

# The 2003 US MUTCD

*(what is it,  
how did it get that way,  
and how does it affect bicyclists?)*

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**(US) National Committee on Uniform Traffic Control Devices**



# The MUTCD

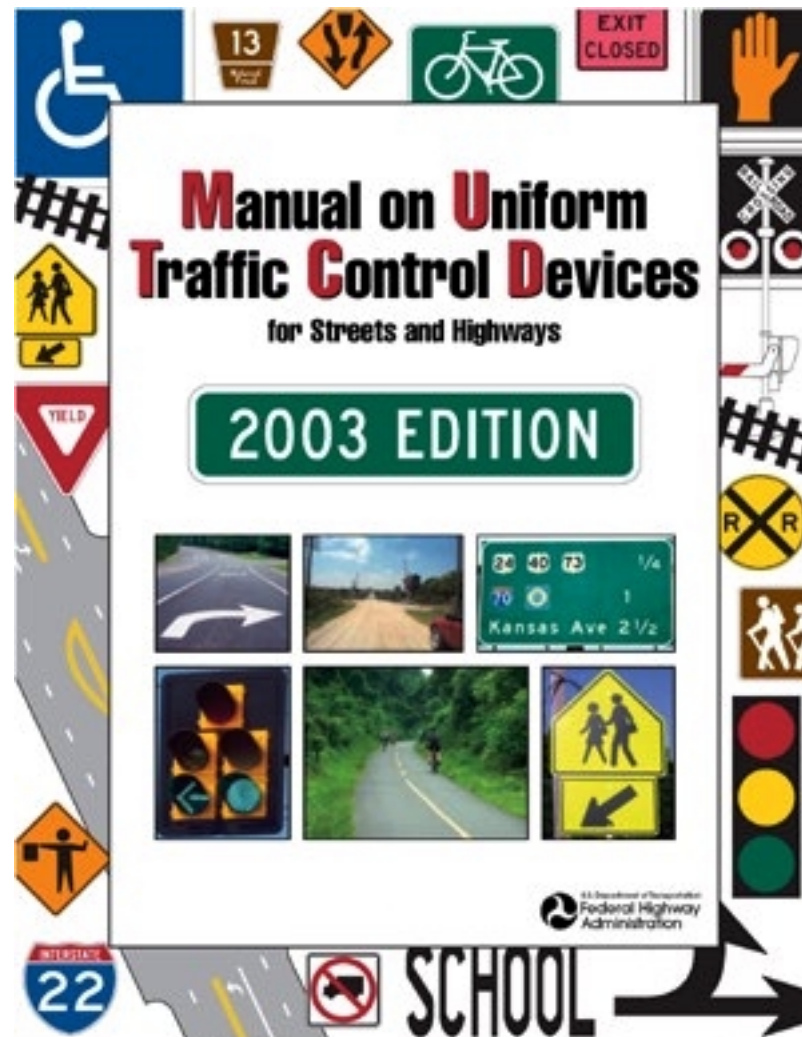
- **Manual on Uniform Traffic Control Devices**
- **National standard for all traffic control in the United States**
- **Defines standards & guidelines for:**
  - **Signs**
  - **Markings**
  - **Traffic signals**
  - **Work zones & other temporary controls**
  - **Railroad crossings**

# Manual on **Uniform** Traffic Control Devices

- **Ensures similar situations are treated in similar manner for all road users**
  - Improves traffic flow
  - Improves safety
  - No "surprises"!
- **MUTCD defines uniformity of**
  - Color
  - Shape
  - Legend
  - Placement



# The New 2003 MUTCD



# The MUTCD

- **10 parts**
  - **1 - General**
  - **2 - Signs**
  - **3 - Markings**
  - **4 - Traffic Signals**
  - **5 - Low Volume Roads**
  - **6 - Temporary Traffic Control**
  - **7 - School Areas**
  - **8 - Railroad Crossings**
  - **9 - Bicycle Facilities**
  - **10 - Light Rail**

## Part 1 - General

# New interim approval process

- **New devices may be approved by FHWA for general use prior to publication of next MUTCD**
  - **Must follow FHWA experimental process**
  - **Must be supported by research & studies**
    - **Interim approvals so far:**
      - **Reflective border around signal backplates**
      - **Wayside horn system for railroad crossings**

## Part 3 - Markings

# Colored pavement

- **Colored crosswalks are OK, as long as**
  - colors don't confuse road users
  - standard white crosswalk lines are used
  - colors don't degrade contrast of white lines
    - the crosswalk lines are considered to be the traffic control device, not the colored "filling"
- **This does NOT allow for colored bike lanes**
  - Significant difference in visual impact between transverse and longitudinal markings
  - FHWA Interpretation issued in November 2003
  - More experimental data needed

## Part 6 - TTC

# Work Affecting Peds & Bikes

- **Needs of all road users must be considered in work zones**
- **Now specifically mentions the need to accommodate bicyclists in work zones**
- **New section (6G.05) dealing with temporary traffic control affecting bicycle & pedestrian facilities**



# Part 6

## Temporary Traffic Control

- **At the beginning of each chapter in Part 6 is this statement:** (except Chapter 6E, Flagger Control)
  - **The needs and control of all road users (motorists, bicyclists, and pedestrians within the highway, including persons with disabilities in accordance with the Americans with Disabilities Act of 1990 (ADA), Title II, Paragraph 35.130) through a TTC zone shall be an essential part of highway construction, utility work, maintenance operations, and the management of traffic incidents.**

## Part 6 - TTC

# Temporary Sign Placement

- **New Guidance:**
  - **Neither portable nor permanent sign supports should be located on sidewalks, bicycle facilities, or areas designated for pedestrian or bicycle traffic.**

## Part 6 - TTC

# Rumble Strips in Work Zones

- **Temporary rumble strips should not be placed through pedestrian crossings or on bicycle routes**
- **Temporary transverse rumble strips should not be placed on roadways used by bicyclists, unless a minimum clear path of 1.2 m (4 ft) is provided at each edge of the roadway or paved shoulder**
- **Temporary longitudinal rumble strips should not be placed on the shoulder of a roadway that is used by bicyclists unless a minimum clear path of 1.2 m (4 ft) is also provided on the shoulder**

## Part 8 - Railroad Crossings

# New Skewed Crossing Sign



- **Can be used at a skewed highway-rail grade crossing**
  - **(but will bicyclists understand the meaning of this sign?)**

# Part 9 - Bicycle Facilities

- **Section that deals specifically with bicyclists**
  - **although the rest of the MUTCD still applies to bicycle traffic as well**
- **Covers:**
  - **Shared roadways & bike routes**
  - **Bike lanes**
  - **Shared-use paths**

## Part 9 - Bicycles

# STOP and YIELD signs

- **Path traffic shouldn't always have to yield to roadway traffic**
  - **Priority should be assigned based on:**
    - **Relative speeds of path vs. roadway users**
    - **Relative volumes of path vs. roadway traffic**
    - **Relative importance of path vs. roadway**
  - **It's appropriate to give right-of-way to a high-volume path crossing a low-volume street**
  - **STOP signs should not be used where YIELD signs would be acceptable**

# BIKE LANE signs

- **New Bike Lane sign design**



- **cleaner, clearer design**
- **Removed "RIGHT LANE" legend**
- **Removed "ONLY" legend (bicyclists don't have to stay in bike lanes, can be used for turns, etc.)**
- **AHEAD and ENDS plaques used instead of separate signs**

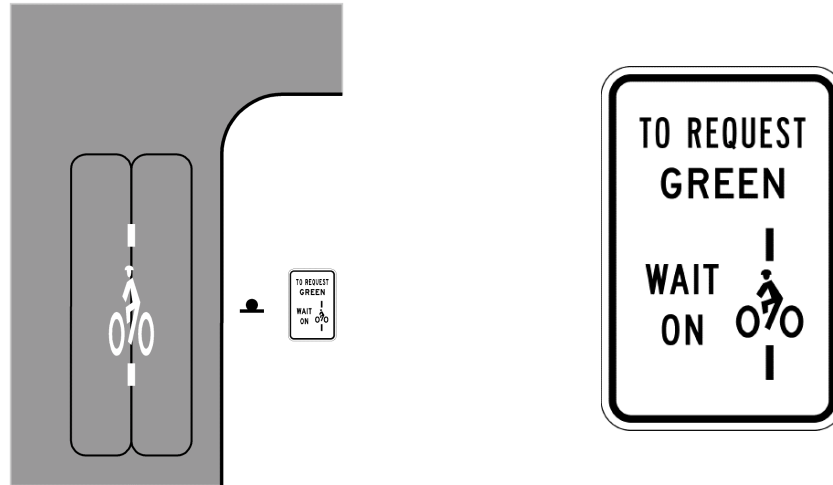
# Bicycle Wrong Way signs



- **Can be used facing wrong-way bike traffic, such as on the left side of a roadway or left-side sidewalk**
- **Can be mounted back-to-back with other signs to minimize visibility to “right-way” traffic**



# New Bicycle Signal Actuation symbol and sign (R10-22)



- Indicates the best location where a bicyclist can be positioned to actuate a traffic signal detector
- Sign can be placed adjacent to the marking to show meaning of marking

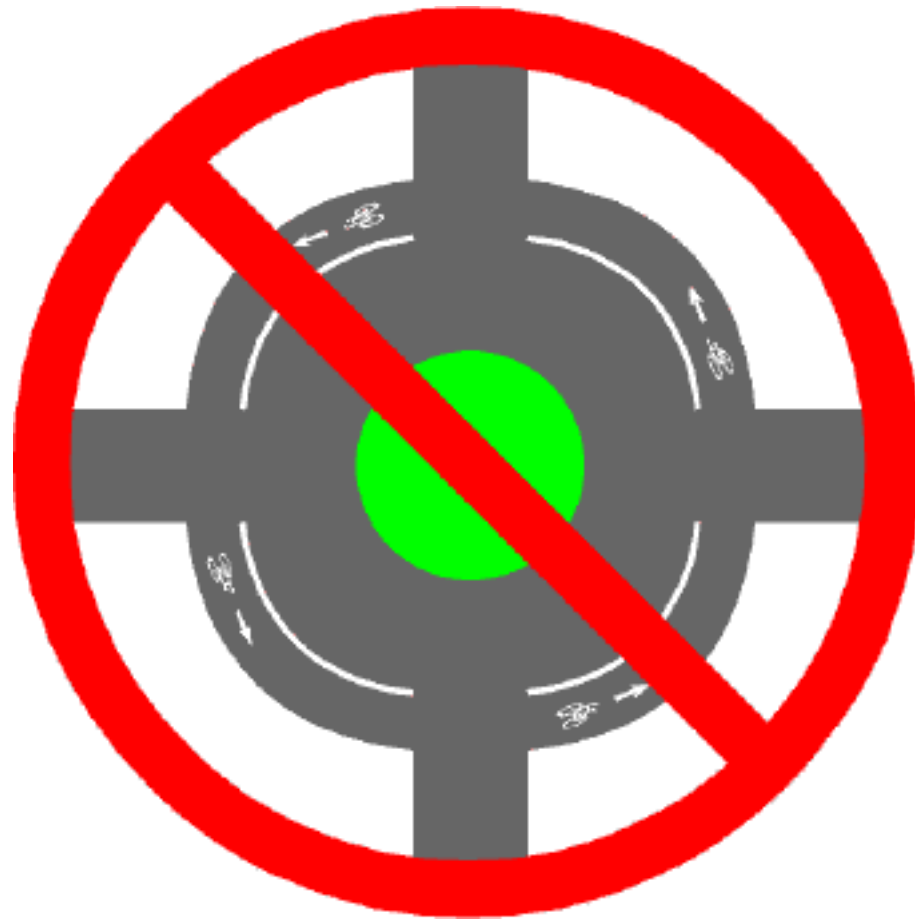
# Markings for Bicycle Lanes

- **A through bicycle lane shall not be positioned to the right of a right turn only lane.**



# Markings for Bicycle Lanes

- **Bicycle lanes shall not be provided on the circular roadway of a roundabout intersection.**



# Markings for Bicycle Lanes

- **New guidance:**
  - **An optional through-right turn lane next to a right turn only lane should not be used where there is a through bicycle lane. If a capacity analysis indicates the need for an optional through-right turn lane, the bicycle lane should be discontinued at the intersection approach.**
  - **Posts or raised pavement markers should not be used to separate bicycle lanes from adjacent travel lanes.**

## **Part 9 - Bicycles**

# **Signals**

- **On bikeways, signal timing and actuation shall be reviewed and adjusted to consider the needs of bicyclists**
  - **(reverted back to earlier 1978-1988 wording)**

# MUTCD Update Process

- **Experimentation**
  - **Process described in Section 1A.10 of MUTCD**
  - **FHWA approval required for:**
    - **New symbols or combination of symbols**
    - **New colors or application of colors**
    - **Non-compliant devices**
  - **Advantages of FHWA oversight:**
    - **Protection from liability**
    - **More likely for FHWA to accept results**
    - **Expert review / oversight**

# MUTCD Update Process

- **Rulemaking**
  - **Proposed changes published in Federal Register**
  - **90 day public comment period**
  - **FHWA collects comments**
    - **12-18 months to review & analyze**
  - **Final Rule published in Federal Register**
- **Adoption**
  - **States have 2 years to adopt**
    - **Adopt Federal manual**
    - **State supplement (minor modifications)**
    - **State manual (must be in “substantial conformance”)**

# History of MUTCD

- **Originally written in 1930s by National Joint Committee of transportation organizations**
- **US DOT assumed ownership of MUTCD in late 1960s**
  - **NJC “adopted” by FHWA as federally-recognized advisory committee**
- **National Joint Committee disbanded by FHWA in 1979 - reorganized as NCUTCD**



# NCUTCD

- **National Committee on Uniform Traffic Control Devices**
- **Nonprofit corporation**
- **Organized in 1980 out of membership of old National Joint Committee**
- **Provides expert input to FHWA on MUTCD**
- **Over 200 technical members from across US**

# NCUTCD

- **39 voting members from 21 sponsoring transportation organizations**

- American Association of State Highway & Transportation Officials (8 seats)
- Institute of Transportation Engineers (8 seats)
- National Association of County Engineers (3 seats)
- American Public Works Association (3 seats)
- Advocates for Highway & Auto Safety
- American Automobile Association
- American Association of Motor Vehicle Administrators
- American Highway Users Alliance
- American Public Transportation Association
- American Railway Engineering & Maintenance of Way Association
- American Road & Transportation Builders Association
- American Traffic Safety Services Association
- Association of American Railroads
- Human Factors Resources
- International Association of Chiefs of Police
- International Bridge, Tunnel, and Turnpike Association
- International Municipal Signal Association
- **League of American Bicyclists**
- National Association of Governors' State Highway Representatives
- National Committee on Uniform Traffic Laws & Ordinances
- National Safety Council

# NCUTCD

- **Technical committees:**
  - **Regulatory & Warning Signs (RWSTC)**
  - **Guide & Motorist Information Signs (G/MITC)**
  - **Markings (MTC)**
  - **Signals (STC)**
  - **Temporary Traffic Control (TTC)**
  - **Railroad & Light Rail Crossings (RTC)**
  - **Bicycle (BTC)**
- **Pedestrian Task Force**
  - **Deals with ped issues throughout Manual**
  - **Members from all committees**
  - **Allows BTC to focus on bicyclists**

# Current NCUTCD BTC Projects

- **Bike lanes adjacent to on-street parking**
  - Getting cyclists out of the “door zone”
- **Shared Lane Symbols**
  - for where bike lanes aren’t appropriate or won’t fit
- **Improved guide signing**
  - Travel mode signs for paths
  - Encourage better signing for bicyclist guidance & destinations
- **Beyond “Share The Road”**
  - Better signing for interaction with other road users

# Potential BTC Projects (Long-Term)

- **Improved guidance on design of bike lanes at intersections**
- **Improved traffic control at path-roadway intersections**
- **Signs and markings for rumble strips**
- **Colored bike lanes**
- **Bicycle traffic signals**
- **Advance stop lines**

# For More Info...

- **FHWA's MUTCD Website**
  - <http://mutcd.fhwa.dot.gov/>
- **NCUTCD Bicycle Technical Committee**
  - <http://members.cox.net/ncutcdbtc/>