



Illinois Department of Transportation

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May 5, 2015

CIRCULAR LETTER 2015-09

AMERICANS WITH DISABILITY ACT - ALTERNATE PEDESTRIAN ACCESS ROUTE DURING CONSTRUCTION AND DESIGN CONSIDERATIONS

COUNTY ENGINEERS / SUPERINTENDENT OF HIGHWAYS
MUNICIPAL ENGINEERS / DIRECTORS OF PUBLIC WORKS / MAYORS
METROPOLITAN PLANNING ORGANIZATIONS - DIRECTORS
CONSULTING ENGINEERS

ALTERNATE PEDESTRIAN ACCESS ROUTE

Title II of the Americans with Disabilities Act (ADA) requires state and local public agencies ensure that persons with disabilities have access to pedestrian routes within the public right of way. This includes the obligation, whenever a pedestrian access route is temporarily closed, to provide an alternate pedestrian access route including accessibility features consistent with the features present in the existing pedestrian facility. This obligation is required for temporary closures by construction, alterations, maintenance operations, or other conditions. This requirement is specifically addressed in [Chapter 2, Section R205](#) (attached) of the Public Right of Way Accessibility Guidelines (PROWAG), and it is implemented through the Manual on Uniform Traffic Control Devices (MUTCD) for highways.

The MUTCD includes this requirement as a standard in [Section 6G.05](#) :
“Where pedestrian routes are closed, alternate pedestrian routes shall be provided.”
The overarching principles for Temporary Traffic Control are addressed in the [MUTCD Chapter 6B](#), and additional guidance for accommodating pedestrians is provided in the [MUTCD Chapter 6D](#), as well as in Section 6G.05 mentioned above. These items from the MUTCD are also attached to this circular letter.

Information on best practices for planning and implementing temporary closures on pedestrian routes may also be obtained from the [FHWA's "Applying the Americans with Disabilities Act in Work Zones: A Practitioner Guide"](#).

PLANNING AND DESIGN

The Department considers the requirements of PROWAG to be best practices which local public agencies should consider in the planning, design, and implementation of projects. Planners and designers should consider ADA / PROWAG requirements when developing the scope of an anticipated project. Detailed information in the applications for programs such as the Safe Routes to School and the Illinois Transportation Enhancement Program improves potential for selection in a competitive environment. Detailed applications indicate a more

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thorough understanding of design requirements, allow better cost estimates, and reduce the potential for cost increases during design and construction.

Information such as conceptual location plan sheets showing existing roadway right of way, sidewalk location with respect to the right of way, typical sections, and a summary table for each pedestrian intersection with the items necessary to meet the ADA / PROWAG policy enhance applications for these programs when they are included. The summary tables for each pedestrian intersection should include the running slope and cross slope, along with a determination as to whether intersection profile adjustments are necessary to meet the policy. Although providing this degree of detail is not required at the application stage for program funding, the project plans will be enhanced the earlier in the planning and design process such information can be provided.

A clear understanding of ADA / PROWAG requirements is critical for plan development and construction. Project plans should contain sufficient detail, with proper elevations and geometry, to ensure clarity for construction and reduce opportunities for cost overruns.

The Department is highlighting these requirements and points of guidance in order for local public agencies and designers to clearly meet Section 41-6.06 of the Bureau of Local Roads and Streets Manual when performing work involving Illinois roadways.

Please contact the BLRS Local Policy unit at DOT.LocalPolicy@illinois.gov with any questions.

Sincerely,



James K. Klein, P.E., S.E.
Acting Engineer of Local Roads and Streets

TP/tw

Attachment

cc: Traci Baker, Federal Highway Administration – Illinois Division
Vicki Simpson, Illinois Attorney General's Office
Greg Smothers, Illinois Association of County Engineers
Joe Schatteman, Illinois Municipal League
Bryan Smith, Township Officials of Illinois
Darrell Maxheimer, Township Highway Commissioners of Illinois

Public Rights of Way Accessibility Guidelines - Chapter 2

CHAPTER R2: SCOPING REQUIREMENTS

R205 Alternate Pedestrian Access Route

When an existing pedestrian access route is blocked by construction, alteration, maintenance, or other temporary conditions, an alternate pedestrian access route complying to the maximum extent feasible with R301, R302, and Section 6D.01 and 6D.02 of the MUTCD (incorporated by reference; see R104.2.1) shall be provided.

Advisory R205 Alternate Pedestrian Access Route. Same-side travel is preferred because it does not increase pedestrian exposure and risk of accident consequent upon added street crossings. A route that uses vehicle lane width may be shorter, safer, and more usable than one that requires two street crossings, even if the roadway surface is imperfect. Part 6D.01 of the MUTCD requires alternate routes to provide the best elements of accessibility provided in the pedestrian circulation route before its disruption.

MUTCD Chapter 6G – Section 6G.05

2009 Edition Chapter 6G. Type Of Temporary Traffic Control Zone Activities

Section 6G.05 Work Affecting Pedestrian and Bicycle Facilities

Support:

01 It is not uncommon, particularly in urban areas, that road work and the associated TTC will affect existing pedestrian or bicycle facilities. It is essential that the needs of all road users, including pedestrians with disabilities, are considered in TTC zones.

02 In addition to specific provisions identified in [Sections 6G.06](#) through [6G.14](#), there are a number of provisions that might be applicable for all of the types of activities identified in this Chapter.

Guidance:

03 *Where pedestrian or bicycle usage is high, the typical applications should be modified by giving particular attention to the provisions set forth in [Chapter 6D](#), this Chapter, [Section 6F.74](#), and in other Sections of [Part 6](#) related to accessibility and detectability provisions in TTC zones.*

04 *Pedestrians should be separated from the worksite by appropriate devices that maintain the accessibility and detectability for pedestrians with disabilities.*

05 *Bicyclists and pedestrians should not be exposed to unprotected excavations, open utility access, overhanging equipment, or other such conditions.*

06 *Except for short duration and mobile operations, when a highway shoulder is occupied, a SHOULDER WORK (W21-5) sign should be placed in advance of the activity area. When work is performed on a paved shoulder 8 feet or more in width, channelizing devices should be placed on a taper having a length that conforms to the requirements of a shoulder taper. Signs should be placed such that they do not narrow any existing pedestrian passages to less than 48 inches.*

07 *Pedestrian detours should be avoided since pedestrians rarely observe them and the cost of providing accessibility and detectability might outweigh the cost of maintaining a continuous route. Whenever possible, work should be done in a manner that does not create a need to detour pedestrians from existing routes or crossings.*

Standard:

08 **Where pedestrian routes are closed, alternate pedestrian routes shall be provided.**

09 **When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, the temporary facilities shall be detectable and shall include accessibility features consistent with the features present in the existing pedestrian facility.**

MUTCD Chapter 6B

2009 Edition Chapter 6B. Fundamental Principles

Section 6B.01 Fundamental Principles of Temporary Traffic Control

Support:

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

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

03 During TTC 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 Hazardous Materials and National Network signs are included in [Sections 2B.62](#) and [2B.63](#), respectively.

04 Experience has shown that following the fundamental principles of [Part 6](#) will assist road users and help protect workers in the vicinity of TTC zones.

Guidance:

05 *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:

06 Formulating specific plans for TTC at traffic incidents is difficult because of the variety of situations that can arise.

Guidance:

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

1. *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:*
 - A. *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.*
 - B. *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.*

2. *Road user movement should be inhibited as little as practical, based on the following considerations:*
 - A. *TTC 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. *Work should be scheduled in a manner that minimizes the need for lane closures or alternate routes, while still getting the work completed quickly and the lanes or roadway open to traffic as soon as possible.*
 - D. *Attempts should be made to reduce the volume of traffic using the roadway or freeway to match the restricted capacity conditions. Road users should be encouraged to use alternative routes. For high-volume roadways and freeways, the closure of selected entrance ramps or other access points and the use of signed diversion routes should be evaluated.*
 - E. *Bicyclists and pedestrians, including those with disabilities, should be provided with access and reasonably safe passage through the TTC zone.*
 - F. *If work operations permit, lane closures on high-volume streets and highways should be scheduled during off-peak hours. Night work should be considered if the work can be accomplished with a series of short-term operations.*
 - G. *Early coordination with officials having jurisdiction over the affected cross streets and providing emergency services should occur if significant impacts to roadway operations are anticipated.*
3. *Motorists, bicyclists, and pedestrians should be guided in a clear and positive manner while approaching and traversing TTC 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 TTC zone or incident site by using proper pavement marking, signing, or other devices that are effective under varying conditions. Providing information that is in usable formats by pedestrians with visual disabilities should also be considered.*
 - B. *TTC devices inconsistent with intended travel paths through TTC 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. Providing traffic control devices that are accessible to and usable by pedestrians with disabilities should be considered.*
 - C. *Flagging procedures, when used, should provide positive guidance to road users traversing the TTC zone.*
4. *To provide acceptable levels of operations, routine day and night inspections of TTC elements should be performed as follows:*
 - A. *Individuals who are knowledgeable (for example, trained and/or certified) in the principles of proper TTC should be assigned responsibility for safety in TTC zones. The most important duty of these individuals should be to check that all TTC devices of the project are consistent with the TTC plan and are effective for motorists, bicyclists, pedestrians, and workers.*
 - B. *As the work progresses, temporary traffic controls and/or working conditions should be modified, if appropriate, in order to provide mobility and positive guidance to the road user and to provide worker safety. The individual responsible for TTC should have the authority to halt work until applicable or remedial safety measures are taken.*
 - C. *TTC zones should be carefully monitored under varying conditions of road user volumes, light, and weather to check that applicable TTC devices are effective, clearly visible, clean, and in compliance with the TTC plan.*

- D. When warranted, an engineering study should be made (in cooperation with law enforcement officials) of reported crashes occurring within the TTC zone. Crash records in TTC zones should be monitored to identify the need for changes in the TTC zone.*
- 5. Attention should be given to the maintenance of roadside safety during the life of the TTC 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, detectable 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.*
- 6. Each person whose actions affect TTC 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 TTC 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 TTC devices used for TTC zones and for incident management.*
- 7. Good public relations should be maintained by applying the following principles:*
 - A. The needs of all road users should be assessed such that appropriate advance notice is given and clearly defined alternative paths are provided.*
 - B. The cooperation of the various news media should be sought in publicizing the existence of and reasons for TTC zones because news releases can assist in keeping the road users well informed.*
 - C. The needs of abutting property owners, residents, and businesses should be assessed and appropriate accommodations made.*
 - D. The needs of emergency service providers (law enforcement, fire, and medical) should be assessed and appropriate coordination and accommodations made.*
 - E. The needs of railroads and transit should be assessed and appropriate coordination and accommodations made.*
 - F. The needs of operators of commercial vehicles such as buses and large trucks should be assessed and appropriate accommodations made.*

Standard:

08 Before any new detour or temporary route is opened to traffic, all necessary signs shall be in place.

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

MUTCD Chapter 6D

2009 Edition Chapter 6D. Pedestrian and Worker Safety

Section 6D.01 Pedestrian Considerations

Support:

01 A wide range of pedestrians might be affected by TTC zones, including the young, elderly, and people with disabilities such as hearing, visual, or mobility. These pedestrians need a clearly delineated and usable travel path. Considerations for pedestrians with disabilities are addressed in [Section 6D.02](#).

Standard:

02 **The various TTC provisions for pedestrian and worker safety set forth in [Part 6](#) shall be applied by knowledgeable (for example, trained and/or certified) persons after appropriate evaluation and engineering judgment.**

03 **Advance notification of sidewalk closures shall be provided by the maintaining agency.**

04 **If the TTC zone affects the movement of pedestrians, adequate pedestrian access and walkways shall be provided. If the TTC zone affects an accessible and detectable pedestrian facility, the accessibility and detectability shall be maintained along the alternate pedestrian route.**

Option:

05 If establishing or maintaining an alternate pedestrian route is not feasible during the project, an alternate means of providing for pedestrians may be used, such as adding free bus service around the project or assigning someone the responsibility to assist pedestrians with disabilities through the project limits.

Support:

06 It must be recognized that pedestrians are reluctant to retrace their steps to a prior intersection for a crossing or to add distance or out-of-the-way travel to a destination.

Guidance:

07 *The following three items should be considered when planning for pedestrians in TTC zones:*

- A. Pedestrians should not be led into conflicts with vehicles, equipment, and operations.*
- B. Pedestrians should not be led into conflicts with vehicles moving through or around the worksite.*
- C. Pedestrians should be provided with a convenient and accessible path that replicates as nearly as practical the most desirable characteristics of the existing sidewalk(s) or footpath(s).*

08 *A pedestrian route should not be severed and/or moved for non-construction activities such as parking for vehicles and equipment.*

09 *Consideration should be made to separate pedestrian movements from both worksite activity and vehicular traffic. Unless an acceptable route that does not involve crossing the roadway can be provided, pedestrians should be appropriately directed with advance signing that encourages*

them to cross to the opposite side of the roadway. In urban and suburban areas with high vehicular traffic volumes, these signs should be placed at intersections (rather than midblock locations) so that pedestrians are not confronted with midblock worksites that will induce them to attempt skirting the worksite or making a midblock crossing.

Support:

10 [Figures 6H-28](#) and [6H-29](#) show typical TTC device usage and techniques for pedestrian movement through work zones.

Guidance:

11 *To accommodate the needs of pedestrians, including those with disabilities, the following considerations should be addressed when temporary pedestrian pathways in TTC zones are designed or modified:*

- A. *Provisions for continuity of accessible paths for pedestrians should be incorporated into the TTC plan.*
- B. *Access to transit stops should be maintained.*
- C. *A smooth, continuous hard surface should be provided throughout the entire length of the temporary pedestrian facility. There should be no curbs or abrupt changes in grade or terrain that could cause tripping or be a barrier to wheelchair use. The geometry and alignment of the facility should meet the applicable requirements of the "Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG)" (see [Section 1A.11](#)).*
- D. *The width of the existing pedestrian facility should be provided for the temporary facility if practical. Traffic control devices and other construction materials and features should not intrude into the usable width of the sidewalk, temporary pathway, or other pedestrian facility. When it is not possible to maintain a minimum width of 60 inches throughout the entire length of the pedestrian pathway, a 60 x 60-inch passing space should be provided at least every 200 feet to allow individuals in wheelchairs to pass.*
- E. *Blocked routes, alternate crossings, and sign and signal information should be communicated to pedestrians with visual disabilities by providing devices such as audible information devices, accessible pedestrian signals, or barriers and channelizing devices that are detectable to the pedestrians traveling with the aid of a long cane or who have low vision. Where pedestrian traffic is detoured to a TTC signal, engineering judgment should be used to determine if pedestrian signals or accessible pedestrian signals should be considered for crossings along an alternate route.*
- F. *When channelization is used to delineate a pedestrian pathway, a continuous detectable edging should be provided throughout the length of the facility such that pedestrians using a long cane can follow it. These detectable edgings should comply with the provisions of [Section 6F.74](#).*
- G. *Signs and other devices mounted lower than 7 feet above the temporary pedestrian pathway should not project more than 4 inches into accessible pedestrian facilities.*

Option:

12 *Whenever it is feasible, closing off the worksite from pedestrian intrusion may be preferable to channelizing pedestrian traffic along the site with TTC devices.*

Guidance:

13 *Fencing should not create sight distance restrictions for road users. Fences should not be constructed of materials that would be hazardous if impacted by vehicles. Wooden railing, fencing, and similar systems placed immediately adjacent to motor vehicle traffic should not be used as substitutes for crashworthy temporary traffic barriers.*

14 *Ballast for TTC devices should be kept to the minimum amount needed and should be mounted low to prevent penetration of the vehicle windshield.*

15 *Movement by work vehicles and equipment across designated pedestrian paths should be minimized and, when necessary, should be controlled by flaggers or TTC. Staging or stopping of work vehicles or equipment along the side of pedestrian paths should be avoided, since it encourages movement of workers, equipment, and materials across the pedestrian path.*

16 *Access to the work space by workers and equipment across pedestrian walkways should be minimized because the access often creates unacceptable changes in grade, and rough or muddy terrain, and pedestrians will tend to avoid these areas by attempting non-intersection crossings where no curb ramps are available.*

Option:

17 A canopied walkway may be used to protect pedestrians from falling debris, and to provide a covered passage for pedestrians.

Guidance:

18 *Covered walkways should be sturdily constructed and adequately lighted for nighttime use.*

19 *When pedestrian and vehicle paths are rerouted to a closer proximity to each other, consideration should be given to separating them by a temporary traffic barrier.*

20 *If a temporary traffic barrier is used to shield pedestrians, it should be designed to accommodate site conditions.*

Support:

21 Depending on the possible vehicular speed and angle of impact, temporary traffic barriers might deflect upon impact by an errant vehicle. Guidance for locating and designing temporary traffic barriers can be found in Chapter 9 of AASHTO's "Roadside Design Guide" (see [Section 1A.11](#)).

Standard:

22 Short intermittent segments of temporary traffic barrier shall not be used because they nullify the containment and redirective capabilities of the temporary traffic barrier, increase the potential for serious injury both to vehicle occupants and pedestrians, and encourage the presence of blunt, leading ends. All upstream leading ends that are present shall be appropriately flared or protected with properly installed and maintained crashworthy cushions. Adjacent temporary traffic barrier segments shall be properly connected in order to provide the overall strength required for the temporary traffic barrier to perform properly.

23 Normal vertical curbing shall not be used as a substitute for temporary traffic barriers when temporary traffic barriers are needed.

Option:

24 Temporary traffic barriers or longitudinal channelizing devices may be used to discourage pedestrians from unauthorized movements into the work space. They may also be used to inhibit conflicts with vehicular traffic by minimizing the possibility of midblock crossings.

Support:

25 A major concern for pedestrians is urban and suburban building construction encroaching onto the contiguous sidewalks, which forces pedestrians off the curb into direct conflict with moving vehicles.

Guidance:

26 *If a significant potential exists for vehicle incursions into the pedestrian path, pedestrians should be rerouted or temporary traffic barriers should be installed.*

Support:

27 TTC devices, jersey barriers, and wood or chain link fencing with a continuous detectable edging can satisfactorily delineate a pedestrian path.

Guidance:

28 *Tape, rope, or plastic chain strung between devices are not detectable, do not comply with the design standards in the "Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG)" (see [Section 1A.11](#)), and should not be used as a control for pedestrian movements.*

29 *In general, pedestrian routes should be preserved in urban and commercial suburban areas. Alternative routing should be discouraged.*

30 *The highway agency in charge of the TTC zone should regularly inspect the activity area so that effective pedestrian TTC is maintained.*

Section 6D.02 Accessibility Considerations

Support:

01 Additional information on the design and construction of accessible temporary facilities is found in publications listed in [Section 1A.11](#) (see Publications 12, 38, 39, and 42).

Guidance:

02 *The extent of pedestrian needs should be determined through engineering judgment or by the individual responsible for each TTC zone situation. Adequate provisions should be made for pedestrians with disabilities.*

Standard:

03 When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, the temporary facilities shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility. Where pedestrians with visual disabilities normally use the closed sidewalk, a barrier that is detectable by a person with a visual disability traveling with the aid of a long cane shall be placed across the full width of the closed sidewalk.

Support:

04 Maintaining a detectable, channelized pedestrian route is much more useful to pedestrians who have visual disabilities than closing a walkway and providing audible directions to an alternate route involving additional crossings and a return to the original route. Braille is not useful in conveying such information because it is difficult to find. Audible instructions might be provided, but the extra distance and additional street crossings might add complexity to a trip.

Guidance:

05 *Because printed signs and surface delineation are not usable by pedestrians with visual disabilities, blocked routes, alternate crossings, and sign and signal information should be communicated to pedestrians with visual disabilities by providing audible information devices, accessible pedestrian signals, and barriers and channelizing devices that are detectable to pedestrians traveling with the aid of a long cane or who have low vision.*

Support:

06 The most desirable way to provide information to pedestrians with visual disabilities that is equivalent to visual signing for notification of sidewalk closures is a speech message provided by an audible information device. Devices that provide speech messages in response to passive pedestrian actuation are the most desirable. Other devices that continuously emit a message, or that emit a message in response to use of a pushbutton, are also acceptable. Signing information can also be transmitted to personal receivers, but currently such receivers are not likely to be carried or used by pedestrians with visual disabilities in TTC zones. Audible information devices might not be needed if detectable channelizing devices make an alternate route of travel evident to pedestrians with visual disabilities.

Guidance:

07 *If a pushbutton is used to provide equivalent TTC information to pedestrians with visual disabilities, the pushbutton should be equipped with a locator tone to notify pedestrians with visual disabilities that a special accommodation is available, and to help them locate the pushbutton.*

Section 6D.03 Worker Safety Considerations

Support:

01 Equally as important as the safety of road users traveling through the TTC zone is the safety of workers. TTC zones present temporary and constantly changing conditions that are unexpected by the road user. This creates an even higher degree of vulnerability for workers on or near the roadway.

02 Maintaining TTC zones with road user flow inhibited as little as possible, and using TTC devices that get the road user's attention and provide positive direction are of particular importance. Likewise, equipment and vehicles moving within the activity area create a risk to workers on foot. When possible, the separation of moving equipment and construction vehicles from workers on foot provides the operator of these vehicles with a greater separation clearance and improved sight lines to minimize exposure to the hazards of moving vehicles and equipment.

Guidance:

03 *The following are the key elements of worker safety and TTC management that should be considered to improve worker safety:*

- A. *Training—all workers should be trained on how to work next to motor vehicle traffic in a way that minimizes their vulnerability. Workers having specific TTC responsibilities should be trained in TTC techniques, device usage, and placement.*
- B. *Temporary Traffic Barriers—temporary traffic barriers should be placed along the work space depending on factors such as lateral clearance of workers from adjacent traffic, speed of traffic, duration and type of operations, time of day, and volume of traffic.*
- C. *Speed Reduction—reducing the speed of vehicular traffic, mainly through regulatory speed zoning, funneling, lane reduction, or the use of uniformed law enforcement officers or flaggers, should be considered.*

- D. *Activity Area*—planning the internal work activity area to minimize backing-up maneuvers of construction vehicles should be considered to minimize the exposure to risk.
- E. *Worker Safety Planning*—a trained person designated by the employer should conduct a basic hazard assessment for the worksite and job classifications required in the activity area. This safety professional should determine whether engineering, administrative, or personal protection measures should be implemented. This plan should be in accordance with the Occupational Safety and Health Act of 1970, as amended, "General Duty Clause" Section 5(a)(1) - Public Law 91-596, 84 Stat. 1590, December 29, 1970, as amended, and with the requirement to assess worker risk exposures for each job site and job classification, as per 29 CFR 1926.20 (b)(2) of "Occupational Safety and Health Administration Regulations, General Safety and Health Provisions" (see [Section 1A.11](#)).

Standard:

04 **All workers, including emergency responders, within the right-of-way who are exposed either to traffic (vehicles using the highway for purposes of travel) or to work vehicles and construction equipment within the TTC zone shall wear high-visibility safety apparel that meets the Performance Class 2 or 3 requirements of the ANSI/ISEA 107–2004 publication entitled "American National Standard for High-Visibility Safety Apparel and Headwear" (see [Section 1A.11](#)), or equivalent revisions, and labeled as meeting the ANSI 107-2004 standard performance for Class 2 or 3 risk exposure, except as provided in [Paragraph 5](#). A person designated by the employer to be responsible for worker safety shall make the selection of the appropriate class of garment.**

Option:

05 Emergency and incident responders and law enforcement personnel within the TTC zone may wear high-visibility safety apparel that meets the performance requirements of the ANSI/ISEA 207-2006 publication entitled "American National Standard for High-Visibility Public Safety Vests" (see [Section 1A.11](#)), or equivalent revisions, and labeled as ANSI 207-2006, in lieu of ANSI/ISEA 107-2004 apparel.

Standard:

06 **When uniformed law enforcement personnel are used to direct traffic, to investigate crashes, or to handle lane closures, obstructed roadways, and disasters, high-visibility safety apparel as described in this Section shall be worn by the law enforcement personnel.**

07 **Except as provided in [Paragraph 8](#), firefighters or other emergency responders working within the right-of-way shall wear high-visibility safety apparel as described in this Section.**

Option:

08 Firefighters or other emergency responders working within the right-of-way and engaged in emergency operations that directly expose them to flame, fire, heat, and/or hazardous materials may wear retroreflective turn-out gear that is specified and regulated by other organizations, such as the National Fire Protection Association.

09 The following are additional elements of TTC management that may be considered to improve worker safety:

- A. *Shadow Vehicle*—in the case of mobile and constantly moving operations, such as pothole patching and striping operations, a shadow vehicle, equipped with appropriate lights and warning signs, may be used to protect the workers from impacts by errant vehicles. The shadow vehicle may be equipped with a rear-mounted impact attenuator.

- B. Road Closure—if alternate routes are available to handle road users, the road may be closed temporarily. This may also facilitate project completion and thus further reduce worker vulnerability.
- C. Law Enforcement Use—in highly vulnerable work situations, particularly those of relatively short duration, law enforcement units may be stationed to heighten the awareness of passing vehicular traffic and to improve safety through the TTC zone.
- D. Lighting—for nighttime work, the TTC zone and approaches may be lighted.
- E. Special Devices—these include rumble strips, changeable message signs, hazard identification beacons, flags, and warning lights. Intrusion warning devices may be used to alert workers to the approach of errant vehicles.

Support:

10 Judicious use of the special devices described in Item E in [Paragraph 9](#) might be helpful for certain difficult TTC situations, but misuse or overuse of special devices or techniques might lessen their effectiveness.