

PART 6. TEMPORARY TRAFFIC CONTROL

Chapter 6D. Pedestrian and Worker Safety

6D.1 Pedestrian Considerations

SUPPORT:

A wide range of pedestrians can be expected at work sites, 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.2.

STANDARD:

The various temporary traffic control provisions for pedestrian and worker safety contained in Part 6 shall be applied, by knowledgeable (for example, trained and/or certified) persons after appropriate evaluation and engineering judgment.

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

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:

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.

If an existing pedestrian route is impacted by a short-term or short-duration work zone that is attended with project personnel, establishing an alternate pedestrian route may not be necessary if the work can be stopped and pedestrians can navigate the work zone safely. Pedestrians may be delayed for a short period of time for project personnel to move equipment and material to facilitate passage. Work zone personnel may also provide assistance to the pedestrian as necessary.

SUPPORT:

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:

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 work site.

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 a footpath(s).

A pedestrian route should not be severed and/or moved for nonconstruction activities such as parking for vehicles and equipment.

Consideration should be made to separate pedestrian movements from both work site activity and motor vehicle 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 motor vehicle traffic volumes, these signs should be placed at intersections (rather than midblock locations) so that pedestrians are not confronted with midblock work sites that will induce them to attempt skirting the work site or making a midblock crossing.

SUPPORT:

Layouts 6J-24 and 6J-25 as well as Layouts 84 and 85 in Chapter 6K show typical TTC device usage and techniques for pedestrian movement through work zones.

GUIDANCE:

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). **A temporary walkway surface should be provided to cover short segments of rough, soft or uneven ground or hazards. This temporary walkway surface should comply with the provisions of 6F.74.1.**

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

the sidewalk or pathway, with the bottom of the edging a maximum of 2 inches above the surface. This edging should be continuous throughout the length of the facility except for gaps at locations where pedestrians or vehicles will be turning or crossing. This edging should consist of a prefabricated or formed-in-place curbing or other continuous device that is placed along the edge of the sidewalk or walkway. This edging should be firmly attached to the ground or to other devices. Adjacent sections of this edging should be interconnected such that the edging is not displaced by pedestrian or vehicular traffic or work operations, and such that it does not constitute a hazard to pedestrians, workers, or other road users.

SUPPORT:

Examples of detectable edging for pedestrians include:

- A. Prefabricated lightweight sections of plastic, metal, or other suitable materials that are interconnected and fixed in place to form a continuous edge.
- B. Prefabricated lightweight sections of plastic, metal, or other suitable materials that are interconnected, fixed in place, and placed at ground level to provide a continuous connection between channelizing devices located at intervals along the edge of the sidewalk or walkway.
- C. Sections of lumber interconnected and fixed in place to form a continuous edge.
- D. Formed-in-place asphalt or concrete curb.
- E. Prefabricated concrete curb sections that are interconnected and fixed in place to form a continuous edge.
- F. Continuous temporary traffic barrier or longitudinal channelizing barricades placed along the edge of the sidewalk or walkway that provides a pedestrian edging at ground level.
- G. Chain link or other fencing equipped with a continuous bottom rail.

GUIDANCE:

Detectable pedestrian edging should be orange, white, or yellow and should match the color of the adjacent channelizing devices or traffic control devices, if any are present.

6F.74.1 Temporary Walkway Surface

SUPPORT:

There are areas of a work zone where an accessible pedestrian pathway will cross short segments of rough, soft or uneven ground or hazards. In addition, vehicular access may be required across the path of an accessible pedestrian pathway for which detectable edging would not be feasible.

GUIDANCE:

As stated in 6D.1, a smooth, continuous hard surface should be provided throughout the entire length of the temporary pedestrian facility. When an accessible

pedestrian pathway crosses short segments of rough, soft or uneven ground, a temporary walkway surface should be provided to support pedestrians across these segments.

When it is determined that vehicular access is required across an accessible pedestrian pathway and a detectable edge (6F.74) is not feasible, a temporary walkway surface should be provided to guide pedestrians across this area.

Option (should this be a Guidance statement?):

If directionality for a temporary accessible crosswalk is not provided by the grade break of the curb ramp (temporary or permanent), a temporary walkway surface may (or should?) be provided to guide pedestrians along the crosswalk.

STANDARD:

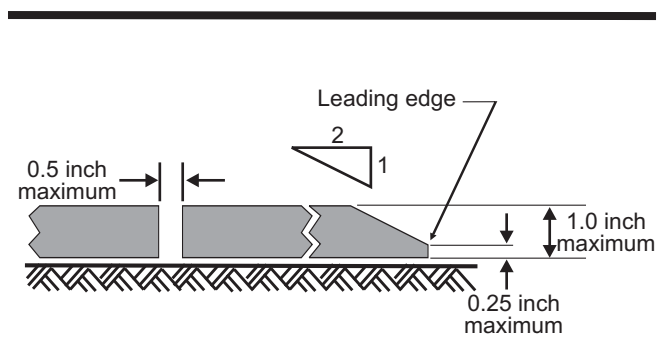
The temporary walkway surface shall be firm, stable and slip resistant. The edges of the temporary walkway surface shall be marked with a contrasting 2- to 4-inch wide marking. The width of the temporary walkway surface shall be a minimum of 4 feet. Lateral joints between segments of the walkway surface shall be less than 0.5 inches.

GUIDANCE:

Changes between the segments of the walkway surface should not exceed 0.5 inches. The side edges of the walkway surface should be between 0.25 inches and 1.0 inches thick. The leading and departing edges of the temporary walkway surface should follow the dimensions shown in Figure 6F-10 Temporary Walkway Surface Dimension.

OPTION:

The contrasting 2- to 4-inch wide edge marking is optional if a detectable edge (6F.74) is used.



Leading and departing edges are the same

Figure 6F-10 Temporary Walkway Surface Dimensions

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. **If a pedestrian pathway enters an area where vehicular traffic is likely to traverse (such as work area access), a temporary walkway surface should be provided that is firm, stable and slip resistant. This temporary walkway surface should comply with the provisions of 6F.74.1.**
- 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:

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:

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.

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

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.

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:

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

GUIDANCE:

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

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.

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

SUPPORT:

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:

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.

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

OPTION:

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: