

Roadside Work Safety

CSUEB 2009

Lesson Plan

- Standards, Regulations, & Guidelines
- Work Zone Fatalities
- Principles of Safe Traffic Control
- Stages of the Roadwork Zone
- Three Key Elements – Application, Cone Placement, Buffer Zone
- Tools, PPE, Signs
- Removal or termination

Roadwork Fatalities

- Each year over 100 workers are killed at roadwork construction sites.
- Accidents increase as lane widths decrease.
- Accidents increase after 6 pm.

Standards and Regulations

- Maintenance operations in and around traffic are regulated by the following:
 - Code of Federal Regulations (CFR) Title 23 Highways 655.603
 - California Code of Regulations (CCR) Title 8 §1598 Traffic Control for Public Streets and Highways
 - California Manual of Uniform Traffic Control Devices for Streets and Highways, September 26, 2006
 - CSUEB Traffic Control Manual



Principles of Safe Traffic Control

1. Have a Temporary Traffic Control (TTC) Plan
2. Keep traffic moving with as little impact as possible
3. Communicate to motorist that you are there working
4. Monitor that the plan is working, adjust if it is not, drive the affected area to see if plan is working
5. Plan for the worst, such as inclement weather
6. Train everyone so they know the procedures and their roles
7. Always take into consideration worker safety first

Work Plan Criteria

Criteria to consider when setting up a work zone

1. Work Plan – work plan is always required. There is only one exemption: 1 hour duration and 15 feet from the roadway
2. Work Duration - provide for the efficient completion of whatever activity suspended normal use of the roadway
3. Work Location - Effective temporary traffic control must be provided for the workers, pedestrians.
4. Roadway Type – traffic speed and volume
5. Other considerations – underground utilities, power lines, persons with disability, bicycles, visibility, (hills, curves, weather).

Work Plan Criteria

Other considerations

1. Assign a responsible person in charge when ever there are two or more employees working on the side of the road
2. Does the work require someone to act as a look-out? See CSUEB for requirements
3. Notify UPD of the work plan and schedule

Types of Roads

1. Freeway - a divided highway with full control of access;
2. Expressway - a divided highway with partial control of access;
3. Conventional Road - a street or highway other than a low-volume road (as defined in Section 5A.01), a freeway, or an expressway;
4. Special Purpose Road - a low-volume, low-speed road that serves recreational areas or resource development activities, or that provides local access.

Low Volume Road

A low-volume road is defined as:

- Lies outside of built-up areas of Cities, towns, and communities, and it shall have a traffic volume of less than 400 AADT*.
- Shall not be a freeway, expressway, interchange ramp, freeway service road, or a road on a designated State highway system. In terms of highway classification, it shall be a variation of a conventional road or a special purpose road as defined in Section 2A.01.
- Shall be classified as either paved or unpaved.

*AADT – Average Automobile Daily Trips

Campus Road Types & Conditions

Conventional Road: Carlos Bee Blvd, Harder Road, East Loop

- 25 – 35 mph (excessive speeding can be an issue)
- Weather conditions – slippery when wet, steep
- Curves and steep hills create blind spots
- Island divide work
- Animals

Special Purpose Road: Access Road

- Low-volume, low-speed road
- Serves recreational areas or resource development activities or
- Provides local access
- Curves and hills create blind spots
- Animals

TTC Plan

4 Stages of Road Work Zone

Work Zones

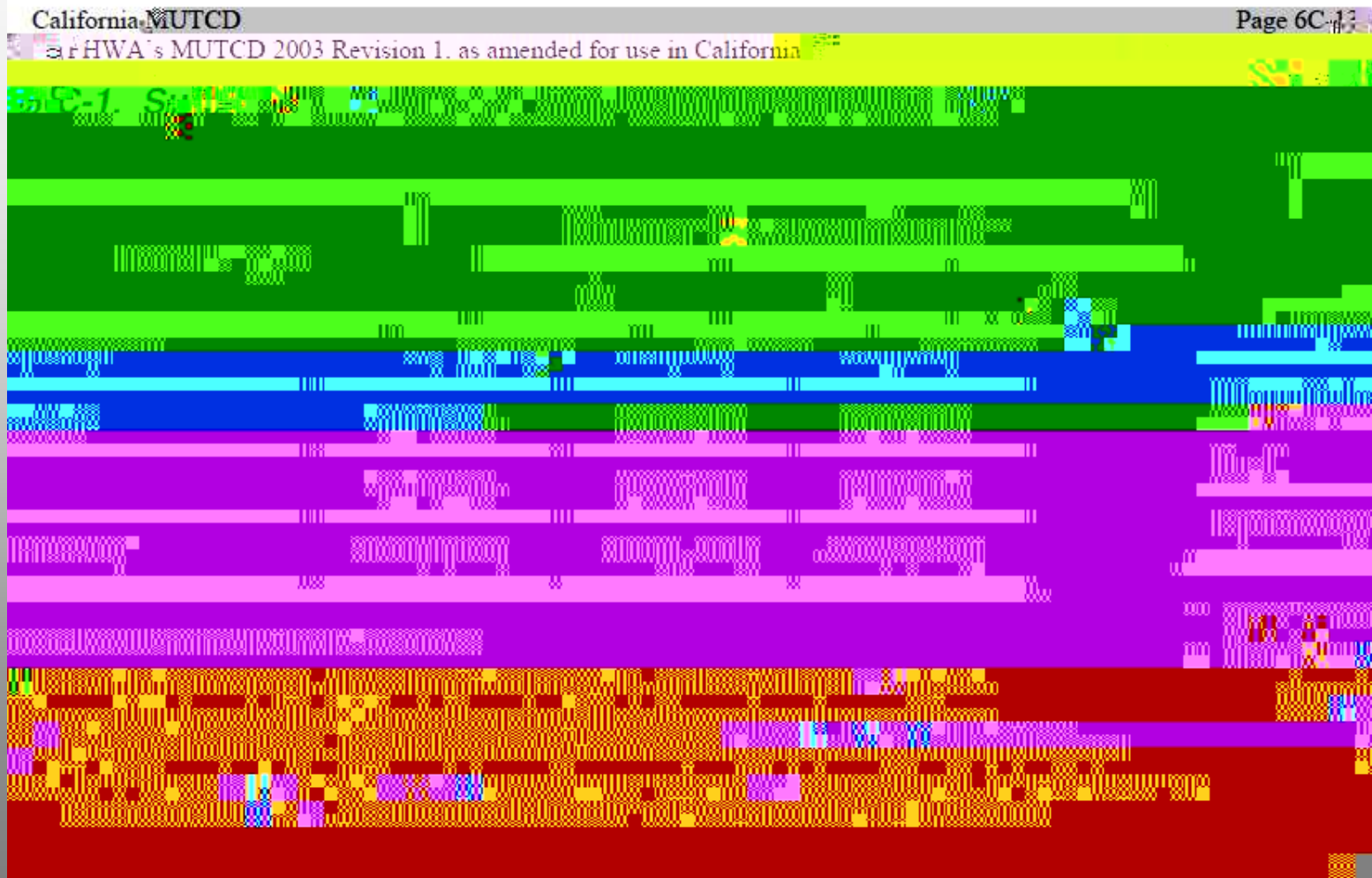
Where the work takes place

Area lets traffic
resumes to
normal

Signs
Cones
Flaggers

Workers are separated from the traffic

WZ – Advance Warning Zone





WZ – Activity Zone

Activity Zone is where the work takes place and is

WZ – Termination Zone

This is where the activity ends and traffic can return to normal flow

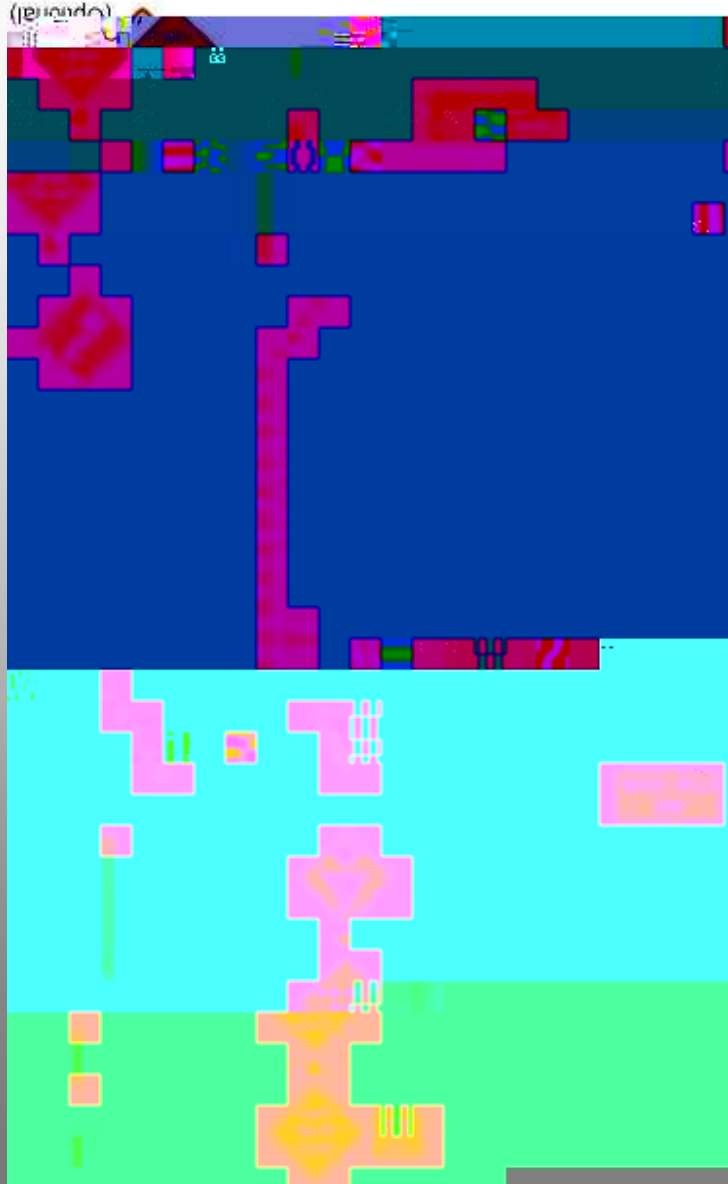
Options:

- Place a taper and/or
- Sign with “End of Road Work”

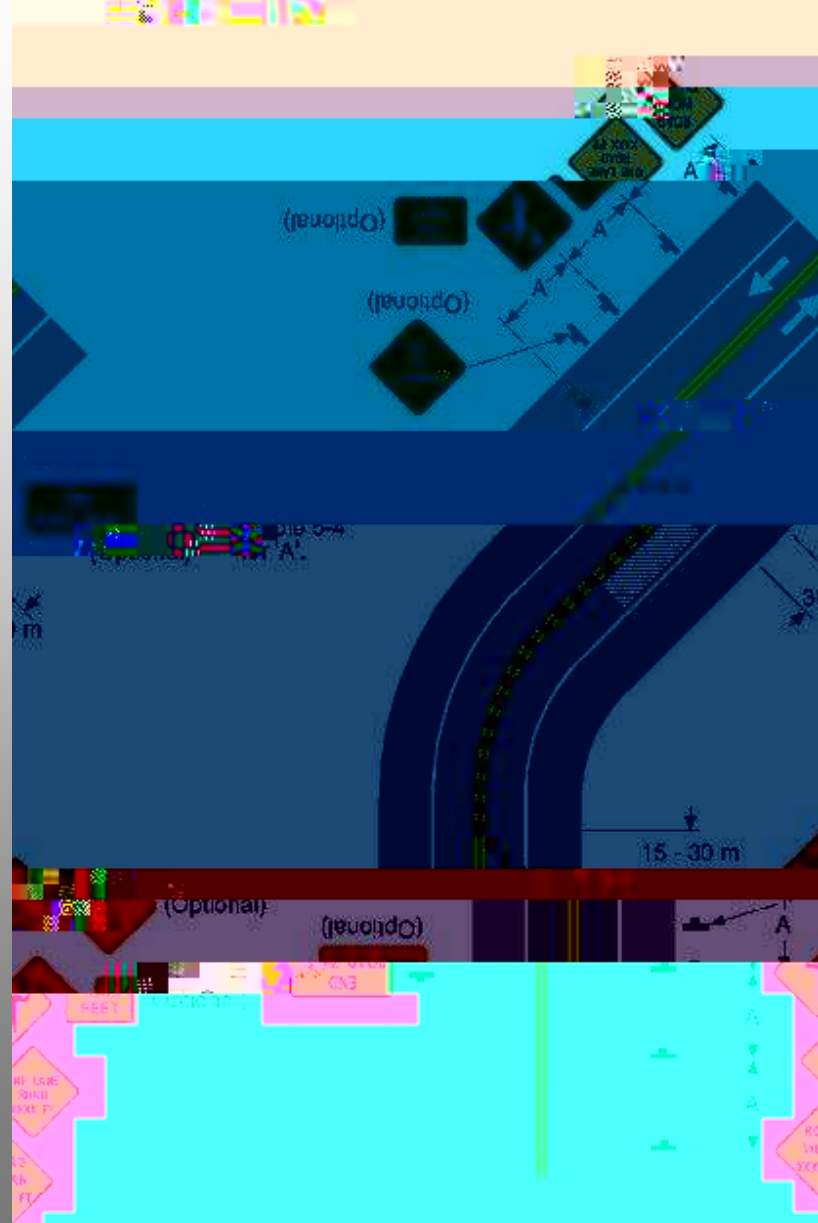
Termination of the Work

1. Work from the Termination Zone backwards, removing cones and signage
2. Work signs on the shoulder of the in the “Advance Warning” area should be the last safety device removed.
3. Be sure to remove all signs when work is completed

Typical Application 5-11
Lane Closure on Low-Volume, Two-Lane Road



Typical Application 5-12



Tools, PPE, Signs

Cones:

Minimum 18”

- Low-volume
- Daytime

Minimum 28” w/Retroreflective banding

- High volume
- Night time
- Need for “conspicuous guidance”



Tools, PPE, Signs

Vests:

ISEA/ANSI Class 2

- Seen at a minimum of 1000
- Traffic equal to or exceeds 25 mph
- Need greater visibility in inclement weather.
- Retroreflective tape on body



Tools, PPE, Signs

Vests:

ISEA/ANSI Class 3

- Seen at a minimum of 1000
- Traffic exceeds 50 mph
- Provide the highest level of conspicuity for workers.
- Retroreflective tape on body and sleeves



Signs on public roadways
must be built to these
specification:

[Standard Highway Signs 2004](#)

Example from:

Standard Highway Signs 2004
Edition, FHWA MUTCD