



National Committee on Uniform Traffic Control Devices

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Item No.: 25A-TTC-03

NCUTCD RECOMMENDATION FOR CHANGES TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES

COMMITTEE / TASK FORCE: Temporary Traffic Control Technical Committee
ITEM NUMBER: 25A-TTC-03
TOPIC: Fundamental Principles of TTC
ORIGIN OF REQUEST: Task Force #1 – Chapters 6A and 6B
**AFFECTED SECTIONS
OF MUTCD:** 6A.02

DEVELOPMENT HISTORY:

Approved by TTC TC: 01/08/2025, 06/11/2025
Approved by NCUTCD Council: 06/12/2025

This is a recommended change to the MUTCD that has been approved by the NCUTCD Council. This proposal does not represent a revision of the MUTCD and does not constitute official MUTCD standards, guidance, or options. It will be submitted to FHWA for consideration for inclusion in a future MUTCD revision. The MUTCD can be revised only through the federal rulemaking process.

SUMMARY:

A brief summary of the fundamental principles of temporary traffic control will be listed at the beginning of the section. This summarized list is only supplemental. The existing content will remain with the exception of a few technical corrections and the revision of Paragraph 02 Item B.4 to better reflect that it is a Guidance statement rather than Support.

DISCUSSION:

The purpose of this brief summary of the fundamental principles of temporary traffic control is to introduce each principle by summarizing it in a few words. The fundamental principles of TTC contain some of the most important information in Part 6, but as currently presented, they can be overwhelming and very few practitioners can recite the principles. This recommendation makes the principles easier to remember by providing a concise list. The full content will remain, this addition is only supplemental. The only other revisions to the existing text are to correct two instances where “short-term” is used rather than the “short-term stationary” which is the work duration category defined in 6N.01 (and recommended to be relocated to Chapter 6B under 24B-TTC-03).

RECOMMENDED MUTCD CHANGES:

The following present the proposed changes to the current MUTCD within the context of the current MUTCD language. Proposed additions to the MUTCD are shown in blue underline and proposed deletions from the MUTCD are shown in ~~red strikethrough~~. Changes previously approved by NCUTCD Council (but not yet adopted by FHWA) are shown in green double underline for additions and ~~green double strikethrough~~ for deletions. In some cases, background comments may be provided with the MUTCD text. These comments are indicated by [bracketed white text in shaded green].

PART 6. TEMPORARY TRAFFIC CONTROL

CHAPTER 6A. GENERAL

[The following indicates modifications to Section 6A.02 to provide a brief summary of the fundamental principles of Temporary Traffic Control.]

Section 6A.02 Fundamental Principles of Temporary Traffic Control

Guidance:

01 Road user and worker safety and accessibility in TTC zones should be an integral and high-priority element of every project from planning through design and construction. Similarly, maintenance and utility work should be planned and conducted with the safety and accessibility of all motorists, bicyclists, pedestrians (including those with disabilities), and workers being considered at all times. If the TTC zone includes a grade crossing, early coordination with the railroad company or light rail transit agency should take place.

Support:

0201a The ~~following are the seven~~ fundamental principles of TTC are:

- A. Develop a TTC plan;
- B. Minimize negative impacts;
- C. Provide direction;
- D. Conduct inspections;
- E. Maintain roadside safety;
- F. Obtain training; and
- G. Communicate with road users and stakeholders.

Guidance:

02 The following is a detailed explanation of the fundamental principles of TTC:

- A. Develop a TTC plan: General plans or guidelines should be developed to provide safety for motorists, bicyclists, pedestrians, workers, enforcement/emergency officials, and equipment, with the following factors being considered:
 - 1. The basic safety principles governing the design of permanent roadways and roadsides should also govern the design of TTC zones. The goal should be to route road users through such zones using roadway geometrics, roadside features, and TTC devices as nearly as possible comparable to those for normal highway situations.
 - 2. A TTC plan, in detail appropriate to the complexity of the work project or incident, should be prepared and understood by all responsible parties before the site is occupied. Any changes in the TTC plan should be approved by an official who is knowledgeable (for example, trained and/or certified) in proper TTC practices.

- 79 B. Minimize negative impacts: Road user movement should be inhibited as little as practical, based
80 on the following considerations:
- 81 1. TTC at work and incident sites should be designed on the assumption that drivers will only
82 reduce their speeds if they clearly perceive a need to do so (see Section 6B.01).
 - 83 2. Frequent and abrupt changes in geometrics such as lane narrowing, dropped lanes, or main
84 roadway transitions that require rapid maneuvers, should be avoided.
 - 85 3. Work should be scheduled in a manner that minimizes the need for lane closures or
86 alternate routes, while still getting the work completed quickly and the lanes or roadway
87 open to traffic as soon as possible.
 - 88 4. Attempts should be made to reduce the volume of traffic using the roadway or freeway to
89 match the restricted capacity conditions. Road users should be encouraged to use
90 alternative routes. ~~When the roadway capacity is reduced because of lane closures, the~~
91 ~~demand could exceed the available capacity, which might result in either a lengthy stopped~~
92 ~~or slow moving queue of vehicles that might extend past the normal location of the signs~~
93 ~~shown in the typical advance warning area. An assessment of the expected queue length,~~
94 ~~which should be a part of the TTC plan design process, might result in adjustments to the~~
95 ~~sign spacing and number of signs as well as the use of more conspicuous devices to increase~~
96 ~~the distance and conspicuity of the advance warning area. Lane closures reduce roadway~~
97 ~~capacity and could result in a queue of vehicles extending upstream of the typical array of~~
98 ~~signing. An assessment of the expected queue length should be part of the TTC plan design~~
99 ~~process. Sign spacing adjustments, additional signs, and/or use of more conspicuous devices~~
100 ~~should be considered to increase the length and conspicuity of the advance warning area.~~
101 For high-volume roadways and freeways, the closure of selected entrance ramps or other
102 access points and the use of signed diversion routes should be evaluated. [The current
103 language is more reflective of a support statement rather than guidance, so it's recommended
104 to revise to better fit as a guidance statement.]
 - 105 5. Bicyclists and pedestrians, including those with disabilities, should be provided with access
106 and passage through the TTC zone.
 - 107 6. If work operations permit, lane closures on high-volume streets and highways should be
108 scheduled during off-peak hours. Night work should be considered if the work can be
109 accomplished with a series of short-term stationary operations.
 - 110 7. Early coordination with officials having jurisdiction over the affected cross streets and
111 providing emergency services should occur if significant impacts to roadway operations are
112 anticipated.
- 113 C. Provide direction: Motorists, bicyclists, and pedestrians should be provided clear direction
114 ~~guided in a clear and positive manner~~ while approaching and traversing TTC zones and incident
115 sites. The following principles should be applied:
- 116 1. Adequate warning, delineation, and channelization should be provided to assist in guiding
117 road users in advance of and through the TTC zone or incident site by using proper
118 pavement marking, signing, or other devices that are effective under varying conditions.
119 Information should be provided in usable formats for pedestrians with vision disabilities.
 - 120 2. TTC devices inconsistent with intended travel paths through TTC zones should be removed
121 or covered. However, in intermediate-term stationary, short-term stationary, and mobile
122 operations, where visible permanent devices are inconsistent with intended travel paths,
123 devices that highlight or emphasize the appropriate path should be used. Traffic control
124 devices should provide information in usable formats for pedestrians with vision disabilities.
 - 125 3. Flagging procedures, when used, should provide positive guidance to road users traversing
126 the TTC zone.

- 127 D. Conduct inspections: To provide acceptable levels of operations, routine day and night
128 inspections of TTC elements should be performed as follows:
- 129 1. Individuals who are knowledgeable (for example, trained and/or certified) in the principles
130 of proper TTC should be assigned responsibility for safety in TTC zones. The most important
131 duty of these individuals is to check that TTC devices on the project are consistent with the
132 TTC plan and are effective for motorists, bicyclists, pedestrians, and workers.
 - 133 2. As the work progresses, temporary traffic controls and/or working conditions should be
134 modified, as needed, to facilitate road user movement and provide worker safety. The
135 individual responsible for TTC should have the authority to halt work until applicable or
136 remedial safety measures are taken.
 - 137 3. TTC zones should be carefully monitored under varying conditions of road user volumes,
138 light, and weather to check that applicable TTC devices are effective, clearly visible, clean,
139 and in compliance with the TTC plan.
 - 140 4. When warranted, an engineering study should be made (in cooperation with law
141 enforcement officials) of reported crashes occurring within the TTC zone. Crash records in
142 TTC zones should be monitored to identify the need for changes in the TTC zone.
- 143 E. Maintain roadside safety: Attention should be given to the maintenance of roadside safety
144 during the life of the TTC zone by applying the following principles:
- 145 1. To accommodate run-off-the-road incidents, disabled vehicles, or emergency situations,
146 unencumbered roadside recovery areas or clear zones should be provided where practical.
 - 147 2. Channelization of road users should be accomplished by the use of pavement markings,
148 signing, and crashworthy, detectable channelizing devices.
 - 149 3. Work equipment, workers' private vehicles, materials, and debris should be stored in such a
150 manner to reduce the probability of being impacted by run-off-the-road vehicles.
- 151 F. Obtain training: Each person whose actions affect TTC zone safety, from the upper-level
152 management through the field workers, should receive training appropriate to the job decisions
153 each individual is required to make. Only those individuals who are trained in proper TTC
154 practices and have a basic understanding of the principles (established by applicable standards
155 and guidelines, including those of this Manual) should supervise the selection, placement, and
156 maintenance of TTC devices used for TTC zones and for incident management.
- 157 G. Communicate with road users and stakeholders: Good public relations should be maintained by
158 applying the following principles:
- 159 1. The needs of all road users should be assessed such that appropriate advance notice is given
160 and clearly defined alternative paths are provided.
 - 161 2. The cooperation of the various news media should be sought in publicizing the existence of
162 and reasons for TTC zones because news releases can assist in keeping the road users well
163 informed.
 - 164 3. The needs of abutting property owners, residents, and businesses should be assessed and
165 appropriate accommodations made.
 - 166 4. The needs of emergency service providers (law enforcement, fire, and medical) should be
167 assessed and appropriate coordination and accommodations made.
 - 168 5. The needs of railroads and transit should be assessed and appropriate coordination and
169 accommodations made.
 - 170 6. The needs of operators of commercial vehicles such as buses and large trucks should be
171 assessed and appropriate accommodations made.
 - 172 7. Early coordination should occur with school officials to discuss potential impacts on picking
173 up and dropping off schoolchildren, on school bus routing, and on safe routes to school
174 patterns.