

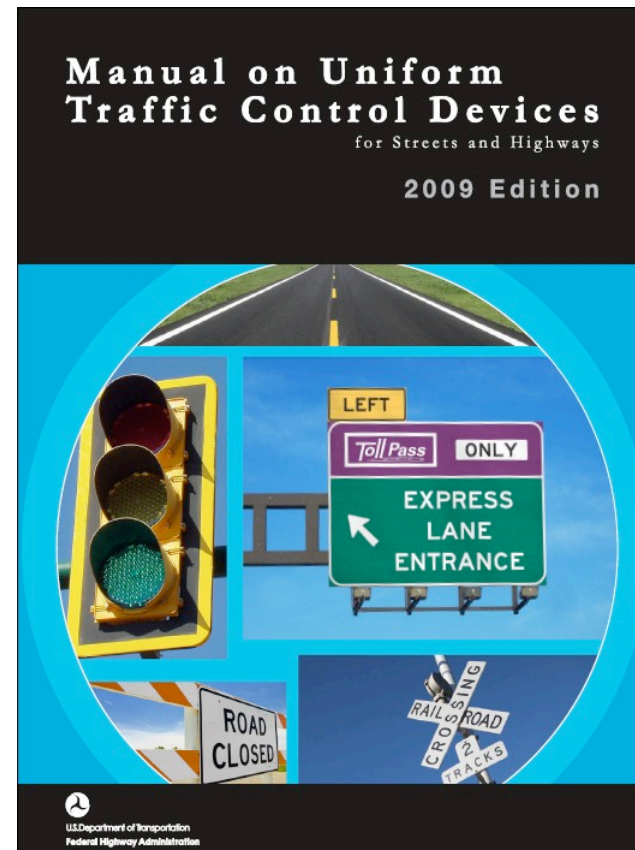
What's New In The 2009 MUTCD?

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2010 Roads & Streets
Conference

New 2009 MUTCD

- Final Rule issued December 16, 2009
- In effect at Federal level January 15, 2010
- States have 2 years to adopt (by January 2012)



Parts of MUTCD

- **Introduction**
- **Part 1 - General**
- **Part 2 - Signs**
- **Part 3 - Markings**
- **Part 4 - Signals**
- **Part 5 - Low Volume Roads**
- **Part 6 - Temporary Traffic Control**
- **Part 7 - Schools**
- **Part 8 - Railroad & Light Rail** *(Part 10 moved into Part 8)*
- **Part 9 - Bicycles**

NCUTCD

- National Committee on Uniform Traffic Control Devices advises FHWA on MUTCD
- Not a part of the Federal government
- AASHTO, ITE, NACE, APWA, other organizations are members

NCUTCD

- NCUTCD has been developing new & revised content for the new MUTCD over past 8+ years
- MUTCD changes initiated by
 - Requests by public agencies
 - Items identified by FHWA
 - Issues identified by NCUTCD members/sponsors
- NCUTCD recommendations based on
 - Research & experimentation
 - Expert review & analysis

Rulemaking

- Draft MUTCD issued January 2008
- Comment period closed July 2008
- Over 15,000 comments submitted!
 - ADOT submittal: 25 pages of comments
- Final Rule: 135 pages, 611 discussion items
- Final MUTCD: 816 pages

Applicability of MUTCD

- MUTCD now applies to ALL roads open to public travel
 - even if owned & operated by a private entity (developer, association, etc.)
 - Exception: Parking lots & aisles
 - but circulating roadways in larger parking lots (such as malls) do fall under MUTCD

Compliance

- **Old MUTCD:**
- All devices must be compliant
 - Agencies were required to have all devices compliant, both new and existing, by a certain date (typ. 2 years)
- **New MUTCD:**
- Only new devices must be compliant
 - Agencies are required to update devices as they wear out
 - Older devices can remain for "remaining service life" unless there's a specific listed compliance date

Redefinition of “Standard”

- 2003 MUTCD:

- Standard - a statement of required, mandatory, or specifically prohibitive practice regarding a traffic control device. All standards are labeled, and the text appears in bold type. The verb shall is typically used. Standards are sometimes modified by Options.

- 2009 MUTCD:

- Standard - a statement of required, mandatory, or specifically prohibitive practice regarding a traffic control device. All Standard statements are labeled, and the text appears in bold type. The verb "shall" is typically used. The verbs "should" and "may" are not used in Standard statements. Standard statements are sometimes modified by Options. **Standard statements shall not be modified or compromised based on engineering judgment or engineering study.**

Minimum Retroreflectivity

- New minimum retroreflectivity standards
 - Based on sheeting types
 - Minimum contrast levels required
- Compliance procedures (can use one):
 - Visual nighttime inspection
 - Measure with reflectometer
 - Replace at end of expected life
 - Replace all signs in area/corridor
 - Test “control signs” in lieu of all signs

Sign Colors

- **Fluorescent Yellow-Green:**
 - School Warning Signs - Required
 - Bicycle & Pedestrian Warning Signs - Optional
- **Purple:**
 - Exclusively for electronic toll lanes

Sign Sizes

- New mandatory minimum sizes for guide signs (conventional & freeway)
- Larger mandatory minimum sizes for signs:
 - On multi-lane streets
 - At intersections with higher-speed streets
 - On freeway ramps



and



Signs

- Revised criteria for intersection control
 - Recognizes “real-life” behavior
 - Improved guidelines for STOP and YIELD signs
 - Encourages use of YIELD if stops are not always required

Regulatory Signs

- Replacing  with 
- New requirements for  signs at divided highway intersections

Warning Signs

- Table 2C-4 same as 2003 MUTCD
 - Calls for much longer advance placement of warning signs
- Example: 75 MPH, high judgment condition (lane change or merge) = 1350 ft (1/4 mile) in advance!



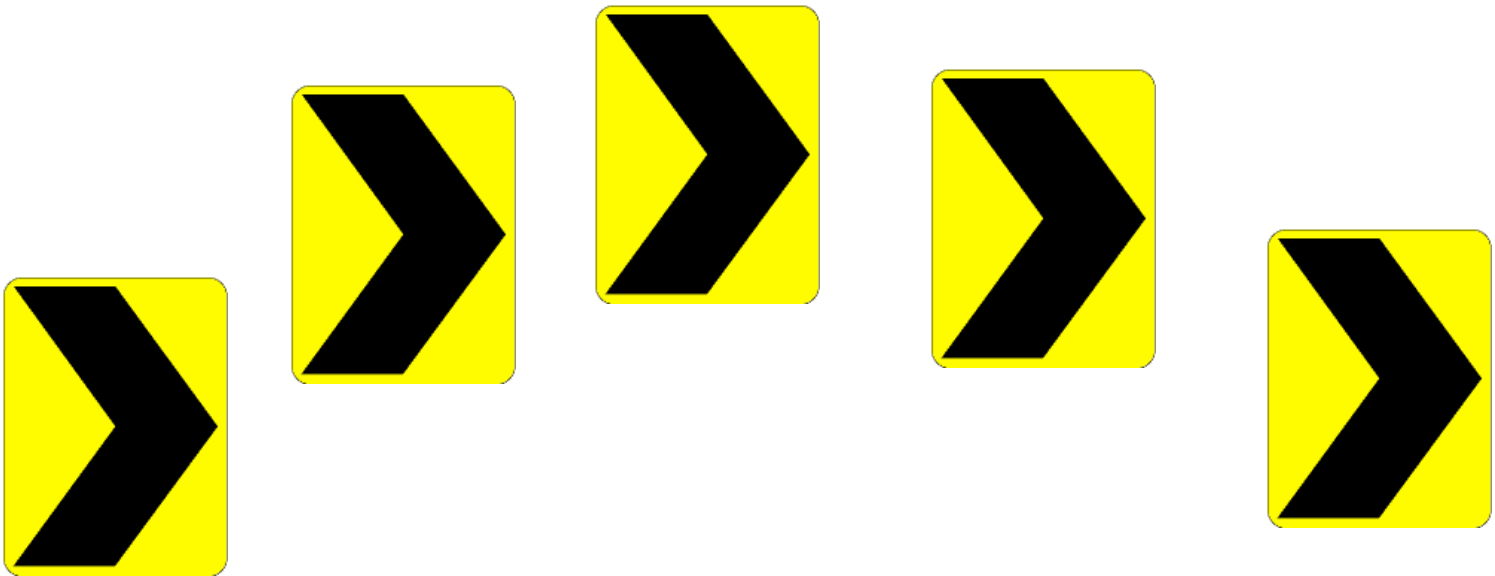
Curve Signing

- New Table 2C-5 now requires or recommends enhanced signing on many horizontal curves
 - Based on advisory speed vs posted speed
 - Reduces engineering discretion
 - May force agencies to redefine advisory speed criteria



Curve Signing

- New Table 2C-6 specifies chevron spacing on curves
 - Based on advisory speed and curve radius



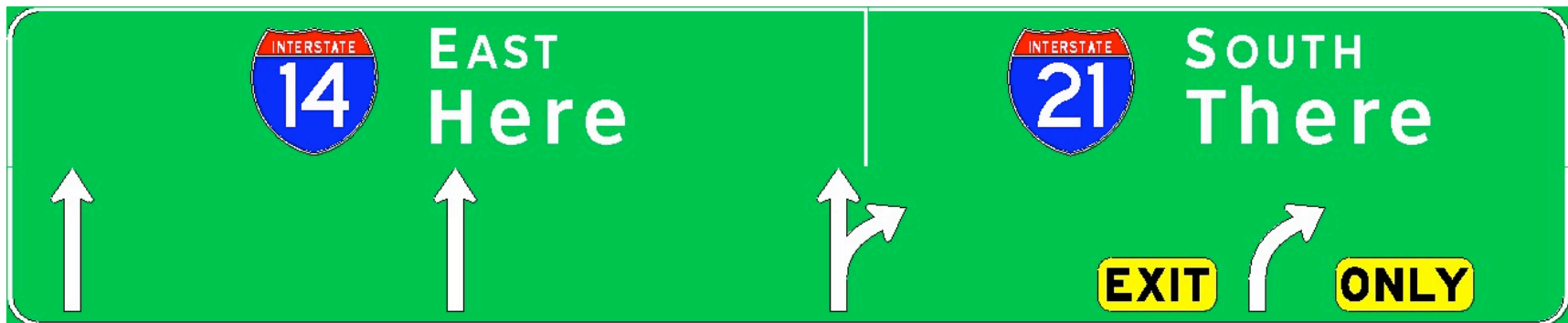
Guide Signs

- Destinations (including street names) MUST be upper/lower case



Signs At Option-Lane Exits

- New signing system using up-pointing arrows
- Intended to provide clearer guidance



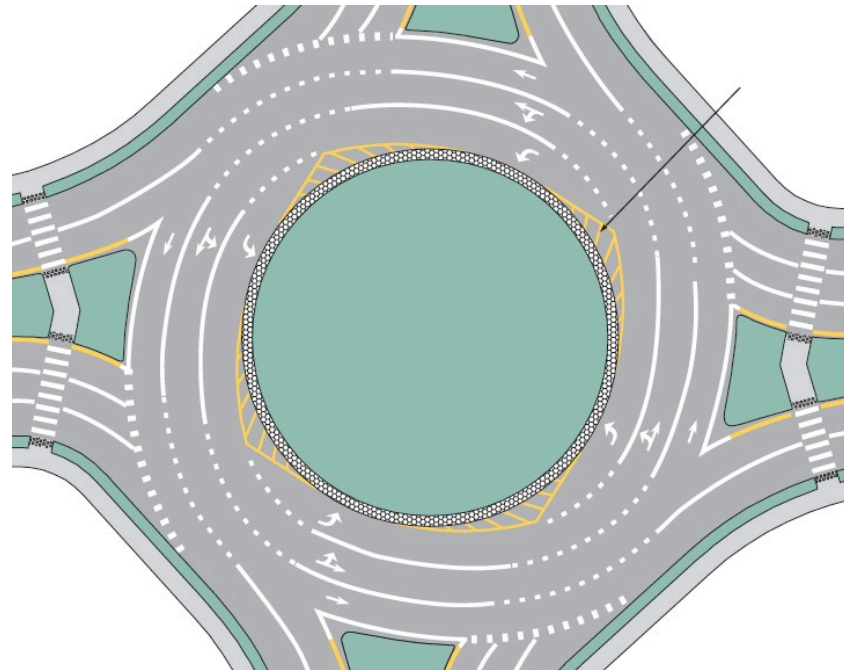
Recreation / Cultural Signs

- New designs for many R&C signs
 - Proposed by graphic art experts
 - Concerns: Symbols have not been tested under typical roadway conditions



Roundabouts

- New uniform standards & guidelines for roundabout signs & markings



Markings

- Dotted lines now required for lane lines for auxiliary lanes or exit-only lanes
- Arrows now expected to be used in two-way left turn lanes
- New “horizontal signing” for lane assignment approaching interchanges or intersections

Signal Warrants

- Minor adjustments to warrants
 - Peak hour-warranted signal should be actuated
 - Easier to meet pedestrian warrant
 - New warrant for signals near railroad / light rail crossings

Definition of “Intersection”

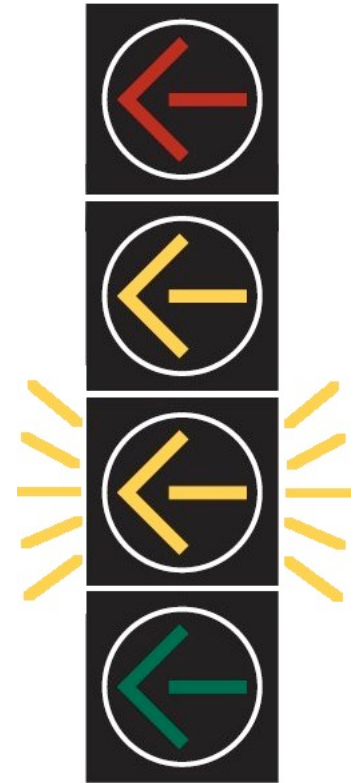
- UVC & ARS: Only includes area within extension of curb lines
- 2009 MUTCD: At signalized intersections, also includes area enclosed by crosswalks & stop bars
- This might create problems with MUTCD applicability

Signal Placement

- Overhead left-turn-only signal faces (protected-only) must be over the left turn lane
- Overhead protective-permissive signal faces should be placed between the left thru lane & left turn lane
- On roads with speeds of 45 MPH or greater, at least one signal face per lane is required

Flashing Yellow Arrow

- New display for permissive left or right turns
- Extensively tested across US
- Can eliminate “yellow trap”
- Can be used at protected-permissive or permissive-only locations



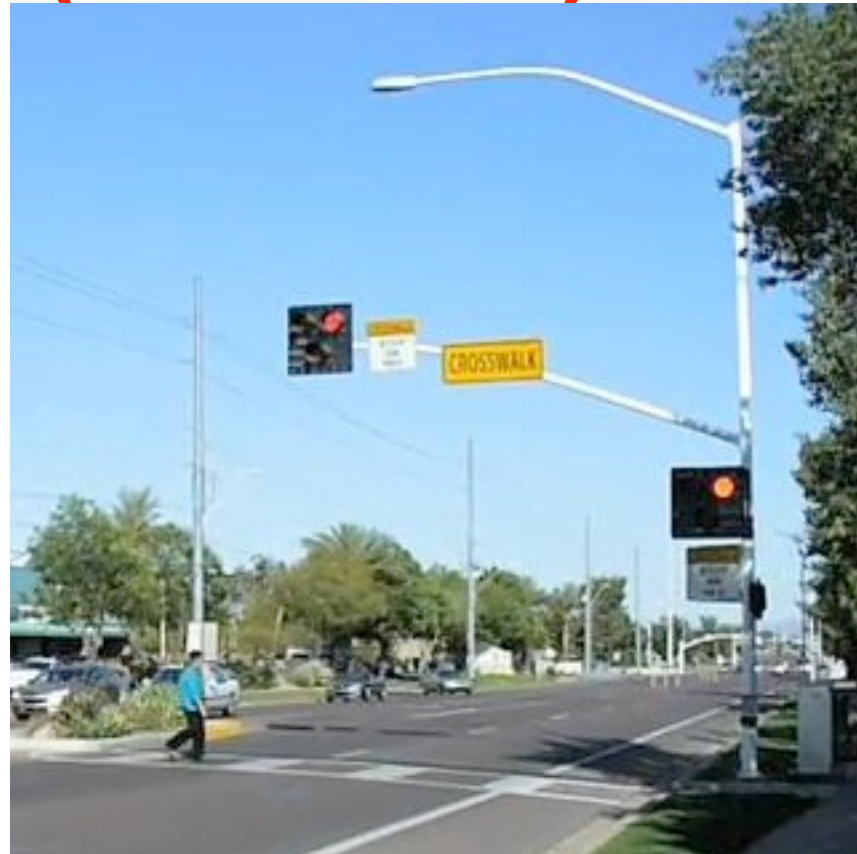
U-Turn Arrow

- New optional display for specific control of U-turns



New Pedestrian Hybrid Beacon (“HAWK”)

- Improves yielding at crosswalks up to 95%
- Less expensive than signals
- Less delay than signals
- Warrants easier to meet



High-Visibility Apparel

- Required for all workers within public right of way
- Applies to all public roads
- Exceptions for law enforcement & fire crews under specific conditions



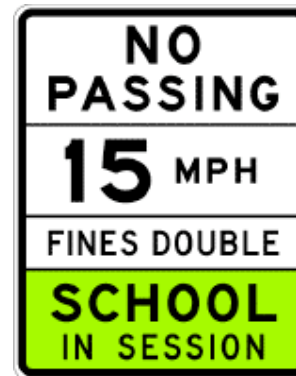
Automated Flagger Assistance Device

- Provide positive control while keeping flagger away from traffic
- Not automatic - still need a human flagger to control AFAD



Schools

- Fluorescent yellow-green now required for all school warning signs
- State law on school crossings (ARS 28-797) supersedes Federal MUTCD



Railroad Crossings

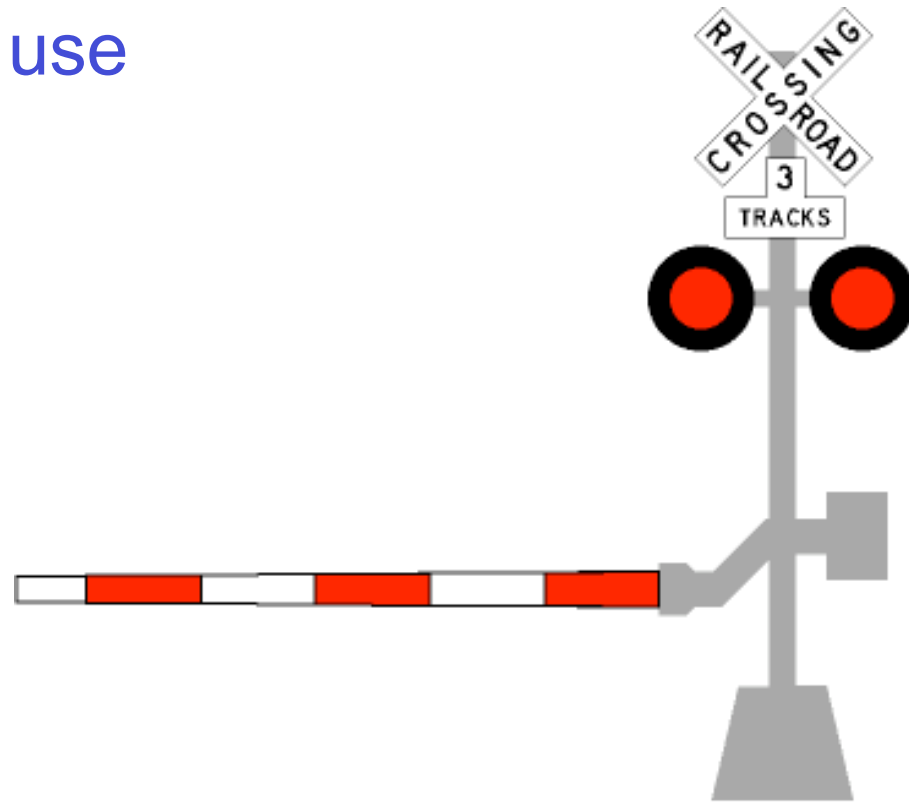
- Passive crossings (no lights or gates):

STOP or YIELD sign is now required to be added



Railroad Crossings

- Gate arms now use vertical stripes



Bikes May Use Full Lane Sign

- Optional for use in "narrow" lanes
- Can be used independently, or with SLM
- Supported by UVC and many states' laws



New Bicycle-Focused Guide Signs

- Provide detailed routing / destination / distance information
- Greatly improved over old "BIKE ROUTE" signs



Shared Lane Marking

- Intended to show correct cyclist location where bike lanes shouldn't or can't be installed
- Can be used in locations with and without on-street parking



MUTCD Adoption in Arizona

- FHWA: States must adopt by January 2012
- ADOT still analyzing:
 - Need for modifications
 - Fiscal impact of new MUTCD
 - State laws (school crossings, etc.)

MUTCD Adoption in Arizona

- ADOT will develop Arizona Supplement to address state-specific issues
 - AZ Supplement Committee to be formed in next 3-5 months
 - ADOT
 - County & city staff
 - FHWA Division Office

MUTCD Adoption in Arizona

- Until ADOT adopts the 2009 MUTCD, the 2003 MUTCD (as modified by current AZ Supplement) is the official MUTCD for the whole state of Arizona

When's The Next MUTCD?

- FHWA would like a 5-year cycle for new MUTCD editions
- Proposed content would need to be ready & submitted to FHWA in 2-3 years
- Rulemaking cycle: Typically 2 years from NPA to Final Rule
- 2015...?
 - Items can be added earlier via Interim Approval