



**Work Procedure WP9401**

ISSUING DEPARTMENT: **Safety, Health, and Claims**

DATE ISSUED/UPDATED: **6-07**

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**TITLE: Path of Travel Encroachments and Pedestrian Safety**

**Overview**

These work procedures are necessary to conform to the California Department of Transportation (Caltrans) [California Manual on Uniform Traffic Control Devices \(MUTCD\)](#) and the Americans with Disabilities Act (ADA).

Pacific Gas and Electric Company (the Company) must accommodate the needs of all pedestrians at work sites that encroach upon a sidewalk, walkway, or crosswalk. Pedestrian safety considerations, including consideration of equipment necessary to create a safe walkway around the job site for all pedestrians, must be included during job planning assessments. The range of pedestrians varies, and includes people with hearing, vision, and mobility disabilities. All pedestrians need protection from potential injury and must have a smooth, clearly delineated travel path through or around a work area until the project is concluded.

This work procedure ensures that employees create a temporary, accessible path of travel around job sites for all disrupted surfaces within the project scope. It applies to all work sites where the work area encroaches upon a public right-of-way (sidewalk, walkway, or crosswalk area) and reduces the existing pedestrian path of travel to less than 48 inches wide.

If employees working on a sidewalk are unable to provide a 48-inch wide pedestrian pathway on the sidewalk when conducting short-term work, they must ensure a safe, accessible pathway for pedestrians around the worksite, or close the sidewalk to all traffic and direct pedestrians to an alternate walkway.

**Governing Document**

None.

**Safety**

To ensure safety, employees must follow all applicable precautions and requirements in setting up temporary work area protection when encroaching on to the path of travel for pedestrians, as described in the following documents:

- [Utility Standard Practice \(USP\) 22, "Safety and Health Program"](#)
- [Code of Safe Practices](#)
- [Work Area Protection and Traffic Control Manual](#)

## **Detailed Procedure**

### **1. Communication and Training**

Conduct the Path of Travel Encroachment training as a supplement to the annual Work Area Protection Training tailboard.

### **2. Pedestrian Considerations**

Company employees who have obstructed a pedestrian pathway so that the pathway is less than 48 inches wide (or a greater width, if required by the work permit), must immediately create and maintain (for as long as the obstruction persists) a continuous, unobstructed 48-inch pedestrian path of travel adjacent to the work site, preferably parallel to the same sidewalk that has been obstructed.

A. Same-side travel is preferred over street crossings.

1. Close sidewalks to all pedestrian traffic only when a safe passage around the work site cannot be established.
  - a. To the extent possible, employees and supervisors work with businesses affected by sidewalk and pathway closures to accommodate schedules or provide access.

B. When overhead work is conducted, the pedestrian passage area below must be rerouted or protected.

1. Overhead clearance must be a minimum of 80 inches high when measured vertically from the ground surface.

### **3. Temporary Paths of Travel**

A. When planning for pedestrians in temporary traffic control zones or on highways and streets, include the following four thresholds in planning:

1. Do not lead pedestrians into conflicts with work site vehicles, equipment, or operations.
2. Do not lead pedestrians into conflicts with vehicle traffic.
3. Provide pedestrians with a convenient, safe, and accessible travel path that replicates, as nearly as possible, the most desirable characteristics of sidewalks or footpaths.
4. Inform pedestrians about changes in the travel path in a way that is readily understandable.

B. The path of travel must not have abrupt changes in grade, elevation, or terrain.

C. For longer runs (every 200 ft.) and with walkways in pedestrian access routes that have less than 5 feet of width clearance, provide passing spaces 5 feet wide for a distance of 5 feet to provide adequate space for pedestrians in wheelchairs to pass each other.

D. Avoid moving vehicles and equipment across designated pedestrian paths wherever possible. If vehicles and equipment must travel through pedestrian paths, employees must use flaggers to direct vehicle traffic.

**Note:** Determine pedestrian needs at each work site by obtaining field judgment from a competent person before starting any work. Temporary traffic control zones must provide security and safety for pedestrians walking past work sites, as well as provide consistent, unambiguous channels that maintain the desired travel paths for foot traffic.

#### **4. Signage**

Place approved signs at intersections so pedestrians are not confronted with mid-block work sites that could cause them to skirt the temporary traffic control zone or make a mid-block crossing. Pedestrians infrequently retrace their steps to make a crossing. Consequently, ample advance sidewalk closure notice is important.

- A. Use detour signs to direct all pedestrians to use the other parallel sidewalk.
- B. If the Company's construction temporarily affects traffic signals, use alternative visual signals.

**Note:** Refer to [Attachment 1, "Sidewalk Closure and Bypass Sidewalk Operation"](#) or [Attachment 2, "Sidewalk Closure and Pedestrian Detour Operation"](#) for details about typical traffic control device use and techniques for moving pedestrians through work zones.

#### **5. Barricades**

Use barricades, also known as K-rails, in areas where the volume and speed of vehicular traffic is high. Barricades must have sufficient strength and low deflection characteristics to keep vehicles from intruding into the pedestrian walkway or work sites.

- A. Avoid short, non-continuous segments because they increase the potential for serious injury to both vehicle occupants and pedestrians. Encourage the presence of blunt, leading ends (connector points at either end of a longitudinal barrier system).
- B. Use appropriate flares on all upstream leading ends or protect them with properly installed and maintained impact attenuators.
- C. When using barricades, ensure that adjacent segments are continuous and properly joined.

**Note:** If the alternate circulation path is diverted into the street, use a typical barricade application between the alternate circulation path and the vehicular way.

#### **6. Barriers**

When worksites occupy or conflict with paths of travel, separate and protect all pedestrian traffic using approved longitudinal barrier systems. Temporary barriers, when set up properly, provide pedestrians safe paths of travel around worksites. For a description of typical barrier setup, refer to [Attachment 3, "Barrier Specifications."](#)

- A. Barriers Installations

1. Install barriers in the following locations:

- Between the pedestrians access route and any adjacent construction site.
- If the alternate circulation path is diverted into the street, install barriers between the alternate circulation path and the vehicular way.
- Between the alternate circulation path and any protruding objects (compressors, back-hoes, excavators, materials, etc), drop-offs, or other hazards to pedestrians.

**B. Barrier Specifications**

1. Construction barriers must be continuous, stable, and non-flexible. The barrier must have a solid toe board, with its top edge between 4 to 6 inches in height. It must have a top height of 36 to 45 inches.
2. To provide proper support and stability, use bases at either end of each barrier and tape or tie them at the top. Caution tape alone does not provide an adequate barrier and cannot be used to delineate the alternate circulation path.
3. Create barriers from chain-link fences, PVC railing, a continuous run of barrier rails, or any other material that protects pedestrians without materially impairing the pedestrian network. Do not use cones, unconnected "A-Frame" barriers, or connected A-Frame barriers without a handrail. Do not use toe rails to direct pedestrian traffic.
4. To protect visually-impaired pedestrians using a mobility cane and to serve as a wheelchair stop, barriers must have brightly contrasting colors marking each end and a 4- to 6-inch ground rail running the length of each side of the barrier that is attached to the base.
5. Barrier support member must not protrude more than 4 inches beyond the top or bottom into the alternate circulation path.
6. Use approved manhole guardrails to warn pedestrians of an open vault.

**7. Pedestrian Ramps**

Use approved ramp systems for jobs estimated to last more than 4 hours in areas where pedestrians cannot be diverted safely around a worksite using properly sloped driveways or curb ramps.

- A. Use approved curb ramps when pedestrians are diverted off the walkway and into the street parallel to the work site. Ramps must provide pedestrians with visual and mobility disabilities adequate transition from the sidewalk into the street. Ramps must be a minimum of 48 inches wide.
- B. The running slope ratio must be a maximum of 1:12 (one foot run for every inch of the curb) or as required by city or county codes. City or county codes may require longer lengths that reduce the slope of the ramp.
- C. All ramps must have smooth on and off transitions. Beveled edges or feathered/compacted asphalt or concrete prevent tripping and wheelchair tipping accidents. No lip edges may exceed ¼ inch.
- D. Locate ramps so that they do not project into vehicular traffic lanes.

- E. To prevent against falling hazards, landings and ramps must have wheel guides or “curbing” around the sides that is at least 2 inches high.
- F. Use barriers around temporary ramps. They must not be at a level where they are confused with handrails

**Note:** For a description of a typical ramp setup, refer to [Attachment 4, “Typical Ramp Set Up”](#).

## **8. Pedestrian Traffic Plates**

- A. Use trench plates with an appropriate amount of cold mix pack to provide a smooth transition from the sidewalk or from the street to the plate. Use enough cold mix pack to prevent plate movement. If plates have the potential to move and cause a hazard, employees may also recess the plates into the walkway.

**Note:** Trench plates often have “lift holes” that enable a chain with a hook that is attached to a back-hoe to move the plates from a storage location to cover an excavation when work takes place during non-work hours. The “lift holes” pose a hazard to wheelchair users and ambulatory pedestrians. To avoid creating a tripping hazard while the plates are in the path of travel, plug lift holes with a suitable material, such as wood or plastic plugs.

- B. Sturdy plywood or metal plates are acceptable for use when bridging construction sites only if the surface is continuous, stable, and has no gaps or inconsistent levels, including no lip edge facing the path of travel that is greater than ¼-inch. Beveled edges or feathered/compacted asphalt or concrete prevent tripping and wheelchair tipping accidents.

**Note:** For trench plate specifications, refer to [Attachment 5, “Trench Plates.”](#)

## **9. Potential Hazards**

- A. During job site maintenance, do not store tools, equipment, or materials within the accessible travel paths. Heavy equipment with protruding parts must not be in the path of travel.
- B. Remove snow or debris, and properly drain temporary paths of travel.
- C. During non-working hours, clear sidewalks and pathways of debris, and provide pedestrians with a safe path of travel.

## 10. Program Review

Safety, Health and Claims will perform an annual review or update as needed the Path of Travel Encroachments work procedure in conformance with the Caltrans [California Manual on Uniform Traffic Control Devices \(MUTCD\)](#). As part of this review, employees will be consulted as to work practice controls and the review will include an assessment of currently available engineering controls to ensure that our practices are consistent with current industry standards.

### Definition of Terms

**Competent person:** Someone capable of identifying existing and predictable hazards in the surroundings or of identifying working conditions that are hazardous or dangerous to employees, and who has authorization to take prompt, corrective measures to eliminate those identified conditions.

**Path of travel:** A continuous, unobstructed pedestrian route.

**Pedestrian:** A person on foot or who is using a mobility device, such as a wheelchair.

**Sidewalk:** The portion of a street between the curb line, or the lateral line of a roadway, and the adjacent property line or on private property easements that is intended for use by pedestrians.

**Sign:** Any traffic control device that communicates information to road users using a word or symbol legend. Traffic control signals, pavement markings, delineators, or channelization devices are not signs.

**Temporary traffic control zone:** An area of a highway where road user conditions are changed by using temporary traffic control devices, flaggers, or by police or other authorized personnel because of a work zone or incident.

**Work zone:** An area of a street where construction, maintenance, or utility work activities are occurring.

### Attachments

[Attachment 1, "Sidewalk Closure and Bypass Sidewalk Operation"](#)

[Attachment 2, "Sidewalk Closure and Pedestrian Detour Operation"](#)

[Attachment 3, "Barrier Specifications"](#)

[Attachment 3b, "Barrier Construction"](#)

[Attachment 4, "Typical Ramp Set Up"](#)

[Attachment 5, "Trench Plates"](#)

[Attachment 6, "Pedestrian Signs/Equipment for Temporary Traffic Control"](#)

