MUTCD: Past, Present & Future

1930s

1950s

2000s

1920s

1960s

1940s

Gene Hawkins, Ph.D., P.E.
Texas A&M University

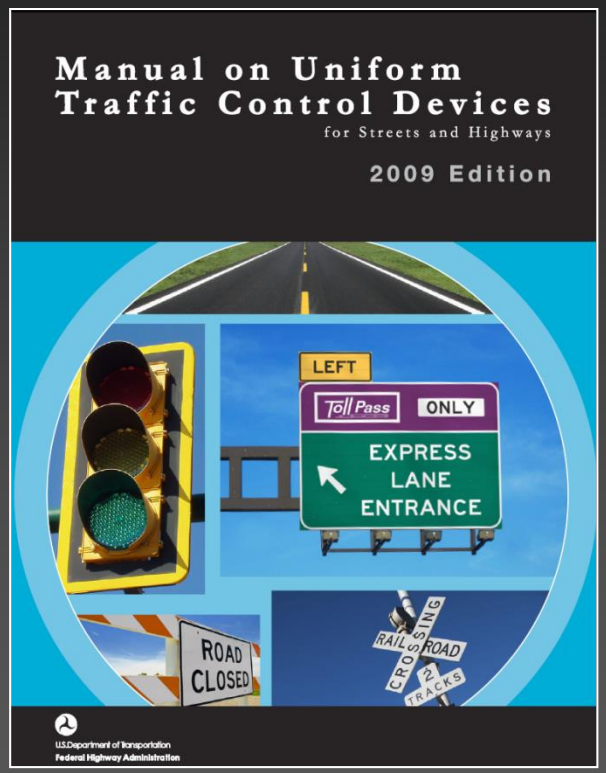
Zachry Department of
CIVIL ENGINEERING
TEXAS A&M UNIVERSITY

Gene Hawkins' Background

- Civil Engineering faculty member at Texas A&M University
- Joint appointment with the Texas A&M Transportation Institute
- Son of traffic engineer
- Collector of historic traffic engineering documents
- Writing/presenting on MUTCD history since 1991
- Chair of NCUTCD

Manual on Uniform Traffic Control Devices

- Known as the MUTCD
- Contains basic principles for traffic control devices
- Essential traffic engineering tool
- Extensive information
- Long history
- Multiple versions – many editions



MUTCD and NCUTCD

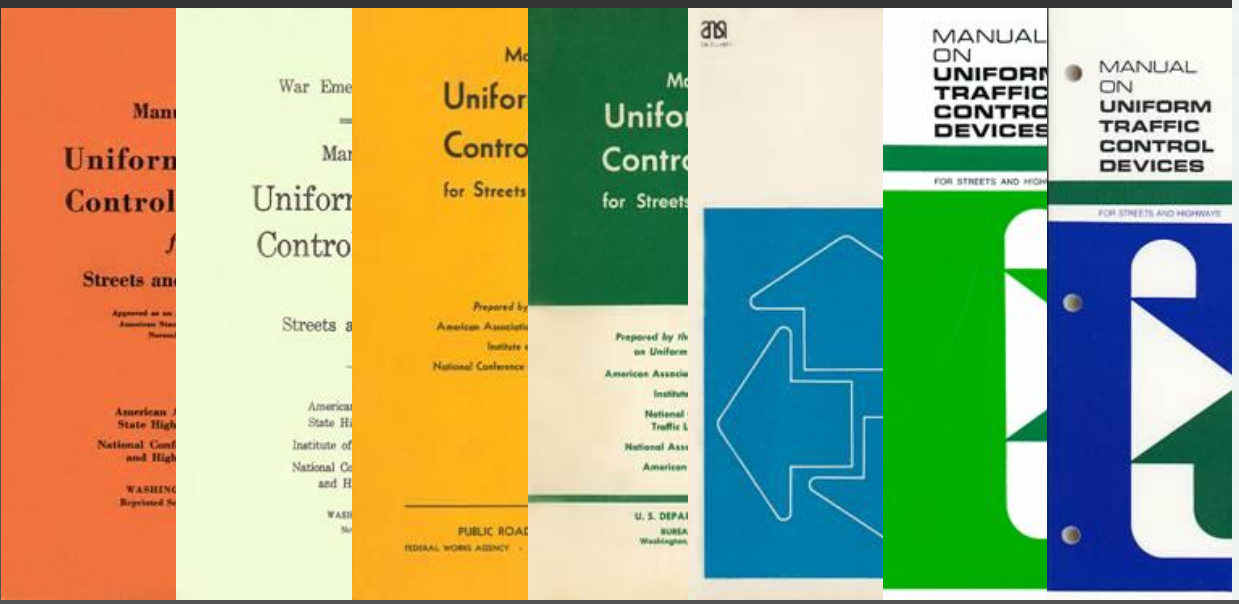
- **MUTCD: national TCD standard**
  - Owned, administered, and revised by FHWA
- **National Committee on Uniform Traffic Control Devices**
  - Private organization, recommends MUTCD changes to FHWA
  - History traces back to before first MUTCD
- **Presentation addresses contributions of each to the MUTCD development**

Part 1

MUTCD Past

MUTCD Evolution

There have been 10 editions of the MUTCD



1935 1942 1948 1961 1971 1978 1988 2000 2003 2009

Summary of MUTCD Evolution

Edition	MUTCD Era	Pages	Parts	Size (inches)	Thickness (inches)
1935	Initial	166	4	6×9	3/8
1942	Initial	208	4	6×9	3/8

How did we end up with a such large document on traffic control devices?

1971*	Mature	377	8	6×9	3/4
1978	Mature	425	9	6×9	1 3/8
1988	Mature	473	9	6×9	1 3/8
2000	Modern	982	10	8 1/2×11	1 5/8
2003	Modern	754	10	8 1/2×11	1 1/4
2009	Modern	864	9	8 1/2×11	1 5/8

*FHWA assumed MUTCD ownership

Traffic Control Devices History

Early markers were used in the Roman Empire

Also used on pioneer trails in America

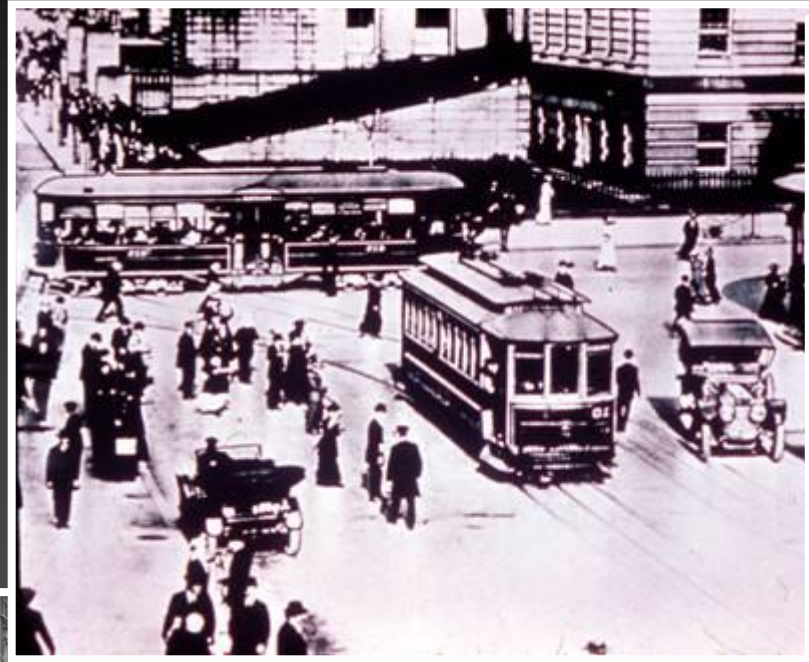
Automobile age created new demands

Roman Empire

Colonial America

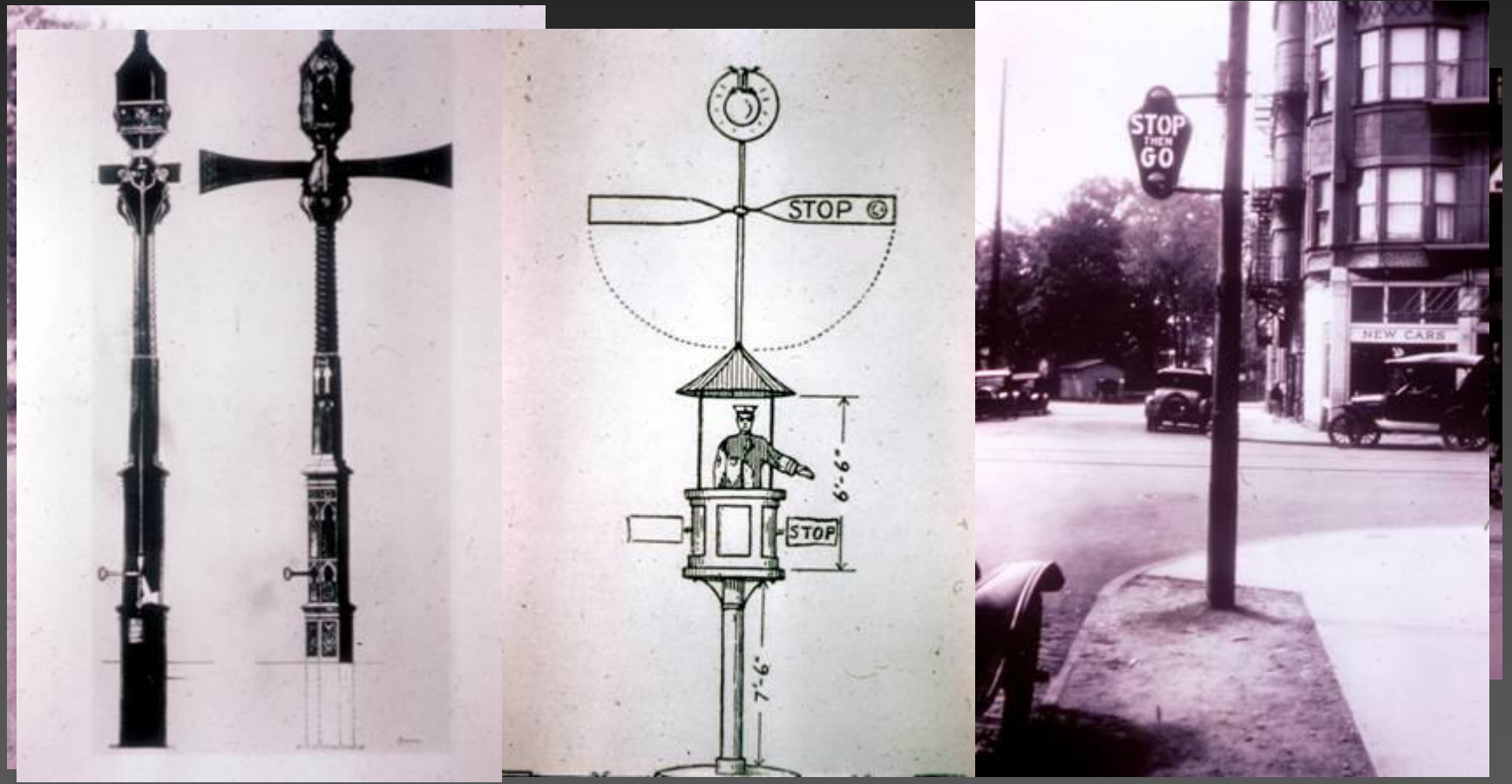
Early 20th Century

Automobile Age



Early Intersection Control

Hand signals, police, and semaphores



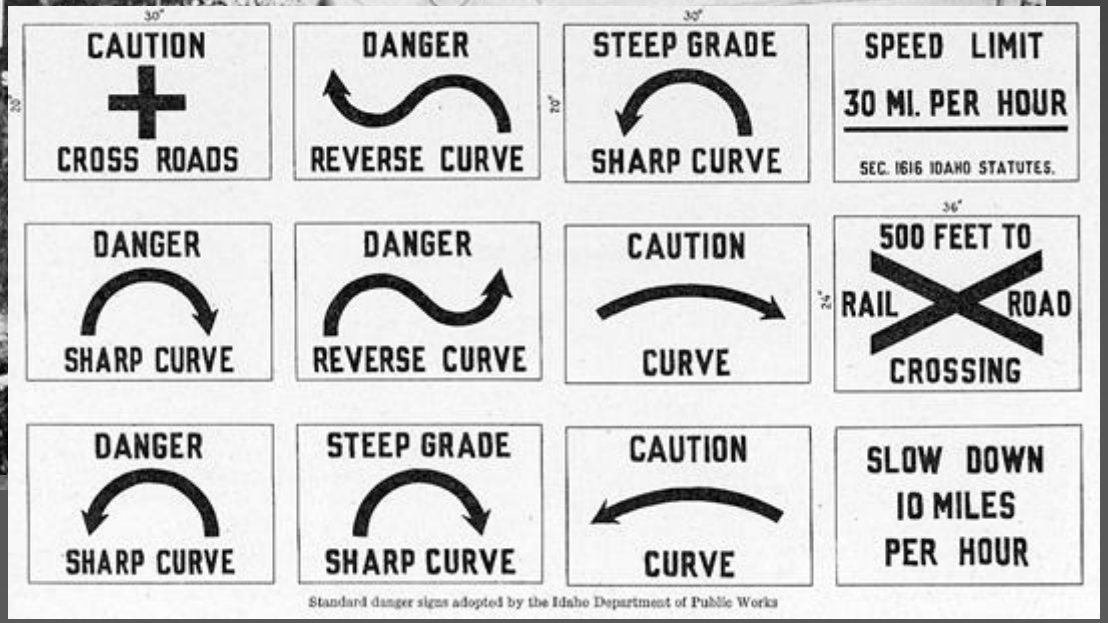
Traffic Signal Towers

Early Traffic Signals

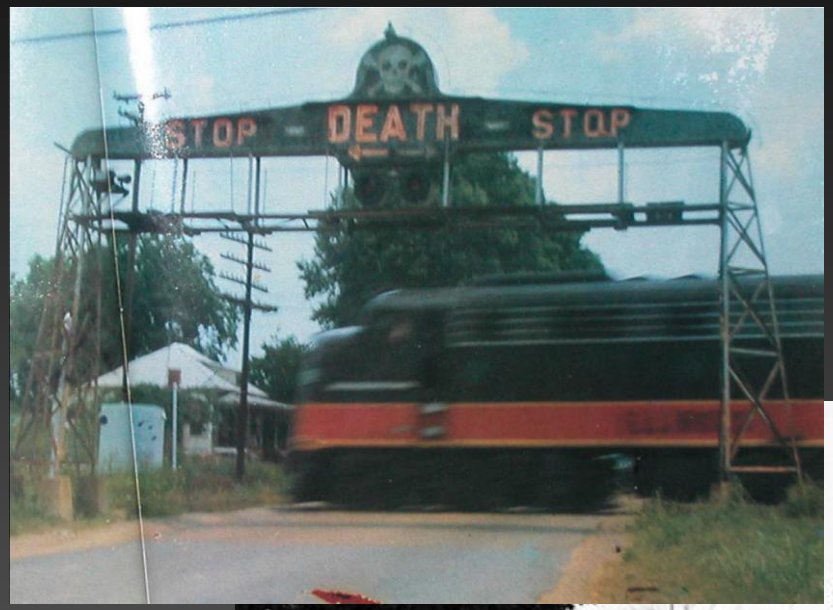
Many different signal designs

More Early Signals

Early Traffic Signs



Early Grade Crossings

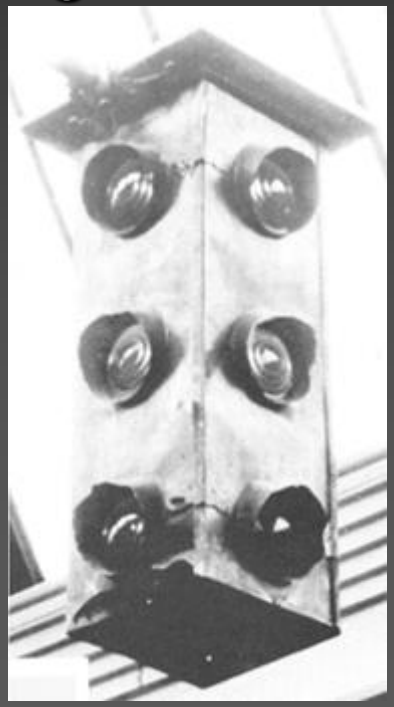


Early Traffic Control Devices

The wide variety of devices created the need for uniformity

1911 – 1st centerline Michigan

1920 – 1st 3-color signal Detroit



1914 – 1st electric signal Cleveland

Early Uniformity Efforts

1922 –Multistate signing review

- Mississippi Valley Assoc of State Hwy Dept
- Led to sign shape recommendations

Minnesota Department of Highways

- Manual of Markers and Signs
- Believed to be the first sign manual

1924 – National Conf on Street & Hwy Safety

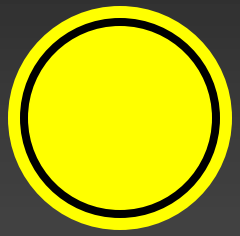
- Sign color recommendations

1925 – AASHO Joint Board report

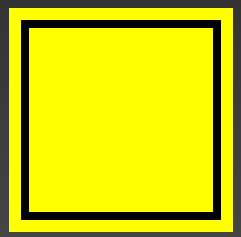
- U.S. Highway system
- National signing recommendations

1923 Sign Shape Recommendations

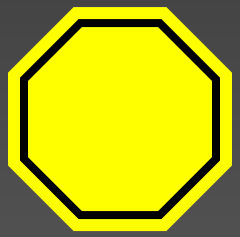
Mississippi Valley Assoc of St Hwy Dept
Number of sides represents hazard level



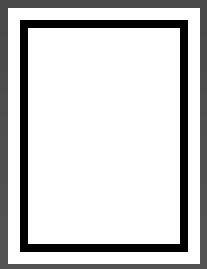
RR Grade Crossing



Caution



Stop Intersection



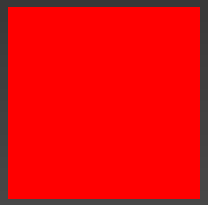
Directions or Regulations

Warning (speed reduction)

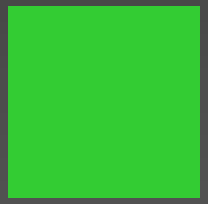
1924 Sign Color Recommendations

National Conference on Street and Highway Safety

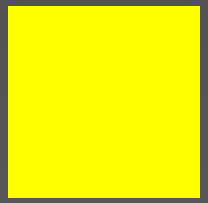
For signs and signals



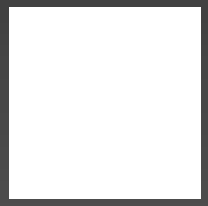
Red - stop



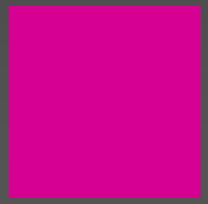
Green - proceed



Yellow - caution



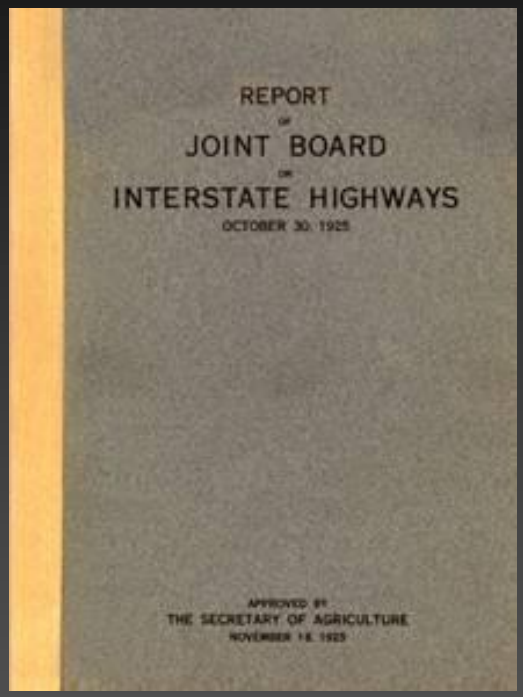
White - directions or distance



Purple - intersection

1925 Joint Board Report

- Report of Joint Board on Interstate Highways
- AASHO led
- Approved by Sec of Agriculture
- Developed U.S. Highway system
- Included recommendations for standard signs



1927 AASHO Manual

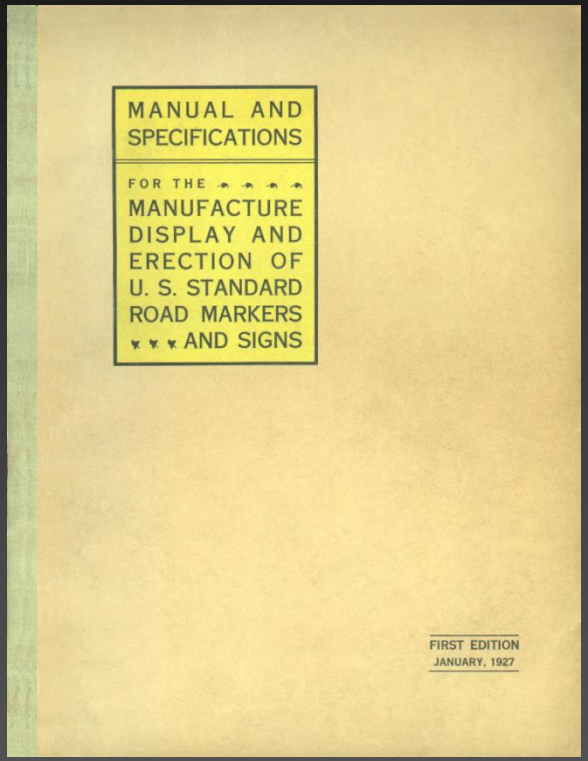
Evolved from Joint Board

First national manual

Rural signs only

Title:

Manual and Specifications for the Manufacture, Display, and Erection of U.S. Standard Road Markers and Signs



Revised 1929 and 1931

1927 Signs

Block letter font

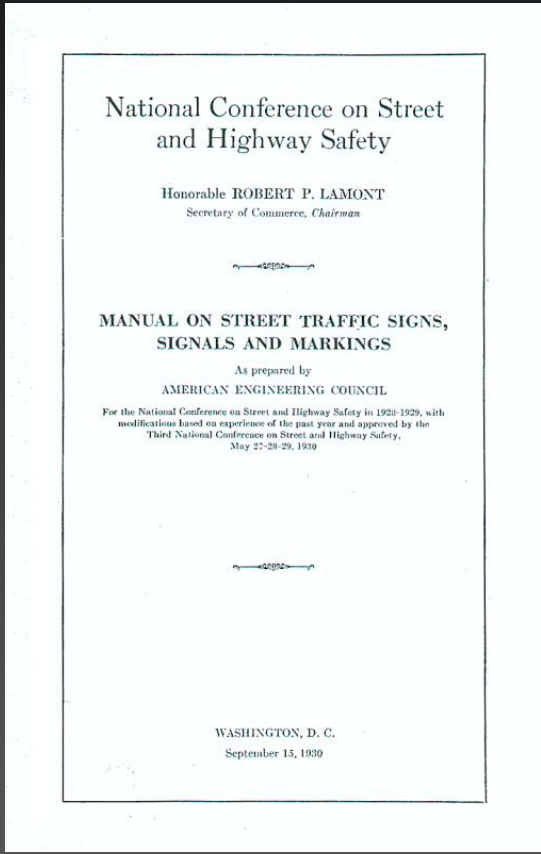
1930 NCHS Manual

Prepared by American Engineering Council

Signs, markings, and signals for urban areas

Title:

Manual on Street Traffic Signs, Signal and Markings



National Conference on Street and Highway Safety

Honorable ROBERT P. LAMONT
Secretary of Commerce, *Chairman*

MANUAL ON STREET TRAFFIC SIGNS, SIGNALS AND MARKINGS

As prepared by
AMERICAN ENGINEERING COUNCIL

For the National Conference on Street and Highway Safety in 1926-1929, with modifications based on experience of the past year and approved by the Third National Conference on Street and Highway Safety, May 27-28-29, 1930

WASHINGTON, D. C.
September 15, 1930

Not Revised

1930 Signs


SPEED
LIMIT
20
MILES


THROUGH
STOP
TRAFFIC

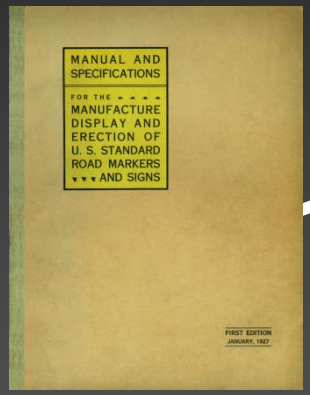

CAUTION
SCHOOL
ZONE


R R


CURVES

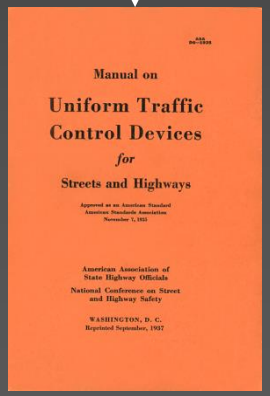
Birth of the MUTCD

Problems of two manuals led to creation of the MUTCD

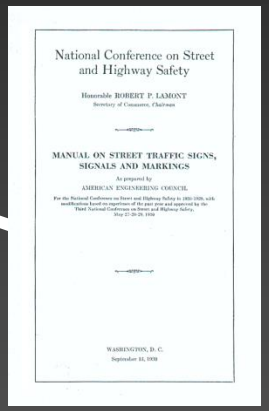


1927 Rural Manual

Joint Committee



1935 MUTCD



1930 Urban Manual

1935 MUTCD

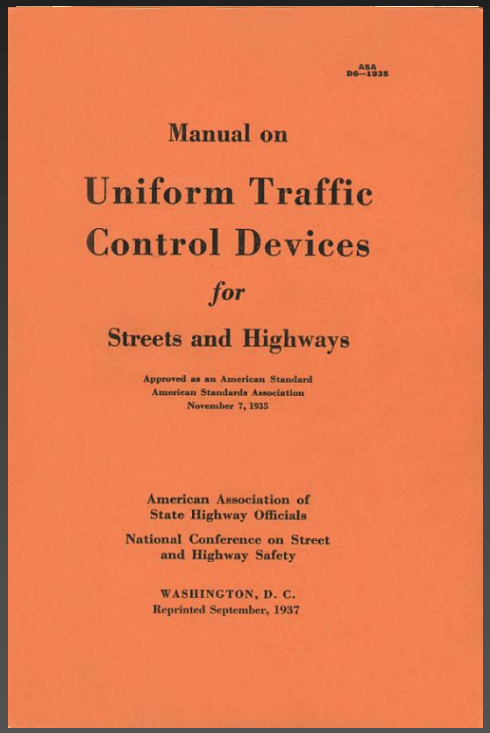
First MUTCD
- 1935 mimeograph
- 1937 typeset

Signs
- White or yellow
- Diamond, square, circle, octagon, rectangle

Markings
- White, yellow, or black

Signals
- 3-color signal as standard

Approved as national standard
- Published by JCUTCD, not a federal document



1937 Typeset
Revised 1939

1935 Signs


THRU
STOP
TRAFFIC


RAIL
CROSSING
ROAD
3
TRACKS


ONE WAY


R
R


T


LEXINGTON 10
HUNTINGTON 148

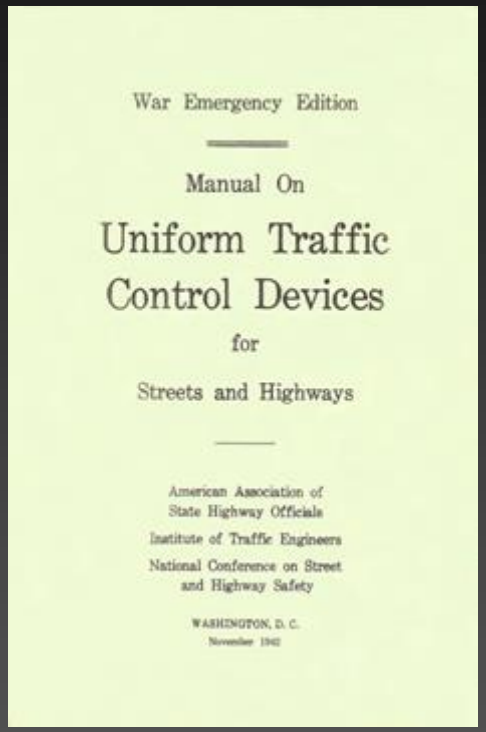
1935 MUTCD Quotes

The JCUTCD "deplores the independent procedure of certain jurisdictions in the selection of shapes and color combinations at variance with these standards, and hopes the importance of complete uniformity will be increasingly recognized."

"Traffic control requirements in any specific case cannot be determined by guesswork. They should be based on sound engineering principles established by factual studies of accidents, speeds, delays, and physical conditions which will show the exact nature of the difficulty and indicate what particular device or method of control is needed."

1942 MUTCD

- Few major changes
- Addressed wartime conditions
  - Conservation of materials
  - Blackout traffic control
- ITE added to JCUTCD
  - Still no federal ownership
  - War Dept and Civilian Defense assisted preparation


War Emergency Edition

Manual On

Uniform Traffic Control Devices

for

Streets and Highways

American Association of State Highway Officials

Institute of Traffic Engineers

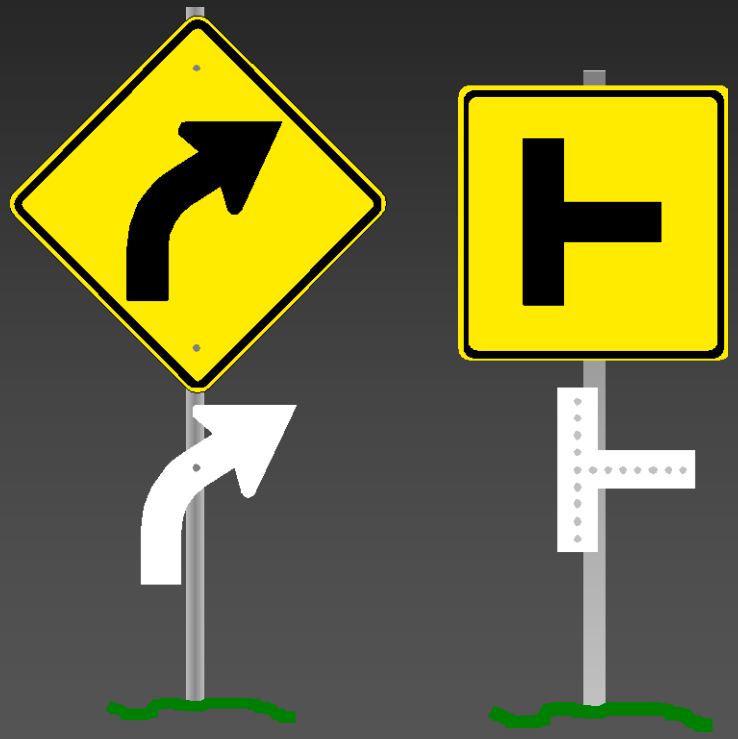
National Conference on Street and Highway Safety

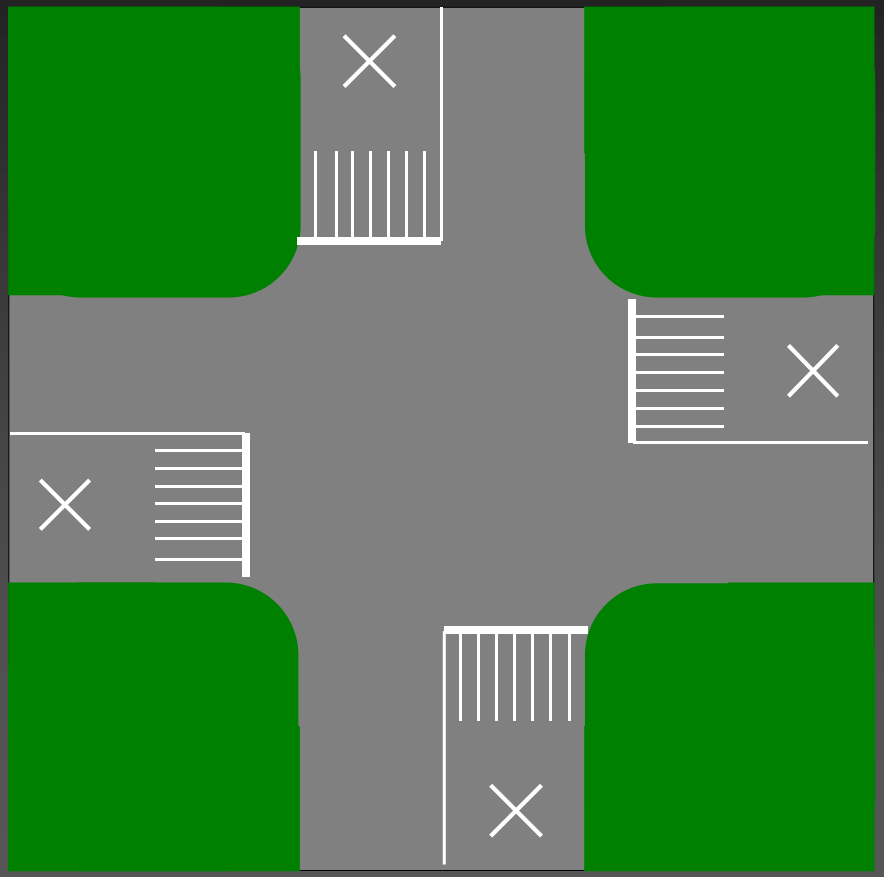
WASHINGTON, D. C.

November 1942

Not Revised

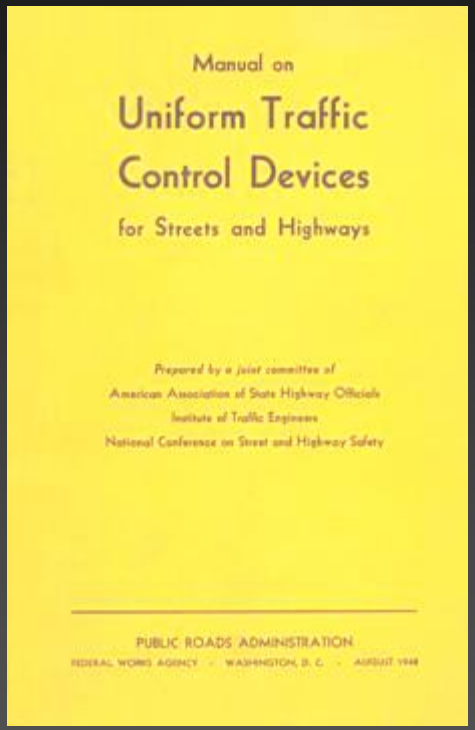
Blackout Devices





1948 MUTCD

- **Significant rewrite**
- **Signs**
  - Simplified messages
  - Eliminated square signs
  - Added advisory plate
  - Rounded alphabet
- **Pavement markings**
  - Yellow – Double center & barrier line
  - White – all other applications
  - Edge lines not recommended
- **Simplified signal warrants**



Revised 1954

1948 MUTCD Development

- **JCUTCD**
  - AASHO, NCSHS, ITE (7 men each + 1 sec [fed])
- **Continued as national standard (ASA D6.1)**
- **Published by Public Roads Administration**
- **Federal-aid Highway Act of 1944**
  - Authorized Commissioner of Public Roads to require compliance for highways receiving federal aid

1948 MUTCD Quotes

"This manual contains the best existing judgment on several points on which research is now in progress or being arranged for ..." "Because such questions, old and new, present a constant need for factual data, the JC has set up a Subcommittee on Research."

Until uniform laws replace the present wide variation in State laws regarding signs and signals, some jurisdictions may have to permit deviations from the recommendations of this manual. Fortunately, good progress is being made in bringing about the enactment of the desired uniform laws, and eventually such deviations will be reduced to a minimum."

1948 Signs


STOP
AHEAD


35
M.P.H.


STOP


SPEED
LIMIT
50


BRYAN 8
HEARNE 25


KEEP
RIGHT

Early Stop & Yield Signs

1954 Revision

Significant sign changes

Became

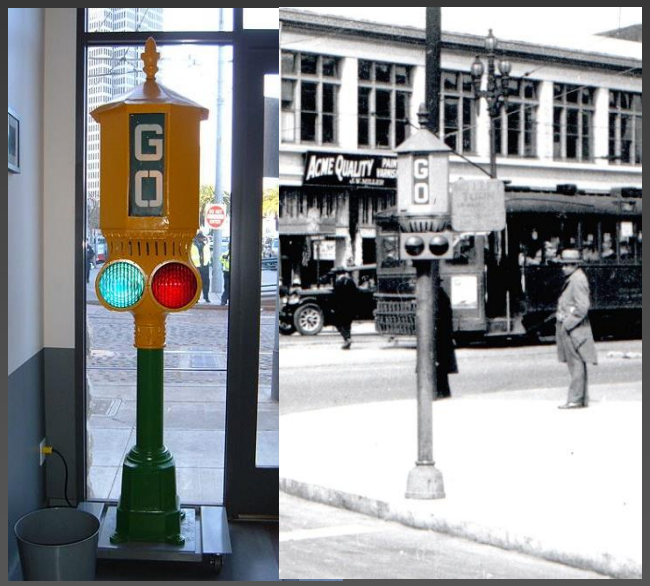
Secondary messages eliminated

New Sign

Traffic Signal Legacies

Non-standard traffic signals continued in use through the 1950s and 1960s in some locations

Darley 2 bulb signal

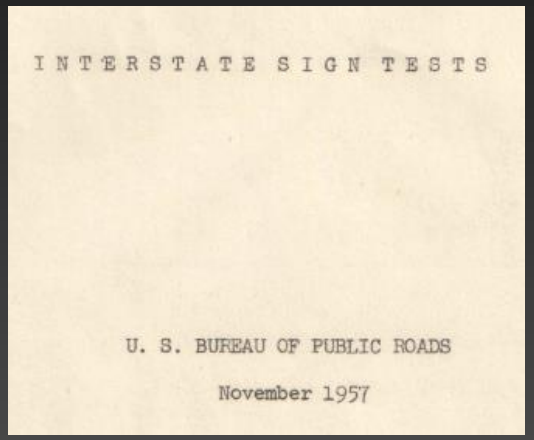


Wiley signal

NYC Olives

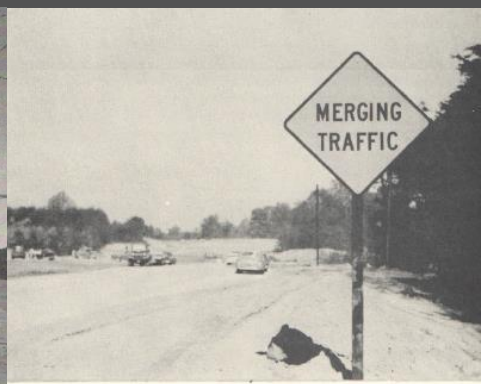
Freeway Guide Sign Tests

- New Interstate Highway system created signing and marking challenges
- BPR research in mid-1950s
  - Evaluated freeway guide sign design
    - Black, blue, and green backgrounds
    - Lower case letters
  - Other new signs
- Results lead to new signing guidelines


INTERSTATE SIGN TESTS

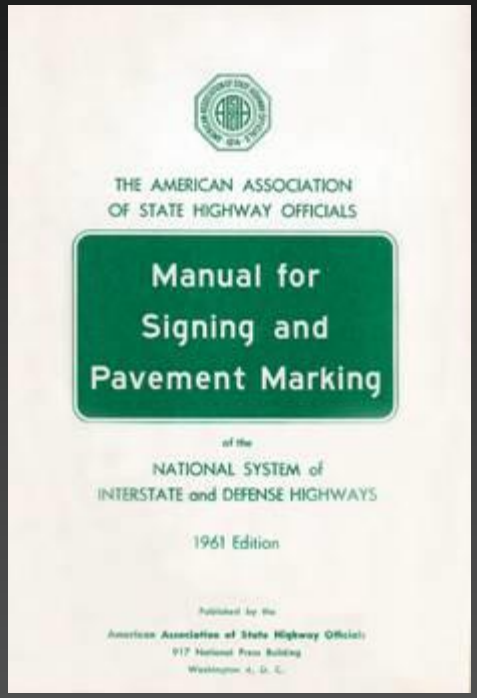
U. S. BUREAU OF PUBLIC ROADS

November 1957



1958 AASHO Interstate Manual

- Created for the new Interstate Highway system
- New features
  - White on green guide signs
  - Lower case letters
  - Green on white service signs
- Utilized larger sign sizes
- Blue service signs added in 1961 revision



Revised 1961, 1962, 1970

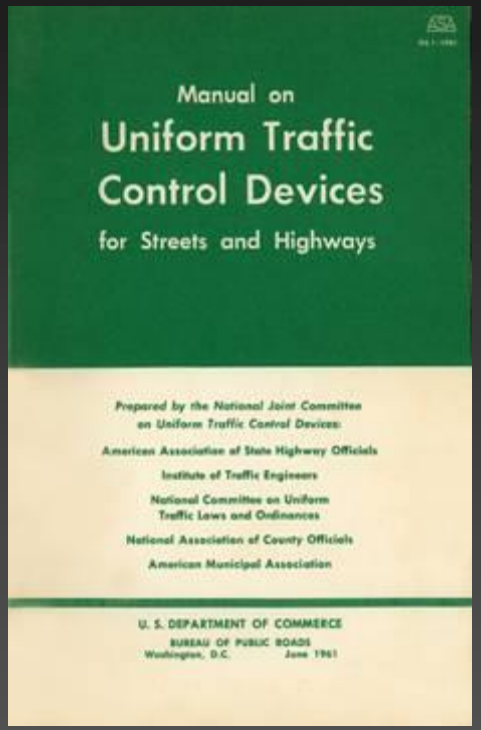
New Interstate Signs

1961 MUTCD

Compliance required for federal aid roads

New material:

- Construction traffic control
- Civil defense signing
- Freeway guide signing



Not Revised

1961 MUTCD Development

- **Prepared by National Joint Committee UTCD**
  - AASHO (7), ITE (7), NCUTLO (7), NACO (2), AMA (2), sec from BPR
- **Continued as national standard (ASA D6.1)**
  - Submitted by AASHO to BPR for concurrence
- **Published by Bureau of Public Roads**
- **Federal-aid Highway Act of 1944**
  - Authorized Commissioner of Public Roads to require compliance for highways receiving federal aid

1961 MUTCD Quotes

All modifications or new Manual materials must be approved by the five sponsoring organizations. Such approval constitutes both official and professional endorsement of use of the Manual in all States, counties, and cities.

On all streets and highways the need is great for high, uni- form standards of traffic control to protect the public investment in the Nation's roads and streets, and to foster safety, convenience, and economy of operation.

In many jurisdictions, particularly small counties and cities, the problem is not simple. Qualified engineers are needed to exercise the engineering judgment inherent in the selection of traffic control devices, just as they are needed to locate and design the roads and streets which the devices complement. Yet many small jurisdictions with responsibility for traffic control do not have qualified engineers on their staffs. Those jurisdictions should seek assistance on difficult problems from the State highway department, their county, a nearby large city, or a qualified traffic consultant.

1961 Signs


56
14
Metropolis
Utopia

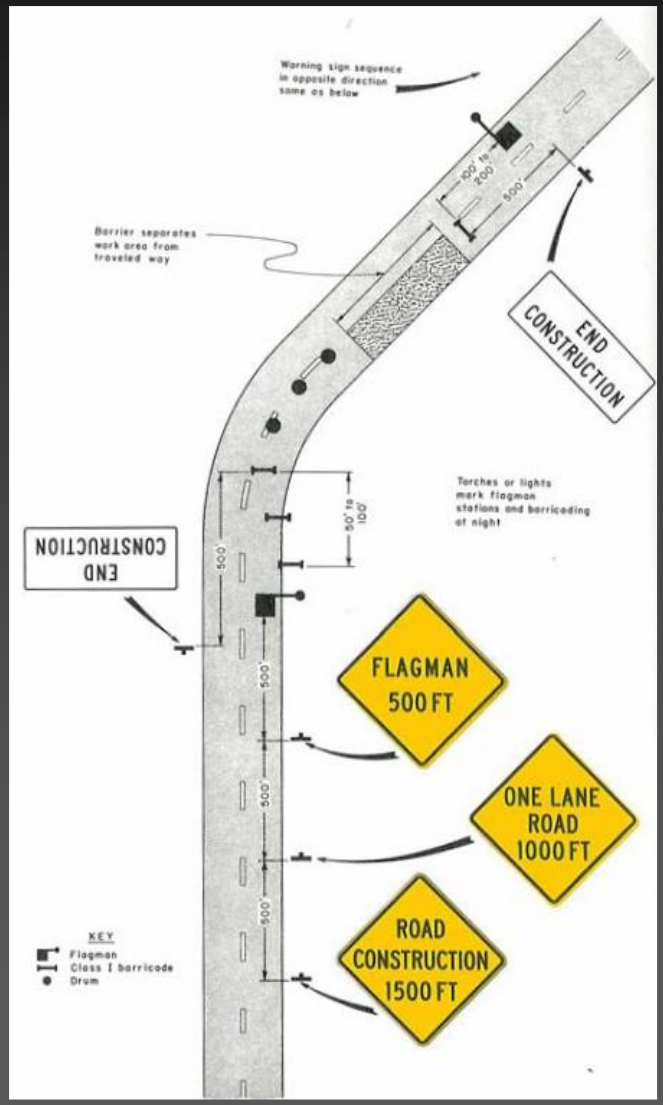

TEXAS
US
81


81


ONLY

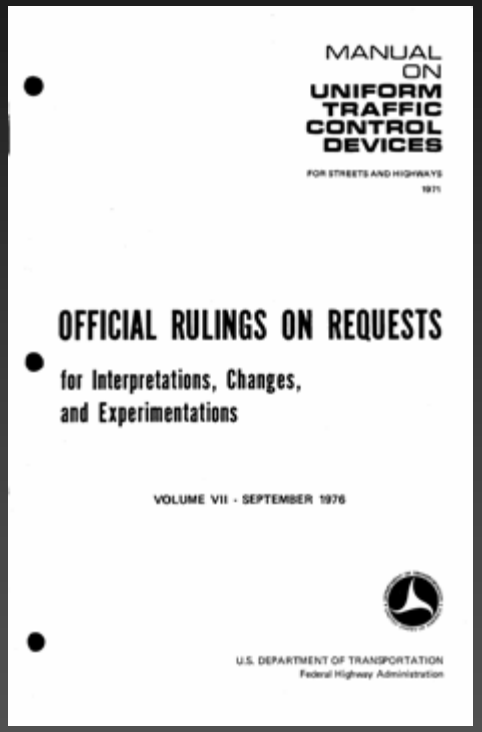

YIELD


EVACUATION
ROUTE


Warning sign sequence in opposite direction same as below
Barrier separates work area from traveled way
END CONSTRUCTION
Torches or lights mark flagman stations and barricading at night
END CONSTRUCTION
FLAGMAN 500 FT
ONE LANE ROAD 1000 FT
ROAD CONSTRUCTION 1500 FT
KEY
Flagman
Class I barricade
Drum

1971 MUTCD

- Significant rewrite
- DOT ownership
- New features:
  - Content: school areas
  - Color: orange
  - Shapes: pennant, pentagon
- International sign influence
  - Many new symbols
- Yellow markings for opposing traffic



Revised 8 times

1971 MUTCD Development

- Continued to be defined as ASA Standard D6.1
- Prepared by NJCUTCD
  - AASHO (7), ITE (7), NCUTLO (7), NAC (2), NLC (1)
- Adopted and published by FHWA
  - Approved by Administrator as National Standard for all highways open to public travel

1971 MUTCD Quotes

In recognition of the proven international value and need for symbols, and to present a nniforni and better understood systein of signing, this 1970 revision inclndes a wider use of symbols, both in the regulatory and warning series.

Color coding is employed more extensively in signs, and to define direction of travel by pavement markings.

This Manual also includes, for the first time, a complete and separate part covering traffic controls for school areas (Part VII).

Advances in technology will produce changes in the highway, the motor vehicle, and in driver proficiency and portions of the system of control devices in this manual will gradually become obsolete. In addition, unique situations often arise for device applications which may require interpretation or clarification of this Manual. It is important to have a procedure for recognizing these developments and for introducing new ideas and modifications into the system.

1971 Signs


YIELD
DO NOT
ENTER
ROAD
CONSTRUCTION
AHEAD
STOP
AHEAD
NO
PASSING
ZONE

1978 MUTCD

- Update of 1971 edition
- Loose leaf (binder) format
  - Individual page revisions
- New content
  - RR-hwy grade crossings
  - Bicycle facilities
- Yellow markings on left side

Revised 4 times

1978 MUTCD Development

- Prepared by the National Advisory Committee on Uniform Traffic Control Devices (an official federal advisory committee)
  - AASHTO (7), ITE (7), NCUTLO (7), NAC (3), NLC (1), NAGHSR (2), IACP, NEMA (1), ARTBA (1), IBTTA (1)
- Continued to be owned, administered, and revised by FHWA
- In 1979, FHWA terminated the NAC and assumed full responsibility for developing and revising MUTCD content while agreeing to accepting recommendations
- The NCUTCD was created from the NAC membership with its first meeting in Jan 1980

1978 Signs

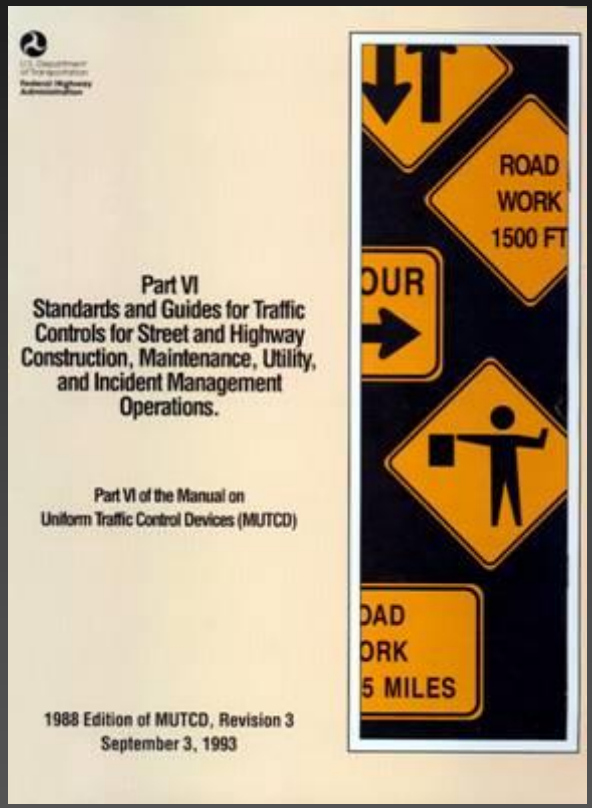

CENTER
LANE
ONLY


BUSES AND
4 RIDER
CAR POOLS ONLY
6AM-9AM
MON-FRI


BIKE ROUTE

1988 MUTCD

- **Update of 1978 edition**
  - Included new revision (#5)
- **New content**
  - Recreational/cultural signs
  - Logo signs
  - TODS
- **Planned to be revised only for safety reasons**



Rev 3: Part VI

1988 Signs


YELLOWSTONE
NATIONAL PARK
2 MILES


GAS
FOOD
LODGING
EXXON
DIESEL
McDonald's
COURTYARD
DIESEL
DOUBLE DAVE'S Pizzaworks
Howard Johnson
NEXT RIGHT


TOURIST ACTIVITIES
MYRTLEWOOD GIFT SHOP
1
GREENFOREST ORCHARD
3

MUTCD During the 1990s

Blue ribbon panel (1989)

- Recognize shortcomings of 1988 MUTCD
- Recommended reformat and rewrite of 1988 MUTCD

Need to clarify intent of language

Examples of language challenges

"shall be permitted"	"may be justified"
"shall preferably be"	"it is desirable that"
"normally should"	"it is necessary that"
"may be required"	"is intended for use"

Two step process: reformat then rewrite

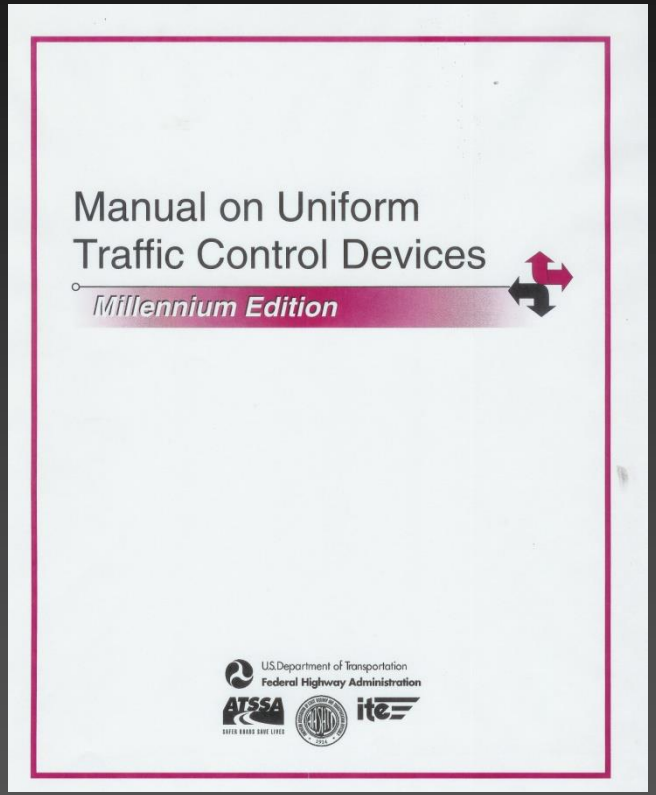
Started in early 1990s

Rewrite/Reformat Effort

- First step
  - Evaluate current language
  - Reformat language using shall, should, & may
    - Classify as standard, guidance, option, support (with headings)
- Second step
  - Rewrite reformatted language
  - Update content
  - Fix inconsistencies
- Multiple proposed rules in mid- to late-1990s
- Resulted in 2000 MUTCD

2000 MUTCD

- Millennium edition
- Reformatted/rewritten
- Significantly different from 1988 MUTCD
- First with 8½×11 pages
- First to be on the internet
- Many errors & shortcomings
  - Editorial and technical errors
  - Errata did not correct all problems



1 Errata
1 Revision

Significant Changes

New structure

- Standard, Guidance, Option, Support

New parts added to MUTCD

- Low Volume Roads
- Highway-Light Rail Transit Grade Crossings

Islands part deleted

Definitions added

Primary units: metric

2000: Selected Key Changes

- Legibility index = 40 ft/in
- Sign graphics not accurate
- Lane ending symbol (W4-2) dropped
- Crosswalk lines dropped from crossing signs
- New Yield Line
- In-road lights


Courtesy of S. Wainwright

2003 MUTCD

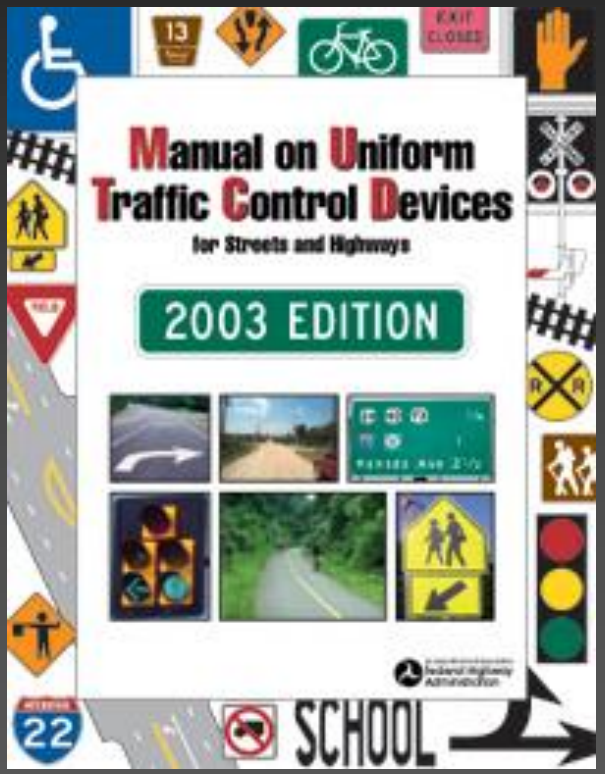
Primarily an update of the 2000 MUTCD

Changes

- Editorial improvements
- Graphics corrected
- Technical corrections
- Some new material

Compressed text

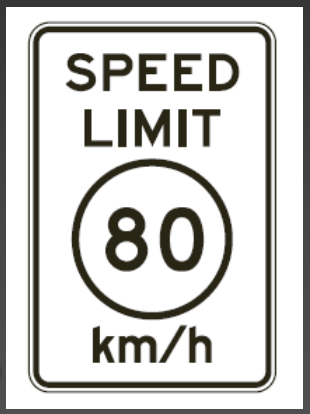
- 982 to 754 pages



2 Revisions

2003: Selected Key Changes

- Some new/revised signs
- New sign color
  - Pink for incident mgmt
- Countdown ped signals
- Metric sign changes
- Accessibility in work zones
- Revisions:
  - 1: Pharmacy signing
  - 2: Min sign retro

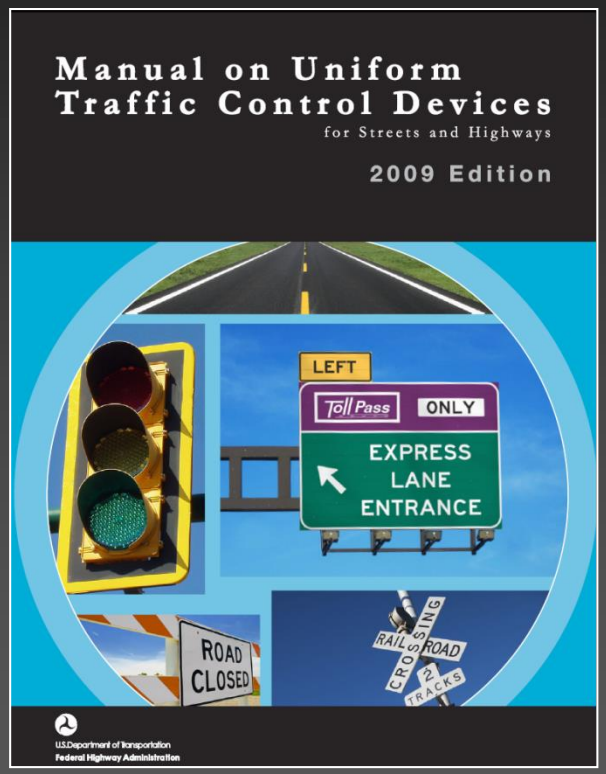


Part 2

MUTCD Present

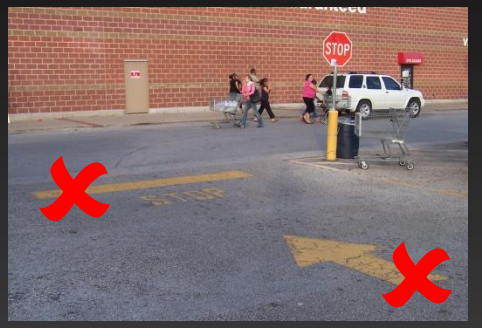
2009 MUTCD

- Current edition (10th overall)
- Final rule: Dec 16, 2009
- NPA received more comments than any other
  - 1,840 individual letters
  - 15,000+ comments
- Many changes
  - 611 significant changes listed in Federal Register final rule



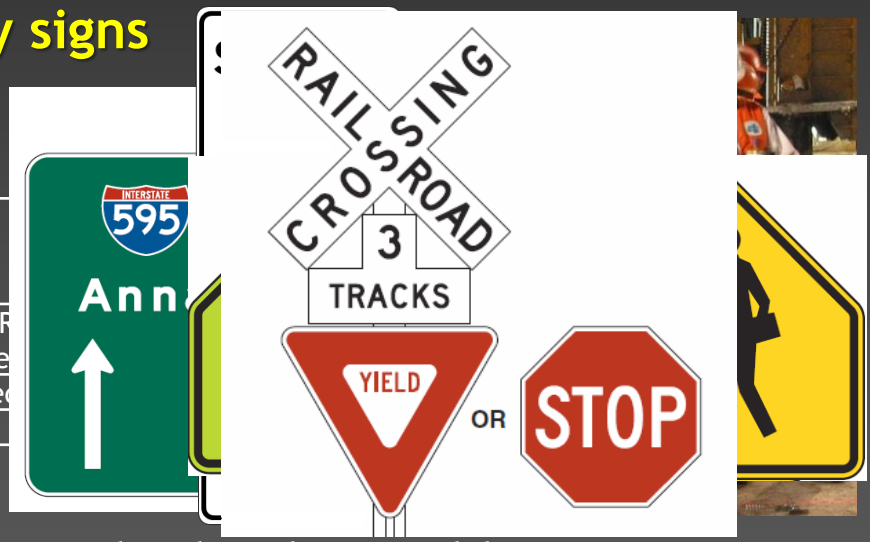
2009: Philosophical Changes

- **FWHA focus for 2009 MUTCD**
  - Uniformity
  - Complete street concept: all road users
  - Aging population
  - Innovation
- **More specific detail, reduced ability to deviate**
  - Fine tuning of TCD use
  - More devices addressed
- **Compliance dates restructured**
  - Compliance as part of systematic upgrade
- **Combine RR and LRT parts**
- **MUTCD applies to private property**
- **New content**
  - Toll road & managed lanes traffic control
    - Purple for toll roads
  - Changeable message signs



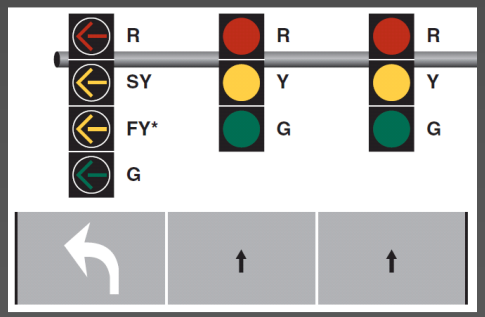
2009: Selected Key Changes

- Paragraphs numbered, guidance italicized, metric values removed
- Change in definition for a standard
  - Added: "Standard statements shall not be modified or compromised based on engineering judgment or engineering study"
- Legibility index = 30 ft/in
- Increases in sign sizes - 36 in Stop sign required for some situations
- Increased requirements for One Way signs
- Requirements for warning signs for changes in horizontal alignment
- Revised optional lane guide signing
  - Arrow per lane sign
- High-visibility safety apparel
  - Required for all workers within the public right-of-way
- School warning signs: FYG only
- Cannot use Speed Limit sign alone to end school speed limit zone
- Yield or Stop signs required at passive grade crossings



2009: Signal Changes

- 12 inch indications for all new installations
  - Limited use of 8 inch indications
- Signal head for each lane when speed ≥ 45
  - Backplates required
- Flashing yellow arrow for left turns
- Hybrid beacon (HAWK) for ped crossing



2009 MUTCD Revisions

Rev 1: engineering judgment & definition of a standard

- Added: the MUTCD is not a substitute for engineering judgment
- Deleted: standard statements shall not be modified or compromised based on engineering judgment

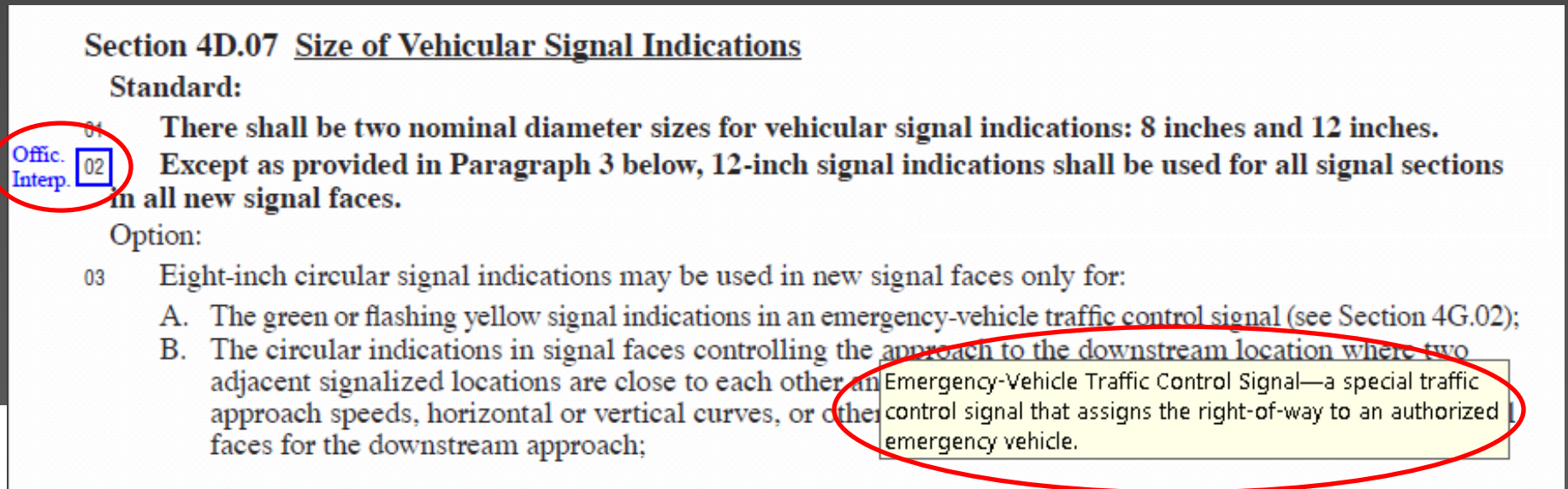
Rev 2: compliance dates

- 12 of the previous 58 compliance dates retained
- Several of the remaining 12 have been modified

Hotlinks 2009 MUTCD

FHWA posted hotlinks version of the 2009 MUTCD

- Cross-referenced chapters, sections, figures, and tables
- Pop-up definitions
- Links to external documents and web sites
- Links to official interpretations
- Indications of material affected by known errors
- 31 MB file – download instead of using on-line version



Section 4D.07 Size of Vehicular Signal Indications

Standard:

01 **There shall be two nominal diameter sizes for vehicular signal indications: 8 inches and 12 inches.**

Offic. Interp. 02 **Except as provided in Paragraph 3 below, 12-inch signal indications shall be used for all signal sections in all new signal faces.**

Option:

03 Eight-inch circular signal indications may be used in new signal faces only for:

A. The green or flashing yellow signal indications in an emergency-vehicle traffic control signal (see Section 4G.02);

B. The circular indications in signal faces controlling the approach to the downstream location where two adjacent signalized locations are close to each other an approach speeds, horizontal or vertical curves, or other faces for the downstream approach;

Emergency-Vehicle Traffic Control Signal—a special traffic control signal that assigns the right-of-way to an authorized emergency vehicle.

Part 3

MUTCD Future

MUTCD Trends

- Used by more and more people
- Less variation between states
- Greater consideration of local level perspective
- Size and content growing
  - More devices addressed
  - Greater specificity for devices
  - Some non-TCD material
    - TCD standards vs good practices

Near-Term MUTCD Future

- Current MUTCD: 2009 edition
- Prior expectation: NPA in 2015
- Current expectation: NPA in 2019
  - Final rule near end of 2020 (2020 MUTCD)

NPA Expectations

Expectations (hope?) for NPA:

- Contains 200± NCUTCD recommendations (209 approved Jan 09-Jan 19)
- Minimal new content not developed/reviewed by NCUTCD
- Nothing too controversial
- Establish new base from which to develop the next MUTCD
- At least 3-4 month docket (desire overlap with NCUTCD meeting)
- Likely to be some surprises

NPA Content

Last large MUTCD NPA: January 2008

- (proposed rule for 2009 MUTCD)
- 68 pages, 513 identified changes to MUTCD
- 6 month comment period

No info on NPA content until published

- Federal work on rulemaking is behind a curtain

January 2008 NPA had 1,960 items in docket

- Some items were 50+ pages in length
- Over 15,000 individual comments

2008 NPA Fed Reg Page

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

23 CFR Parts 634 and 655

[FHWA Docket No. FHWA–2007–28977]

RIN 2125–AF22

National Standards for Traffic Control Devices; the Manual on Uniform Traffic Control Devices for Streets and Highways; Revision

AGENCY: Federal Highway Administration (FHWA), (DOT).

ACTION: Notice of proposed amendments.

SUMMARY: The MUTCD (also referred to as "the Manual") is incorporated by our regulations, approved by the Federal Highway Administration, and recognized as the national standard for traffic control devices used on all public roads. The purpose of this notice of proposed amendments is to revise standards, guidance, options, and supporting information relating to the traffic control devices in all parts of the MUTCD. The proposed changes are intended to expedite traffic, promote uniformity, improve safety, and incorporate technology advances in traffic control device application. These proposed changes are being designated as the next edition of the MUTCD.

DATES: Comments must be received on or before July 31, 2008.

ADDRESSES: Mail or hand deliver comments to the U.S. Department of Transportation, Dockets Management Facility, 1200 New Jersey Avenue, SE., 65, Number 70, Page 19477–78) or you may visit *http://dms.dot.gov.*

FOR FURTHER INFORMATION CONTACT: Mr. Hari Kalla, Office of Transportation Operations, (202) 366–5915; or Raymond Cuprill, Office of the Chief Counsel (202) 366–0791, Federal Highway Administration, 1200 New Jersey Ave., SE., Washington, DC 20590. Office hours are from 7:45 a.m. to 4:15 p.m., e.t., Monday through Friday, except Federal holidays.

SUPPLEMENTARY INFORMATION:

Electronic Access and Filing

You may submit or retrieve comments online through the Federal eRulemaking portal at: *www.regulations.gov.* Electronic submission and retrieval help and guidelines are available under the help section of the Web site. It is available 24 hours each day, 365 days each year. Please follow the instructions. An electronic copy of this document may also be downloaded from the Office of the Federal Register's home page at: *http://www.archives.gov* and the Government Printing Office's Web page at: *http://www.access.gpo.gov/nara.*

Background

The text, figures, and tables of a proposed new edition of the MUTCD incorporating proposed changes from the current edition are available for inspection and copying, as prescribed in 49 CFR Part 7, at the FHWA Office of Transportation Operations (HOTO–1), 1200 New Jersey Avenue, SE., Washington, DC 20590. Furthermore, the text, figures, and tables of a proposed new edition of the MUTCD

the comments received and its own experience, the FHWA may issue a Final Rule concerning the proposed changes included in this notice.

The notice of proposed amendments is being published to address the many advances in technology, research results, and improved traffic and safety management strategies that have occurred since the 2002 initiation of the rulemaking process that led to the 2003 edition of the MUTCD. The FHWA invites comments on these proposed changes to the MUTCD. The FHWA requests that commenters cite the page number and line numbers of the proposed MUTCD text for which each specific comment to the docket about the proposed text is concerned, to help make the FHWA's docket comment review process more efficient.

A summary of the significant proposed general changes and proposed changes for each of the parts of the MUTCD is included in the following discussion.

Discussion of Proposed General Amendments to the MUTCD

1. The FHWA proposes to develop a new cover page for the new edition of the MUTCD that will maintain general consistency with covers of previous editions but with changes to give it a distinctive appearance, to minimize the possibility of confusion by users. Although a new cover page has not yet been developed and is not illustrated in the NPA, the FHWA proposes to include a new cover page design in the edition of the MUTCD published as the Final Rule. The FHWA proposes that the date of the new edition to be identified on the cover and elsewhere within the

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fhwa-2007-28977

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National Standards for Traffic Control Devices; The Manual and Uniform Traffic Control Devices for Streets and Highways; Revision

Agency: Federal Highway Administration (FHWA)

Summary: This rulemaking would revise standards, guidance, options, and supporting information relating to the traffic control devices in all parts of the MUTCD. The intended changes in this rulemaking would expedite traffic, promote uniformity, improve safety, and incorporate...

National Standards for Traffic Control Devices; the Manual on Uniform Traffic Control Devices for Streets and Highways; Revision

Comment Now!

Rule by **FHWA** on **01/02/2008** **ID:** FHWA-2007-28977-0001

Due Jul 31, 2008 11:59 PM ET

Open Docket Folder

RIN: 2125-AF22

Bob Wagar - Comments

Comment Period Closed

Jul 31, 2008 11:59 PM ET

- FHWA- 2007-28977 NPA 2009 MUTCD Major changes in proposed new MUTCD. My best count of Target Compliance dates is 217 in the proposed MUTCD (excluded those that dates have...

Public Submission to **FHWA** on **01/03/2008** **ID:** FHWA-2007-28977-0002

Open Docket Folder

RIN: 2125-AF22

Murray Bodin - Comments

Comment Period Closed

Jul 31, 2008 11:59 PM ET

- 2007 NPA Text Showing Revisions Page 959 December 2007 Section 6E.03 Hand-Signaling Devices Support: Hand-signaling devices, such as STOP/SLOW paddles, lights, and red flags...

Public Submission to **FHWA** on **01/03/2008** **ID:** FHWA-2007-28977-0003

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RIN: 2125-AF22

Murray Bodin - Comments

Comment Period Closed

Jul 31, 2008 11:59 PM ET

- This comment is in support of the MUTCD revisions. Last night the Iowa caucus supported Barack Obama as the Democratic candidate for president. In my opinion it shows that the...

Public Submission to **FHWA** on **01/08/2008** **ID:** FHWA-2007-28977-0004

Open Docket Folder

RIN: 2125-AF22

Andrew J. Mortensen - Comments

Comment Period Closed

Jul 31, 2008 11:59 PM ET

- General comments/suggestions regarding pedestrian and bicycle policies. Section 1A.11 Relation to Other Publications (1) add website address for FHWA documentation - "Designing...

Open Docket Folder

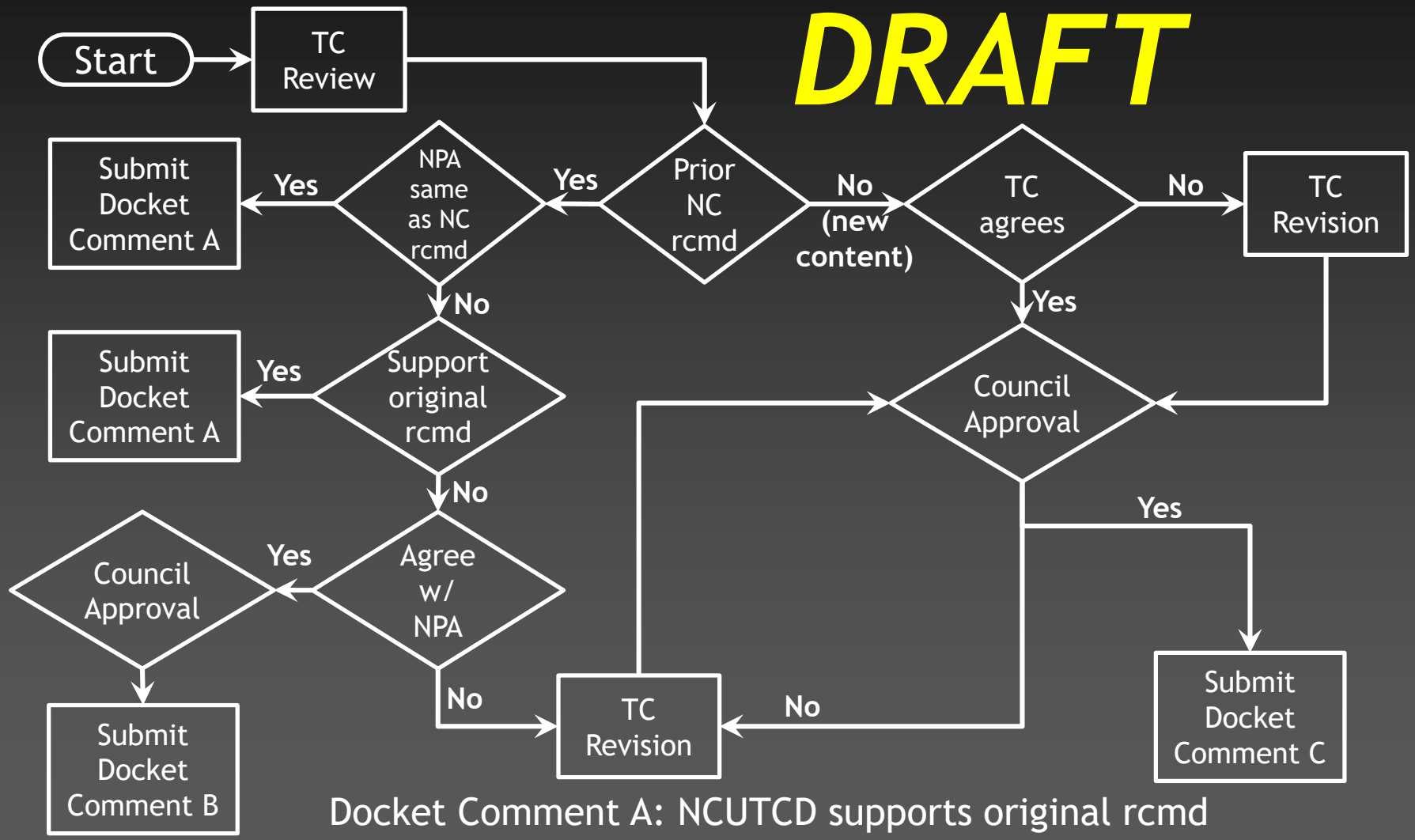
NCUTCD NPA Review Process

NCUTCD in final stages of adopting process for reviewing NPA

Steps:

1. Assign items to technical committees (TC)
2. Review each item and determine need for Council action:
   a. Same as prior NC recommendation – no Council action necessary
   b. Different from prior NC recommendation or TC recommends changes to NPA language – Council vote required

NPA Review Flow Chart



Docket Comment A: NCUTCD supports original rcmd
Docket Comment B: NCUTCD agrees with NPA
Docket Comment C: NCUTCD recommends change to NPA

Long-Term MUTCD Future

- **Time to start thinking about MUTCD changes after 2020 edition**
  - Connected and autonomous vehicles
  - Technological advances in TCDs
  - Shorter implementation time frames
  - Greater focus on peds, bikes, and transit
  - More significant differences between congested urban areas, suburbs, and rural areas - challenges of guidelines that address such a wide range of conditions, users, and environments
  - MUTCD delivery options and decision-making tools
- **NCUTCD strategic plan for MUTCD**
  - On NCUTCD website (under links), 79 pages

MUTCD Resources

MUTCD web site

http://mutcd.fhwa.dot.gov

HTML & PDF versions of MUTCD (incl hotlink)

Lists of changes

Evolution of the MUTCD: Early Standards for Traffic Control Devices

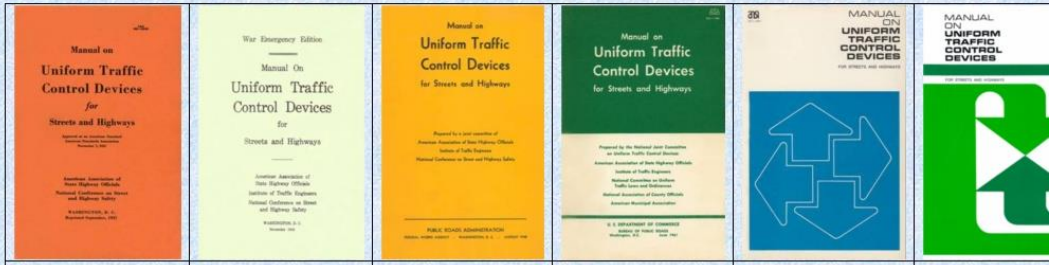
BY H. GENE HAWKINS, JR.

Seventy years ago, traffic control devices were a concern of relatively few individuals in the United States. Signs and markings were placed and maintained by auto clubs, local agencies, or state highway departments, with little

Devices (MUTCD), which sets forth the basic principles that govern the design and use of traffic control devices. The MUTCD, first published in 1935, has always been one of the "bibles" of the profession and continues in that capacity

MUTCD HISTORY

Last Updated: July 9, 2008



1935	1942	1948	1961	1971	1978

One day in the late 1980s, I was rummaging through my parent's garage and came across a 1948 MUTCD that my father used when he was
Highway Traffic in the mid-1950s. While perusing that document, I found that Stop signs were yellow, highway centerlines could be whit
exist. It was an eye-opening experience that led me to begin collecting old traffic engineering books. In 1990, I was fortunate enough to
the national MUTCD from the Eno Foundation for Traffic Safety. These documents provided great insight into how our current system of
over several generations, insight which I felt was largely lost to our current generation of traffic engineers. Armed with these documents
presentation on the history of the MUTCD, the paper appearing in the Compendium of Technical Papers for the 1991 ITE Annual Meeting i
response to this paper and presentation were so positive, I prepared a series of papers on MUTCD history for ITE Journal. These papers a
Institute of Transportation Engineers. Gene Hawkins also prepared a description of the evolution of the use of paper marking color as par
all-white pavement markings.

- Evolution of the MUTCD: Part 1 - Early Standards for Traffic Control Devices, © Institute of Transportation Engineers, July 1992. U
- Evolution of the MUTCD: Part 2 - The Early Editions of the MUTCD, © Institute of Transportation Engineers, August 1992. Used by p
- Evolution of the MUTCD: Part 3 - The MUTCD Since World War II, © Institute of Transportation Engineers, November 1992. Used b
- New Developments with the MUTCD, © Institute of Transportation Engineers, February 1994. Used by permission

MUTCD History Resources

Search "Gene Hawkins MUTCD" – goes to CE Profs website

Select MUTCD History link

MUTCD history PPT presentation

ITE Journal articles

Scans of old MUTCDs

Links to Previous Editions of the MUTCD

- 2003 and 2000 MUTCDs (link to previous editions on the FHWA website)
- 1988 MUTCD
- 1978 MUTCD (Richard Moeur Manual of Traffic Signs site)
- 1971 MUTCD (Richard Moeur Manual of Traffic Signs site)
- 1961 MUTCD (Richard Moeur Manual of Traffic Signs site)
- 1948 MUTCD (scan provided by FHWA)
  - 1954 revision to the 1948 MUTCD (scan provided by FHWA)
- 1942 MUTCD (scan provided by FHWA)
- 1935 MUTCD (scan provided by FHWA)
  - 1939 revision to the 1935 MUTCD (scan provided by FHWA)
- 1930 National Conference on Street and Highway Safety urban TCD manual
- AASHO Manual and Specifications for the Manufacture, Display, and Erectio

Signs Not in the Next MUTCD

Questions

?