUTCD by reference at 23 C.F.R. 655.603. Thus, what was formerly a quasi-official project became an official one. States are allowed to supplement the MUTCD but must remain in "substantial conformance" with the national MUTCD and adopt changes within two years after they are adopted by FHWA.

The 1971 edition of the MUTCD included several significant standards; it required all center lines on two-way roads to be painted in yellow (instead of white, which was to indicate traffic moving in the same direction), and required that all highway guide signs (not just those on Interstate Highways) contain white text on a green background. Most of the repainting to the 1971 standard was done between 1971 and 1974, with a deadline of 1978 for the changeover of both the markings and signage.

On January 2, 2008, FHWA published a Notice of Proposed Amendment in the Federal Register containing a proposal for a new edition of the MUTCD, and published the draft content of this new edition on the MUTCD website for public review and comment. Comments[2] were accepted until July 31, 2008. The new edition was published in 2009.

Development of the MUTCD

Proposed additions and revisions to the MUTCD are recommended to FHWA by the National Committee on Uniform Traffic Control Devices (NCUTCD), a private, non-profit organization. The NCUTCD also recommends interpretations of the MUTCD to other agencies that use the MUTCD, such as state departments of transportation. NCUTCD develops public and professional awareness of the principles of safe traffic control devices and practices, and provides a forum for qualified individuals to exchange professional information.

The NCUTCD is supported by twenty-one sponsoring organizations, including transportation and engineering industry groups (such as AASHTO and ASCE), safety organizations (such as the National Safety Council and Advocates for Highway and Auto Safety), and the American Automobile Association. Each sponsoring organization promotes members to serve as voting delegates within the NCUTCD.

Other jurisdictions

The Transportation Association of Canada (TAC) publishes a *Manual of Uniform Traffic Control Devices* for use by Canadian jurisdictions. Although it serves a similar role to the FHWA MUTCD, it has been independently developed and has a number of key differences with its American counterpart, most notably the inclusion of bilingual (English/French) signage for jurisdictions such as New Brunswick with significant anglophone and francophone population, and a much heavier reliance on symbols rather than text legends.

The Ministry of Transportation of Ontario (MTO) also has historically used its own MUTCD which bore many similarities to the TAC MUTCD. However, as of approximately 2000 MTO has been developing the *Ontario Traffic Manual* (OTM), a series of smaller volumes each covering different aspects of traffic control (e.g., regulatory signs, warning signs, sign design principles, traffic signals, etc.).

Many U.S. states produce their own standards, which take the form of either a full manual or supplement to the federal MUTCD.[3]

The City of Phoenix Street Transportation Department published *The City of Phoenix Traffic Barricade Manual* in 1961 with editions published in 1970, 1974, 1976, 1980, 1982, 1989, 1998, and 2007.[4]

Australia, New Zealand and Ireland use many road signs influenced by the MUTCD.

References

1. ^ Edward C. Fisher, Vehicle Traffic Law (Evanston, IL: Traffic Institute, Northwestern University, 1961) (1967 supp.): 11.
2. ^ Regulations.gov webpage for public comments on new MUTCD (docket FHWA-2007-28977)
3. ^ Adoption Status of National MUTCD by States and Federal Agencies, revision of 2008-12-11. *Manual on Uniform Traffic Control Devices* website. Retrieved on 2009-08-19.
4. ^ City of Phoenix Traffic Barricade Manual (11.3MB) This manual is used by most of the jurisdictions in the Valley of the Sun with the exception of Gilbert and Queen Creek, which use the MUTCD.

External links

- U.S. FHWA Manual on Uniform Traffic Control Devices
- National Committee on Uniform Traffic Control Devices (NCUTCD) website
- MUTCD History