Pedestrian Accommodation in Work Zones

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City of Laconia Public Works

Working near the Sidewalk or Walking Path, but the Sidewalk/Path Remain Open

One of the more common situations that occurs is when work takes place in the roadway or on property immediately adjacent to a sidewalk or walking path. The sidewalk or patch itself is not worked on or formally closed, but work activities can create hazards and impediments to pedestrians. When doing this type of work, field personnel should be vigilant in identifying and minimizing these issues.

Ensure that Pedestrians Are Protected from Trenches and Holes Adjacent to the Sidewalk/Path

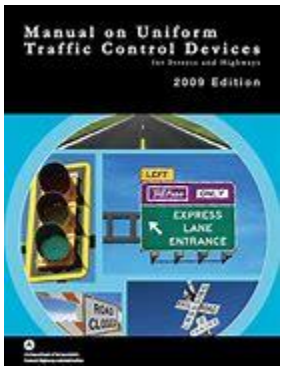
Protection must be detectable and continuous to be safety negotiated by pedestrians with a vision disability. Drums, cones, orange mesh fencing, tape, or fall protection wires do not provide sufficient guidance or protection. Longitudinal and properly constructed pedestrian barricades can safely separate pedestrians from work spaces and provide positive path guidance.

Open holes, trenches, and construction zones need to have safe routes for pedestrians.

Mesh fencing is not sufficient to protect a pedestrian from falling into a trench or holes

Pedestrian Accommodation in Work Zones: The Basics

Whenever you are working on or near a sidewalk or walking path as part of a temporary traffic control (TTC) zone, you must accommodate pedestrians who use that sidewalk or path, including individuals with disabilities. This is a federal standard defined in Section 6D. 02 (03) of the Manual on Uniform Traffic Control Devices (MUTCD).



(Photo from icontractor.net)

When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, the temporary facilities shall be detectable and include accessibility features present in the existing pedestrian facility, where features present in the existing pedestrian facility. Where pedestrians with visual disabilities traveling with the aid of a long cane shall be placed across the full width of the closed sidewalk.

This requirement applies to all TTC zones by state and local transportation agencies, construction, and maintenance contractors (both road and vertical construction), utility companies, landscaping companies, as well as any sidewalk, lane, or road closures for vertical construction activities.

The way in which you must accommodate pedestrians is further described in Sections 6D.01 and 6D.02 of the MUTCD, and depends on factors such as:

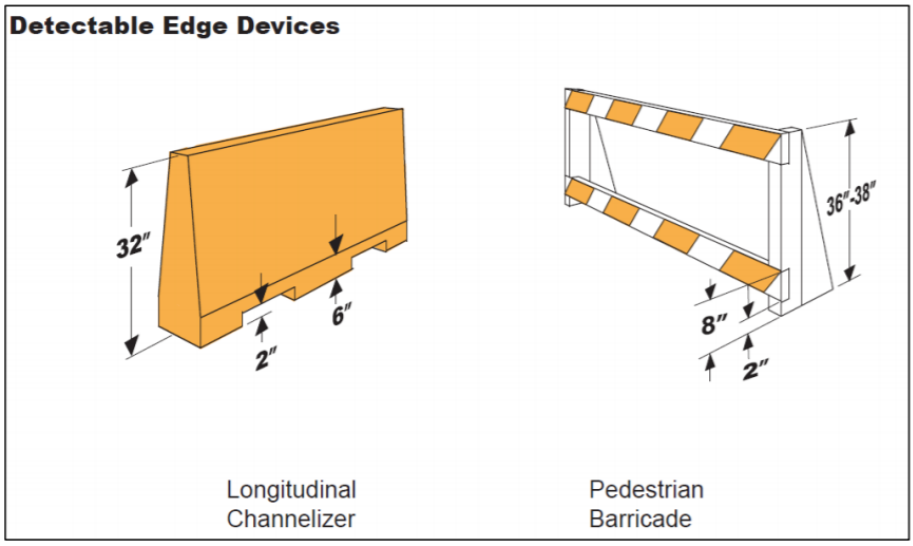
- The type of work being performed.
- The duration of the work, and
- The hazards and impediments the work will create for pedestrians and bicyclists.

For TTC zones where work crews are present and will last only a few hours or less, the accommodation may be as simple as:

1. Determining how pedestrians might be affected by the work activity,
2. Establishing a plan about how the crew will assist any pedestrians (especially individuals with vision or mobility disabilities) in negotiating the work zone, and
3. Identifying someone to watch for pedestrians and initiate the plan if the need arises.

On the other hand, TTC zones left in place over several days that do not have workers present at all times will require more extensive efforts to accommodate pedestrians. Pedestrians will need to be accommodated throughout the entire TTC zone. The TTC zone begins with the initial advance warning sign (e.g. ROAD WORK AHEAD) and ends at the END ROAD WORK sign, the last TTC device, or where traffic resumes normal operations.

- Working near the Sidewalk or Walking Path, but the Sidewalk/Path Remains Open
- Diversion of Sidewalk or Path around the Workspace
- Sidewalk or Path is Temporarily Closed, Pedestrian Detoured to an Alternate Existing Sidewalk or Path



Longitudinal channelizers and properly constructed pedestrian barricades can separate pedestrians from work activities and provide positive path guidance (source: Virginia Department of Transportation Work Zone Pedestrian and Bicycle Guidance)

Longitudinal channelizers and properly constructed pedestrian barricades can separate pedestrian from work activities and provide positive path guidance (source: Virginia Department of Transportation work zone pedestrian and bicycle Guidance).

Ensure that Pedestrians Cannot Walk into the Workspace if it is not Safe for Them to do so

If hazards exist within the workspace that require safety precautions for workers (trenches, fall protection, hard hats, crane operations, etc.), it is important to positively prohibit pedestrians from accidentally or purposely walking into and across the workspace. Concrete barrier, plastic longitudinal channelizing devices, wooden enclosed walkways, and even cyclone fencing (as long as a continuous, smooth edge is provided at the bottom) can be used for this purpose.

Sidewalks should not lead directly into unprotected work spaces (source: TTI)

Pedestrian diversion paths must be clearly marked and detectable by individuals with vision disabilities (Source FHWA: Source: Washington State DOT Design Manual, Chapter 1510.17)

If an audible warning system to inform pedestrians about the diversion path is to be installed and maintained, ensure that the message specified by the project engineer or supervisor has been properly recorded. Messages should be carefully worded and follow good message design principles, such as:

- Describe the diversion path in terms of the number of blocks to be traversed or landmarks to be passed.
- Describe whether the diversion path will traverse major parking garage or retailed driveway, as these could be otherwise counted as intersections by an individual with a vision disability.
- If the diversion path takes the pedestrian into the street (protected by a longitudinal channelizer or other device providing continuous detectable edging), the message should describe the configuration in order to reassure pedestrians with visual disabilities that they are correctly following the intended path.

Information recorded on these devices should be brief and to the point, and incorporate directions that do not require visual recognition (i.e., “sidewalk closed, turn left and cross Main Street, turn right and proceed one block, turn right and cross Main Street again”)

Audible pedestrian warning devices should be carefully positioned and use good message design principles (source: Virginia Department of Transportation)

Ensure that the installed Diversion Path is Wide Enough

Pedestrians with wheelchairs and other mobility assistance devices need diversion paths to be least 60 inches wide so that they can pass by each other if they meet head on. If a 60 inch path cannot be created over the entire length, a 48 inch walkway with a 60 x 60 inch pad every 200 feet should be provided.

Diversion path should be at least 60 inches wide allow two wheelchairs to pass each other side-by-side
(Source: J. Barlow, Accessible Design for the Blind)

Ensure that the Diversion Walkway Surface is Smooth, Solid, and Non-Slip

The diversion path should be able to support a wheelchair under all conditions (dry, rain, snow, etc.) and not have traversable edges more than ½ inch high. The diversion path also drains well and should be checked for any standing water or mud after a rain.

Diversion paths should be smooth, solid, weather resistant, and detectable by visually impaired pedestrians.
(Source: J. Barlow, Accessible Design for the Blind)

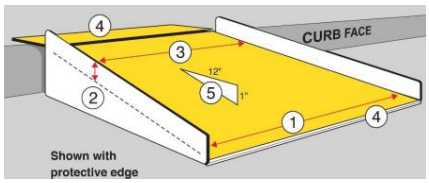
Ensure that the Diversion Walkways Have Permanent or Temporary Curb Ramps Where Needed

If the diversion path requires pedestrians to traverse a curb, a temporary curb ramp must be provided for pedestrians who have a mobility disability. Ramps should be stable, have a non-slip surface, and be capable of supporting the weight of scooters and pedestrians in wheelchairs without buckling or warping. Ramps should be at least 60 inches wide and have a protective edge to prevent wheelchairs from running off the side and tipping over. If the ramp is located at a pedestrian street crossing, detectable warnings should be used to notify individuals with a vision disability that they are about to enter the street.

Proper Temporary curb ramps are required wherever the diversion path traverses a curb
(Source: J. Barlow, Accessible Design for the Blind)

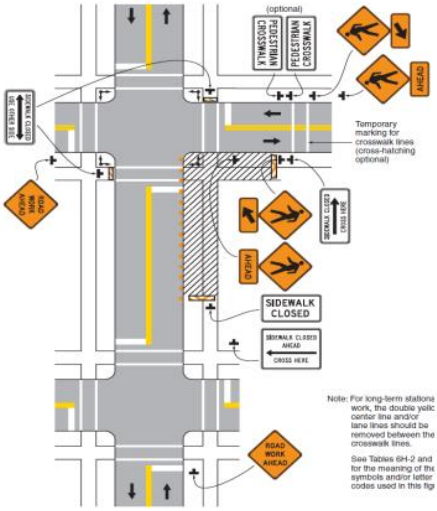
Some agencies have established specific requirements for the design of Temporary curb ramps to accommodate pedestrians with mobility disabilities, such as that shown below from the Florida Department of Transportation. In addition, some vendors now offer portable curb ramp systems that can be re-used.

1. Ramp Width - 60" Minimum, Non-Slip Protection
2. Protective Edge - 6" Minimum
3. Cross Slope - 2% Maximum
4. Edge Treatment - 1/2" Maximum between surfaces
5. Ramp Slope - 8% Maximum



Sidewalk or Pathway Temporarily Closed, Pedestrians Detoured to an Alternate Existing Sidewalk or Path

The third category of pedestrian accommodation involves establishing a detour route for pedestrians onto other sidewalks and paths. In many ways, pedestrian detours are similar to detour established for road closures. The MUTCD provides guidance on signs and barricades needed to detour pedestrians to alternate sidewalks or paths.



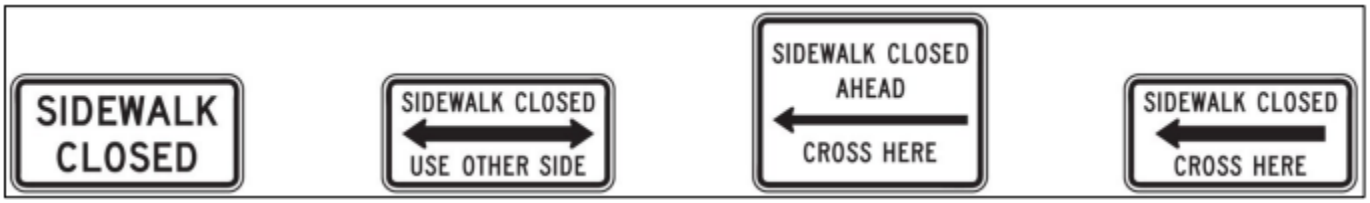
The MUTCD provides guidance on signing and barricades required when sidewalks and crosswalks are closed.

It is important that the pedestrian is informed of the sidewalk/path closure and detour far enough upstream to utilize the detour. It is also important that barricades and barriers used to close the sidewalk/path are properly installed and maintained. In most cases, the project engineer or supervisor should design the detour route and appropriate signing, marking, channelization, and barrier. In addition, the location of needed temporary ramps.
And audible pedestrian warning devices to accommodate pedestrians with vision or mobility disabilities should be identified. Field personnel responsible for installing and maintaining the alternative route should regularly check the following items.

Ensure that Pedestrians Detour Signing and Channelization are Appropriately Designed and install

Pedestrian detours should be designed by the project engineer or supervisor. Signing should be installed to warn pedestrians of downstream sidewalk/path closures, and to provide information as to where the detour path is located. In some cases, it is important to inform pedestrians about what businesses are still accessible along the sidewalk or path. Signs should conform to the MUTCD. Hand drawn signs or messages are not sufficient for guiding pedestrians.

Hand drawn signs or modifications to signs are not appropriate for detouring pedestrians



MUTCD provides several examples of appropriate pedestrian detour signing.

Ensure that the Pedestrian Detour Route Accommodates Pedestrians with Disabilities

As the signing and channelization for the pedestrian detour route is installed, the route should be checked to make sure it will accommodate all pedestrians. Items to check include those listed previously when work occurs adjacent to a sidewalk that remains open. The route should have:

- CONTINUITY
- PROTECTION FROM TRENCHES AND HOLES
- GOOD SIGHT LINES
- NO MUD OR DIRT
- NO SIGNS, HOSES, BARRIER, MATERIALS, VEHICLES, EQUIPMENT, OR PROTRUDING OBJECTS THAT PROHIBIT PASSAGE
- CURB CUTS AND RAMPS

Similarly, the pedestrian detour route should be checked to make sure that pedestrians with visual disabilities will be able to navigate their way through the detour route. Sign heights and overhangs across the pedestrian detour should be checked to make sure that they are at least 80 inches high.