

**Temporary Traffic Control for Pedestrians**  
**Guidelines and Best Practices**  
**November 28, 2011**  
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This document presents some general guidelines and best practices for providing temporary traffic control (TTC) for pedestrians. Additional information will be added as DelDOT continues development in this aspect of TTC. References to Typical Applications are based on the 2011 Delaware MUTCD.

**Sidewalk Work – Midblock**

For sidewalk work that is occurring midblock, a sidewalk closure is typically required. Pedestrian TTC for the sidewalk closure, depending upon duration, can be accomplished in different ways:

- Utilize Typical Application 28 for a sidewalk detour
  - This TA directs pedestrians to the other side of the street using the parallel sidewalk system, if available.
- Utilize Typical Application 28 for a sidewalk diversion
  - This TA directs pedestrians out of the normal sidewalk path into the shoulder of the roadway. The shoulder is closed in advance of and throughout the work area.
  - This TA may require temporary curb ramps (see details and special provisions)
  - This TA may require the use of a pedestrian channelization barricade
  - Depending upon vehicular travel speeds and duration, positive protection between the temporary pedestrian path (shoulder) and travel lanes may be required. Temporary concrete safety barrier or other approved positive protection may be utilized.
- Utilize a temporary boardwalk and/or temporary pedestrian path around the work area.
  - This application will most likely be utilized for long-term duration projects
  - A Temporary Construction Easement (TCE) may be needed to install the temporary pedestrian path outside of DelDOT right-of-way.
  - Safety fence may be needed to separate the pedestrian path from the work area. Please note, safety fence is not an approved method for providing a detectable pedestrian path

**Crosswalk Closure and/or Curb Ramp Work**

For sidewalk work that occurs at an intersection or driveway access, the closure of the corner curb ramp and associated crosswalk(s) may be required. More than one corner/curb ramp may be closed at the same time, however, additional provisions to maintain accessible pedestrian routes should be provided. Pedestrian TTC for the curb ramp and/or crosswalk closure, depending upon duration, can be accomplished in different ways:

- Utilize Typical Application 29 for a crosswalk closure and pedestrian detour.

- This TA closes the sidewalk in advance of the curb ramp/corner and directs pedestrians to the other side of the street using the parallel sidewalk system, if available.
- The TA shows a midblock crosswalk. Temporary midblock crosswalks across uncontrolled approaches are discouraged on higher speed and higher volume roadways and should not be used on state maintained roadways unless approved by DelDOT Traffic. The speeds of approaching vehicles, sight distance, pedestrian volumes and other factors will be evaluated to determine if a temporary midblock crossing is feasible. Temporary uncontrolled crosswalks may be appropriate in urban areas with lower vehicular speeds, if properly designed traffic control is installed. NCHRP Report 562 should be referenced for guidance.
- Utilize a temporary boardwalk and/or temporary pedestrian path around the work area.
  - This application will most likely be utilized for long-term duration projects
  - A Temporary Construction Easement (TCE) may be needed to install the temporary pedestrian path if the path is installed outside of DelDOT right-of-way.

### **Sidewalk Closures during Bridge/Culvert Replacements and/or Repairs**

Many bridges and culverts throughout the state include sidewalk within the cross-section. When bridges or culverts are closed for repairs or complete replacement, existing pedestrian facilities need to be considered during the planning and design process. Sometimes, pedestrians can be detoured onto other nearby facilities to get around the closure. There are other locations where no other facilities existing and the project has to be phased in order to accommodate pedestrians over the structure or a temporary structure has to be constructed. Pedestrian TTC for bridge/culvert work depending upon the duration and the availability of alternate facilities can be accomplished as follows:

- Detour pedestrians to alternate pedestrian facilities utilizing an approved pedestrian detour.
  - The detour route should have the same accessibility features as the existing route. If the detour route does not have the same level of accessibility, upgrades to the detour route will have to be in place prior to detouring pedestrian traffic.
  - The detour route should be short enough and in close proximity to the existing route in order for pedestrians to use it.
  - Public involvement may be needed in advance of the project to inform the public of the pedestrian detour route and the fact that the existing path will be closed for some period of time.
- Construct a temporary bridge and provide temporary path on either side of the temporary bridge to tie into existing pedestrian path. An option to this would be the consideration of a permanent pedestrian bridge.
- Phase the construction of the project to maintain pedestrians over the existing structure.
  - This may involve half-width construction which may be more feasible with precast culverts than with other types of bridge construction.
  - Additional measures such as temporary crosswalks, curb ramps, etc, may be required during each construction phase to clearly delineate the pedestrian path.

- The pros and cons of full vehicular detours vs. partial vehicular detours should be examined when evaluating whether phased construction is feasible. In some cases, temporary traffic signals should be considered.
- If the methods described above are not feasible, free bus service around the project area may be provided. This bus service will have to be provided 24-hours per day / 7 days per week during construction regardless of construction hours. This option will need extra coordination with the public, DTC and other stakeholders to determine how it could be implemented on a particular project.

### **Construction Phasing Guidelines**

The goal of any project should be to provide a quality completed facility in the shortest amount of time with minimal impact on all road users. Even with the most elaborate pedestrian TTC in place, construction phasing and duration needs to be considered in order to properly minimize impacts to pedestrians. As construction phasing plans are developed and pedestrian needs are accounted for, consideration should be given to how a project will be phased in order to minimize the impact to pedestrians as well as other road users. Below are a few suggestions/best practices to consider when developing phasing and pedestrian TTC plans:

- Consider the use of materials with quick cure times, such as high early concrete. In some cases, a curb ramp can be completely closed for removal and reconstruction using high early concrete and then reopened to pedestrian traffic at the end of the work day. This could lead to increased production by allowing construction of multiple curb ramps concurrently. If this is done, pedestrian escorts may be used to direct pedestrians around the work area. Other pedestrian TTC measures as discussed above may still be required.
- Because pedestrian traffic must be maintained at all times, the designer must understand that normal construction productivity may not occur because only one curb ramp may be able to be constructed at one time. This needs to be taken into account when developing the overall project duration.

### **Pedestrian TTC for Pavement & Rehabilitation Projects**

Due to the various complexities associated with implementing pavement & rehabilitation (pave & rehab) projects and changes in construction durations and phasing, special guidelines are needed to implement pedestrian TTC for these types of projects, especially when impacting signalized intersections.

- When constructing curb ramps where existing pedestrian traffic signals are provided, the following should occur:
  - Per notes in the Contract Documents, the Contractor, inspection staff and Traffic Safety Officer need to review and determine the level of TTC needed for pedestrian facilities at least two weeks in advance of starting the work. At this time, the inspection staff should contact the Transportation Management Center (TMC) to request that Signal Maintenance be scheduled to disconnect the pedestrian signals. This contact with the TMC shall occur no less than two weeks and no more than three weeks prior to beginning work at a specific curb ramp location.

- The signal maintenance supervisor, upon notification from the TMC, will contact the Project Supervisor and schedule the date for which the pedestrian signals will be disconnected.
- Signal maintenance will disconnect the pedestrian signals on the mutually agreed upon date at which time, the Contractor can remove the pedestal pole and pedestrian signal heads or cover the signal heads if they are to remain in place. Signal maintenance will put the signal into “pedestrian recall” mode if there is not enough green time in the parallel vehicular movement to accommodate pedestrian crossings.
- During curb ramp and/or island removal and installation, the Contractor will implement the agreed upon TTC plan for pedestrians. Options include:
  - Construct island in halves.
  - Use materials with quick cure times in conjunction with flaggers to direct pedestrians around the work areas
  - Temporary curb ramps where pedestrians are moved from sidewalk, over curb and into a roadway shoulder should be provided as directed by Traffic Safety
- When work is not occurring, place millings in excavated areas and provide channelizing devices (drums) around islands for delineation purposes. Pedestrians can then cross in the normal locations.
- At all times, a marked crosswalk shall be provided using temporary markings as described in DeIDOT’s “Temporary Pavement Marking Policy”.
- Signal Construction’s contractor will install the new pedestrian signals and activate them upon completion of installation. At this time, “pedestrian recall” is removed from the signal operation and normal timings are restored.

### **Plan Sheet Details**

In order to communicate how pedestrian TTC should be implemented in the field, it is imperative that our TTC plans be clear and concise. In that regard, below are some suggestions for displaying pedestrian TTC information on the construction phasing/maintenance of traffic plans:

- If 8 ½” x 11” plans are being prepared and work locations are unknown, the applicable Typical Applications from the Delaware MUTCD should be called out in project specific notes.
- For projects that utilize detailed MOT plans, the details should be shown on each individual phasing plan. Those details include, but are not limited to, temporary pedestrian paths, signage, barricades, temporary construction easements, etc.
- An approved pedestrian detour plan is required when the pedestrian detour route utilizes pedestrian facilities on adjacent roadways around the project limits. Pedestrian detour plans shall be approved by Traffic Safety, similar to vehicular or bicycle detours. If the pedestrian detour utilizes the opposite side of the street such as in TA-28 or TA-29, an approved detour plan is not required.

### **Additional Information**

Designers should contact the Traffic Safety Section for additional information and if there are any questions when developing pedestrian TTC plans and accommodations.