

# Developing, Using, and Expanding Bikeway Design Standards and Guidelines

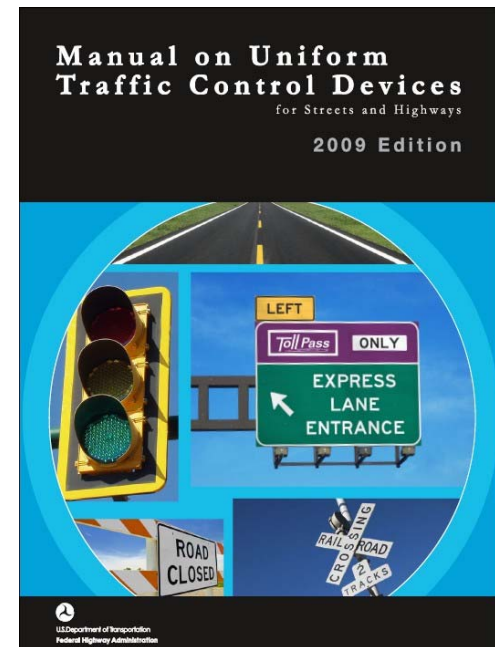
National Standards & Guidelines

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September 2012



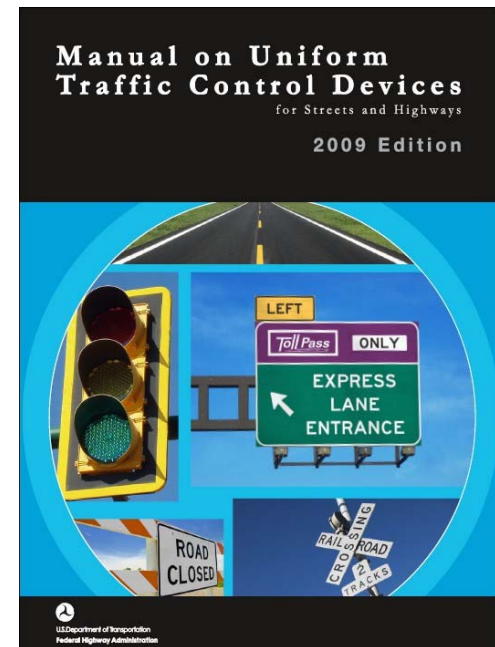
# Manual on Uniform Traffic Control Devices (MUTCD)

- Published by FHWA
- National standard for all traffic control devices
  - Signs
  - Markings
  - Signals



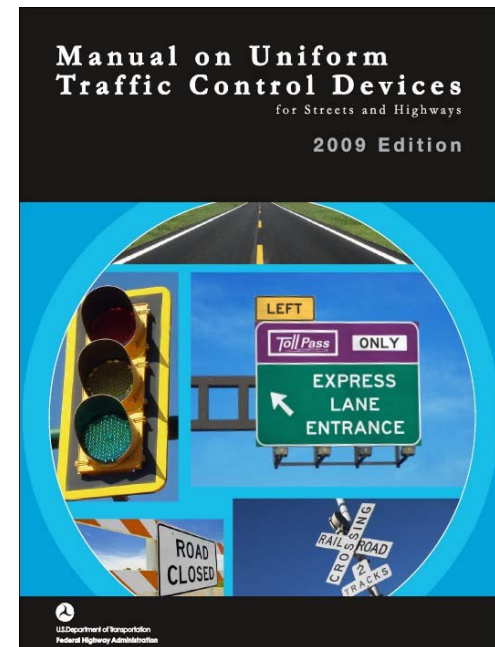
# Manual on Uniform Traffic Control Devices (MUTCD)

- 23 CFR 655.603:
- MUTCD applies to all roads & shared-use paths open to public travel
- All state & local traffic control device standards and manuals must be in “substantial conformance” with National MUTCD



# MUTCD

- 9 parts:
  - 1 - General
  - 2 - Signs
  - 3 - Markings
  - 4 - Signals
  - 5 - Low-Volume Roads
  - 6 - Temporary Traffic Control
  - 7 - Schools
  - 8 - Railroad & Light Rail
  - 9 - Bicycle Facilities (since 1978)

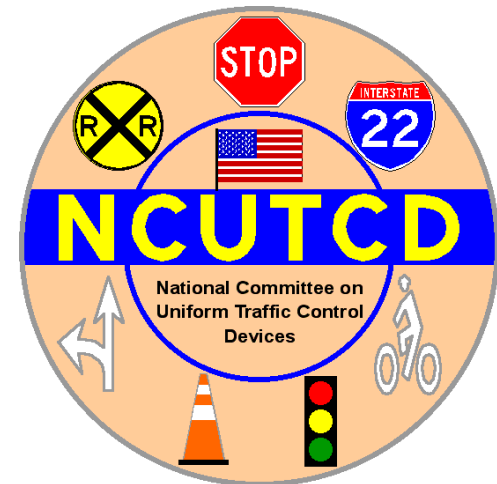


# MUTCD Changes & Updates

- MUTCD changes initiated by:
  - FHWA research & actions
  - NCUTCD recommendations
  - Requests by agencies & public
  - Experimental results & Interim Approvals
- Typical cycle:
  - New MUTCD edition every 5-9 years
  - Interim Approvals: continuous

# NCUTCD

- **National Committee on Uniform Traffic Control Devices**
  - Advises FHWA on MUTCD content
- **Non-profit organization**
  - (descended from Federal advisory committee)



# NCUTCD

- Comprised of 20 transportation organizations, including
  - AASHTO
  - ITE
  - American Public Works Assoc
  - Natl Assoc of County Engineers
  - League of American Bicyclists
  - APBP
  - ...and others



# NCUTCD

- Technical Committees:
  - Regulatory & Warning Sign
  - Guide & Information Sign
  - Markings
  - Signals
  - Temporary Traffic Control
  - Railroad & Light Rail
  - **Bicycle**
- Research Committee
- Edit Committee
- Rules of the Road Committee (UVC)





# NCUTCD

- Technical Committee Members:
  - Experts in their area of specialty
  - Expected to be knowledgeable in all parts of the MUTCD
  - 50% or more must be “government members”
    - Active government employment
    - 20+ years with government



# NCUTCD Bicycle Technical Committee

- Currently 20 members from all over US
  - Engineers
  - Planners
  - Technical Experts



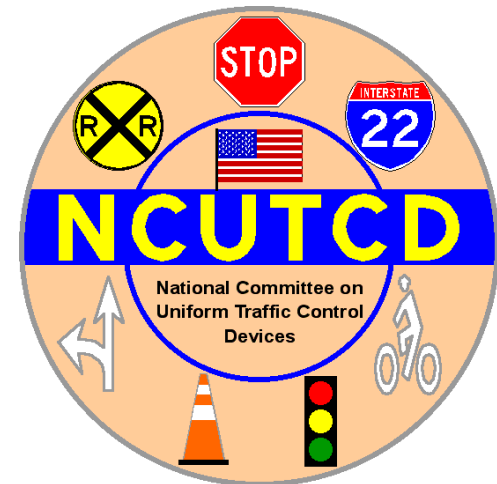
# NCUTCD Process

1. Proposal to change (or add to) MUTCD
  - From external input or internal discussion
2. Technical Committees develop proposal
  - Other TCs review if appropriate
3. Sent to NCUTCD sponsor organizations for comment



# NCUTCD Process

4. Vote by NCUTCD Council
  - Council: comprised of representatives of sponsor organizations
5. Sent to FHWA for action
  - Interim Approval
  - Next MUTCD edition

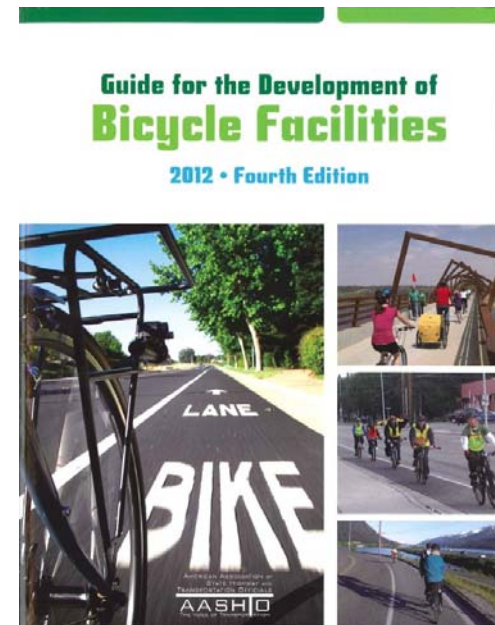


# MUTCD Experimentation

- Allows for new treatments / devices to be evaluated & added
- Must be initiated by a public agency
- Process described in Section 1A.10
  - Must have a plan
  - Must agree to remove if denied/ineffective
- Data-driven
- Objective evaluations are a big help

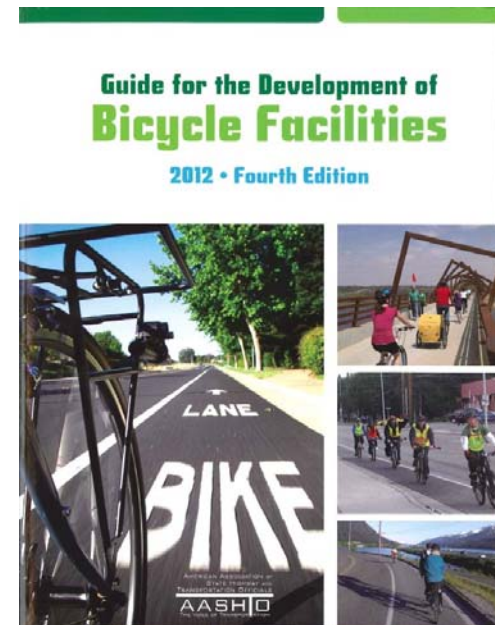
# AASHTO Guide

- AASHTO Guide for Development of Bicycle Facilities
- 4th Edition published early 2012



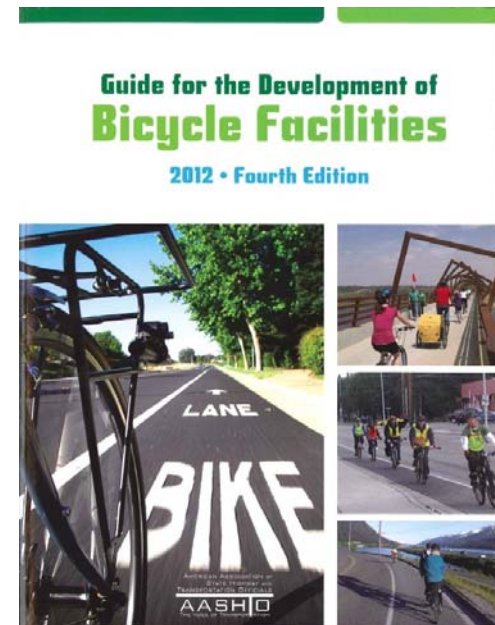
# AASHTO Guide

- Extensive technical detail on design of many facility types
  - Bike lanes
    - Width, offset, signs & marking
    - Bike lanes at intersections
  - Shared roadways
    - Bike routes, “bike boulevards”
  - Shared-use paths
    - Geometric design
    - Sightlines, grades, curves
    - Intersections



# AASHTO Guide

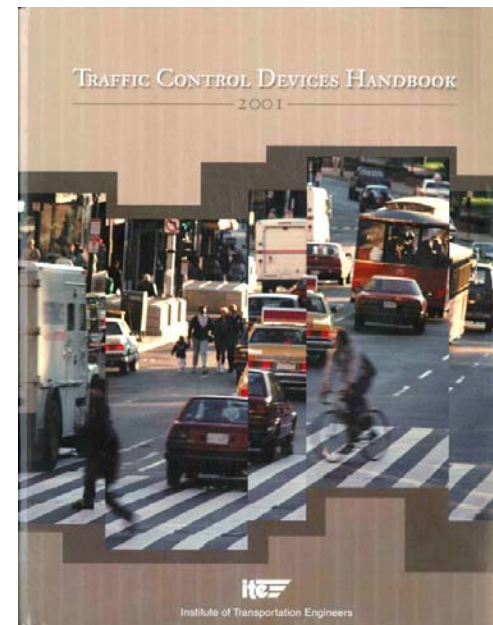
- Established reputation
  - AASHTO: 98 years of service
  - 4th edition of Bike Guide
- 8 years in development
  - Three NCHRP projects
- Many levels of review
  - NCHRP panels
  - State bicycle staff
  - State roadway engineers
  - State traffic engineers





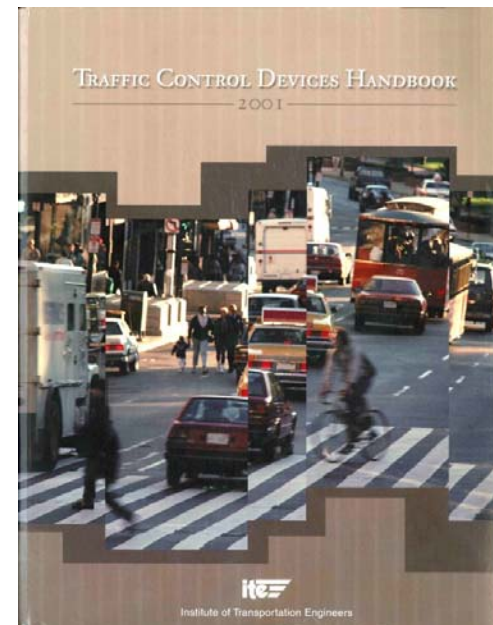
# ITE Traffic Control Devices Handbook

- Serves as a "how-to" guide
- Contains guidelines and examples
- First edition: 2001
- Second edition: 2012 (fall?)



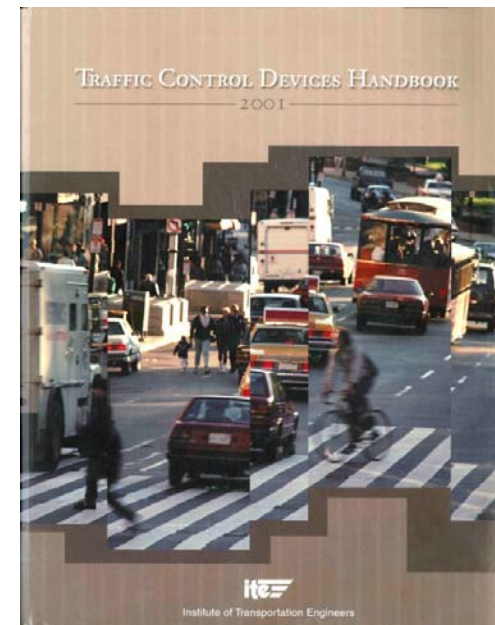
# ITE Traffic Control Devices Handbook

- Expands on MUTCD content
- 2nd edition: chapter on bicycle facilities is three times larger than Part 9 (Bicycle Facilities) of the MUTCD



# ITE TCDH 2nd Edition

- Shared lane markings:
  - Extensive new information based on practical experience
- Bicycle Signing:
  - Significant added guidance
- Bikes at Intersections:
  - Suggestions for bike lane treatments, detection, signal timing, and clearance intervals



# Noncompliance

- Denial or loss of Federal funds (MUTCD)
- Exposure to claims or liability
  - Failure to follow “established and accepted guidance” can be evidence of negligence

