

PART 6

TEMPORARY TRAFFIC CONTROL

CHAPTER 6A. GENERAL

Section 6A.01 General

Standard:

- 10 TTC plans and devices shall be the responsibility of the authority of a public body or official having jurisdiction for guiding road users. There shall be adequate statutory authority for the implementation and enforcement of needed road user regulations, parking controls, speed zoning, and the management of traffic incidents. Such statutes shall provide sufficient flexibility in the application of TTC to meet the needs of changing conditions in the TTC zone.**
- 10A DOT&PF Policy and Procedure 05.05.020, Establishment of Speed Limits and Zones, shall be followed when establishing speed limits for DOT&PF construction zones.**
- 10B DOT&PF Policy and Procedure 05.05.015, Highway Work Zone Safety and Mobility, shall be followed to determine whether all elements of a Transportation Management Plan are required and for establishing pay items related to traffic control activities and materials.**

CHAPTER 6B. FUNDAMENTAL PRINCIPLES

Section 6B.01 Fundamental Principles of Temporary Traffic Control

[Insert the following at the end of Section 6B.01:]

Guidance:

- ^{09A} *Generally, signs should not be posted on construction projects directing motorists to businesses. However, it may be necessary when one of the following conditions exists:*
- A. A. When a business that was previously easily visible from the road is completely obscured by road construction activity.*
 - B. B. When the route to a business that was previously readily evident from the road is obscured by road construction activity.*
- ^{09B} *Temporary business-identifying signs should be removed immediately when conditions A. and B. cease to exist.*
- ^{09C} *Temporary business-identifying signs should be designed so they will not be confused with official construction, warning, directional, or regulatory signs.*
- ^{09D} *Temporary business-identifying signs should not be installed for the purposes of advertising. They are only acceptable as mitigation for construction activities that obscure the business or the route to it.*

Standard

- ^{09E} **Temporary business-identifying signs shall have black legends and borders on orange retroreflective backgrounds.**

CHAPTER 6C. TEMPORARY TRAFFIC CONTROL ELEMENTS

Section 6C.01 Temporary Traffic Control Plans

Guidance:

- 09 *This alternate or modified plan should have the approval of the responsible highway agency prior to implementation.*
- 10 *Provisions for effective continuity of transit service should be incorporated into the TTC planning process because often public transit buses cannot efficiently be detoured in the same manner as other vehicles (particularly for short-term maintenance projects). Where applicable, the TTC plan should provide for features such as accessible temporary bus stops, pull-outs, and satisfactory waiting areas for transit patrons, including persons with disabilities, if applicable (see Section 8A.08 for additional light rail transit issues to consider for TTC).*
- 11 *Provisions for effective continuity of railroad service and acceptable access to abutting property owners and businesses should also be incorporated into the TTC planning process.*
- 12 *Reduced speed limits should be used only in the specific portion of the TTC zone where conditions or restrictive features are present. However, frequent changes in the speed limit should be avoided. A TTC plan should be designed so that vehicles can travel through the TTC zone with a speed limit reduction of no more than 10 mph.*
- 13 *A reduction of more than 10 mph in the speed limit should be used only when required by restrictive features in the TTC zone. Where restrictive features justify a speed reduction of more than 10 mph, additional driver notification should be provided. The speed limit should be stepped down in advance of the location requiring the lowest speed, and additional TTC warning devices should be used.*
- 14 *Reduced speed zoning (lowering the regulatory speed limit) should be avoided as much as practical because drivers will reduce their speeds only if they clearly perceive a need to do so.*

Standard:

- 14A **If used, reduced speed zoning shall be conducted in accordance with DOT&PF Policy and Procedure 05.05.020, Establishment of Speed Limits and Zones.**

Support:

- 15 Research has demonstrated that large reductions in the speed limit, such as a 30 mph reduction, increase speed variance and the potential for crashes. Smaller reductions in the speed limit of up to 10 mph cause smaller changes in speed variance and lessen the potential for increased crashes. A reduction in the regulatory speed limit of only up to 10 mph from the normal speed limit has been shown to be more effective.

[Revise Table 6C-1 of the 2009 MUTCD as shown in this ATMS.]

Table 6C-1. Recommended Advance Warning Sign Minimum Spacing

| Road Type | Distance Between Signs** | | |
|-------------------------|--------------------------|------------|------------|
| | A | B | C |
| Urban (low speed)* | 100 feet | 100 feet | 100 feet |
| Urban (high speed)* | 350 feet | 350 feet | 350 feet |
| Rural | 500 feet | 500 feet | 500 feet |
| Expressway / Freeway*** | 1,000 feet | 1,500 feet | 2,640 feet |

* ~~Speed category to be determined by the highway agency.~~ In this table, low speed is defined as a posted speed of 40 mph or less, and high speed is defined as a posted speed of 45 mph or greater.

** The column headings A, B, and C are the dimensions shown in Figures 6H-1 through 6H-46. The A dimension is the distance from the transition or point of restriction to the first sign. The B dimension is the distance between the first and second signs. The C dimension is the distance between the second and third signs. (The “first sign” is the sign in a three-sign series that is closest to the TTC zone. The “third sign” is the sign that is furthest upstream from the TTC zone.)

*** For facilities classified as expressways in urban areas, apply the Urban – High Speed spacing criteria.

CHAPTER 6E. FLAGGER CONTROL

Section 6E.03 Hand-Signaling Devices

Standard:

- ⁰² The STOP/SLOW paddle shall have an octagonal shape on a rigid handle. ~~STOP/SLOW paddles shall be at least 18 inches wide with letters at least 6 inches high.~~ STOP/SLOW paddles (W23-100) shall be at least 18 inches wide with letters 6 inches high for local roads with speed limits less than or equal to 25 mph and shall be 24 inches wide with letters 8 inch high for all other roads. The STOP (R1-1) face shall have white letters and a white border on a red background. The SLOW (W20-8) face shall have black letters and a black border on an orange background. When used at night, the STOP/SLOW paddle shall be retroreflectorized.
- ⁰³ The STOP/SLOW paddle shall be fabricated from light semi-rigid material.

Guidance:

- ~~⁰⁴ The STOP/SLOW paddle should be fabricated from light semi-rigid material.~~

CHAPTER 6F. TEMPORARY TRAFFIC CONTROL ZONE DEVICES

[Revise Table 6F-1 of the 2009 MUTCD as shown in this ATMS. The remainder of Table 6F-1 remains as shown in the 2009 MUTCD.]

Table 6F-1. Temporary Traffic Control Zone Sign and Plaque Sizes (Sheet 1 of 3)

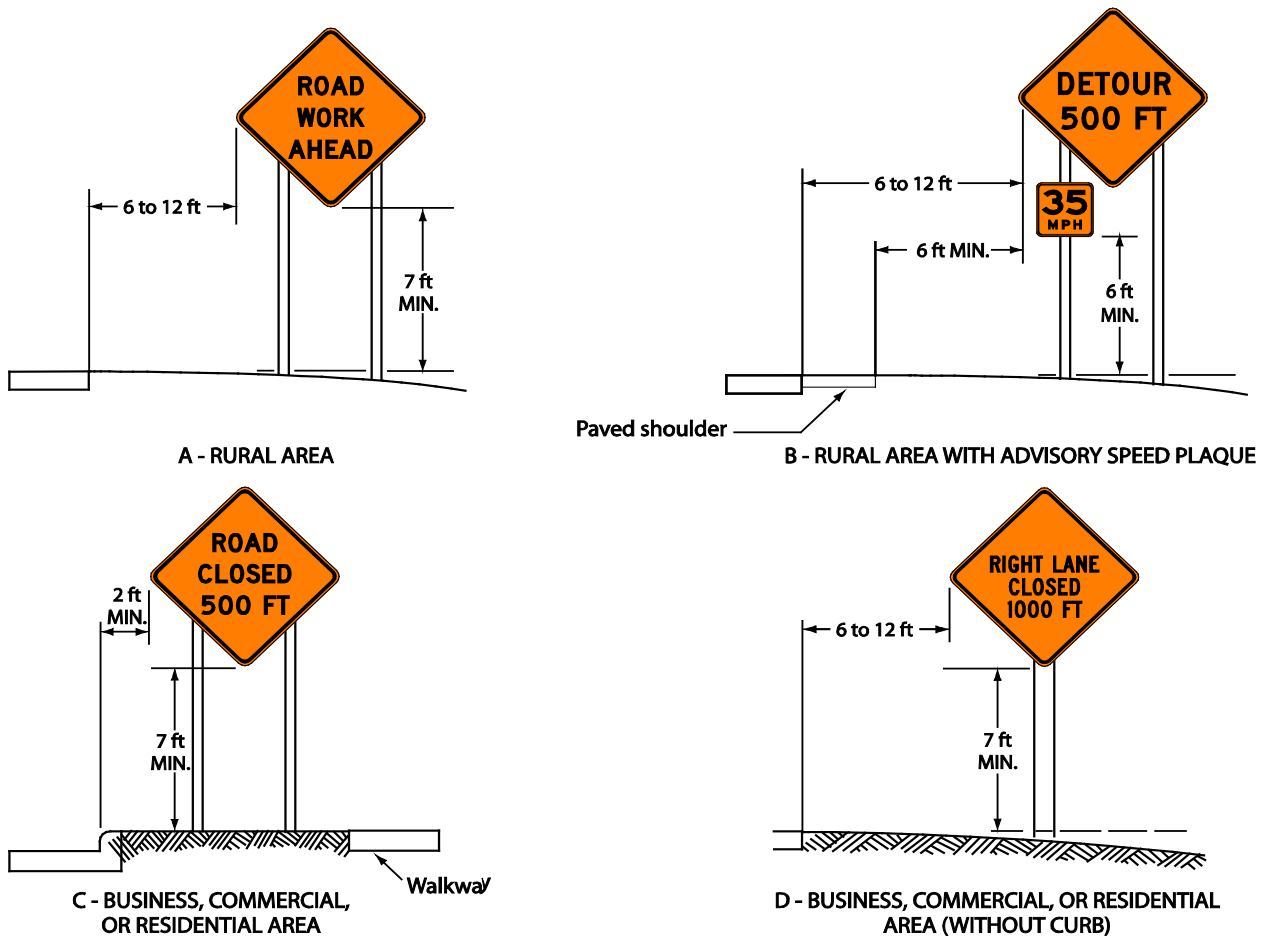
| Sign or Plaque | Sign Designation | Section | Conventional Road | Freeway or Expressway | Minimum |
|----------------------------|------------------|---------|------------------------|-----------------------|---------|
| ... | | | | | |
| Stop (on Stop/Slow Paddle) | R1-1 | 6E.03 | 40x40 24x24 | — | 18x18 |
| ... | | | | | |
| Slow (on Stop/Slow Paddle) | W20-8 | 6E.03 | 40x40 24x24 | — | 18x18 |

Section 6F.03 Sign Placement

Standard:

- ~~04 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 in rural areas shall be 5 feet (see Figure 6F-1).~~
- 04A Post-mounted signs installed at the side of the road in rural areas shall be mounted at a height of at least 7 feet, measured from the bottom of the sign to the near edge of the pavement (see revised Figure 6F-1).
- 05 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 in business, commercial, or residential areas where parking or pedestrian movements are likely to occur, or where the view of the sign might be obstructed, shall be 7 feet (see Figure 6F-1).
- 06 The minimum height, measured vertically from the bottom of the sign to the sidewalk, of signs installed above sidewalks shall be 7 feet.

Figure 6F-1. Height and Lateral Location of Signs—Typical Installations



Section 6F.12 Work Zone and Higher Fines Signs and Plaques

Option:

01—A WORK ZONE (G20-5aP) plaque (see Figure 6F-3) may be mounted above a Speed Limit sign to emphasize that a reduced speed limit is in effect within a TTC zone. An END WORK ZONE SPEED LIMIT (R2-12) sign (see Figure 6F-3) may be installed at the downstream end of the reduced speed limit zone.

Guidance:

02—A BEGIN HIGHER FINES ZONE (R2-10) sign (see Figure 6F-3) should be installed at the upstream end of a work zone where increased fines are imposed for traffic violations, and an END HIGHER FINES ZONE (R2-11) sign (see Figure 6F-3) should be installed at the downstream end of the work zone.

Option:

03—Alternate legends such as BEGIN (or END) DOUBLE FINES ZONE may also be used for the R2-10 and R2-11 signs.

04—A FINES HIGHER, FINES DOUBLE, or \$XX FINE plaque (see Section 2B.17 and Figure 6F-3) may be mounted below the Speed Limit sign if increased fines are imposed for traffic violations within the TTC zone.

05—Individual signs and plaques for work zone speed limits and higher fines may be combined into a single sign or may be displayed as an assembly of signs and plaques.

Section 6F.12 Double Fine in Work Zone Signs (R16-100, R16-101, R16-102, R2-100, W20-102)

Support:

01A The WORK ZONE, BEGIN DOUBLE TRAFFIC FINES (R16-100) and END DOUBLE TRAFFIC FINES (R16-101) signs legally establish the beginning and end of double fine zones. See 13 AAC 40.010 and 17 AAC 99.010. See Section 2B.17.

Standard:

02A **On DOT&PF construction projects, the DOT&PF regional traffic and safety engineer or the traffic control coordinator shall identify projects to receive double fine signs. On DOT&PF maintenance projects, the regional maintenance and operations chief shall make that decision. All decisions shall be made in accordance with the information given in this section.**

Guidance:

03A *Double fine signs should be posted in designated double fine zones in all road construction, repair, maintenance, or utility work areas except for the following:*

- A. *Mobile operations, such as striping, grading, brush cutting, etc.*
- B. *Work on low-volume, low-speed roads*
- C. *Pilot car operations that extend the entire length of a project*
- D. *Work that will last less than 48 hours*

Option:

04A Double fine signs may be omitted when work zones are shorter than one mile.

Standard:

05A **Within the previously-described road work areas, roadway segments where one or more of the following conditions exist are designated double fine zones:**

- A. **Active work areas: Areas where road workers and/or machinery are presently working on or adjacent to a road.**
- B. **Detours on new temporary roads built for that purpose; this does not include detours on existing streets.**
- C. **Sections of paved roads where pavement has been removed.**
- D. **Roads where unmatched asphalt lifts result in a vertical lip between lanes.**

06A **Double fine signs shall be used only in designated double fine zones. They shall be removed or covered when work ceases for more than two days and conditions B through D of this Standard subsection do not exist.**

07A **Double fine signs shall be confined to areas where the above conditions exist, with the following exceptions:**

Option:

- 08A A. If the project is 2 miles or shorter in length, the entire project may be posted for double fines when the above conditions exist on any part of the project.
- B. When the above conditions exist at multiple locations separated by less than 2 miles, the locations and intervening segments may be posted as a single double fine zone.

Support:

09A “Work Zone Speed Limit Signs,” as used here, refer either to WORK ZONE SPEED LIMIT XX DOUBLE FINES (R2-100) signs or standard SPEED LIMIT (R2-1) signs with DOUBLE FINES (W20102) plaques mounted below them.

Standard:

10A **The speed limit shown on Work Zone Speed Limit signs may be either the existing limit before work began or, if a work zone speed order has been approved in accordance with DOT&PF Procedure 05.05.020, a reduced limit.**

11A **Work Zone Speed Limit signs shall be posted at the beginning of every double fine zone, regardless of whether the speed limit has been reduced from the preconstruction limit.**

12A **The END DOUBLE FINES (R16-101) sign shall be posted at the end of every double fine zone.**

13A **The speed limit for the road beyond the construction zone shall be posted at the end of every double fine zone.**

- 14A **All existing regulatory speed limit signs within the double fines zone shall either be replaced with Work Zone Speed Limit (R2-100) signs or supplemented with W20-102 plaques.**
- 15A **When a double fine zone is longer than 2 miles, Work Zone Speed Limit signs shall be posted at spacings not greater than 2 miles within the double fines zone.**
- 16A **Signs shall be installed at major intersections within the double fine zones, using one of the following methods to warn entering drivers of double fines:**
- A. Install work zone speed limit signs on the main street on either side of the intersection.**
 - B. Install Work Zone Begin Double Traffic Fines (R16-100) signs with W1-7 Arrow Panels mounted below them on the side street(s). The use of this signing eliminates the need for Road Work Ahead (W20-100) signs.**

Option:

- 17A **DOUBLE FINES WHERE POSTED (R16-102) signs may be posted at Alaska border entry points or at other locations where it is important to notify drivers of Alaska’s double fines law.**

Support:

- 18A **The use of the double fines zone signs is not intended to be a reason for diminishing the number of warning signs that would normally be required in the work zone.**
- 19A **Overuse of the double fine signs will diminish respect for, and effectiveness of, the signs. It will also result in needlessly increased fines for traffic citations.**

Section 6F.16 Warning Sign Function, Design, and Application

Support:

- 01 **TTC zone warning signs (see Figure 6F-4) notify road users of specific situations or conditions on or adjacent to a roadway that might not otherwise be apparent.**

Standard:

- 02 **TTC warning signs shall comply with the Standards for warning signs presented in Part 2 and in FHWA’s “Standard Highway Signs and Markings” book (see Section 1A.11). Except as provided in Paragraph 3, TTC warning signs shall be diamond-shaped with a black legend and border on an orange background, except for the W10-1 sign which shall have a black legend and border on a yellow background, and except for signs that are required or recommended in Parts 2 or 7 to have fluorescent yellow-green backgrounds.**

Option:

- 03 **Warning signs used for TTC incident management situations may have a black legend and border on a fluorescent pink background.**
- 04 **Mounting or space considerations may justify a change from the standard diamond shape.**
- 05 **In emergencies, available warning signs having yellow backgrounds may be used in TTC construction-related situations if signs with orange or fluorescent pink backgrounds are not at hand.**
- 05A **All warning signs may be used in construction and maintenance operations if the background color is orange, in accordance with Section 6F.02.**

Guidance:

- 06 *Where roadway or road user conditions require greater emphasis, larger than standard size warning signs should be used, with the symbol or legend enlarged approximately in proportion to the outside dimensions.*
- 07 *Where any part of the roadway is obstructed or closed by work activities or incidents, advance warning signs should be installed to alert road users well in advance of these obstructions or restrictions.*
- 08 *Where road users include pedestrians, the provision of supplemental audible information or detectable barriers or barricades should be considered for people with visual disabilities.*
- 08A *Unless otherwise noted, TTC signs should be located in advance of the condition of concern by the distance given in Section 2C.05, Table 2C-4 of the MUTCD.*

Support:

- 09 **Detectable barriers or barricades communicate very clearly to pedestrians who have visual disabilities that they can no longer proceed in the direction that they are traveling.**

Option:

¹⁰ Advance warning signs may be used singly or in combination.

¹¹ Where distances are not displayed on warning signs as part of the message, a supplemental plaque with the distance legend may be mounted immediately below the sign on the same support.

Section 6F.30 NEW TRAFFIC PATTERN AHEAD Sign (W23-2)

Option:

~~⁰¹ A NEW TRAFFIC PATTERN AHEAD (W23-2) sign (see Figure 6F-4) may be used on the approach to an intersection or along a section of roadway to provide advance warning of a change in traffic patterns, such as revised lane usage, roadway geometry, or signal phasing.~~

~~Guidance:~~

~~⁰² To retain its effectiveness, the W23-2 sign should be displayed for up to 2 weeks, and then it should be covered or removed until it is needed again.~~

Section 6F.30 NEW TRAFFIC PATTERN (W3-100)

Guidance:

^{01A} The NEW TRAFFIC PATTERN (W3-100) sign should be used to notify motorists of signal phasing modifications, traffic re-routing, etc.

Section 6F.31 Flagger Signs (W20-7, W20-7a)

Guidance:

⁰¹ The Flagger (W20-7) symbol sign (see Figure 6F-4) should be used in advance of any point where a flagger is stationed to control road users.

Option:

⁰² A distance legend may be displayed on a supplemental plaque below the Flagger sign. The sign may be used with appropriate legends or in conjunction with other warning signs, such as the BE PREPARED TO STOP (W3-4) sign (see Figure 6F-4).

⁰³ The FLAGGER (W20-7a) word message sign with distance legends may be substituted for the Flagger (W20-7) symbol sign.

Standard:

^{03A} **The Flagger sign shall be removed, covered, or turned away from road users when the flagging operations are not occurring.**

Section 6F.45 UNEVEN LANES Sign (W8-11)

Guidance:

⁰¹ The UNEVEN LANES (W8-11) sign (see Figure 6F-4) should be used during operations that create a greater than 1 inch difference in elevation on a vertical or near-vertical edge between adjacent lanes that are open to travel.

Section 6F.52 Advisory Speed Plaque (W13-1P)

Standard:

⁰² **The Advisory Speed plaque shall not be used in conjunction with any sign other than a warning sign, nor shall it be used alone. When used with orange TTC zone signs, this plaque shall have a black legend and border on an orange background. The sign shall be at least 24 x 24 inches in size when used with a sign that is 36 x 36 inches or larger. Except in emergencies, an Advisory Speed plaque shall not be mounted until the recommended speed is determined by the highway agency.**

^{02A} **Advisory speeds shall be determined using Section 2C.08.**

Section 6F.56 ROAD WORK NEXT XX MILES Sign (G20-1)

Guidance:

- 01 The ROAD WORK NEXT XX MILES (G20-1) sign (see Figure 6F-4) should be installed in advance of TTC zones that are more than 2 miles in length.*
- 01A The total length of the work zone should be based on a single, continuous work zone and should not consist of a sequence of discontinuous shorter work zones.*

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