

COMMUNICATING TCC ZONE INFORMATION TO THE PEDESTRIAN

- Outreach campaign** - Should target the general public along with representatives from schools, community centers, parks, transit, businesses and all other public or private entities in the area to alert them of upcoming changes and to advise them of the efforts being undertaken to accommodate pedestrian needs. Pre-work notification in the immediate vicinity of the TTC, e.g., at bus stops, in store windows, audible devices, etc., will allow pedestrians to make alternate route plans, if necessary.
- Provide advance notification** - Advance information placed at appropriate distances before the TTC zone allows pedestrians to make timely decisions about routes through or around the TTC zone. This is especially important when existing pedestrian routes are closed or detoured.
- Provide audible information devices** - Preferably passive pedestrian actuation for visually impaired pedestrians, where applicable.
- Transition information** - Allows pedestrians to find a safe path through and around TTC zones. This information is important when the pathway is restricted, diverted, or detoured.
- Work area information** - Aids the passage of pedestrians through the TTC zone. This information is needed on all pedestrian routes except detours.
- Exit information** - Directs pedestrians back to the original route. This information is important when the pedestrian route is diverted or detoured.

CONSIDERATIONS IN THE FIELD

- Routinely provide adequate pedestrian accommodations through TTC zones.**
- Provide protection** - Promote adequate pedestrian safety via physical separation from work space and vehicular traffic, overhead protection, etc.
- Provide detours** - Provide adequate and safe detour(s) whenever sidewalks are closed or blocked.
- Provide information** - Use signs at intersections to give advance notification of closures ahead, and inform pedestrians where to cross. Also provide audible signage for pedestrians with visual disabilities.
- Traffic Signals** - Consider the placement of intersection crosswalks, additional signing, marking, relocation of transit stops, and modifying traffic signals (traffic signal timing, pedestrian signals, or push buttons) as necessary. Take into account walking speeds and the distance pedestrians travel when traversing travel lanes to determine minimum green time.
- Traffic control plan** - Inspect pedestrian accommodations during construction to ensure that the traffic control plan (TCP) is followed.
- Traffic control devices**
 - Ensure traffic control devices are in good and safe condition.
 - Devices should be sturdy, firm to the grip, and smooth to the touch (have no rough edges).
 - Devices should not be potential tripping hazards.
 - Provide a continuous, detectable edging throughout the length of the facility such that pedestrians using a long cane can follow it.
 - Anything used to delineate work area should be secured. Tape, rope, or a plastic chain strung between devices is not detectable by limited vision and /or blind pedestrians using a cane. Use of tape, rope, or plastic chains does not comply with the design standards in the ADA and/ or the CA MUTCD, and these items should not be used as a control for pedestrian movements.
- Maintain the path**
 - Inspect pathways regularly. Keep them clear of debris and well-maintained.
 - Treat surfaces with non-slip materials during inclement weather.
 - Replace or repair walkway surfaces with holes, cracks, or vertical separation.
 - Inspect detour pathways regularly for adequacy of signal timing, signs, and potential traffic hazards.
 - Inspect signs and all TTC elements regularly.
 - Minimize work vehicle and equipment movements across pedestrian pathways.
 - Evaluate adequacy for pedestrian safety and remove any hazards.
 - Make pedestrian routes ADA compliant and available to pedestrians during all phases of construction.

PEDESTRIAN CONSIDERATIONS FOR CALIFORNIA TEMPORARY TRAFFIC CONTROL ZONES

Over the last decade more than 1200 pedestrians & bicyclists died and over 10,000 pedestrians & bicyclists were injured in work zone crashes.

When developing temporary traffic control (TTC) plans, the importance of pedestrian access in and around the work zone is often overlooked or underestimated. A basic requirement of work zone traffic needs of pedestrians, including those with disabilities, must be addressed in the TTC process.

TTC plans should be prepared by persons knowledgeable (for example, trained and/or certified) about the fundamental principles of TTC and work activities to be performed. The design, selection and placement of TTC devices for a TTC plan should be based on engineering judgment.

IDENTIFYING THE NEED

“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.” - Part 6D, CA MUTCD

WHO needs a clear, accessible travel path?

- Young Children
- The elderly
- Persons with disabilities

WHAT is the impact on pedestrians?

- Observe pedestrian activity before work starts
- Update TTC to accommodate pedestrian activity when work occurs
- Consider pedestrian centers like schools, shopping areas, community centers, and parks

HOW to connect with the public?

- Develop an outreach program
- Discuss future work with community groups, school officials, disability groups,
- Provide project information and pedestrian detour information
- Continue meetings during the project to address issues
- TTC should fit existing pedestrian behavior to encourage pedestrian compliance

**SAFETY IS THE HIGHEST PRIORITY
FOR PEDESTRIANS**

Determine the TTC impact on pedestrians - The level of accessibility needed for pedestrians in the TTC zone can be identified by observing existing pedestrian travel patterns and accommodations prior to the start of work and as the work actually progresses. Look for presence of pedestrians in the area, existing sidewalks and other paths. Facilities such as schools, residences, businesses (shops, supermarkets) public transportation facilities, places of employment, government offices, medical facilities, community centers, parks, etc. are likely to be present in the TTC zone.

Public outreach - For major construction projects, consider a public outreach campaign including meetings with local community groups to get their input. Consider meeting with organizations for the blind and the city ADA coordinator.

Assess the TTC impact on existing pedestrian flow - Ensure that temporary facilities, at a minimum, replicate as nearly as practical the accessibility features present in the existing pedestrian facility when the existing facilities are disrupted, closed, or relocated.

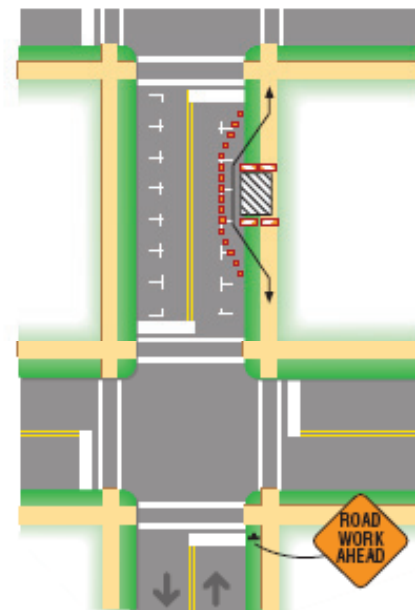
GENERAL DESIGN CONSIDERATIONS

- ❑ **Provide a safe, convenient travel path for pedestrians** - Replicate as nearly as possible the existing characteristics of the existing sidewalks or footpaths throughout.
- ❑ **Provide ADA Compliant access** – special considerations should be given to those with disabilities. If a path is provided it must be accessible.
- ❑ **Provide clear guidance to pedestrians** - Clear, correct, up-to-date guidance must be provided to pedestrians approaching TTC zones, so that pedestrian safety and convenience are preserved. Telephone numbers and contact information should be available to pedestrians who want to make inquiries or report problems.
- ❑ **Avoid conflicts with work activity** - Avoid leading pedestrians into conflicts with work vehicles, equipment, operations, and personnel.
- ❑ **Avoid conflicts with traffic** - Avoid leading pedestrians into conflicts with traffic moving through or around the work site.
- ❑ **Provide accessibility for pedestrians** - Maintain pedestrian access to businesses, residences, transit stops, etc. A continuous ADA compliant accessible path with smooth and hard surface should be provided either around or through the entire TTC zone.
- ❑ **Provide protection** - TTC devices used to delineate a TTC zone pedestrian walkway shall be crashworthy and, when struck by vehicles, present a minimum threat to pedestrians, workers, and occupants of impacting vehicles. Covered walkways should be provided where pedestrians are exposed to potential injury from falling debris.
- ❑ **Provide lighting** - Provide temporary lighting for pedestrian walkways throughout the TTC zone.

Design Considerations for Sidewalk Detour / Closures

Pedestrian access must be maintained. In cases where a sidewalk must be closed, a temporary route should be created along the existing alignment. When it is not possible to create a temporary route, pedestrians must be detoured with advance signs in accordance with the CA MUTCD.

- ❑ **Delineate a temporary route** - Use channelizing devices to delineate a temporary route. All detour routes need to be clearly defined.
- ❑ **Avoid mid-block crossing** - Place advance signs at intersections rather than mid-block locations.
- ❑ **Maintaining access** – Provide at least the minimum required width and smooth surface for wheelchair access. Provide ADA compliant wheelchair ramps where necessitated by elevation changes. Provide continuous access to transit stops and/or relocate transit stops.
- ❑ **Protect pedestrians** - Protect pedestrians from vehicle traffic and other hazards such as holes, cracks, debris, dust, and mud.



Work Zone with Closed Sidewalk

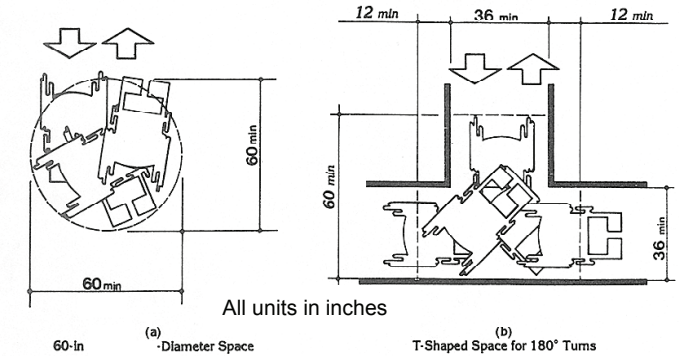
Design Considerations for Intersections and Crossings

- ❑ **Avoid closing crosswalks.**
- ❑ **Mark crosswalks** - at signalized intersections, mark temporary crosswalks if they are relocated from their previous location and provide an ADA compliant path.
- ❑ **Provide access** - to pedestrian push buttons (preferably at intersections rather than mid-block). If a temporary signal is used, include pedestrian phases.
- ❑ **Provide advance notification** – for all closures. Provide audible information devices, preferably passive pedestrian actuation for visually impaired pedestrians, where applicable.
- ❑ **Accessible Pedestrian Signals** - Provide accessible pedestrian signals at temporary signals.

DESIGN CONSIDERATIONS FOR ADA COMPLIANCE

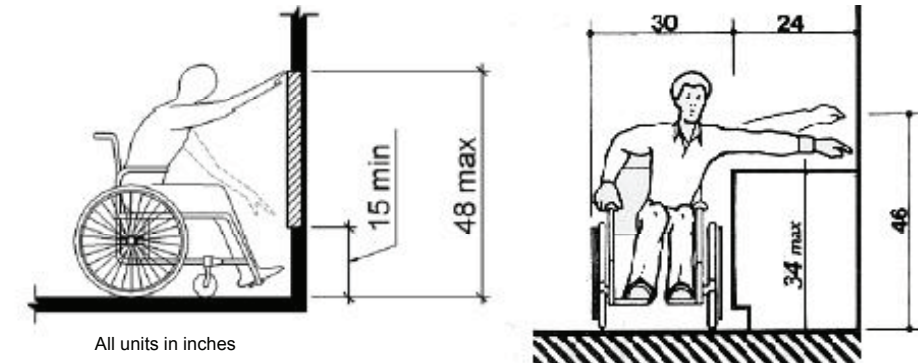
Accessible Route Basics Per ADA

- ❑ The path must be stable, firm and slip resistant. Pedestrian walkways shall be surfaced with asphalt concrete, portland cement concrete or timber. Dirt is not an acceptable surface.
- ❑ Objects (such as construction fencing, signing, or barricades) shall not protrude into the path. Check with the project engineer for any exceptions.
- ❑ Vertical clearance above the path must be 80 inches.
- ❑ Running slope of not greater than 1:20 (5%) otherwise meet ramp requirements listed below.
- ❑ Cross slope of not greater than 1:50 (2%).
- ❑ Clear Width of path should be 60 inches (CA MUTCD. Verify there are no fixed objects (cabinets, poles, etc.) which will reduce the path width at any point.
- ❑ If 60 inches width can not be maintained and a 180 degree turn is required, the turning pad must be at least 60 inches in depth (See figure to right).
- ❑ Construct curb ramps on site at 1:12 slope or less.



Pedestrian Pushbuttons

- ❑ Must have an unobstructed forward reach with a maximum height of 48 inches to the button.
- ❑ If a side reach is required, obstructions at bottom cannot extend more than 24 inches from base and maximum height of button is 46 inches (check this dimension and diagram on right).



Helpful Resources

- CA MUTCD, Part 6: www.dot.ca.gov/camutcd
- U.S. Access Board; Americans with Disabilities Act (ADA): www.access-board.gov
- Americans with Disabilities Act Accessibility Guidelines (ADAAG) Checklist for Buildings and Facilities: www.access-board.gov/adaag/checklist/a16.html
- Public Rights-of-Way Accessibility Guidelines (PROWAG): www.access-board.gov/prowag/draft.htm
- Access Board's PROW team: (800) 872-2253
- Access Board videos on Accessible Sidewalks: www.access-board.gov/news/sidewalk-videos.htm
- Accessible Design for the Blind: www.accessforblind.org
- FHWA's pedestrian safety website: http://safety.fhwa.dot.gov/ped_bike/
- Federal Highway Administration, Pedestrian Road Safety Audit Guidelines and Prompts Lists, July 2007.
- California Joint Utility Traffic Control Manual: www.sce.com/nrc/aboutsce/regulatory/distributionmanuals/tcm.pdf
- AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities: <https://bookstore.transportation.org> (ISBN number: 1-56051-293-8)
- Caltrans Design Information Bulletin 82-03: www.dot.ca.gov/hq/oppd/dib/dib82-03.pdf