

# Safety Newsletter

## August, 2013

### This Month's Topic: Traffic & Pedestrians

A wide range of pedestrians can be expected at work sites, including the young, old, and disabled (for example, hearing, visual, and mobility). Employees being struck by vehicles or mobile equipment lead to many work zone fatalities and injuries.

#### *Pedestrian Considerations & Safety*

There are three threshold considerations in planning for pedestrian safety in temporary traffic control zones on highways and streets:

- ✓ Pedestrians should not be led into direct conflicts with work site vehicles, equipment, or operations.
- ✓ Pedestrians should not be led into direct conflicts with mainline traffic moving through or around the work site.
- ✓ Pedestrians should be provided with a safe, convenient travel path that replicates as nearly as possible the most desirable characteristics of sidewalks or footpaths.

In accommodating the needs of pedestrians at work sites, it should always be remembered that the range of pedestrians that can be expected is very wide, including the blind, the hearing impaired, and those with walking handicaps. All pedestrians need protection from potential injury and a smooth, clearly delineated travel path.

Consideration should be made to separate pedestrian movements from both work site activity and motor vehicle traffic. Pedestrians should be appropriately directed with advance signing that encourages them to cross to the opposite side of the roadway. In urban and suburban areas with high motor vehicle traffic volumes, these signs should be placed at intersections so that pedestrians are not confronted with midblock work sites that will induce them to attempt skirting the work site or making a midblock crossing.

Good engineering judgment in each temporary traffic control zone situation should readily determine the extent of pedestrian needs. The engineer in charge of traffic control for temporary traffic control zones should provide both a sense of security and safety for pedestrians walking past work sites and consistent, unambiguous channelization to maintain foot traffic along the desired travel paths.

#### *Work Zone Safety Standards*

The MUTCD (Manual on Uniform Traffic Control Devices) sets minimum standards, provides guidance and ensures uniformity of traffic control devices across the nation.

The needs and control of all road users (motorists, bicyclists, and pedestrians within the highway, including persons with disabilities in accordance with the Americans with Disabilities Act of 1990 (ADA), Title II, Paragraph 35.130) through a temporary traffic control zone must be an essential part of highway construction, utility work, maintenance operations, and the management of traffic incidents.

Construction, maintenance, utility, and incident zones can all benefit from temporary traffic control to compensate for the unexpected or unusual situations faced by road users.

Follow these fundamental principles for work zone safety:

- Road user and worker safety and accessibility should be an integral and high-priority element of every project from planning through design and construction.
- Road user movement should be inhibited as little as practical.
- Motorists, bicyclists, and pedestrians should be guided in a clear and positive manner.
- To provide acceptable levels of operations, routine day and night inspections of the work zone should be performed
- Attention should be given to the maintenance of roadside safety during the life of the work zone
- Good public relations should be maintained.

#### **Traffic Control Devices**

Traffic control devices include all signs, signals, markings, and other devices used to regulate, warn, or guide road users. Only standardized devices and signs may be used to direct traffic through temporary work zones.

- Signs should be located far enough in advance of the work area to allow vehicles to move smoothly and efficiently around work areas.
- Signs must clearly inform motorists of approaching activity and guide drivers around or through the activity
- All signs used at night must be retro-reflective.
- Distance between signs is based on the suggested advance warning sign spacing established in the MUTCD.
- Exact sign placement is based on roadway characteristics, such as curves, bushes & trees, billboards, driveways, etc.
- Warning signs in temporary traffic control zones must have a black legend and border on an orange background. (CA state law)



**WARNING:** OSHA compliance officers are driving around looking for work zone activities and will stop to conduct an inspection if unsafe conditions are noticed.

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#### Worker Safety

Equally as important as the safety of road users traveling through the work zone is the safety of workers. Work areas present temporary and constantly changing conditions that are unexpected by the traveler. Further, these work area conditions almost always present situations that are more confusing for the driver. This creates an even higher degree of vulnerability for the personnel on or near the roadway.

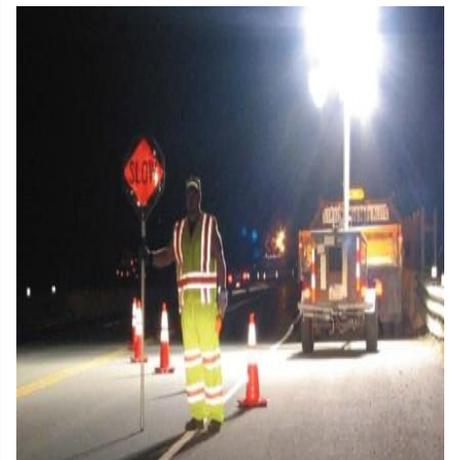
Below are key elements of traffic control management that should be considered in any procedure for assuring worker safety:

- **Training**- All workers should be trained in how to work next to traffic in a way that minimizes their vulnerability. In addition, workers with specific traffic control responsibilities should be trained in traffic control techniques, device usage, and placement.
- **Worker Clothing**- Workers exposed to traffic should be attired in bright, highly visible clothing similar to that of flaggers.
- **Barriers**- Barriers should be placed along the work space depending on such factors as lateral clearance of workers from adjacent traffic, speed of traffic, duration of operations, time of day, and volume of traffic.
- **Speed Reduction**- In highly vulnerable situations, consideration should be given to reducing the speed of traffic through regulatory speed zoning, funneling, use of police, lane reduction, or flaggers.
- **Use of Police**- In highly vulnerable work situations, particularly those of relatively short duration, stationing police units heightens the awareness of passing traffic and will likely cause a reduction in travel speed.
- **Lighting**-For nighttime work, lighting the work area and approaches may allow the driver better comprehension of the requirements being imposed. Care should be taken to ensure that the lighting does not cause blinding.
- **Special Devices**- Judicious use of special warning and control devices may be helpful for certain difficult work area situations. These include rumble strips, changeable message signs, hazard identification beacons, flags, and warning lights. Flagger activated audible warning devices may be used to alert workers to the approach of erratic vehicles. Misuse and overuse of special devices/techniques can greatly lessen their effectiveness.
- **Public Information**- Improved driver performance may be realized through a well-prepared and complete public relations effort that covers the nature of the work, the time and duration of its execution, and its anticipated effects upon traffic and possible alternate routes and modes of travel. Such programs have been found to result in a significant drop in traffic; that reduces the possible number of conflicts and may allow a temporary lane closing for additional buffer area.
- **Road Closure**- If alternate routes are available to handle detoured traffic, the road may be closed temporarily during times of greatest worker hazard-which, in addition to offering maximum worker safety, may facilitate quicker project completion and thus further reduce worker vulnerability.

Once all workers have the opportunity to learn the use and limitations of traffic control devices, personal protective equipment, tools, etc., then good decisions are made that positively affects the safety of pedestrians and everyone on the job-site

#### Work Zone Facts:

- During peak construction season, approximately 20% of our nation's highway system is under construction with more than 3,000 work zones. A pedestrian has an 85 percent chance of death when involved in a motor/vehicle collision at 40 mph, a 45 percent chance of death at 30 mph, and a 5 percent chance of death at 20 mph.
- Approximately 12 billion vehicle miles of travel a year will be through active work zones.
- Motorists can expect to encounter an active work zone 1 out of every 100 miles driven on the nation's highway system.
- More than 40,000 people are injured each year as a result of crashes in work zones.
- One work zone fatality every 8 hours – 3 per day
- One work zone injury every 9 minutes – 160 per day





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### References:

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### California Traffic Safety Report Card:

- ❖ In California, approximately 19 percent of traffic fatalities are pedestrian related. That is approximately 58 percent more than the national average. However, while this percentage may seem extraordinary, California is working diligently to reduce the number of individuals injured or killed in pedestrian collisions through California Pedestrian Safety Program (PedSafe).
- ❖ California's 2012 annual "Statewide Traffic Safety Survey" showed that drivers ranked cell phone talking and texting as the biggest safety problems on the road.. Not surprisingly, cell phone talking and texting were ranked highest by 80 percent of drivers as the most serious distractions on the road.

*"Prepare and prevent, don't repair and repent."*

—Mark Young, PE

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