

New MUTCD Guidelines

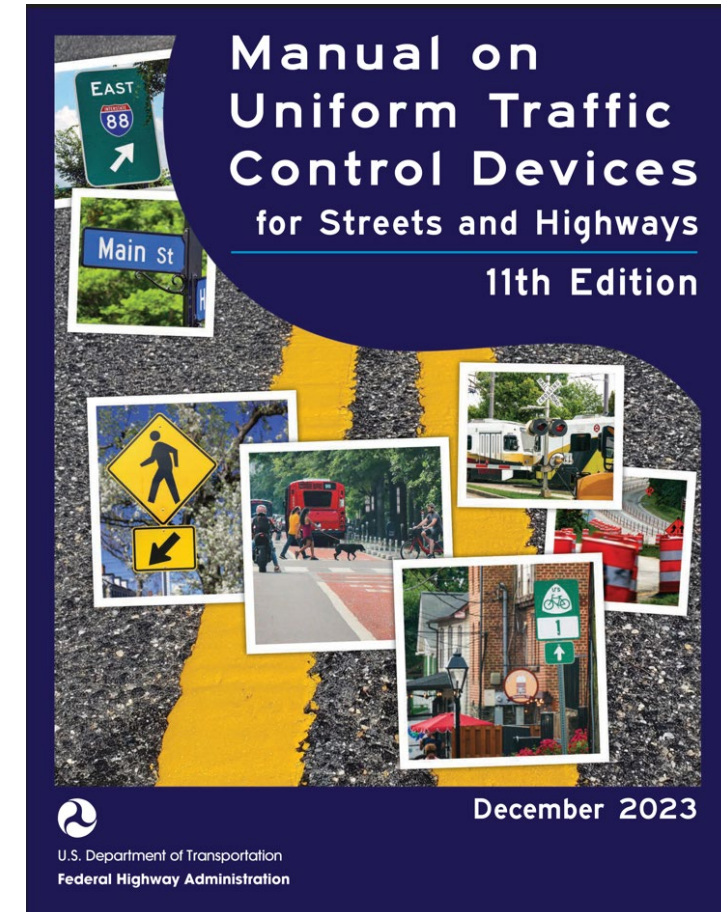
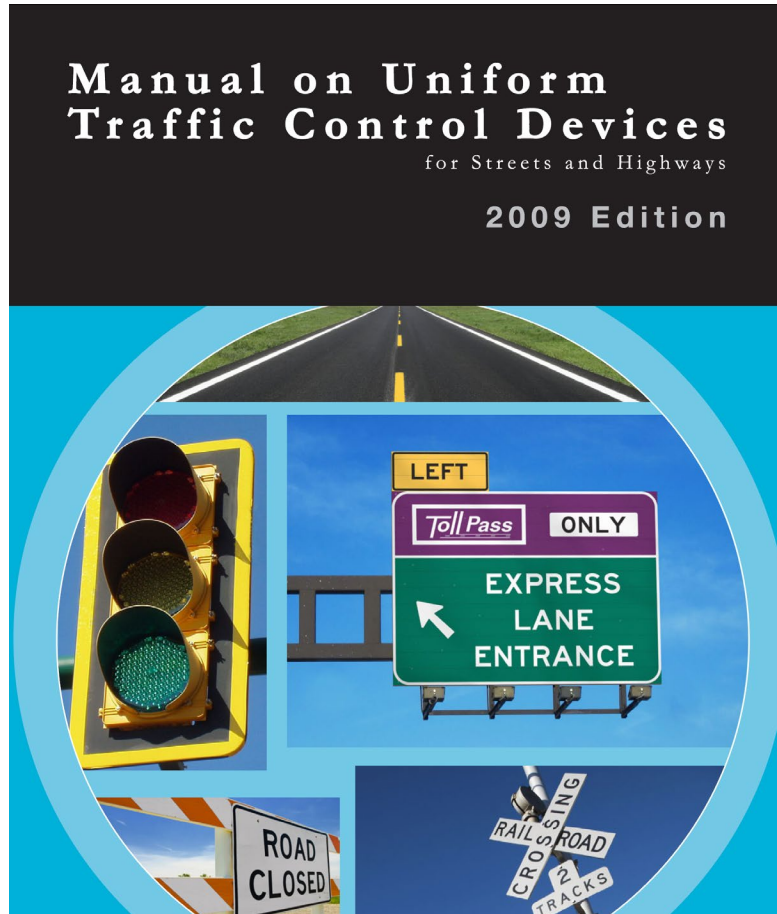
Signage Requirements, Workzone Safety & More

Dale Frech, Safety Director, Association of County Commissioners of Oklahoma

Disclaimer

- I am not a lawyer, and this is not legal advice, and this presentation is just my interpretation of and my opinion, reviewing the “MUTCD 2009 Edition Mark-up Showing Changes Adopted in 11th Edition” and is not inclusive of all changes to the Manual.
- https://mutcd.fhwa.dot.gov/kno_11th_Edition.htm

A New Manual Has Now Been Developed



According to FHWA MUTCD Site:

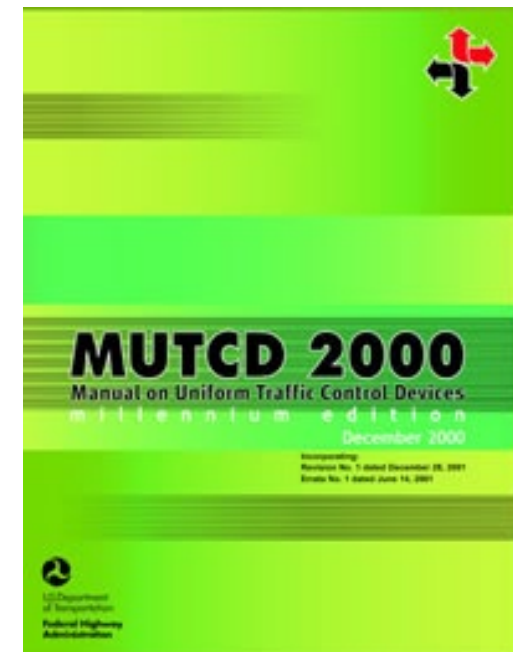
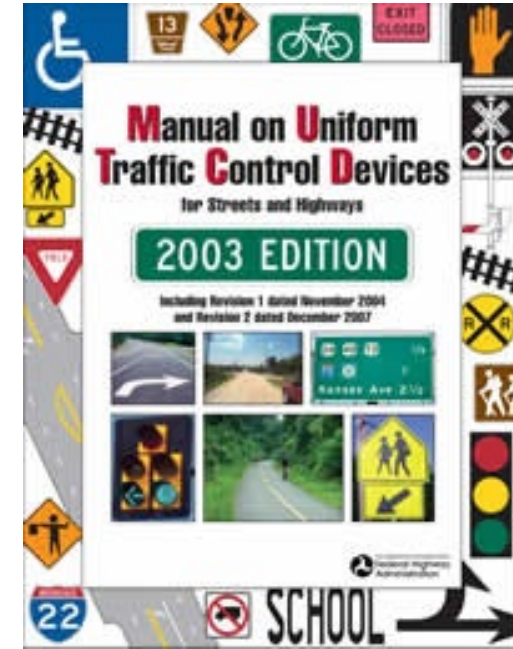
- In late 2021, the *Infrastructure Investment and Jobs Act* was passed. This legislation established a required quadrennial update cycle for the MUTCD so that it could better keep pace with evolving technologies and changing travel habits and needs. In addition, the statutory language in the U. S. Code was amended to reflect the fact that traffic control devices—and the MUTCD—serve a human-centered purpose, making explicit reference to the “safety, inclusion, and mobility of all users.”

According to FHWA MUTCD Site:

- On December 19, 2023, the final rule for the 11th Edition of the MUTCD was published. In this new edition are many advancements, including improved and expanded criteria for setting appropriate speed limits in differing contexts and environments, changes in warrants for traffic signals, colored pavements for bike lanes and transit lanes, and a completely new specific service sign category for electric vehicle charging. A completely new part on automated vehicles replaced low-volume roads as Part 5, with the existing provisions consolidated into their respective primary chapters thereby reducing redundant content.

Past Editions of the MUTCD

- 1935
- 1942
- 1948
- 1961
- 1971
- 1978
- 1988
- 2000
- 2003
- 2009



Changes from the 2009 MUTCD

- Increased pages from 864 to 1159
- Redistributed provisions of Low Volume Roads to other sections of the manual
- Printed “Mark Up” showing changes 840 pages

Traffic Control Devices Provide for the Safe and Orderly Movement of Traffic



Principals of Traffic Control

- Safety
- Smooth Traffic Flow
- Motorist Guidance
- Inspection
- Maintenance

The MUTCD Describes How Traffic Control Devices are Used in a Variety of Situations



Why are Traffic Control Devices Important?

- ✦ Traffic control devices provide a number of important benefits to the public



The MUTCD Provides a Common Language with Which to Communicate to Road Users



Uniformity



Examples of Non-Uniform Stop Signs



Five Basic Principles for Effective Traffic Control Devices

- Fulfill a need



Five Basic Principles for Effective Traffic Control Devices

- Command attention



Five Basic Principles for Effective Traffic Control Devices

- Convey a clear, simple meaning



Five Basic Principles for Effective Traffic Control Devices

- Command respect from road users



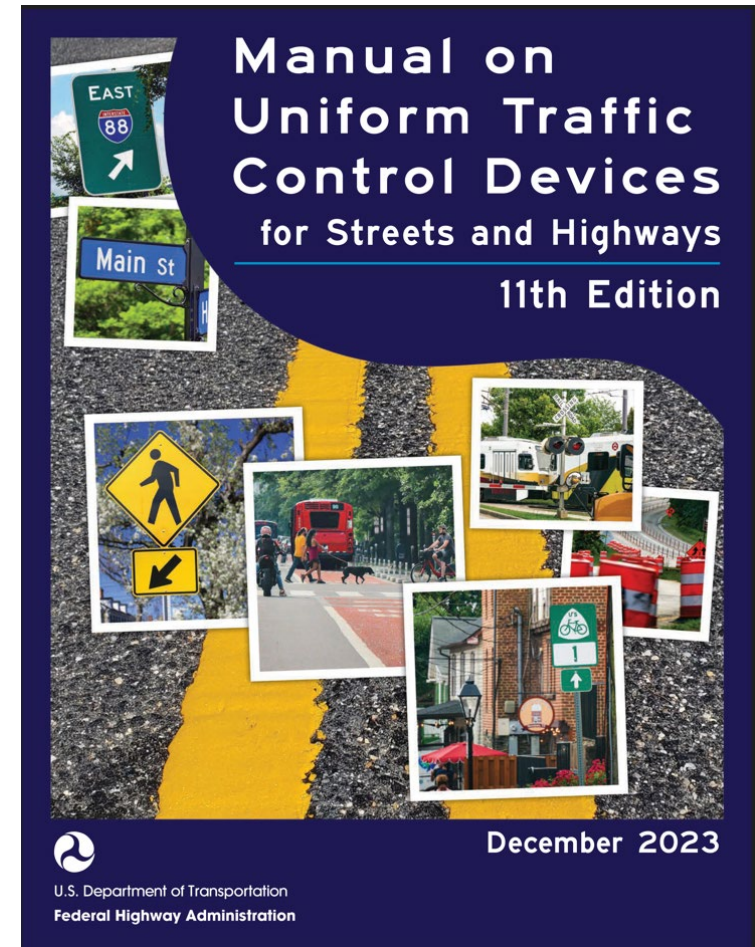
Five Basic Principles for Effective Traffic Control Devices

- ✦ Give adequate time for proper response



Why Use the MUTCD?

- Federal Statute:
- 23 CFR § 655.603 adopts MUTCD as national standard for ALL traffic control devices installed on any street or highway open to public travel
- Requires all State DOT's to adopt within 2 yrs.



Why Use the MUTCD?

- **47 O.S. § 15-104. The State Highway Commission shall adopt a manual and specifications for a uniform system of traffic-control devices for use upon streets and highways within this state...**



Why Use the MUTCD?

- **47 O.S. § 15-106. (a) Local authorities in their respective jurisdictions shall place and maintain such traffic-control devices upon highways under their jurisdiction as they may deem necessary...**



Why Use the MUTCD?

- **47 O.S. § 15-106. (cont.)**
- **All such traffic-control devices hereafter erected shall conform to the state manual and specifications.**



Why Use the MUTCD?

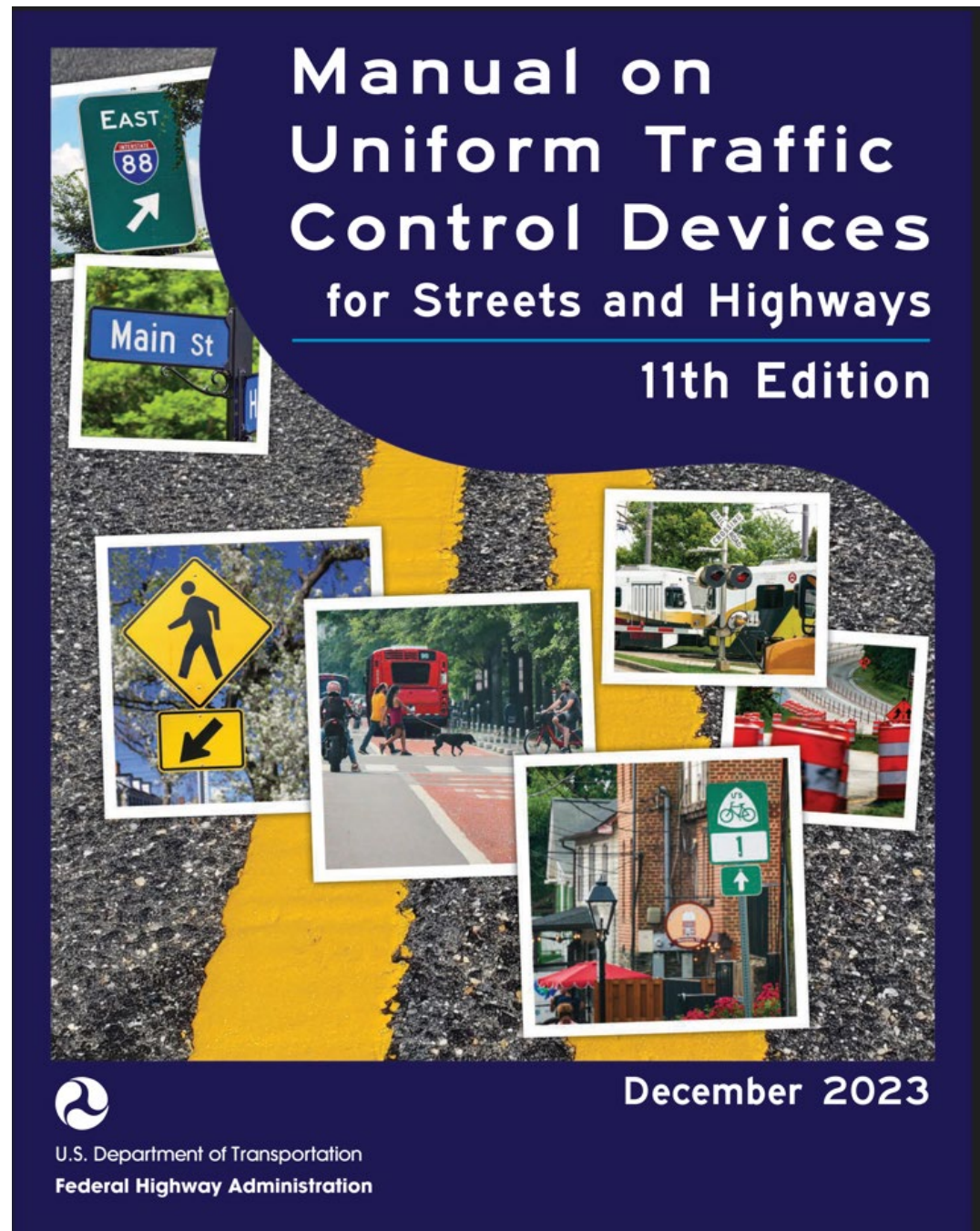
- **730:35-7-2. Traffic control administration**

- All traffic control devices erected on the State and Federal-aid Highway Systems shall conform to the Standards set forth in the current edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways", as approved and published by the Federal Highway Administration.



**As of December
19, 2023**

**11th Edition
MUTCD**



Parts of 11th Edition MUTCD

- ❖ Part 1 – Introduction, General, and Definitions
- ❖ Part 2 – Signs
- ❖ Part 3 – Markings
- ❖ Part 4 – Traffic Signals
- ❖ Part 5 – ~~Low-Volume Rural Roads (2000)~~
Traffic Control Device Considerations for Automated Vehicles (2023)
- ❖ Part 6 – Temporary Traffic Control
- ❖ Part 7 – School Areas
- ❖ Part 8 – Highway-Railroad Grade Crossings
- ❖ Part 9 – Bicycle Facility

Make-Up of MUTCD

Section 1A.02

Part 1, Chapter A, Section 2

9 Parts, Each Part can have several **Chapters**, each having several **Sections**

Make-Up of MUTCD

Section Subheading Significance

Standard – required, mandatory, prohibitive (SHALL)

Guidance – recommended practice (SHOULD)

Option – permissive practice or condition (MAY)

Support – informational statement only

Changes to the 11th Edition of the MUTCD

Part 1: GENERAL

Changes to the 11th Edition of the MUTCD

- **Section 1A.01 Purpose of the MUTCD**

- Support:

The purpose of the MUTCD is to establish uniform national criteria for the use of traffic control devices that meet the needs and expectancy of road users on all streets, highways, **pedestrian and bicycle facilities, and site roadways** open to public travel.

Changes to the 11th Edition of the MUTCD

Section 1A.01 Purpose of the MUTCD

- This purpose is achieved through the following objectives:
- A. Promote safety, inclusion, and mobility for all users of the road network;
- B. Promote efficiency through creating national uniformity in the meaning and appearance of traffic control devices;
- C. Promote national consistency in the use, installation, and operation of traffic control devices; and
- D. Provide basic principles for traffic engineers to use in making decisions regarding the use, installation, operation, maintenance, and removal of traffic control devices.

Changes to the 11th Edition of the MUTCD

- **Section 1A.03 Target Road Users**

Support:

Traffic control devices can be targeted at operators of motor vehicles, including driving automation systems, and at vulnerable road users.

Targeted operators of motor vehicles include motorists, public transportation operators, truck drivers, and motorcyclists. Targeted users also include vulnerable road users, who have little to no protection from crash forces. These users are defined in Title 23, U.S.C. 148(a). They include bicyclists and pedestrians, including persons with disabilities.

Changes to the 11th Edition of the MUTCD

Section 1A.04 Use of the MUTCD

Standard:

Where the content of this Manual requires a decision for implementation, such decisions shall be made by an engineer, or an individual under the supervision of an engineer, who has the appropriate levels of experience and expertise to make the traffic control device decision. Those decisions shall be made using engineering judgment or engineering study...

Changes to the 11th Edition of the MUTCD

Section 1B.05 Experimentation

Standard:

A traffic control device or application that does not comply with the provisions of this Manual shall not be used on any street, highway, bikeway, or site roadway open to public travel without first receiving official approval to experiment...

Changes to the 11th Edition of the MUTCD

CHAPTER 1C. DEFINITIONS, ACRONYMS, AND ABBREVIATIONS USED IN THIS MANUAL

295 Definitions

62 Abbreviations

76. Engineering Judgment—the evaluation of available pertinent information including, but not limited to, the safety and operational efficiency of all road users, and the application of appropriate principles, provisions, and practices as contained in this Manual and other sources, for the purpose of deciding upon the design (see Section 1D.03), use, installation, or operation of a traffic control device. Engineering judgment shall be exercised by a professional engineer (see definition in this Section) with appropriate traffic engineering expertise

77. Engineering Study—the analysis and evaluation of available pertinent information including, but not limited to, the safety and operational efficiency of all road users, and the application of appropriate principles, provisions, and practices as contained in this Manual and other sources, for the purpose of deciding upon the design, use, installation, or operation, of a traffic control device. An engineering study shall be performed by a professional engineer with appropriate traffic engineering expertise, or by an individual working under the supervision of such an engineer, through the application of procedures and criteria established by the engineer. An engineering study shall be documented in writing.

Changes to the 11th Edition of the MUTCD

CHAPTER 1C. cont..

187. **Professional Engineer (P.E.)**—An individual who has fulfilled education and experience requirements and passed examinations that, under State licensure laws, permit the individual to offer engineering services within areas of expertise directly to the public.

Changes to the 11th Edition of the MUTCD

Section 1D.03 Engineering Study and Engineering Judgment

Standard:

This Manual describes the application of traffic control devices, but shall not be a legal requirement for their installation.

Changes to the 11th Edition of the MUTCD

Section 1D.03 cont...

Support:

The MUTCD does not mandate, and is not intending to imply, that an engineer must make the final decision whether to implement or execute the determination or advice of an engineer by installing or constructing the traffic control device to the engineer's specification in the field. Rather, the engineer, individual under supervision of an engineer, or other individual as duly authorized by State law to engage in the practice of engineering, develops an engineering-based solution that includes the specifications for selection and placement of traffic control devices, but the responsibility for a final decision to implement that solution rests with the agency having jurisdiction over the roadway, after consultation with and based on advice from the engineer.

Changes to the 11th Edition of the MUTCD

Section 1D.11 Crashworthiness of Traffic Control Devices and Other Roadside Appurtenances

Standard:

In accordance with various Sections of this Manual, certain traffic control devices and their supports, and/or related appurtenances shall be crashworthy. Crashworthiness provisions in this Manual shall apply to all streets, highways, and site roadways open to public travel.

Changes to the 11th Edition of the MUTCD

Part 2: SIGNS

Changes to the 11th Edition of the MUTCD

Section 2A.07 Dimensions

Standard:

The sign dimensions prescribed in the sign size tables shown in the **Minimum columns** that are smaller than the sizes shown in the Conventional Road columns in the various sign size tables in this Manual shall only be used on low-speed roadways, alleys, open to public travel, **and on low-volume rural roads with operating speeds of 30 mph or less**

Changes to the 11th Edition of the MUTCD

Section 2A.15 Mounting Height

Standard:

In rural areas, the minimum height, measured vertically from the bottom of the sign to the elevation of the near edge of the pavement, of signs installed at the side of the road shall be 5 feet.

In business, commercial, or residential areas **where parking, bicyclist, or pedestrian movements are likely to occur**, or where the view of the sign might be obstructed, the minimum height, measured vertically from the bottom of the sign to the top of the curb, or in the absence of curb, measured vertically from the bottom of the sign to the elevation of the near edge of the traveled way, of signs installed at the side of the road **shall be 7 feet**

Changes to the 11th Edition of the MUTCD

Section 2A.20 Excessive Use of Signs

Guidance:

Signs should be used and located judiciously, minimizing their proliferation in order to maintain their effectiveness.

Support:

The basic role of traffic control devices is to provide only as much information to the road user as necessary to promote the safe and efficient operation of streets and highways.

Changes to the 11th Edition of the MUTCD

Section 2B.21 Speed Limit Sign (R2-1)

Standard:

Speed zones (other than statutory speed limits) shall only be established on the basis of an engineering study that has been performed in accordance with traffic engineering practices.

Changes to the 11th Edition of the MUTCD

Section 2D.59 Emergency Routing Signs and Plaques (M4-11 and M4-12 Series)

Standard:

Permanently-installed Emergency Routing signs shall have a white legend and border on a green background.

Orange or pink shall not be used as alternate colors on permanently-installed signs or plaques for rerouting traffic during an incident or other event. If a route shield is displayed as part of the message, the wording of the sign or plaque shall be EMERGENCY ROUTE TO as shown in Figure 2D-37.

Changes to the 11th Edition of the MUTCD

Section 2B.64 Weight Limit Signs (R12-1 through R12-7)

Standard:

Weight limit signs (see Figure 2B-30) shall be used to indicate a section of highway or **structure** that has a vehicle weight restriction.

An additional weight limit sign, with an advisory distance or directional legend, shall be located in advance of the applicable section of highway or structure so that prohibited vehicles can detour or turn around prior to the limit zone.

Changes to the 11th Edition of the MUTCD

Part 3: MARKINGS

Changes to the 11th Edition of the MUTCD

Section 3B.03 No-Passing Zone Pavement Markings

Standard:

~~When center line markings are used,~~

No-passing zone markings shall be used on:

- C. Approaches to grade crossings (see Section 8C.02), and
- D. Approaches to crosswalks.

Changes to the 11th Edition of the MUTCD

Part 4: HIGHWAY TRAFFIC SIGNALS

Changes to the 11th Edition of the MUTCD

Section 4C.01 Studies and Factors for Justifying Traffic Control Signals

Standard:

Except for a temporary traffic control signal (see Section 4D.11) installed in a temporary traffic control zone, before a traffic control signal is installed at a particular location, an engineering study of traffic conditions, pedestrian characteristics, and physical characteristics of the location shall be performed to determine whether installation of a traffic control signal is justified at that location.

Changes to the 11th Edition of the MUTCD

Section 4D.01 General

Standard:

The design and operation of traffic control signals shall take into consideration the needs of all modes of traffic including access and safety.

Changes to the 11th Edition of the MUTCD

**Part 5: TRAFFIC
CONTROL DEVICE
CONSIDERATIONS FOR
AUTOMATED VEHICLES**

Changes to the 11th Edition of the MUTCD

Part 5:

All new with only 1 Standard

Section 5B.01 Signs

Standard:

When scanning graphics (see Section 2A.04) of any type are used on a sign for support of driving automation systems, the scanning graphics shall not be visible to the human eye and the sign shall have no apparent loss of resolution or recognition for the road user.

Changes to the 11th Edition of the MUTCD

Part 6: TEMPORARY TRAFFIC CONTROL

Changes to the 11th Edition of the MUTCD

Section 6A.01 General

Support:

The TTC needs on low-volume and special purpose roads will sometimes be minimal, especially for shorter-term durations and for lower speed roads. The use of maintenance vehicle warning flashers, a limited number of signs, or a single flagger could be adequate for these situations.

Changes to the 11th Edition of the MUTCD

Section 6B.01 Temporary Traffic Control Plans

Guidance:

A TTC plan should be developed for planned activities that will affect road users. A TTC plan should be developed for unplanned and emergency situations where practicable.

Changes to the 11th Edition of the MUTCD

Section 6C.02 Pedestrian Considerations

Standard:

If the TTC zone affects the movement of pedestrians, adequate pedestrian access and walkways shall be provided.

Changes to the 11th Edition of the MUTCD

Section 6C.05 High-Visibility Safety Apparel

Standard:

For daytime and nighttime activity, all workers, including emergency responders, within the right-of-way who are within the TTC zone shall wear high-visibility safety apparel that meets the Performance Class 2 or 3 requirements of the ANSI/ISEA 107–2015 publication entitled “American National Standard for High-Visibility Safety Apparel and Headwear,”

Changes to the 11th Edition of the MUTCD

Part 7: TRAFFIC CONTROL FOR SCHOOL AREAS

Changes to the 11th Edition of the MUTCD

I found no significant new changes affecting counties

Changes to the 11th Edition of the MUTCD

**Part 8: TRAFFIC
CONTROL FOR
RAILROAD AND LIGHT
RAIL TRANSIT GRADE
CROSSINGS**

Changes to the 11th Edition of the MUTCD

Section 8A.03 Traffic Control Systems, and Practices at Grade Crossings

Standard:

Before any new grade crossing traffic control system is installed or before modifications are made to an existing system, approval shall be obtained from the highway agency with jurisdiction, the regulatory agency with statutory authority, the railroad company, and/or transit agency.

The Diagnostic Team members shall make a recommendation, documented in an engineering study...

Changes to the 11th Edition of the MUTCD

Section 8A.05 Engineering Studies at Grade Crossings

Standard:

The appropriate traffic control system to be used at a grade crossing **shall** be determined **based on** an engineering study **conducted by the Diagnostic Team**

Changes to the 11th Edition of the MUTCD

**Part 9: TRAFFIC
CONTROL FOR
BYCYCLE FACILITIES**

Changes to the 11th Edition of the MUTCD

Part 9 had substantial changes for assisting bicyclist safety.

Changes to the 11th Edition of the MUTCD

We have only touched on the noticed changes in the MUTCD. Tables have changed compliance requirements for standards already required within previous revisions

- Sign Sizes

- Retroreflectivity Requirements

- Sign Height and Distance from Roadway

- TTC Minimum Signage and Distances

Changes to the 11th Edition of the MUTCD

That's all I have!

Any Questions?