



TEMPORARY TRAFFIC CONTROL PLAN DEVELOPMENT

Process for Developing an Effective Temporary Traffic Control Plan

DISCLAIMER

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- Content is 'living' and subject to change



FHWA WORK ZONE SAFETY GRANT PROGRAM

▲ SAFETEA-LU (2005)

- ▶ FHWA Work Zone Safety Grant Program

▲ 2006 Work Zone Safety Grant

- ▶ Utility Work Zone Guidance, Training and TTCP Software Tool

▲ 2011 Work Zone Safety Grant

- ▶ Urban Work Zones
- ▶ Short-Term, Short-Duration, and Mobile Work Zones
- ▶ Comprehensive TTCP Software Tool
- ▶ Compendium of Documents

▲ 2013 Work Zone Safety Grant

- ▶ Work Zone Crash Data Collection and Reporting Guidelines
- ▶ Work Zone Training Workshop



TTCP DEVELOPMENT WORKSHOP

Purpose:

- ▶ Understanding critical characteristics of work zones
- ▶ Collecting missing roadway and traffic data
- ▶ Selecting appropriate typical applications or standard plans
- ▶ Modifying TA using site-specific data
- ▶ Field adjustments

Outcome:

- ▶ Use of TTCP development process
- ▶ Use of TTCP software
- ▶ Field modification and strategies

FEDERAL MUTCD AND PART 6

🚧 Part 6 of the MUTCD

▶ Temporary Traffic Control

🚧 Guidance, Standards, Devices, etc.

🚧 2009 MUTCD includes 46 'Typical Applications'



2009 Edition

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PART 6

TEMPORARY TRAFFIC CONTROL

CHAPTER 6A. GENERAL

Section 6A.01 General

Support:

01 Whenever the acronym "TTC" is used in Part 6, it refers to "temporary traffic control."

Standard:

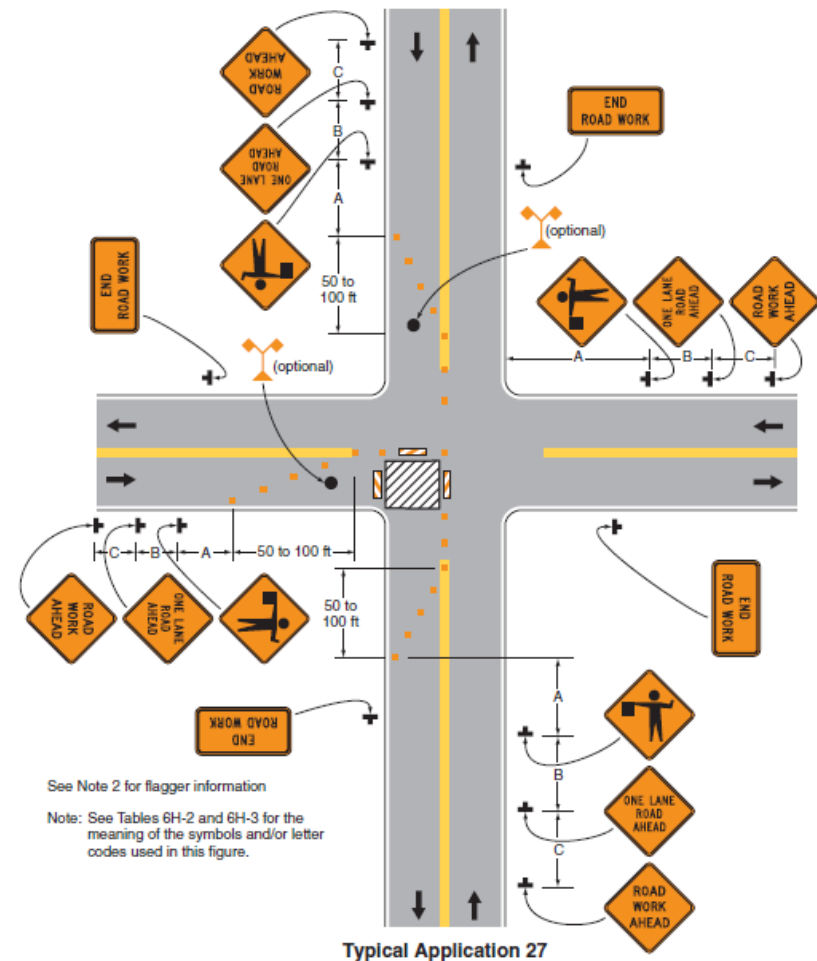
02 The needs and control of all road users (motorists, bicyclists, and pedestrians within the highway, or on private roads open to public travel (see definition in Section 1A.13), including persons with disabilities in accordance with the Americans with Disabilities Act of 1990 (ADA), Title II, Paragraph 35.130) through a TTC zone shall be an essential part of highway construction, utility work, maintenance operations, and the management of traffic incidents.

EXAMPLE – TYPICAL APPLICATION 27

Typical applications include:

- ▶ Necessary Temporary Traffic Control Devices
 - ▶ Signs
 - ▶ Channelizing Devices
 - ▶ Optional Devices
- ▶ Dimensions for TTC Layout
 - ▶ Placement of Advance Warning Devices
 - ▶ Taper Lengths
 - ▶ Spacing Between Channelizing Devices
- ▶ Special Notes

Figure 6H-27. Closure at the Side of an Intersection (TA-27)



SUPPLEMENTARY NOTES

Notes for Figure 6H-27—Typical Application 27 Closure at the Side of an Intersection

Guidance:

1. The situation depicted can be simplified by closing one or more of the intersection approaches. If this cannot be done, and/or when capacity is a problem, through vehicular traffic should be directed to other roads or streets.
2. Depending on road user conditions, flagger(s) or uniformed law enforcement officer(s) should be used to direct road users within the intersection.

Standard:

At night, flagger stations shall be illuminated, except in emergencies.

Option:

4. Flashing warning lights and/or flags may be used to call attention to the advance warning signs.
5. For short-duration work operations, the channelizing devices may be eliminated if a vehicle displaying high-intensity rotating, flashing, oscillating, or strobe lights is positioned in the work space.
6. A BE PREPARED TO STOP sign may be added to the sign series.

Guidance:

7. When used, the BE PREPARED TO STOP sign should be located before the Flagger symbol sign.
8. ONE LANE ROAD AHEAD signs should also be used to provide adequate advance warning.

Support:

9. Turns can be prohibited as required by vehicular traffic conditions. Unless the streets are wide, it might be physically impossible to make certain turns, especially for large vehicles.

Option:

10. Vehicle hazard warning signals may be used to supplement high-intensity rotating, flashing, oscillating, or strobe lights.

Standard:

11. Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity rotating, flashing, oscillating, or strobe lights.

46 MUTCD TYPICAL APPLICATIONS

- 🚧 Cover “variety of situations commonly encountered”
- 🚧 Not every possible situation addressed
- 🚧 Combining components of two or more TAs:
 - ▶ For example:
 - ▶ Closure at the Side of an Intersection (TA-27) WITH
 - ▶ Sidewalk Detour or Diversion (TA-28)



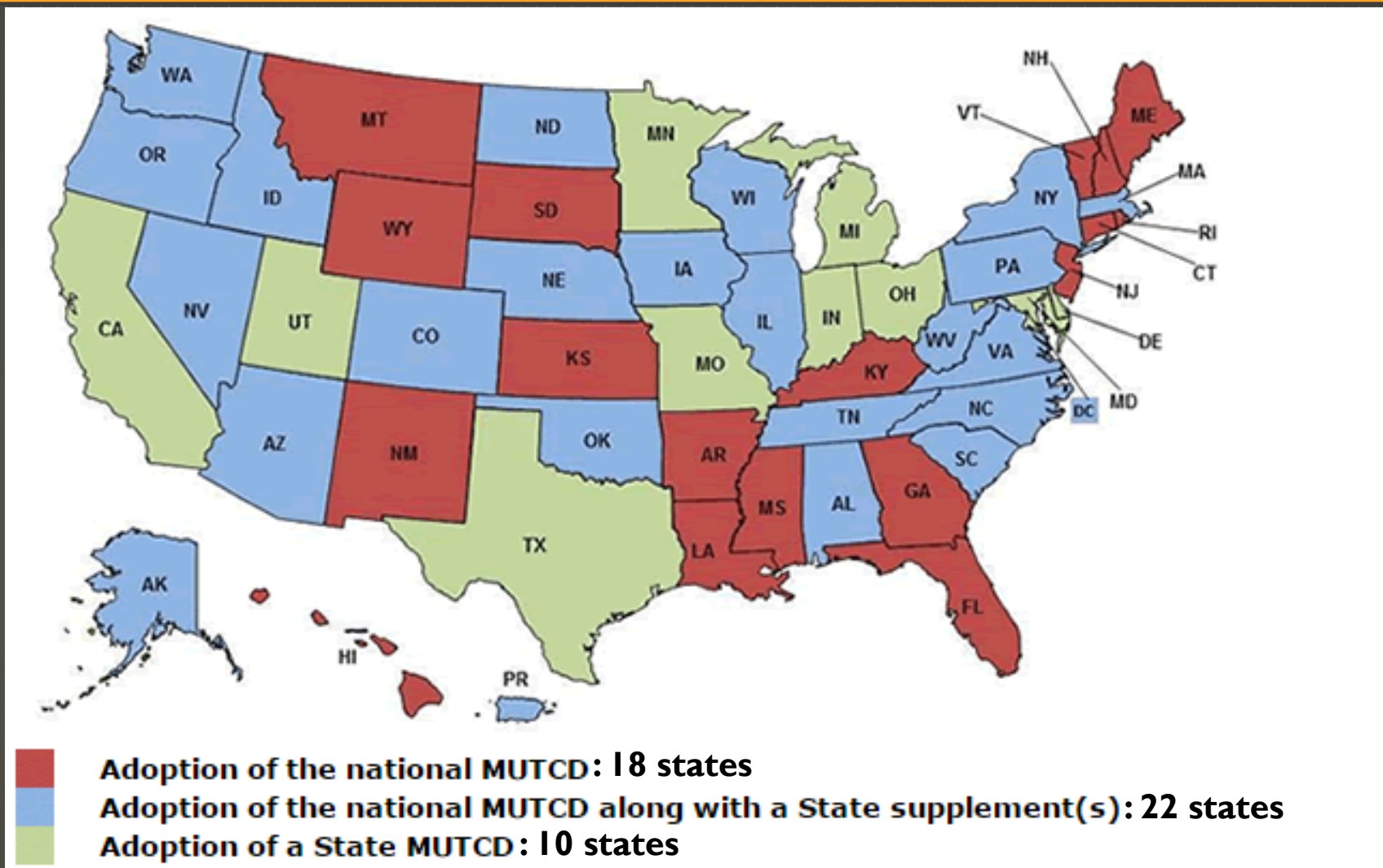
STATE AND LOCAL STANDARDS

🚧 2009 National MUTCD

- ▶ Minimum national standard
- ▶ States must either:
 - ▶ Adopt National MUTCD
 - ▶ Adopt National MUTCD with State Supplements
 - ▶ Adopt State MUTCD in “substantial conformance” with 2009 National edition
- ▶ State-level MUTCD or supplement may be more rigorous



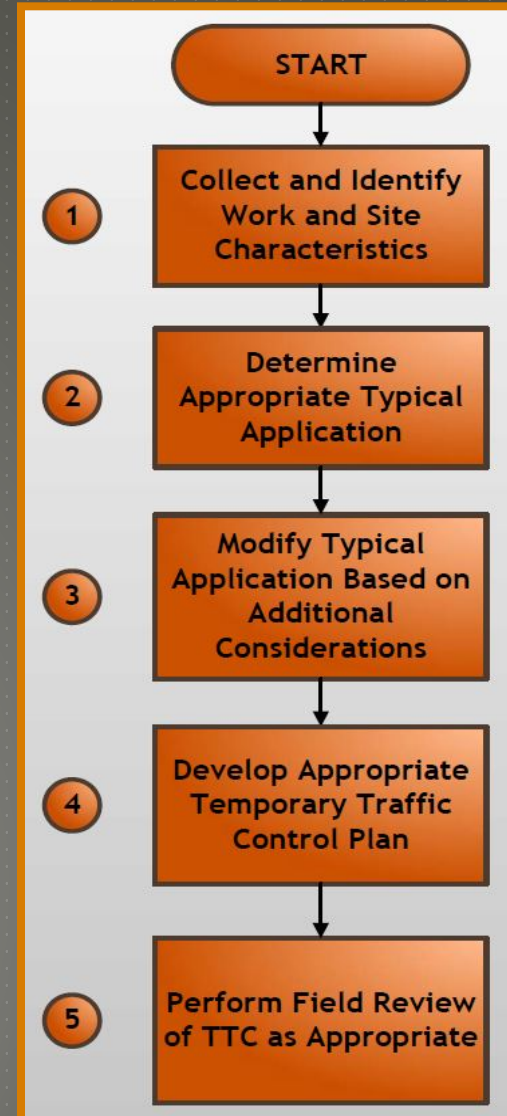
MUTCD BY STATE



Source: http://mutcd.fhwa.dot.gov/resources/state_info/

DEVELOPMENT OF TTCP

1. Work and Site Characteristics
2. Determine Appropriate TA
3. Modify TA Based on Unique Characteristics
4. Develop Appropriate TTCP
5. Field Modification



STEP 1: OBTAIN SITE AND WORK CHARACTERISTICS

Site Characteristics

- ▶ Geometric characteristics (lane width, number of lanes, etc.)
- ▶ Existing traffic control (location of devices, posted speed limit, etc.)
- ▶ Traffic characteristics (both motorized and non-motorized)
- ▶ Environmental or other surrounding characteristics

Work Characteristics

- ▶ Proposed work activity
- ▶ Proposed work duration (including upper and lower bounds)
- ▶ Necessary workers, vehicles, and equipment
- ▶ Additional special considerations

TTCP DEVELOPMENT CHECKLIST

- 🚧 Work Characteristics
- 🚧 Roadway Characteristics
 - ▶ Traffic
 - ▶ Geometrics

🚧 Checklist

<http://workzone.eng.wayne.edu/Software/CheckList/CheckList.html>

STEP 2: DETERMINE APPROPRIATE TYPICAL APPLICATION (TA)

- ▲ Select appropriate 'Typical Application' from the MUTCD,
 - ▶ Consider state MUTCDs, standard plans, as well as local regulations
 - ▶ TA or "Example Plan" from the [TTCP Selection Software](#)
- ▲ Selecting a TA or Example Plan is **NOT** the last step
 - ▶ Actual field conditions
 - ▶ Specific work conditions

STEP 3: MODIFYING TA FOR SITE AND WORK CHARACTERISTICS

- ⚠ Consider supplementary notes or information
 - ▶ MUTCD
 - ▶ “Example Plans” in TTCP Selection Software
- ⚠ Field conditions will vary from generalized scenario
- ⚠ Consider the unique characteristics of the work zone
 - ▶ Following modules from this training
 - ▶ Use professional engineering judgment

STEP 4: DEVELOP TEMPORARY TRAFFIC CONTROL PLAN

- 🚧 Temporary traffic control plans may include:
 - ▶ Detailed schematic of TTC
 - ▶ Instructions for field personnel
 - ▶ Project coordination strategies
- 🚧 Some WZ's may be a “**significant project**” and require additional TMP components

SIGNIFICANT PROJECTS

- ▲ Due to the **Rule on Work Zone Safety and Mobility**, operations which are deemed “**significant projects**” require:
 - ▶ Temporary Traffic Control Plan
 - ▶ Public Information Strategies
 - ▶ Transportation Operations Strategies
- ▲ Significant projects defined as:

Section 630.1010 of the Rule defines a significant project as one that, alone or in combination with other concurrent projects nearby, is anticipated to cause sustained work zone impacts that are greater than what is considered tolerable based on State policy and/or engineering judgment. All Interstate system projects within the boundaries of a designated Transportation Management Area (TMA) that occupy a location for more than three days with either intermittent or continuous lane closures shall be considered as significant projects.

STEP 5: MODIFY BASED ON FIELD CONDITIONS

- ▲ Fixed objects
- ▲ Existing signs
- ▲ Sight distance issue
- ▲ Work vehicle storage
- ▲ Pedestrian access



THANK YOU

🚧 Work Zone Safety Website

▶ <http://workzone.eng.wayne.edu/>

