

Memorandum

To: Distribution,

From: Dustin Rouse, P.E., Chief Engineer *DR*

Date: October 22, 2024

Subject: 11th Edition of the Manual on Uniform Traffic Control Devices – Adoption and Conformance date of January 1, 2026

This design memo addresses the implementation and adoption of the 11th Edition of the Manual on Uniform Traffic Control Devices (11th MUTCD). MDT currently is using the 2009 Edition of the Manual on Uniform Traffic Control Devices (09 MUTCD).

Legal Requirements

The MUTCD is required by 23 CFR 655.603 to be the national standard for traffic control devices on roads open to the public (generally). MCA 61-8-202 requires that MDT adopt a manual for a uniform system of traffic control devices and must correlate with and so far as possible conform to the MUTCD published by FHWA.

On December 19, 2023, a Final Rule adopting the 11th Edition of the MUTCD was published in the *Federal Register* with an effective date of January 18, 2024. States must adopt or be in substantial conformance with the 11th Edition of the MUTCD as their legal State standard for traffic control devices within two years from the effective date. The *Federal Register* notice, which provides detailed discussion of the final dispositions of major changes from the 2009 edition, can be viewed at <https://www.federalregister.gov/d/2023-27178>. (FHWA website for the MUTCD).

Adoption Options and Direction

There are three options for states to implement or adopt the MUTCD they are as follows in order of complexity:

1. Adopt the 11th Edition of the MUTCD in its entirety.
2. Adopt the 11th Edition of the MUTCD with a State of Montana supplement to the manual, this supplement could address some option statements within the manual for contextual situations that are encountered in Montana. This supplement must be in substantial conformance with the 11th MUTCD.

3. Develop a State of Montana MUTCD in its entirety that is in substantial conformance with the 11th MUTCD.

Substantial conformance as defined in 23 CFR 655.603 means that the State MUTCD or Supplement shall conform as a minimum to the Standard statements included in the national MUTCD. The Guidance statements contained in the national MUTCD shall also be in the State MUTCD or Supplement unless the reason for not including it is satisfactorily explained based on engineering judgment, specific conflicting State law, or a documented engineering study.

Montana has elected to adopt the 11th Edition of the MUTCD in its entirety (option 1) without supplement.

Montana Adoption Date: January 1, 2026

New Projects

All new projects nominated from the issuance of this memorandum are to comply with the 11th MUTCD.

Existing Projects

Any Traffic Control Device (temporary or permanent) that is or will be installed after January 1, 2026, must comply with the 11th MUTCD. For existing projects in design, it is up to the Preconstruction team to determine if the project must be updated to incorporate the 11th MUTCD or not – since each project is unique on timing, letting, and construction.

Change Orders that extend the completion date (substantially complete as defined in our specifications) of a project past the effective date are to be evaluated on a case-by-case basis regarding compliance with the 11th MUTCD requirements and if these requirements are necessary to be included in the change order.

The Traffic and Safety Engineer is the decision authority for 11th MUTCD questions for projects and change orders, with the ability to elevate disputes or challenges to the Chief Engineer.

Systematic Upgrades

Section 1B.03 Compliance of Devices addresses how devices in general are to be upgraded as well as compliance dates for specific devices. Guidance for situations is provided as follows:

Preconstruction

Non-compliant devices are to be upgraded as projects are nominated. Corridor projects to upgrade non-compliant devices are an option but are not required as 3R type projects is expected to be the primary method of addressing non-compliant devices for Preconstruction.

Construction

Non-compliant devices are to be upgraded after the effective date if within the limits of a construction project. It is not expected that addressing non-compliant devices by Construction forces will be extensive and should be addressed via the implementation of the 11th MUTCD in

projects during design. However, information will be provided to help construction crews identify non-compliant devices.

Temporary Traffic Control devices are to be compliant by the effective date for any device on an MDT project under construction. If non-compliant devices are present after the effective date replacement with a compliant device is required. Coordination with MCA will be required to address any changes needed so TTC Contractors are ready and compliant for the effective date.

Maintenance Projects

Projects administered by Maintenance that are addressing signage will follow the requirements of New/Existing projects identified above under the effective date section.

Maintenance operations outside of a project are to replace non-compliant devices with a compliant device when the device is deemed no longer serviceable, is damaged, missing, or being refurbished. Unless one of the two following conditions are met:

1. One compliant device in the midst of a series of adjacent non-compliant devices would be confusing to road users, and/or
2. The schedule for replacement of the whole series of non-compliant devices will result in achieving timely compliance with the MUTCD.

Questions regarding the exceptions are to be directed to District Traffic Engineer's or the Traffic Design Engineer.

Specific Dates

Table 1B-1 from the 11th MUTCD has specific target compliance date requirements for traffic control devices that are deemed critical to be upgraded to protect infrastructure and/or address safety concerns with non-compliant devices or past practices. The table is included below for reference.

Table 1B-1. Target Compliance Dates Established by the FHWA

| MUTCD Section(s) | Subject Area | Specific Provision | Compliance Date |
|---------------------|--|--|---|
| 2B.64 | Weight Limit Signs | Paragraph 14 - requirement for additional Weight Limit sign with the advisory distance or directional legend in advance of applicable section of highway or structure | 5 years from the effective date of this edition of the MUTCD |
| 2C.25 | Low Clearance Signs (W12-2) | Paragraph 1 - Required posting of the Low Clearance Advance (W12-2) sign in advance of the structure | 5 years from the effective date of this edition of the MUTCD |
| 2C.25 | Low Clearance Signs (W12-2a, W12-2b) | Paragraph 8 - Recommended posting of Low Clearance Overhead (W12-2a or 12-2b) signs on an arch or other structure under which the clearance varies greatly | 5 years from the effective date of this edition of the MUTCD |
| 3A.05 | Maintaining Minimum Retroreflectivity | Implementation and continued use of a method that is designed to maintain retroreflectivity of longitudinal pavement markings (see Paragraph 1 of Section 3A.05) | September 6, 2026 ^c |
| 8B.16 | High-Profile Grade Crossings | Paragraphs 3 and 7 - Recommended installation of Low Ground Clearance and/or Vehicle Exclusion signs and detour signs for vehicles with low ground clearances that might hang up on high-profile grade crossings at locations with a known history | 5 years from the effective date of this edition of the MUTCD |
| 8D.09 through 8D.12 | Highway Traffic Signals at or Near Grade Crossings | Assessment and determination of appropriate treatment to achieve compliance (preemption, movement prohibition, pre-signals, queue cutter signals) | 10 years from the effective date of this edition of the MUTCD |

* 5 year date = January 18, 2029
** 10 year date = January 18, 2034

Section 2B.64: Most of the load posted bridges in Montana do not have the advanced weight limit sign. This requirement for an advanced sign is for all load posted bridges regardless of ownership or maintenance responsibility. Coordination with Bridge Management, Maintenance, as well as counties and municipalities will be required.

Section 2C.25: Most structures with low clearance have advanced warning signs (W12-2), compliance will require coordination with Maintenance.

Section 2C.25: There are limited low clearance structures in Montana that meet the requirements of Section 2C.25 in which the clearance varies greatly. Some examples of these structures would be large culverts or open bottom concrete arch culverts that pass vehicular traffic, which are limited in use.

Section 3A.05: Montana currently meets this requirement for the minimum retro-reflectivity of longitudinal lines. As our maintenance procedures addresses deficiencies in a timely manner in accordance with paragraph 7 and 8 under Section 3A.05.

Section 8B.16: There are limited high clearance crossings in Montana, those that have been identified are currently signed or are known and being addressed via the Highway Rail program. Limited action is expected to comply with the date identified.

Section 8D.09-12: There are limited traffic signals located within the specified distance of a railroad crossing as defined in these sections. A systematic review of these crossings is required, and a plan to address is required, but upgrade prior to the date is not required just a plan to execute. It is expected that some effort will be required but compliance is expected via the required date with low risk.

General affect and changes of the 11th Edition of the MUTCD

The 11th Edition of the MUTCD has made a significant number of changes throughout the manual, the 09 MUTCD contained Part 5 regarding provisions for low volume roads, this Part has since been repurposed and the provisions for low volume roads has been incorporated into the other chapters of the 11th MUTCD. Part 5 is now dedicated to automated driving systems (ADS).

Part 9 has been expanded to address the growing need for traffic control devices in regard to bicycles.

Prohibitions on practices in the past that have shown to have either safety or operational issues have been expanded within the manual.

Specific changes are outlined in Table 1. These changes are not an exhaustive list but are intended to address common traffic control devices or questions that are used in or asked frequently in Montana and the changes from the 09 MUTCD to the 11th MUTCD.

Table 1: MUTCD changes

| 11th MUTCD Section | Topic | 09 MUTCD | 11th MUTCD | Comments or needed action |
|--------------------------------------|--|------------------------------|---|--|
| 2A.08 | Secondary Language (multi-lingual signs) | Limited description | Restricted secondary language to pedestrians and for users in a parked car, legend is not to be visible to vehicular traffic. | |
| Section 2 | Symbol/legend signs | | Requires symbol signs if exist instead of words | Will need to address as encountered. |
| Section 2B.64 | Weight Limit Signs | Recommended advanced signage | Requires advance signage | See above compliance date. |
| Section 2C.06 | Horizontal curve signage | | Increased threshold for curve warning installation | MDT to maintain current state of practice using the more restrictive methodology in the design memo. |
| Section 2D.45 | Street name signs | | Provides minimum letter height | Mixed case legend also required; this is a change to MDT practice. |
| Section 2D.58 | Scenic and Historic designations | Limited description | Expanded requirements | |
| Section 2L.02 | VMS messages | Limited description | Requires policy for messages, limits non-transportation related messages. Amber alerts are allowed, as well as some emergency information | |



| 11th MUTCD Section | Topic | 09 MUTCD | 11th MUTCD | Comments or needed action |
|--------------------------------------|---|---|--|---|
| Section 3A.04 | Width/Pattern of longitudinal lines | Did not define a double line | Defines a double line as a pair of lines with a gap of no larger than double the width of the line width. | This is a guidance statement; MDT will continue to follow our 4"-12"-4" double yellow line spacing. |
| Section 3B.07 | Dotted extensions for ramps or non-continuing lanes | Recommended to provide dotted extensions for off-ramps and part of on-ramps | Requires dotted extension lines for off-ramps and part of on-ramps | |
| Section 3C.02 | Legal Crosswalks | | Requires crosswalk markings at all legally established crosswalks at non-intersections | MDT conforms already as mid-block crossings are marked. |
| Section 3C.03 | Crosswalk widths | Undefined | Minimum of 6' of width, 8' if a non-intersection crossing with >40 mph. | |
| Section 3H.03 | Aesthetic surface treatments | Limited allowance and definitions | Expansion of definitions and prohibitions | |
| Section 3H.06 | Green colored pavement | N/A | Allows use only for bikes, not EV markings | |
| Section 3H.07 | Red colored pavement | N/A | Allows use only for Bus Lane | |
| Section 4A.05 | Bicycle signal | N/A | Flashing Yellow Bicycle signal has no meaning | |
| Section 4L | RRFB's | N/A | Integrated interim approval into the MUTCD | |
| Section 4S.03 | Warning beacons | Limited discussion | Does not allow LED border signs to be used instead of warning beacons if "when flashing" is included in the sign | |



| 11th MUTCD Section | Topic | 09 MUTCD | 11th MUTCD | Comments or needed action |
|--------------------------------------|---------------------------------------|--|--|---|
| Section 8D.09 | Preemption of highway traffic signals | Recommended practice based on distance | Required practice based on defined distances | Has specific implementation date for a plan to address |
| Part 9 | Bicycles | | Significant expansion of Part 9 to address bicycle traffic control devices | |
| Section 9C.08 | Share the Road | Allowed use of placard | Removed use and substituted with "IN ROAD" or "IN STREET" | FHWA stated that "share the road" did not adequately define the "warning" of potentially bikes in a driving lane. |
| Section 9E.01 | Bike lane symbol | Allowed use of helmeted rider pavement marking | Does not allow use of helmeted rider for pavement marking | Need to address detail drawings |

Expected Updates

It should be noted that many of MDT's processes and business are integral with the MUTCD, an update matrix is included in the Appendix, this appendix is a list of the changes needed, a comprehensive list of all information reviewed is available upon request from the Traffic Design Engineer. Many of these needed updates are primarily just a reference update from the 2009 Edition of the MUTCD to the 11th Edition of the MUTCD. However, other needed updates include changes to detail drawings, contract specifications, manuals, guides, design memos, etc.

Reference update

With the effective date of the 11th Edition of the MUTCD above, all references in design manuals and guides are to be considered referencing the 11th Edition of the MUTCD. Reference updates to the manuals and guides are not required, but updates should be included in the next version of the manual or guide. It is suggested that in the next update that language change to reference the MUTCD as the most current edition adopted.

Content update

Areas with responsibility for maintaining manuals, guides, design memo's, detail drawings, contract provisions, etc. will need to execute an update or submit for update prior to the effective date above.



Primarily minor updates to specifications, special provisions, and detail drawings are expected. If there are any questions regarding 11th MUTCD compliance, coordinate with MDT's Traffic Design Engineer.

Exceptions

No guidance document can predict all situations that can be encountered when addressing an update of this magnitude to the Manual on Uniform Traffic Control Devices. Engineering judgement must be used to address situations that don't have clear guidance within the update or MDT processes and business. For guidance consult with the Traffic Design Engineer or Traffic Operations Engineer regarding MUTCD questions/exceptions, decision authority on 11th MUTCD compliance is with the Traffic and Safety Engineer with option to elevate disputes and challenges to the Chief Engineer.

Closing

It is the intent of this memo to address the necessary updates that are required under 23 CFR 655 to implement and adopt the 11th Edition of the MUTCD. If there are discrepancies between this memo, MDT manuals and/or guides, other design memo's, or the 11th MUTCD, the 11th MUTCD will govern, then this memo, then other design memos, and finally existing manuals and guides.

Attachments: Update Matrix

copies: Distribution

| Memo Type | Memo Title | Effectuated | Compliant | Notes | Suggestion | Option | |
|---|---|-------------------|-----------|---|---|---|--------|
| Bridge Memos | Low Clearance Signs on Bridges | Yes | No | References the 2003 Edition of the MUTCD. Section 2C.25 Guidance: The actual clearance should be displayed on the Low Clearance (W12-2, W12-2a, and W12-2b) sign to the nearest 1 inch not exceeding the actual clearance. However, in areas that experience changes in temperature causing frost action, a reduction, not exceeding 3 inches, should be used for this condition. | Suggest updating the memo to reflect the current standard within the MUTCD or recind the memo and use the MUTCD. | Update or Recind | |
| Design Memo - Signing & Pavement Markings | Guidance on Signs, Sign Sheeting, Pavement Markings, and Delineation on Department Responsible Roadways | Yes | Yes | Warning signs are described as yellow. Cross walk markings for high visibility. | Current memo is more restrictive and does not permit other high visibility crosswalks shown in the MUTCD. Suggest updating to allow other highvisibility crosswalks if desired. | Update | |
| Design Memo - Signing & Pavement Markings | Centerline Pavement Markings for Rural Highways | Yes | Yes | Does not match spacing guidance for double lines of no more than double the line width. | NA | NA | |
| Design Memo - Signing & Pavement Markings | Advance Warning Flashers at Signalized Intersections | Yes | Yes | NA | NA | NA | |
| Design Memo - Signing & Pavement Markings | Horizontal Alignment Sign Selection | Yes | No | Section 2C.06 Device Selection for Changes in Horizontal Alignment, Section 2C.07 Horizontal Alignment Signs (W1-1 through W1-5, W1-11, and W1-15), Section 2C.09 Combination Horizontal Alignment/Intersection Signs (W1-10 Series), Section 2C.08 Chevron Alignment Sign (W1-8), Section 2C.10 One-Direction Large Arrow Sign (W1-6), Section 2C.12 Advisory Exit and Ramp Speed Signs (W13-2 and W13-3) and Combination Horizontal Alignment/Advisory Exit and Ramp Speed Signs (W13-6 through W13-13), Section 2C.59 Advisory Speed Plaque (W13-1P) and Confirmation Advisory Speed Plaque (W13-1P) | Memo should be updated to address the changes to Section 2C.06, Section 2C.07, Section 2C.08, Section 2C.09, Section 2C.10, Section 2C.12, and Section 2C.59 in MUCTD 2023 | Update | |
| Design Memo - Signing & Pavement Markings | Use of Vehicle Speed Feedback Signs (VSFS) on the State Maintained System | - VSFS Guidelines | Yes | No | Section 2C.13 Vehicle Speed Feedback Sign and Plaque (W13-20 and W13-20aP), Section 7B.05 School Speed Limit Signs and Plaques, Section 2B.21 Speed Limit Sign (R2-1) | Update VSFS Guidelines to have appropriate sections and MUTCD | Update |
| Design Memo - Signing & Pavement Markings | Policy on Sign Sheeting Materials for Permanent Signs | Yes | No | Retroreflectivity | Memo Recinded no need to address | No action needed | |
| Engineering Memos | RV Friendly Logo Symbols Policy | Yes | No | Not directly reference in MUTCD. Guidance is provided for Supplemental RV Access | Memo should be updated to address the lack of RV-Friendly symbol in MUTCD | Update | |

| Manual Title | Chapter | Section | Effectuated | Compliant | Notes | Suggestion | Option |
|--------------------------------|---|-------------|-------------|-----------|--|---------------|--------|
| MDT Traffic Engineering Manual | Chapter 2 - Administrative Policies and Procedures | 2.3.1,2.3.2 | Yes | Yes | Needs update | Being Updated | Update |
| MDT Traffic Engineering Manual | Chapter 5 - Coordination with Other Publications | 5.1 | Yes | Yes | Needs update | Being Updated | Update |
| MDT Traffic Engineering Manual | Chapter 6 - Roadside Safety | 6.2 | Yes | Yes? | Needs update | Being Updated | Update |
| MDT Traffic Engineering Manual | Chapter 10 - Plan Preparation (Electrical) | 10.1.2.4 | Yes | Yes | Needs update | Being Updated | Update |
| MDT Traffic Engineering Manual | Chapter 12 - Traffic Signal Design | Ch 12 | Yes | No | Needs update MUTCD referenced Signals discussed Warrants | Being Updated | Update |
| MDT Traffic Engineering Manual | Chapter 13 - Highway Lighting Designs | 13.1.2 | Yes? | No? | Needs update References | Being Updated | Update |
| MDT Traffic Engineering Manual | Chapter 17 - Plan Preparation (Signing/Pavement Markings) | NA | Yes? | Yes | Needs update MUTCD, overhead signs referenced | Being Updated | Update |
| MDT Traffic Engineering Manual | Chapter 18 - Highway Signing | 18.3.4 | Yes | No | Needs update MUTCD referenced | Being Updated | Update |
| MDT Traffic Engineering Manual | Chapter 19 - Pavement Markings | | Yes | No | Needs update | Being Updated | Update |
| MDT Traffic Engineering Manual | Chapter 28 - Intersections at-Grade | | Yes | ? | Needs update | Being Updated | Update |
| MDT Traffic Engineering Manual | Chapter 29 - Interchanges | | Yes | No? | Needs update | Being Updated | Update |
| MDT Traffic Engineering Manual | Chapter 31 - Special Design Elements | | Yes | No? | Needs update | Being Updated | Update |
| MDT Traffic Engineering Manual | Chapter 40 - Speed Studies | | Yes | No | Needs update | Being Updated | Update |
| MDT Traffic Engineering Manual | Chapter 41 - Traffic Impact Studies | | Yes | No | Needs update | Being Updated | Update |
| MDT Traffic Engineering Manual | Chapter 42 - School Crossing Studies | | Yes | No | Needs update | Being Updated | Update |
| MDT Traffic Engineering Manual | Chapter 43 - General Traffic Engineering Studies | | Yes | Yes? | Needs update | Being Updated | Update |

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|---|--------------------------|---------------------------------|-----|-----|---|--|--------------|
| MDT Traffic Engineering Manual | Glossary | NA | Yes | Yes | Needs update | Being Updated | Update |
| Approach Manual for Landowners and Developers | | NA | Yes | Yes | References the MUTCD | NA | NA |
| Safety Meeting Guidelines for Group Leaders | | Work Signs | Yes | Yes | May need to be updated to refer to the MUTCD | NA | NA |
| Bicyclist Signing Guideline | | | Yes | Yes | Updated to include pavement markings and new sign requirements from MUTCD | Consider directives for the use of bicycle pavement markings and new sign requirements | New Document |
| MDT Bridge Inspection Manual | | Low Clearance Sign Requirements | Yes | No | Low Clearance Sign Requirements Load Posting should be updated | Issue guidance for low clearance design memo for bridges tunnels or State use of MUTCD | Memo |
| MDT Timber Bridge Inspection Guide | | NA | Yes | Yes | NA | NA | NA |
| Tunnel Inspection Manual | | NA | Yes | Yes | May need to be updated to include Low Clearance information | Issue guidance for low clearance design memo for bridges tunnels or State use of MUTCD | Memo |
| MDT Bridge Inspection and Rating Manual | | | Yes | Yes | Out of Date? May need update for load posting ahead. | NA | NA |

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|---|---|----------------------|-----|-----|---|--|------|
| Load Posting Procedures | | Load Posting Signage | Yes | No | References MUTCD Article 2B.67 | Recind and update to reference 2B.75 or remove specific reference. | Memo |
| ADA Transition Plan | | NA | Yes | Yes | NA | NA | NA |
| Work Zone Safety and Mobility | | | Yes | No | References 2003 MUTCD and TTC plans | State that the 2023 MUTCD should be referenced | Memo |
| Environmental Manual | CHAPTER 19 SOCIAL IMPACTS.PDF | 19.2.11 | Yes | Yes | Defines the MUTCD | NA | NA |
| Environmental Manual | CHAPTER 20 ECONOMIC IMPACTS.PDF | 20.2.9 | Yes | Yes | Defines the MUTCD | NA | NA |
| Environmental Manual | CHAPTER 28 CONSTRUCTION IMPACTS.PDF | 28.3.2 | Yes | Yes | References the MUTCD | NA | NA |
| Environmental Manual | CHAPTER 41 PED BIKE FACILITIES .PDF | | Yes | Yes | discusses bicycle pavement markings and route markers, uniform signing for footpaths and bicycle trails, detours for pedestrian/bicyclist | NA | NA |
| Geotechnical Manual | Chapter 8 - Subsurface Investigations/Field Tests | NA | Yes | Yes | References MUTCD for Traffic Control | NA | NA |
| Chip Seal Manual | | NA | Yes | Yes | References MUTCD and traffic control | NA | NA |
| Crack Seal Manual | | NA | Yes | Yes | References MUTCD and traffic control | NA | NA |
| Maintenance Manual Section C - Maintenance Procedures | Chapter 3 - Asphalt Pavement System | NA | Yes | Yes | References MUTCD and traffic control | NA | NA |
| Maintenance Manual Section C - Maintenance Procedures | Chapter 4 - Concrete Pavement Program | NA | Yes | Yes | References MUTCD and traffic control | NA | NA |

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|---|--|----------|-----|-----|---|---|--------|
| Maintenance Manual Section C - Maintenance Procedures | Chapter 5 - Roadway/Roadside Maintenance | NA | Yes | Yes | References MUTCD and traffic control | NA | NA |
| Maintenance Manual Section C - Maintenance Procedures | Chapter 6 - Roadside Cleanup Program | NA | Yes | Yes | References MUTCD and traffic control | NA | NA |
| Maintenance Manual Section C - Maintenance Procedures | Chapter 7 - Maintenance of Facilities | NA | Yes | Yes | References MUTCD | NA | NA |
| Maintenance Manual Section C - Maintenance Procedures | Chapter 8 - Guidance, Safety and Road Closures | NA | Yes | No | References 2000 MUTCD Part VI and traffic control | Update or Memo to reference 2023 | Memo |
| Maintenance Manual Section C - Maintenance Procedures | Chapter 9 - Winter Maintenance | NA | Yes | Yes | References MUTCD and traffic control | NA | NA |
| Maintenance Manual Section C - Maintenance Procedures | Chapter 10 - Structure Maintenance Program | NA | Yes | No | References noncompliant Low Clearance Signs on Bridges memo and traffic control | Update to reference MUTCD or Memo to reference new memo | Memo |
| Sign Catalog | | | Yes | No | Should be updated to include new signs | Update | Update |
| Complete Manual of Test Procedures | Section 400 - Miscellaneous Materials and Test Methods | 10.1.1 | Yes | No | Needs to be updated to current MUTCD | Update or memo to reference 2023 | Memo |
| Complete Manual of Test Procedures | Section 500 - Chemistry | | Yes | Yes | References testing of traffic paint | NA | NA |
| Right-of-Way: Volume III - Utilities Manual | Chapter 41 - Utility Agreement Preparation | NA | Yes | Yes | References the MUTCD for traffic control | NA | NA |
| Right-of-Way: Volume III - Utilities Manual | Chapter 43 - Guidelines for Utility Occupancy on R/W | NA | Yes | Yes | References the MUTCD for traffic control | NA | NA |
| Right-of-Way: Volume III - Utilities Manual | Chapter 48 - Occupancy of Interstate Right-of-Way | NA | Yes | Yes | References the MUTCD for traffic control | NA | NA |
| Road Design Manual | Chapter 1 - Road Design Guidelines and Procedures | 1.5.1.13 | Yes | No | Cites the 2009 MUTCD but nothing in it | Memo to reference 2023 MUTCD | Memo |

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|--------------------|--|---------------|-----|-----|---|--|------|
| Road Design Manual | Chapter 2 - Basic Design Controls | 2.8.1.4, 2.5 | Yes | No | Cites the 2009 MUTCD but nothing in it, discusses 85th percentile for setting speed limits | Memo to reference 2023 MUTCD and Speed limits should probably be directed to Traffic Manual or MUTCD | Memo |
| Road Design Manual | Chapter 3 - Horizontal Alignment | 3.2.3 | Yes | No | Cites the 2009 MUTCD | Memo to reference 2023 MUTCD | Memo |
| Road Design Manual | Chapter 4 - Vertical Alignment | 4.5 | Yes | Yes | Vertical Clearances | Memo to direct to MUTCD clearances | Memo |
| Road Design Manual | Chapter 5 - Cross Section Elements | 5.2.6.3 | Yes | Yes | References pavement markings for TWLTL and flush medians | NA | NA |
| Road Design Manual | Chapter 6 - Intersections and Interchanges | 6.5, 6.6, 6.7 | Yes | Yes | Discusses transvers and wide longitudinal pavement markings, dynamic warning signs, roundabouts, pedestrian hybrid beacon, DDI | NA | NA |
| Road Design Manual | Chapter 7 - Multimodal Design Considerations | 7.4.2, 7.6.2 | Yes | No? | Cites the 2009 MUTCD, bicycle lanes, crosswalks (high visibility), bike signal, raised pedestrian crossing, RRFB, hybrid beacon, pedestrian signal, bicycle box | Update or memo to reference 2023 proper location of a bike lane | Memo |

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|---|---|------------------------|-----|-----|--|--|------|
| Road Design Manual | Chapter 8 - Urban Design Considerations | 8.4.4 | Yes | Yes | Discusses traffic calming measures. Some of these are discussed in the MUTCD | NA | NA |
| Road Design Manual | Chapter 10 - Work Zone Traffic Control | 10.2, 10.4.2, 10.3.5.2 | Yes | No | Cites the 2009 MUTCD, taper rates, TTCP, crossovers | Update or memo to reference 2023, address guidance on tapers | Memo |
| Road Design Manual | Appendix A - Definitions | | Yes | Yes | Defines items in the MUTCD but not the MUTCD | NA | NA |
| Road Design Manual | Appendix F - Sight Distance | | Yes | Yes | Passing sight distance, roundabouts | NA | NA |
| Survey Manual - Entire Manual | | | Yes | Yes | References the MUTCD | NA | NA |
| Local Agency Guidelines Manual | Chapter 16 | 16.5.1 | Yes | NA | NA | NA | NA |
| Local Agency Guidelines Manual | Chapter 17 | 17.2.2 | Yes | Yes | References TTC and the MUTCD | NA | NA |

| Section | Title | Effected | Compliant | Notes | Suggestion | Option |
|---------|---|----------|-----------|--|---|--------|
| 605 | Concrete Barrier Rail | Yes | Yes | Section 3G.04 Placement and Spacing is guidance | NA | NA |
| 606 | Guardrail | Yes | No | Section 3G.04 Placement and Spacing is guidance, Section 2C.72 Object Markers for Obstructions Adjacent to the Roadway, CHAPTER 3G. DELINEATORS | Remove reference to reflectorized Type 3 (High Intensity) Sheeting. Consider adding capable of clearly retroreflecting light under normal atmospheric conditions from a distance of 1,000 feet when illuminated by the high beams of standard automobile lights. Or Retroreflective sheeting. | Update |
| 618 | Traffic Control | Yes | No | MUTCD Referenced. Section 6F.02 Sign Placement - height from base to bottom of sign | Consider adding the minimum height of 1-ft | Update |
| 619 | Signs, Delineators and Guideposts | Yes | No | Section 2A.13 Standardization of Location guidance not followed, Section 2A.10 Sign Borders colors match but the size is guidance, retroreflective sheeting should be updated, Section 3G.04 Placement and Spacing is guidance, MUTCD referenced but not the edition | Update retroreflectivity to match current MUTCD | Update |
| 620 | Pavement Markings | Yes | Yes | NA | NA | NA |

| Section | Effectuated | Compliant | Notes | Option |
|---|--------------------|------------------|---|-----------------|
| 101.02 ACRONYMS AND ABBREVIATIONS | Yes | Yes | Referenced as acronym | NA |
| 101.03 DEFINITIONS | Yes | No | Defines the MUTCD Standardization of Application is Section 2A.02 now | Update |
| 104.05 MAINTENANCE OF WORK | Yes | Yes | 104.05.3 Maintenance for Traffic and Detours: References MUTCD | NA |
| 617.03.6 Foundations | Yes | Yes | Foundation height | NA |
| 617.03.10 Conductors and Cable | Yes | Yes | Preemption | NA |
| 617.03.14 Traffic and Pedestrian Signals | Yes | Yes | Minimum Height 15-foot Max height 25.6-foot depending on distance from stop bar. | NA |
| 617.03.17 Pedestrian Push Buttons | Yes | No | Voice messaging required | Update |
| 618.02 MATERIALS | Yes | Yes | References MUTCD | NA |
| 618.03.1 Purpose and Prosecution of Work Zone Traffic Control | Yes | Yes | References MUTCD | NA |
| 618.03.2 Traffic Control Plan | Yes | Yes | References MUTCD | NA |
| 618.03.6 Access Breaks | Yes | Yes | References MUTCD | NA |
| 618.03.13 Traffic Control Device Location and Installation | Yes | Yes | MUTCD provides guidance not all guidance matches | NA |
| 618.03.15 Pilot Car Operations | Yes | Yes | Specifications appear to be within guidance References MUTCD | NA |
| 619.03.2 Design Calculations and Shop Drawings | Yes | No | Currently links to old layout | Update |
| 619.03.4 Inspection | Yes | No? | Should there be a reference to retro reflectivity requirements? They will be inspected. | Consider Update |
| 620.03.5 Temporary Striping | Yes | Yes | Temporary raised pavement markers spaced closer than required | NA |
| 620.03.7 Final Pavement Markings | Yes | No? | Should there be a reference to retro reflectivity requirements? | Consider Update |

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|--|-----|-----|--|-----------------|
| 620.03.8 Concrete Curbs | Yes | No | Retro reflectivity requirements and not all traffic islands should be yellow. | Update |
| 703.07 CONTROL EQUIPMENT | Yes | No | 703.07.1 Flasher: Reference no longer valid 4G.01 | Update |
| 703.08 TRAFFIC AND PEDESTRIAN SIGNALS | Yes | Yes | References ITE and MUTCD, retro reflectivity requirements not stated calls for Type IX | NA |
| 703.10 PEDESTRIAN PUSH BUTTONS | Yes | No | Voice messaging appears standard | Update |
| 704.01.7 Retro-reflective Sheeting | Yes | No? | Retro reflectivity requirements | Consider Update |
| 704.03 FLEXIBLE DELINEATORS | Yes | No? | Retro reflectivity requirements | Consider Update |
| 704.04 LINEAR DELINEATION SYSTEMS | Yes | No? | Retro reflectivity requirements | Consider Update |
| 714.04 WATERBORNE TRAFFIC PAINT | Yes | No? | Retro reflectivity requirements | Consider Update |
| 714.06 EPOXY OR OTHER POLYMERIC TRAFFIC PAINT | Yes | No? | Retro reflectivity requirements | Consider Update |
| 714.07 PREFORMED PLASTIC PAVEMENT MARKING MATERIAL | Yes | No? | Retro reflectivity requirements 714.07.4 Physical Requirements | Update |
| 714.08 REFLECTIVE GLASS BEADS | Yes | No? | Retro reflectivity requirements | Consider Update |
| 715.01 SIGNS AND CHANNELIZING DEVICES | Yes | Yes | References MUTCD | NA |
| 715.03 ADVANCE WARNING ARROW PANELS | Yes | Yes | References general location in the MUTCD | NA |