



National Committee on Uniform Traffic Control Devices

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National Committee on Uniform Traffic Control Devices (NCUTCD) Recommended Changes to Proposed Text for 11th Edition of the MUTCD Docket Number: FHWA-2020-0001

Federal Register Item Numbers: 464, 465, 466

NPA MUTCD Section Number: Sections 6A.01 to 6A.05

Legend: Base text shown in proposal is the NPA “clean” proposed text.

- [NCUTCD recommendation for text to be added in final rule.](#)
- ~~NCUTCD recommendation for text to be deleted in final rule.~~
- [NCUTCD recommendation for text to be moved/relocated in final rule.](#)
- NPA text that was not previously approved by NCUTCD but is now approved.
- Explanatory note: [\[Note that explains purpose of recommended change.\]](#)

The following pages present NCUTCD recommendations for changes to the MUTCD NPA proposed text, tables, and figures for Chapter 6A. Below is a short summary of the NCUTCD position for each section of this chapter. A more detailed summary is provided at the beginning of each section.

- NPA #464, Section 6A.01: NCUTCD agrees with NPA content (no changes recommended)
- NPA #465, Section 6A.02: Changes recommended based on Council action in spring 2021
- NPA #466, Section 6A.03: Changes recommended based on Council action in spring 2021
- NPA #466, Section 6A.04: Changes recommended based on Council action in spring 2021
- NPA #N/A, Section 6A.05: NCUTCD agrees with NPA content (no changes recommended)

CHAPTER 6A. GENERAL

Section 6A.01 Comments: NCUTCD agrees with 6A.01 as presented in the NPA.

Section 6A.01 General

Support:

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

Standard:

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

Support:

41 When the normal function of the roadway, or a site roadway open to public travel, is
42 suspended, TTC planning provides for continuity of the movement of motor vehicle, bicycle, and
43 pedestrian traffic (including accessible passage); transit operations; and access (and accessibility)
44 to property and utilities.

45 The primary function of TTC is to facilitate movement of road users through or around TTC
46 zones while protecting road users, workers, responders to traffic incidents, and equipment.

47 Of equal importance to the public traveling through the TTC zone is the safety of workers
48 performing the many varied tasks within the work space. TTC zones present constantly
49 changing conditions that are unexpected by the road user. This creates an even higher degree of
50 vulnerability for the workers and incident management responders on or near the roadway (see
51 Section 6C.04). At the same time, the TTC zone provides for the efficient completion of
52 whatever activity interrupted the normal use of the roadway.

53 Consideration for road user safety, worker and responder safety, and the efficiency of road
54 user flow is an integral element of every TTC zone, from planning through completion. A
55 concurrent objective of the TTC is the efficient construction and maintenance of the highway and
56 the efficient resolution of traffic incidents.

57 No one set of TTC devices can satisfy all conditions for a given project or incident. At the
58 same time, defining details that would be adequate to cover all applications is not practical.
59 Instead, Part 6 displays typical applications that depict common applications of TTC devices.
60 The TTC selected for each situation depends on type of highway, road user conditions, duration
61 of operation, physical constraints, and the nearness of the work space or incident management
62 activity to road users.

63 The temporary traffic control for low-volume rural and special purpose roads will generally
64 be minimal, recognizing the lower speeds and traffic volumes. A limited number of signs,
65 maintenance vehicle warning flashers, or a single flagger could be adequate for most situations.

66 Improved road user performance might be realized through a well-prepared public relations
67 effort that covers the nature of the work, the time and duration of its execution, the anticipated
68 effects upon road users, and possible alternate routes and modes of travel. Such programs have
69 been found to result in a significant reduction in the number of road users traveling through the
70 TTC zone, which reduces the possible number of conflicts.

71 Operational improvements might be realized by using intelligent transportation systems (ITS)
72 in work zones. The use in work zones of ITS technology, such as portable camera systems,
73 highway advisory radio, variable speed limits, ramp metering, traveler information, merge
74 guidance, warning systems for vehicles exiting the work space and queue detection information,
75 is aimed at increasing safety for both workers and road users and helping to ensure a more
76 efficient traffic flow. The use in work zones of ITS technologies has been found to be effective
77 in providing traffic monitoring and management, data collection, and traveler information.

78 **Standard:**

79 **TTC plans and devices shall be the responsibility of the public body or official or the**
80 **owners of site roadways open to public travel having jurisdiction for guiding road users.**

81 Guidance:

82 *There should be adequate statutory authority for the implementation and enforcement of*
83 *needed road user regulations, parking controls, speed zoning, and the management of traffic*
84 *incidents. Such statutes should provide sufficient flexibility in the application of TTC to meet the*
85 *needs of changing conditions in the TTC zone.*

86 Support:

87 The provisions of Part 6 apply to both rural and urban areas. A rural highway is normally
88 characterized by lower volumes, higher speeds, fewer turning conflicts, and less conflict with
89 pedestrians. An urban street is typically characterized by relatively low speeds, wide ranges of
90 road user volumes, narrower roadway lanes, frequent intersections and driveways, significant
91 pedestrian activity, and more businesses and houses.

92 The determination as to whether a particular facility at a particular time of day can be
93 considered to be a high-volume roadway or can be considered to be a low-volume roadway is
94 made by the public agency or official having jurisdiction.

95 Special plans preparation and coordination with transit, other highway agencies, law
96 enforcement and other emergency units, utilities, schools, trucking associations and railroad
97 companies might be needed to reduce unexpected and unusual road user operation situations.
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100 **Section 6A.02 Comments:** NCUTCD generally agrees with 6A.02 as presented in the NPA, but
101 recommends revising as follows:

- 102 • Delete the first Support statement - fundamentals should be Guidance, not Support
- 103 • Relocate the first Standard to Section 6A.03, as that Section is titled 'TTC Devices' and is a
104 better location for this Standard
- 105 • Revise Guidance line item 2(D) regarding roadway capacity to recognize demand does not
106 always exceed capacity any time a lane is closed in all locations or at all times, change "may"
107 to "could", as "may" is associated with Option statements, and make a minor editorial
108 revision

109 **Section 6A.02 Fundamental Principles of Temporary Traffic Control**

110 **Support:**

111 ~~Experience has shown that following the fundamental principles of Part 6 will assist road~~
112 ~~users and help protect workers in the vicinity of TTC zones.~~

113 [delete Support]

114 **Standard:**

115 ~~All TTC devices shall be removed as soon as practical when they are no longer needed.~~
116 ~~When work is suspended for short periods of time, TTC devices that are no longer~~
117 ~~appropriate shall be removed or covered.~~

118 [relocate Standard to 6A.03 since it references TTC devices]

119 **Guidance:**

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

126 *The following are the seven fundamental principles of TTC:*

- 127 1. *General plans or guidelines should be developed to provide safety for motorists,*
128 *bicyclists, pedestrians, workers, enforcement/emergency officials, and equipment, with*
129 *the following factors being considered:*

- 130 A. *The basic safety principles governing the design of permanent roadways and*
131 *roadsides should also govern the design of TTC zones. The goal should be to route*
132

- 133 road users through such zones using roadway geometrics, roadside features, and
134 TTC devices as nearly as possible comparable to those for normal highway
135 situations.
- 136 B. A TTC plan, in detail appropriate to the complexity of the work project or incident,
137 should be prepared and understood by all responsible parties before the site is
138 occupied. Any changes in the TTC plan should be approved by an official who is
139 knowledgeable (for example, trained and/or certified) in proper TTC practices.
- 140 2. Road user movement should be inhibited as little as practical, based on the following
141 considerations:
- 142 A. TTC at work and incident sites should be designed on the assumption that drivers will
143 only reduce their speeds if they clearly perceive a need to do so (see Section 6B.01).
- 144 B. Frequent and abrupt changes in geometrics such as lane narrowing, dropped lanes,
145 or main roadway transitions that require rapid maneuvers, should be avoided.
- 146 C. Work should be scheduled in a manner that minimizes the need for lane closures or
147 alternate routes, while still getting the work completed quickly and the lanes or
148 roadway open to traffic as soon as possible.
- 149 D. Attempts should be made to reduce the volume of traffic using the roadway or
150 freeway to match the restricted capacity conditions. Road users should be
151 encouraged to use alternative routes. When the roadway capacity is reduced due ~~the~~
152 to lane closures, the demand ~~will~~ could exceed the available capacity. This could ~~and~~
153 result in either a lengthy stopped or slow moving queue of vehicles that may extend
154 past the normal location of the signs shown in the typical advance warning area. An
155 assessment of the expected queue length should be a part of the temporary traffic
156 control plan design process. ~~and a~~ Adjustments to the sign spacing and number of
157 signs as well as the possibility of using more conspicuous devices ~~may~~ could be
158 provided to increase the distance and conspicuity of the advance warning area. For
159 high-volume roadways and freeways, the closure of selected entrance ramps or other
160 access points and the use of signed diversion routes should be evaluated. [revise to
161 note capacity not always exceeded]
- 162 E. Bicyclists and pedestrians, including those with disabilities, should be provided with
163 access and passage through the TTC zone.
- 164 F. If work operations permit, lane closures on high-volume streets and highways should
165 be scheduled during off-peak hours. Night work should be considered if the work can
166 be accomplished with a series of short-term operations.
- 167 G. Early coordination with officials having jurisdiction over the affected cross streets
168 and providing emergency services should occur if significant impacts to roadway
169 operations are anticipated.
- 170 3. Motorists, bicyclists, and pedestrians should be guided in a clear and positive manner
171 while approaching and traversing TTC zones and incident sites. The following principles
172 should be applied:
- 173 A. Adequate warning, delineation, and channelization should be provided to assist in
174 guiding road users in advance of and through the TTC zone or incident site by using
175 proper pavement marking, signing, or other devices that are effective under varying
176 conditions. Information should be provided in usable formats for pedestrians with
177 visual disabilities.

- 178 B. *TTC devices inconsistent with intended travel paths through TTC zones should be*
179 *removed or covered. However, in intermediate-term stationary, short-term, and*
180 *mobile operations, where visible permanent devices are inconsistent with intended*
181 *travel paths, devices that highlight or emphasize the appropriate path should be used.*
182 *Traffic control devices should provide information in usable formats for pedestrians*
183 *with visual disabilities.*
- 184 C. *Flagging procedures, when used, should provide positive guidance to road users*
185 *traversing the TTC zone.*
- 186 4. *To provide acceptable levels of operations, routine day and night inspections of TTC*
187 *elements should be performed as follows:*
- 188 A. *Individuals who are knowledgeable (for example, trained and/or certified) in the*
189 *principles of proper TTC should be assigned responsibility for safety in TTC zones.*
190 *The most important duty of these individuals is to check that TTC devices on the*
191 *project are consistent with the TTC plan and are effective for motorists, bicyclists,*
192 *pedestrians, and workers.*
- 193 B. *As the work progresses, temporary traffic controls and/or working conditions should*
194 *be modified, as needed, to facilitate road user movement and provide worker safety.*
195 *The individual responsible for TTC should have the authority to halt work until*
196 *applicable or remedial safety measures are taken. C. TTC zones should be*
197 *carefully monitored under varying conditions of road user volumes, light, and*
198 *weather to check that applicable TTC devices are effective, clearly visible, clean, and*
199 *in compliance with the TTC plan.*
- 200 D. *When warranted, an engineering study should be made (in cooperation with law*
201 *enforcement officials) of reported crashes occurring within the TTC zone. Crash*
202 *records in TTC zones should be monitored to identify the need for changes in the TTC*
203 *zone.*
- 204 5. *Attention should be given to the maintenance of roadside safety during the life of the TTC*
205 *zone by applying the following principles:*
- 206 A. *To accommodate run-off-the-road incidents, disabled vehicles, or emergency*
207 *situations, unencumbered roadside recovery areas or clear zones should be provided*
208 *where practical.*
- 209 B. *Channelization of road users should be accomplished by the use of pavement*
210 *markings, signing, and crashworthy, detectable channelizing devices.*
- 211 C. *Work equipment, workers' private vehicles, materials, and debris should be stored in*
212 *such a manner to reduce the probability of being impacted by run-off-the-road*
213 *vehicles.*
- 214 6. *Each person whose actions affect TTC zone safety, from the upper-level management*
215 *through the field workers, should receive training appropriate to the job decisions each*
216 *individual is required to make. Only those individuals who are trained in proper TTC*
217 *practices and have a basic understanding of the principles (established by applicable*
218 *standards and guidelines, including those of this Manual) should supervise the selection,*
219 *placement, and maintenance of TTC devices used for TTC zones and for incident*
220 *management.*
- 221 7. *Good public relations should be maintained by applying the following principles:*
- 222 A. *The needs of all road users should be assessed such that appropriate advance notice*
223 *is given and clearly defined alternative paths are provided.*

- 224 B. *The cooperation of the various news media should be sought in publicizing the*
225 *existence of and reasons for TTC zones because news releases can assist in keeping*
226 *the road users well informed.*
- 227 C. *The needs of abutting property owners, residents, and businesses should be assessed*
228 *and appropriate accommodations made.*
- 229 D. *The needs of emergency service providers (law enforcement, fire, and medical)*
230 *should be assessed and appropriate coordination and accommodations made.*
- 231 E. *The needs of railroads and transit should be assessed and appropriate coordination*
232 *and accommodations made.*
- 233 F. *The needs of operators of commercial vehicles such as buses and large trucks should*
234 *be assessed and appropriate accommodations made.*
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237 **Section 6A.03 Comments:** NCUTCD generally agrees with 6A.03 as presented in the NPA, but
238 recommends revising to add a relocated Standard statement from 6A.02 on device removal, plus
239 minor editorial revisions.

240 **Section 6A.03 TTC Devices**

241 *Guidance:*

242 *The design and application of TTC devices used in TTC zones should consider the needs of*
243 *all road users (motorists, bicyclists, and pedestrians), including those with disabilities.*

244 **Standard:**

245 **Traffic control devices shall be defined as all signs, signals, markings, channelizing**
246 **devices, or other devices that use colors, shapes, symbols, words, sounds, or tactile**
247 **information for the primary purpose of communicating a regulatory, warning, or guidance**
248 **message to road users on a street, highway, pedestrian facility, bikeway, pathway, or -site**
249 **roadways open to public travel. All traffic control devices used for construction,**
250 **maintenance, utility, or incident management operations on a street, highway, or -site**
251 **roadways open to public travel shall comply with the applicable provisions of this Manual.**

252 **All TTC devices shall be removed as soon as practical when they are no longer needed.**
253 **When work is suspended for short periods of time, TTC devices that are no longer**
254 **appropriate shall be removed or covered.** [relocated Standard from 6A.02]
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257 **Section 6A.04 Comments:** NCUTCD agrees with 6A.04 as presented in the NPA.
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259 **Section 6A.04 Crashworthiness of TTC Devices**

260 **Support:**

261 Various Sections of the MUTCD require certain traffic control devices, their supports, and/or
262 related appurtenances to be crashworthy. Such MUTCD crashworthiness provisions apply to all
263 streets, highways, and site roadways open to public travel.
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265
266 **Section 6A.05 Comments:** NCUTCD agrees with 6A.05 as presented in the NPA.
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268 **Section 6A.05 Night Work**

269 **Support:**

270 Conducting highway construction and maintenance activities during night hours could
271 provide an advantage when traditional daytime traffic control strategies cannot achieve an
272 acceptable balance between worker and public safety, traffic and community impact, and
273 constructability. The two basic advantages of working at night are reduced traffic congestion
274 and less involvement with business activities. However, the two basic conditions that must
275 normally be met for night work to offer any advantage are reduced traffic volumes and easy set
276 up and removal of the traffic control patterns on a nightly basis.

277 Shifting work activities to night hours, when traffic volumes are lower and normal business
278 is less active, might offer an advantage in some cases, as long as the necessary work can be
279 completed and the worksite restored to essentially normal operating conditions to carry the
280 higher traffic volume during non-construction hours.

281 Although working at night might offer advantages, it also includes safety issues. Reduced
282 visibility inherent in night work impacts the performance of both drivers and workers. Because
283 traffic volumes are lower and congestion is minimized, speeds are often higher at night
284 necessitating greater visibility at a time when visibility is reduced. Finally, the incidence of
285 impaired (alcohol or drugs), fatigued, or drowsy drivers might be higher at night.

286 Working at night also involves other factors, including construction productivity and quality,
287 social impacts, economics, and environmental issues. A decision to perform construction or
288 maintenance activities at night normally involves some consideration of the advantages to be
289 gained compared to the safety and other issues that might be impacted.

290 See Section 6N.18 for specific provisions on TTC for work during nighttime hours.

291