

## L E S S O N 1 2

# Pedestrian and Bicycle Facilities in Work Zones

### 12.1 Purpose

When construction zones encroach on sidewalks or crosswalks, pedestrians may suddenly find themselves having to make detours that may be unsafe, difficult to navigate, or both. They may be forced to choose between picking their way through the construction site or walking in a busy street. This can be especially dangerous for the elderly and handicapped, who rely on well-maintained, well-marked sidewalks for safe mobility. Adding to the problem is when projects are built in phases and when construction zones change weekly or even daily.

Bicyclists also experience difficulties when traveling through construction zones, particularly when roadway space is constrained and when pavement conditions are rough. In some instances, sudden pavement changes in construction zones can represent a severe hazard to bicyclists.

This lesson describes typical problems and solutions that improve conditions for bicyclists and pedestrians in work zones.

### 12.2 Possible Solutions

It is important to develop and implement construction zone policies to eliminate unexpected obstacles for

pedestrians and bicyclists and make transitions as safe and smooth as possible. The following concerns should be addressed:

- Advance warning and guidance signs.
- Adequate illumination and reflectorization.
- Channelizing and barricading to separate pedestrians from traffic.
- Wheelchair accessibility.
- Preventing visually impaired pedestrians from entering work zones.
- Warning bicyclists about surface irregularities and maintaining areas where bicyclists can pass through construction zones.
- Circumstances requiring temporary walkways and/or bikeways.



*Utility work in bike lanes can often be accomplished without blocking the entire lane.*

Contractors should be allowed flexibility as long as requirements are met. It's often difficult to plan ahead as many traffic control decisions are made daily in the field. All parties involved should be made aware of the needs of pedestrians and bicyclists and be made responsible for ensuring safe and continuous passage.

## 12.3 Implementation Strategies

Developing a workable policy for bicycle and pedestrian access through construction zones requires the cooperation of traffic engineers, construction inspectors, crew chiefs, contractors, and advocates. The policy should apply whenever construction or maintenance work affects pedestrian or bicycle access, whether the work is done by private firms or city, county, or State crews.

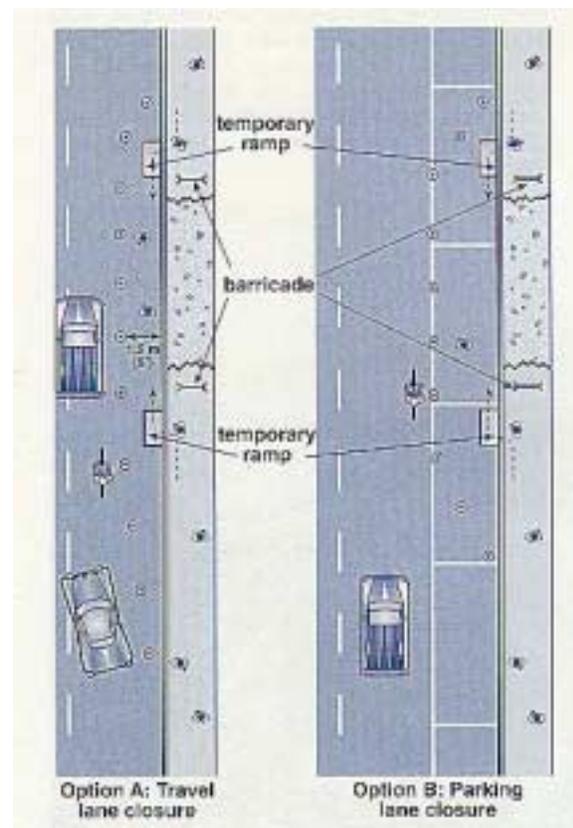
**Link to construction permits:** Make sure that permits required for street construction or construction projects that encroach upon sidewalks or crosswalks are contingent upon meeting bicycle and pedestrian access policies. Give contractors copies of the standards when they apply for a permit. What is needed are standards or a policy that is readily available. These can be incorporated into contracts, agreements, or specifications.

**Train in-house work crews:** Many road, pavement, maintenance, or utility projects use permanent city crews to do the work. Educate crew chiefs and crews to ensure that they understand and follow the policy.

Enacting pedestrian and bicycle access policies for work zones is not expensive. The main costs involve developing the policy, training crews and construction inspectors, and imparting information to contractors. On-going costs involve work site inspection.

## 12.4 Planning and Design Considerations

While the 1988 MUTCD's pedestrian guidelines apply to pedestrian traffic around work zones, the absence of specific guidance on pedestrian access around construction zones leaves local agencies with a great deal of flexibility. Keep in mind that the



*Creating passageways for pedestrians during construction.  
(Cone taper not to scale. See MUTCD for standard lane closure.)*

MUTCD's silence on this subject may lead some in an agency to balk at establishing hard and fast regulations.

### Rural Highway Construction

Construction operations on rural highways affect mostly touring and recreational bicyclists; pedestrians are seldom encountered in rural settings.

On low-volume roads or through short construction zones, standard traffic control practices are usually adequate. Bicyclists can ride through without impeding traffic. Their needs can be met by maintaining a paved surface and removing temporary signs, debris, and other obstructions from the edge of the roadway after each day's work.

On high-volume roads or through long construction zones, enough paved roadway width should be provided for motor vehicles to safely pass bicyclists.

Flaggers and pilot cars should take into account the bicyclists' lower speeds. When bicyclists are coming through, radio messages can be relayed to other flaggers.

On highways with very high traffic volumes and speeds, and where construction will restrict available width for a long time, it may be advisable to provide a detour route for bicyclists where possible. The detour should not be overly circuitous. Directional signs should guide bicyclists along the route and back onto the highway.

### Urban Roadway Construction

Through-bicycle movement must also be maintained. Bicyclists can share a lane over a short distance. On longer projects and on busy roadways, a temporary bike lane or wide outside lane may be provided. Bicyclists should not be routed onto sidewalks or onto unpaved shoulders.

Debris should be swept to maintain a reasonably clean riding surface in the outer 1.5 or 1.8 meters (5 or 6 feet) of roadway. Bicyclists have a low tolerance for surface grade changes and excessive bumps should be avoided.

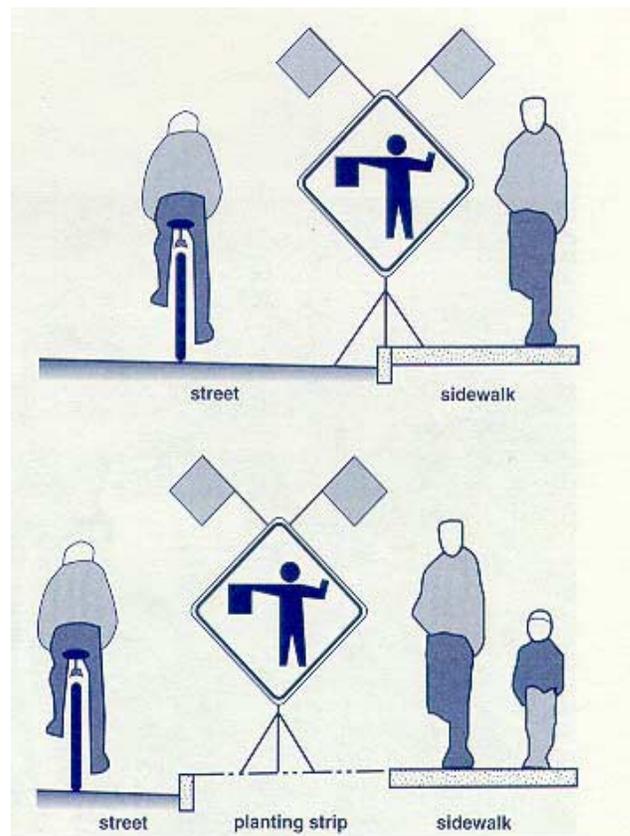
The placement of advance construction signs should obstruct neither the pedestrian's nor the bicyclist's path. Where this is not possible, placing signs half on the sidewalk and half on the roadway may be the best solution.

### Pedestrian Issues: Seattle Example

The Engineering Department of the City of Seattle has developed specific policies for pedestrian access, control, and protection in work zones. These policies are detailed in the City's *Traffic Control Manual for In-Street Work* (4<sup>th</sup> edition, 1994). The purpose of the manual is "to set forth the basic principles and standards to be observed by all those who perform work in public streets so as to provide safe and effective work areas and to warn, control, protect, and expedite vehicular and pedestrian traffic."

Before any in-street work is commenced, all persons performing work within the street right-of-way must first obtain a permit by submitting and receiving approval of a traffic control plan.

To protect pedestrians, the manual describes procedures for erecting protective barricades, fencing, and bridges, together with guidance devices

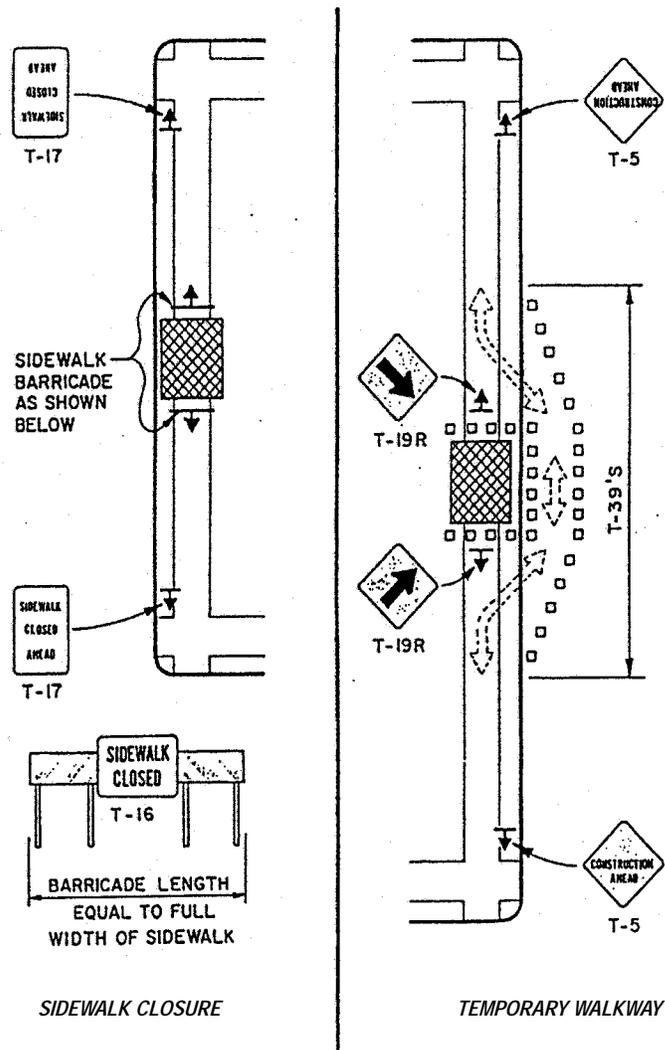


Construction sign placement.

and signs. Whenever passageways or walkways are affected by construction, access for pedestrians and disabled persons is ensured. Access to recommended school crossings must be maintained at all times. Where walkways are necessarily closed by construction, alternate walkways, including temporary curb ramps, must be provided. Where alternate walkways are not feasible, signs are required at the limits of construction and in advance of the closure at the nearest crosswalk or intersection to divert pedestrians across the street. Pedestrians must never be diverted into a portion of the street concurrently used by moving vehicular traffic. Where required, fixed pedestrian ways using fences and canopies shall be considered. Adequate illumination and reflectorization is required during hours of darkness.

The diagrams on the pages 12-4 and 12-5 are excerpted from Seattle's *Traffic Control Manual for In-Street Work*.

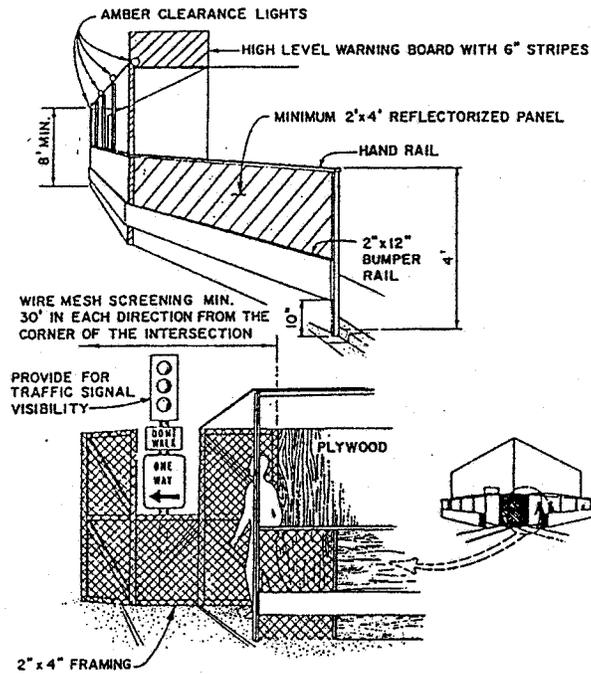
**Figure 12-1: Pedestrian Control in  
Work Zones**



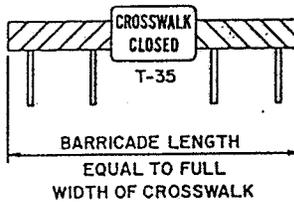
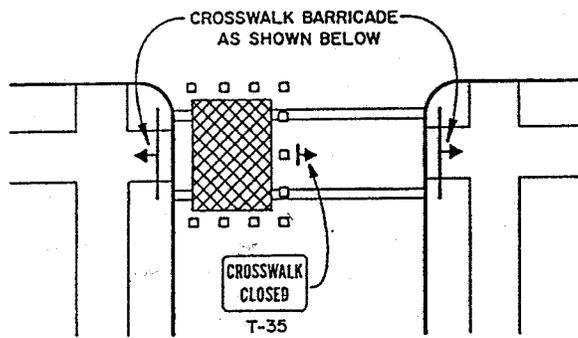
*PEDESTRIAN CONTROL*

Source: *Traffic Control Manual for In-Street Work*, Seattle Engineering Department

**Figure 12-2: Pedestrian Control in Work Zones**



**PEDESTRIAN PROTECTION**



**PEDESTRIAN CONTROL**

Source: *Traffic Control Manual for In-Street Work*, Seattle Engineering Department

## 12.5 References

Text for this section was derived from the following sources:

Oregon Department of Transportation, *Oregon Bicycle and Pedestrian Plan*, 1995.

John Williams, *Implementing Pedestrian Improvements at the Local Level*, FHWA.