

CHAPTER 6B. FUNDAMENTAL PRINCIPLES

Section 6B.01 Fundamental Principles of Temporary Traffic Control

Standard:

The control of road users through a temporary traffic control zone shall be an essential part of highway construction, utility work, maintenance operations, and incident management.

Support:

Construction, maintenance, utility, and incident zones can all benefit from temporary traffic control to compensate for the unexpected or unusual situations faced by road users. When planning for temporary traffic control in these zones, it can be assumed that it is appropriate for road users to exercise extra caution. Even though road users are assumed to be using extra caution, special care is still needed in applying temporary control techniques.

Special plans preparation and coordination with transit, other highway agencies, police and other emergency units, utilities, schools, and railroad companies might be needed to reduce unexpected and unusual road user operation situations.

During temporary traffic control activities, commercial vehicles might need to follow a different route from passenger vehicles because of bridge, weight, clearance, or geometric restrictions. Also, vehicles carrying hazardous materials might need to follow a different route from other vehicles. The Truck Route National Network and hazardous materials signs are included in Section 2B.45.

Experience has shown that following the fundamental principles of Part 6 will assist road users and help protect workers in the vicinity of temporary traffic control zones. While these principles provide guidance for good temporary traffic control for the practitioner, they do not establish standards and warrants.

Guidance:

Road user and worker safety in temporary traffic control 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 of drivers, bicyclists, pedestrians, and workers being considered at all times. If the temporary traffic control zone includes a highway-rail grade crossing, early coordination with the railroad company should take place.

Support:

Formulating specific plans for incident management temporary traffic control is difficult because of the variety of situations that can arise.

Guidance:

General plans or guidelines should be developed to provide safety for drivers, bicyclists, pedestrians, workers, enforcement/emergency officials, and equipment, with the following factors being considered:

- A. The basic safety principles governing the design of permanent roadways and roadsides should also govern the design of temporary traffic control zones. The goal should be to route road users through such zones using roadway geometrics, roadside features, and temporary traffic control devices as nearly as possible comparable to those for normal highway situations.
- B. A temporary traffic control 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 temporary traffic control plan should be approved by an official knowledgeable (for example, trained and/or certified) in proper temporary traffic control practices.

Road user movement should be inhibited as little as practical, based on the following considerations:

- A. Temporary traffic control at work and incident sites should be designed on the assumption that drivers will only reduce their speeds if they clearly perceive a need to do so (see Section 6C.01).
- B. Frequent and abrupt changes in geometrics such as lane narrowing, dropped lanes, or main roadway transitions that require rapid maneuvers, should be avoided.
- C. Provisions should be made for the reasonably safe operation of work, particularly on high-speed, high-volume roadways.
- D. Road users should be encouraged to use alternative routes that do not include temporary traffic control zones.
- E. Bicyclists and pedestrians should be provided with access and reasonably safe passage through the temporary traffic control zone.
- F. Roadway occupancy should be scheduled during off-peak hours and, if necessary, night work should be considered.
- G. Early coordination with officials having jurisdiction over the affected cross streets and providing emergency services should occur before roadway or ramp closings.

Drivers, bicyclists, and pedestrians should be guided in a clear and positive manner while approaching and traversing temporary traffic control zones and incident sites. The following principles should be applied:

- A. Adequate warning, delineation, and channelization should be provided to assist in guiding road users in advance of and through the temporary traffic control zone or incident site by using proper pavement marking, signing, or other devices that are effective under varying conditions.
- B. Temporary traffic control devices inconsistent with intended travel paths through temporary traffic control zones should be removed or covered. However, in intermediate-term stationary, short-term, and mobile operations, where visible permanent devices are inconsistent with intended travel paths, devices that highlight or emphasize the appropriate path should be used.
- C. Flagging procedures, when used, should provide positive guidance to road users traversing the temporary traffic control zone.

To provide acceptable levels of operations, routine day and night inspections of temporary traffic control elements should be performed as follows:

- A. Individuals who are knowledgeable (for example, trained and/or certified) in the principles of proper temporary traffic control should be assigned responsibility for safety in temporary traffic control zones. The most important duty of these individuals should be to check that all temporary traffic control devices of the project are reasonably consistent with the temporary traffic control plan and are effective in providing safe conditions for drivers, bicyclists, pedestrians, and workers.
- B. As the work progresses, temporary traffic controls and/or working conditions should be modified in order to provide safe and efficient road user movement and to promote worker safety. The individual responsible for temporary traffic control should have the authority to halt work until applicable or remedial safety measures are taken.
- C. Temporary traffic control zones should be carefully monitored under varying conditions of road user volumes, light, and weather to check that applicable temporary traffic control devices are effective, clearly visible, clean, and in compliance with the temporary traffic control plan.
- D. When warranted, an engineering study should be made (in cooperation with law enforcement officials) of reported crashes occurring within the temporary traffic control zone. Crash records in temporary traffic control zones should be monitored to identify the need for changes in the temporary traffic control zone.

Attention should be given to the maintenance of roadside safety during the life of the temporary traffic control zone by applying the following principles:

- A. To accommodate run-off-the-road incidents, disabled vehicles, or emergency situations, unencumbered roadside recovery areas or clear zones should be provided where practical.
- B. Channelization of road users should be accomplished by the use of pavement markings, signing, and crashworthy channelizing devices.
- C. Work equipment, workers' private vehicles, materials, and debris should be stored in such a manner to reduce the probability of being impacted by run-off-the-road vehicles.

Each person whose actions affect temporary traffic control zone safety, from the upper-level management through the field workers, should receive training appropriate to the job decisions each individual is required to make. Only those individuals who are trained in proper temporary traffic control practices and have a basic understanding of the principles (established by applicable standards and guidelines, including those of this Manual) should supervise the selection, placement, and maintenance of temporary traffic control devices used for temporary traffic control zones and for incident management.

Good public relations should be maintained by applying the following principles:

- A. The cooperation of the various news media should be sought in publicizing the existence of and reasons for temporary traffic control zones because news releases can assist in keeping the road users well informed.
- B. The needs of abutting property owners, residents, and businesses should be assessed and appropriate accommodations made.
- C. The needs of emergency service providers (police, fire, and medical) should be assessed and appropriate coordination and accommodations made.
- D. The needs of railroads and transit should be assessed and appropriate coordination and accommodations made.

Standard:

All temporary traffic control devices shall be removed as soon as practical when they are no longer needed. When work is suspended for short periods of time, temporary traffic control devices that are no longer appropriate shall be removed or covered.