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The New MUTCD: What You Need to Know

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KITTELSON LLC
FORENSIC TRANSPORTATION ENGINEERING

Gene Hawkins' Background

- Expert witness with Kittelson LLC
- Professor Emeritus, Texas A&M University
- Former TTI researcher
- Son of traffic engineer
- Chair of NCUTCD
- MUTCD expert



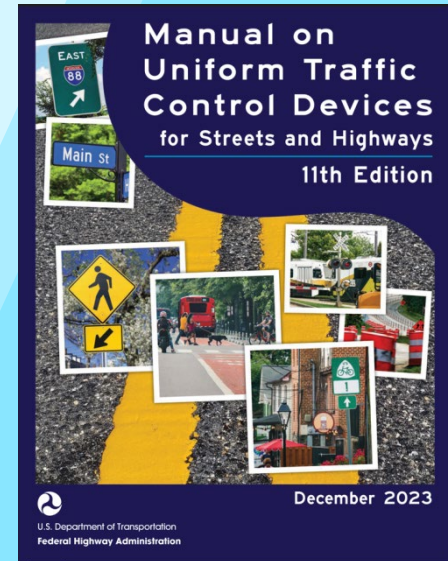
Presentation Overview

- **MUTCD: what it is**
- **New MUTCD: how we got it**
- **ODOT supplement: where it stands**
- **Changes: highlights of selected key changes in new MUTCD**



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 (1935-present)



MUTCD Purpose & Objectives

- **Purpose:**

- ▶ *Establish national criteria for TCDs*

- **Objectives:**

- ▶ *Promote safety, inclusion, and mobility*
- ▶ *Promote efficiency through uniformity in meaning and appearance*
- ▶ *Promote consistency in use, installation, and operation*
- ▶ *Provide principles for traffic engineers to use in making TCD decisions*



What the MUTCD Isn't

- **The MUTCD is not a:**
 - ▶ *Roadway design manual*
 - ▶ *Comprehensive safety manual*
 - ▶ *Policy that:*
 - Prioritizes travel modes
 - Directs community character
 - Influences land use or access by any mode



MUTCD Evolution

- There have been 11 editions of the MUTCD



1935

1942

1948

1961

1971

1978

1988

2000

2003

2009

2023

1st Gen
(Initial)

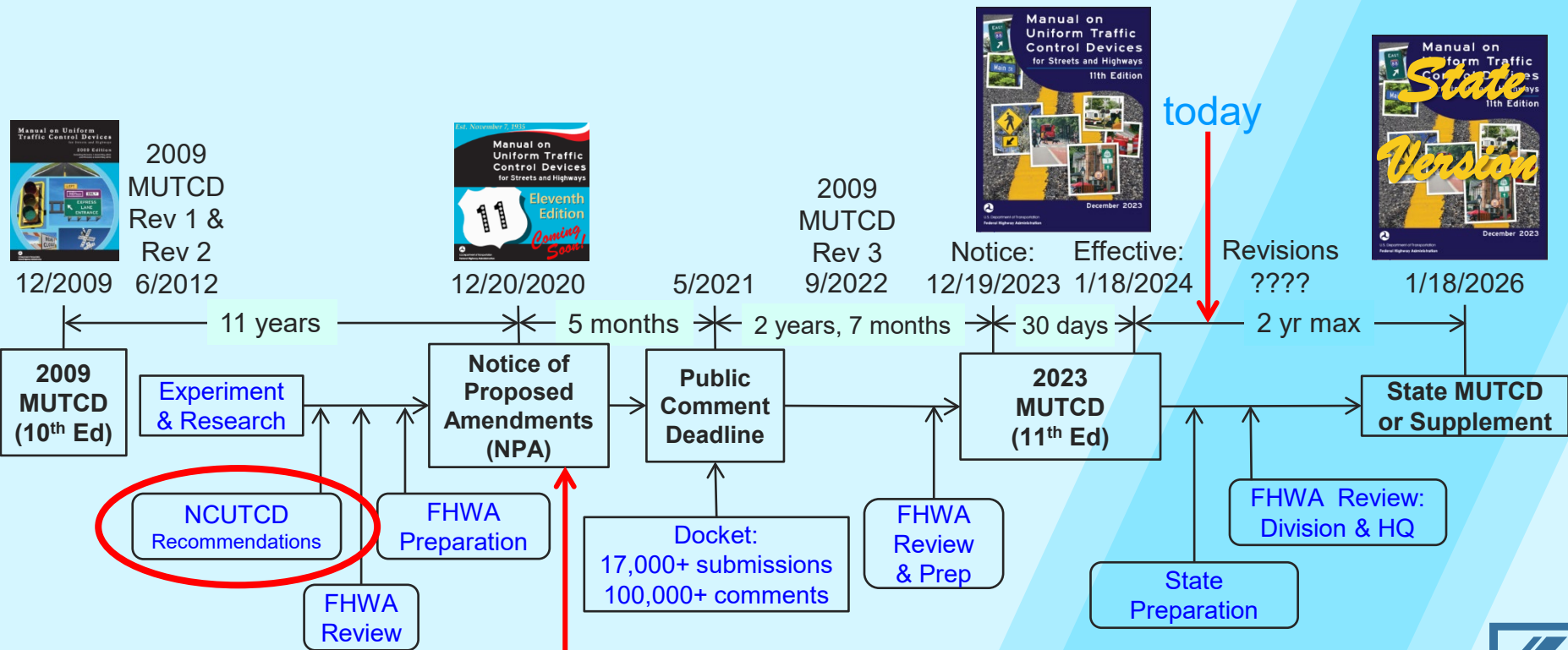
2nd Gen
(Transition)

3rd Gen
(Mature)

4th Gen
(Modern)



MUTCD 11th Edition Evolution



647 changes summarized in *Federal Register* notice



NCUTCD

- **National Committee on Uniform Traffic Control Devices**



- ▶ *Independent organization, sole focus is TCDs*
- ▶ *Over 300 members, meet twice/year in person*
- ▶ *Focuses on recommending MUTCD changes*
- ▶ *Over 200 NCUTCD recommendations incorporated into 2023 MUTCD*



2023 MUTCD Resources

- **FHWA website: mutcd.fhwa.dot.gov**

- ▶ **Official MUTCD and other information**

- Includes markup of 2009-2023 changes
- Material distributed over multiple pages



- ▶ **Two webinars (recordings available)**

- ▶ **Future: updates for SHS, summary slides**

- **Kittelson website: mutcd.kittelson.com**

- ▶ **Selected 2023 MUTCD information all on one page**
- ▶ **Scanned copies of old MUTCD editions plus other MUTCD evolution information**

Advance traffic control warning signs (see Section 2C.35), intersection warning signs (see Section 2C.41), and other traffic control devices to attract motorists' attention are appropriate warning prior to a signalized intersection are usually more effective than a reduced speed zone. A Speed Limit should not be used for this purpose.

Options:

Other factors that may be considered when establishing or reevaluating speed limits are the following:

- A—Road characteristics, shoulder condition, grade, alignment, and sight distance.
- B—The place.
- C—Roadside development and environment.
- D—Parking practices and pedestrian activity; and
- E—Reported crash experience for at least a 12-month period.

Two types of Speed Limit signs may be used: one to designate passenger car speeds, including any nighttime information or maximum or minimum speed limit that might apply, and the other to show any special speed limits for trucks and other vehicles.

Guidance:

No more than three speed limits should be displayed on any one Speed Limit sign or assembly.

Options:

A changeable message sign-variable speed limit sign that changes the speed limit for traffic and ambient conditions may be installed provided that the appropriate speed limit is displayed at the proper times and locations in accordance with Paragraphs 9 and 10 of this Section.

Standard:

The variable speed limit sign legend "SPEED LIMIT" shall be a black legend on a white retroreflective background. The variable speed limit legend shall be displayed in white LEDs on an opaque black background.

Options:

A changeable message sign that displays to approaching drivers the speed at which they are traveling may be installed in conjunction with a Speed Limit sign.

Guidance:

If a changeable message sign displaying approach speeds is installed, the legend "YOUR SPEED" or "MPH" or such similar legend should be displayed. The color of the changeable message legend should be a yellow legend on a black background or the reverse of these colors.



FHWA MUTCD website

Manual on Uniform Traffic Control Devices (MUTCD)



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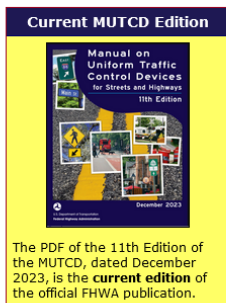
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Knowledge

[Knowledge](#)

11th Edition of the MUTCD, December 2023



The PDF of the 11th Edition of the MUTCD, dated December 2023, is the **current edition** of the official FHWA publication.

The **current edition of the MUTCD** is the **11th Edition**, dated December 2023. The **official version** of the 11th Edition of the MUTCD is the PDF version.

Changes from the 2009 Edition

To assist agencies in understanding the new provisions, supplementary documents detailing new content of the 11th Edition of the MUTCD (December 2023), and how the new edition differs from its predecessor, the 2009 Edition with Revisions 1, 2, & 3 incorporated (August 2022), are available [in the Rulemaking Docket](#) and linked below.

- [2009 MUTCD Text Redline with 11th Edition Changes](#)
- [MUTCD 11th Edition Supplemental Summary of Dispositions for Final Rule Changes](#)

Viewing the MUTCD

The 11th Edition of the MUTCD is available **only in PDF format** on this Web site. PDF formatted parts and chapters are accessible to individuals with disabilities, per [Section 508 of the Rehabilitation Act](#). Starting with the 11th Edition of the MUTCD, FHWA no longer provides the MUTCD in a companion HTML format.

The Complete MUTCD 11th Edition

This file contains the MUTCD in its entirety, including all Parts, Chapters, Figures, Tables, and Appendices.

[MUTCD 11th Edition, December 2023](#)

Individual Parts and Chapters

Individual files by Part or Chapter are provided for easier viewing online or for faster downloading. The content of these files is identical that of the complete MUTCD file.

[Table of Contents](#)

[Part 1 - General](#)

Part 2 - Signs:

[Chapter 2A - General](#)

[Chapter 2B - Regulatory Signs, Barricades, and Gates](#)

Kittelson MUTCD Website

[11th edition of MUTCD](#) (December 2023)

[List of Known Errors](#) (December 20, 2023)

[Federal Register Final Rule](#)

The December 19, 2023 *Federal Register* notice established the 2023 MUTCD and provides a high-summary of the most significant changes in the new MUTCD.

[Summary of Dispositions](#)

This 272-page document provides a detailed description of changes from the NPA to the Final Rule each of the numbered items in the NPA.

[2009 MUTCD Redline](#)

This document provides a markup of changes from the 2009 MUTCD to the 2023 MUTCD.

[Docket Comments](#)

The docket for the proposed new edition of the MUTCD was open for five months. During that time FHWA received more than 17,000 submissions to the docket, containing over 100,000 individual comments on the NPA MUTCD content.

[Federal Register Notice of Proposed Amendments](#)

The December 14, 2020 *Federal Register* notice proposed a new MUTCD and described the major

mutcd.kittelson.com

Past Editions of the MUTCD

Interested in viewing or downloading a PDF version of a previous edition of the MUTCD? We are pleased to offer downloads of all editions at no cost, but please fill out this form so we can contact you if needed.

Click the links below to view PDFs of past editions of the MUTCD.

- [2009 MUTCD](#)
- [2003 MUTCD](#)
- [2000 MUTCD](#)
- [1988 MUTCD](#)
- [1978 MUTCD](#)
- [1971 MUTCD](#)
- [1961 MUTCD](#)
- [1948 MUTCD](#)
- [1942 MUTCD](#)
- [1935 MUTCD](#)



Final Rule Highlights

- **Final rule written differently than prior final rules**
 - ▶ *Does not include a numbered list summarizing comments and changes to NPA (647 items)*
 - ▶ *Does provide high-level perspective of changes from NPA to final rule and perspective on comments*
- **Key aspects of final rule notice:**
 - ▶ *Intended use of MUTCD*
 - ▶ *Purpose of regulatory action*
 - ▶ *Summary of major provisions*
- **Separate document provides summary of 647 specific changes (Summary of Dispositions)**



States Use of MUTCD

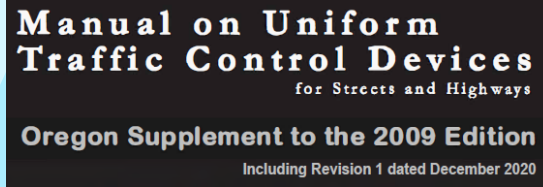
- **States have until January 18, 2026 to:**
 - ▶ *Adopt national MUTCD,*
 - ▶ *Adopt national MUTCD and state supplement, or*
 - ▶ *Adopt state MUTCD*
- **State MUTCD/supplement shall be in substantial conformance**
 - ▶ *All shalls and shoulds must be in state document*
 - ▶ *No document can negate a shall/should*

Oregon



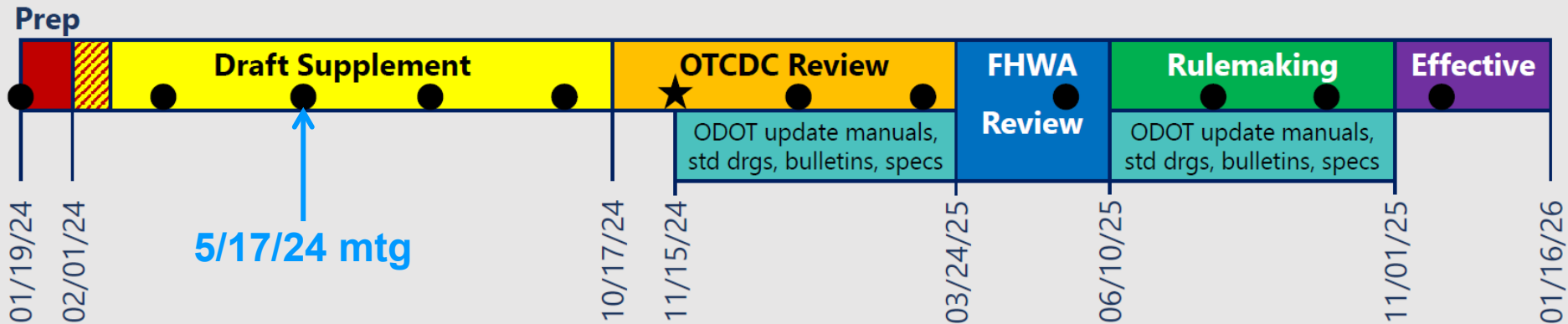
MUTCD in Oregon

- **MUTCD for Oregon defined in OAR 734-020-0005**
(<https://www.oregon.gov/ODOT/Engineering/Pages/MUTCD.aspx>)
 - ▶ *2009 MUTCD defined as current MUTCD in OR*
 - ▶ *2023 MUTCD will be adopted by January 18, 2026*
- **Oregon has a state supplement**
 - ▶ *Current version is 2011 supplement*
 - ▶ *OTCDC working on new OR MUTCD supplement*



Oregon TCD Committee

- **OR MUTCD supplement responsibility of Oregon Traffic Control Devices Committee**



● Regular OTCDC Meeting

★ In-person OTCDC Meeting

Dates and durations approximate and subject to change.

MUTCD 11th Edition Overview

- **MUTCD size**

- ▶ *From 864 pg (2009) to 1161 pg (2023): (+297)*

- **Changes in organization and structure**

- **More details on some old content**

- **Some new content (some covered here)**

- ▶ *What may be an important change to one jurisdiction may not matter to another*



Some Key Changes Summarized

- **Following summaries of 12 TCD changes based on my sense of importance in OR**
 - ▶ *Will cover quickly – read MUTCD for details*
- **Changes summarized:**
 - ▶ *Setting speed limits*
 - ▶ *Roundabout signing*
 - ▶ *Crosswalk markings*
 - ▶ *Aesthetic pvmt treatments*
 - ▶ *Pedestrian signals*
 - ▶ *Bicycle signals*
 - ▶ *RRFB*
 - ▶ *Ped hybrid signals*
 - ▶ *Peds in TTCs*
 - ▶ *TAs for roundabouts*
 - ▶ *Bicycle facilities*
 - ▶ *New bicycle markings*



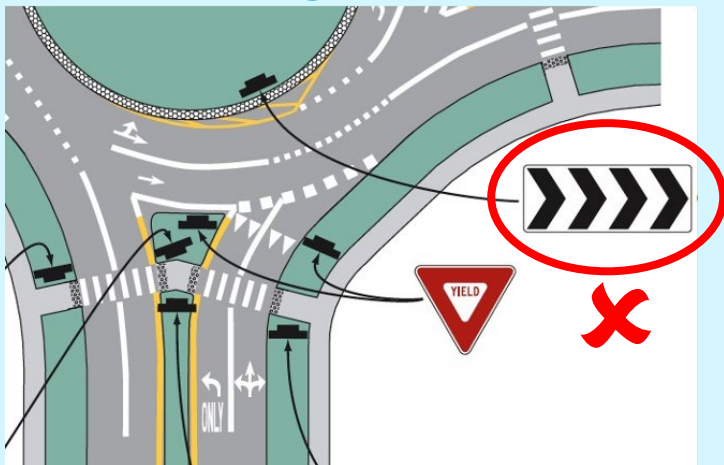
Speed Limit Signing

- Reduced emphasis on 85th percentile, but 85th still used for technical guidance
 - *List of factors to be considered in setting speed limits*
- Content on setting speed limits may be removed in future revision if content moved to separate document

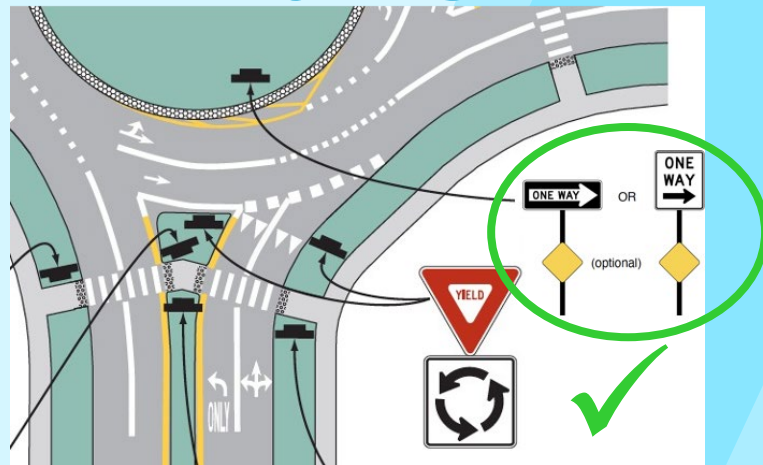


Roundabout Signing

- Black & white chevrons in circulating roadway replaced by One Way signs



2009 MUTCD

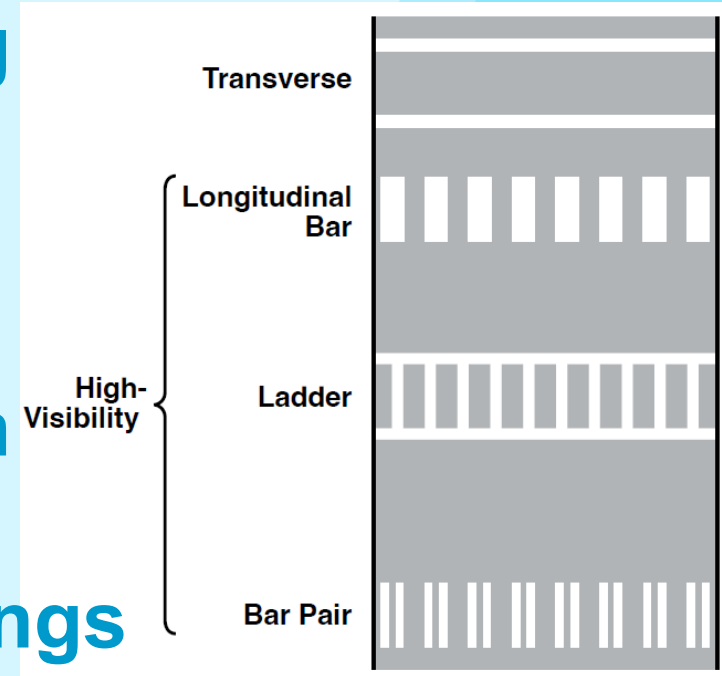


2023 MUTCD



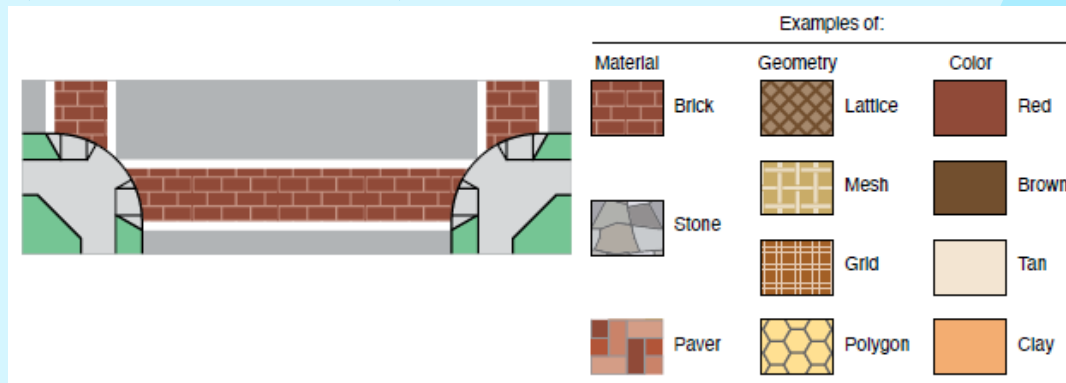
Crosswalk Markings

- Engr study before installing Xwalk markings, includes list of factors
- Rcmd: Xwalk at signals
- Req: Legal non-intersection Xwalk
- Rcmd: High-visibility markings at non-intersection Xwalk



Aesthetic Treatments

- Aesthetic treatments may be used
- Shall not: interfere with TCDs, use TCD colors, confuse pedestrians with vision issues, encourage “remaining” or “interacting” with pattern, advertise, or be retroreflective



Pedestrian Signals

- **Req:** ped or school warrant, exclusive ped phase, established school crossing, potential for ped confusion
- **Rcmd:** signalized intersections with marked crosswalks
- **New chapter on accessible ped signals**



Bicycle Signals

- **New chapter for bike signals**
 - *Evolved from IA-16*
- **Only for bike lane or shared use path**
- **Req: bike symbol in indication**
- **Note: content different from some agency use**



Rectangular Rapid Flashing Beacons

- New chapter for RRFB
- Defined as warning beacon
- Req: ped, school, or trail crossing sign with arrow
- Limited to uncontrolled approaches



Pedestrian Hybrid Beacons

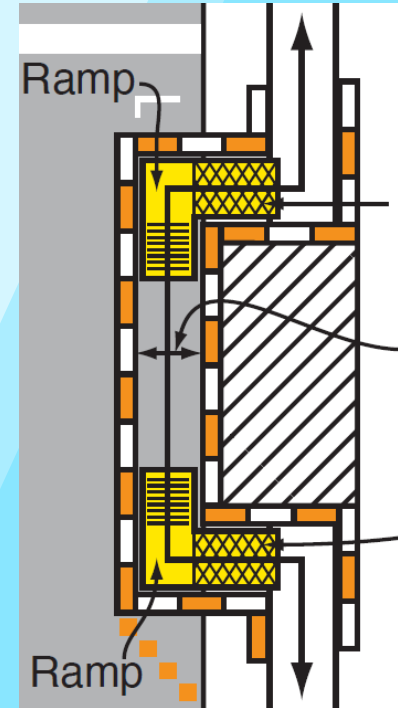
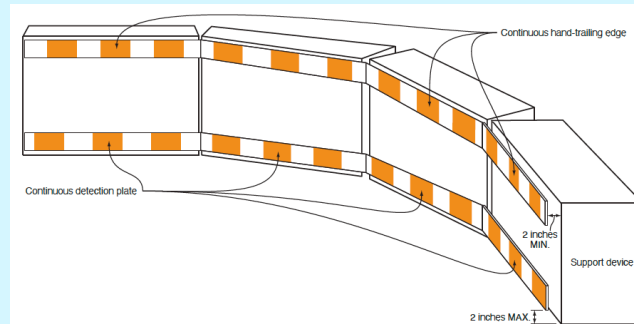
- Deleted restriction on using at intersection
- Reduced volume thresholds



Pedestrians in TTCs

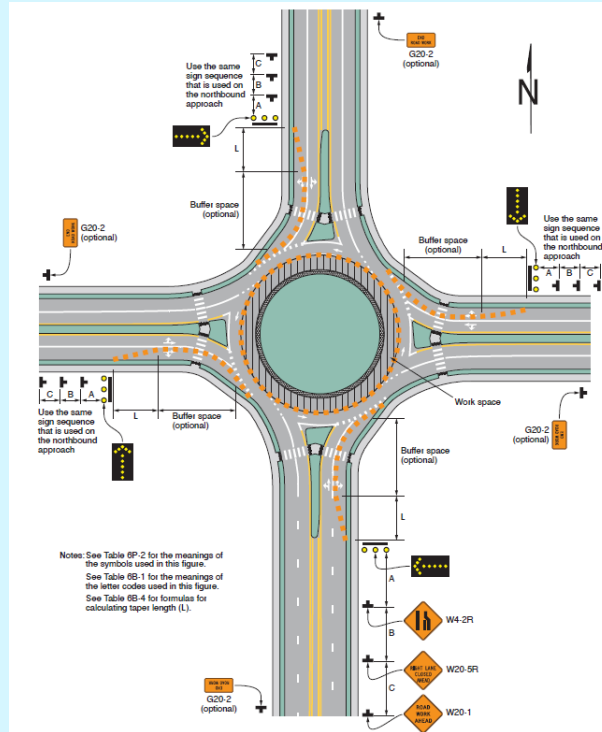
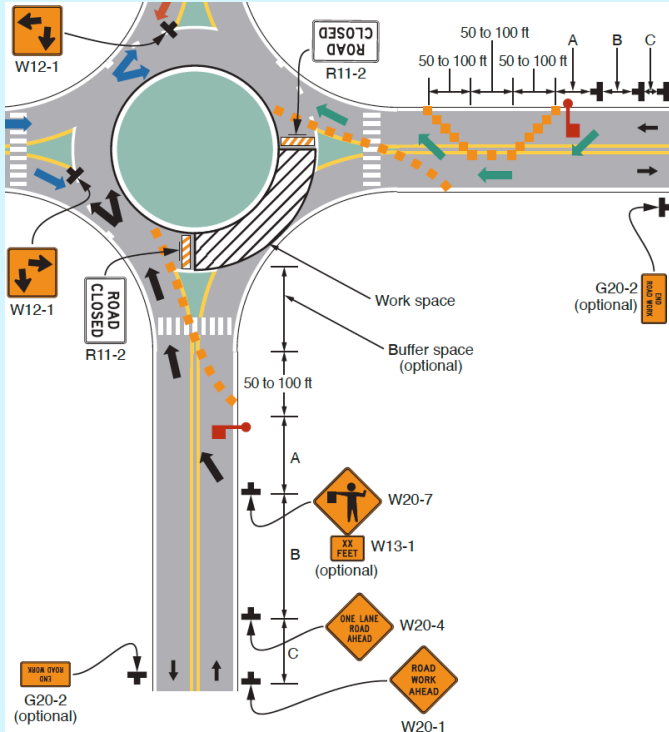
- Improved content on:

- ▶ *Pedestrian access routes*
- ▶ *Pedestrian channelization*
- ▶ *Accommodating low-vision pedestrians*



TAs for Roundabouts

• New TAs for traffic control in roundabouts



TA-53, TA-54



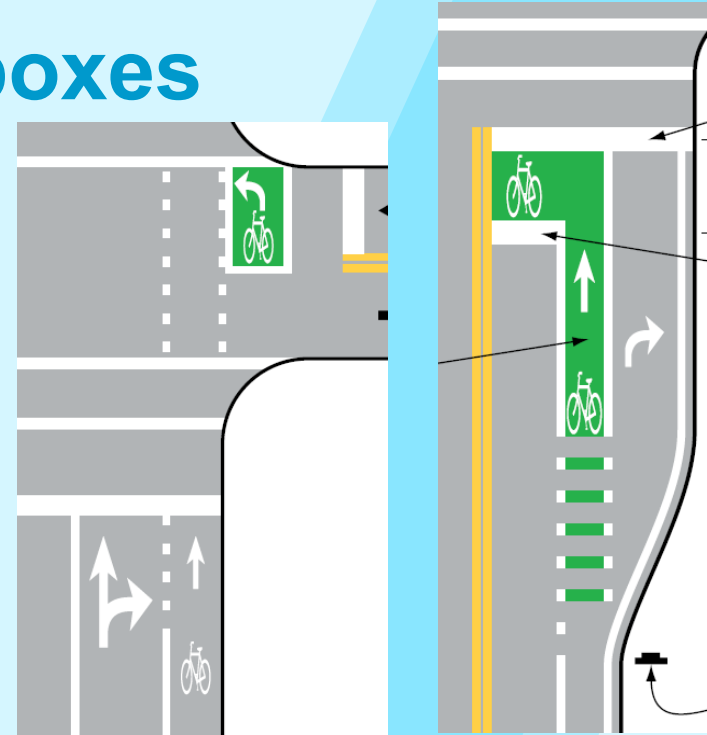
Bicycle Facilities

- **2½X more pages than previous edition**
- **Extensive new information on signs, markings, and treatments**
- **Significant changes:**
 - ▶ *Revised shared lane signing*
 - ▶ *Green pavement marking for bicyclists*
 - ▶ *New bike markings*



New Bicycle Markings

- Bike boxes and bike turn boxes
- Buffered bike lanes
- Contraflow bike lanes
- Separated bike lanes
- Prior bike lane symbol discontinued



MUTCD Future

- **IJA requires updates at least every 4 years**
- **Updates likely revisions rather than new edition**
- **PROWAG expected to be incorporated through a future revision**
- **Future revisions may be targeted at specific issues**



Questions

