

Eliminate construction accidents in work zones

The majority of highway construction worker deaths in the work zone are caused by incidents not related to traffic.

HIGHWAY construction workers' risk of death on the job is seven times greater than the average worker's, making highway construction one of the most dangerous occupations in the country, according to the Laborer's Health and Safety Fund of North America.

Although a majority of the total deaths (motorists, pedestrians, and highway construction workers) in work zones are due to traffic moving through the work zone, the majority of *highway construction worker* deaths in the work zone are caused by incidents *not* related to traffic.

Nationally, of the 133 highway workers killed in 1996, 65 percent were related to construction accidents, not to passing traffic.

Construction accidents

Construction accidents in work zones consist of "all nontraffic accidents involving construction activity," according to a 1999 *Transportation Research Record* paper by James Bryden and Laurel Andrew. Construction accidents may also include vehicular accidents involving construction equipment in the work area, like a truck that tips while unloading.

Work zone construction accidents may be caused by

- falls from ladders, trucks, structures, or equipment
- contact with electricity, like overhead wires
- tools or small equipment such as hammers, saws, jackhammers, and sandblast nozzles
- construction vehicles and large construction equipment
- moving or falling loads
- structural collapses
- trench or excavation collapses
- contact with construction materials
- burns
- animal or insect bites

Be safe!

Supervisors and staff can work together to keep everybody safe in the work zone.

Supervisors should provide the following:

- **an internal traffic control plan for the work zone.** The plan should make necessary movements within the work zone as safe as possible. For example, the plan may eliminate the need for backing, a maneuver that can put workers at risk.
- **training.** Safety-related training should be a part of every work zone worker's job description. Possibilities include

Work zone safety workshops. Iowa's workshops, held every January through March, feature general instructions for state and local agencies and breakout sessions tailored to specific types of work zone activities. For more information, contact Tom McDonald, Iowa's Safety Circuit Rider, 515-295-6384, tmcdonal@iastate.edu.

Equipment training. Construction equipment should be operated only by trained staff, and every worker who's expected to operate machinery should be trained on that equipment. Manufacturers may provide training and information. Also, CTRE periodically provides equipment operation and safety workshops.

Traffic isn't the only hazard in work zones. Workers should take precautions to prevent—and protect themselves from—construction accidents.



Regular safety meetings in the shop. Regular meetings can help workers develop safe work habits in all situations, including work zones. Consider using “Safety Shorts,” a series of brief videos available through CTRE’s LTAP library, as discussion starters.

In highway construction areas, crews should keep the following tips in mind:

- **Stay alert.** Always be aware of equipment and other workers around you. Just because you can see them doesn’t mean they can see you.
- **Designate a “spotter” for each piece of large machinery.** Spotters help equipment operators navigate through work zones, avoiding obstacles like other equipment, pedestrian workers, and power lines.
- **Be familiar with the site** (power lines, trenches, etc.) before work begins. This simple tactic reduces surprises for operators of large construction equipment.
- **Know and use appropriate personal protection equipment for your specific job.** Each worker must be responsible for his or her own safety, including the use of appropriate protective gear.

- **Avoid loose clothes and jewelry,** which can easily be caught in machinery.
- **Never turn your back on a working machine.** Once you turn your back, you can no longer see the machine’s movements and you have no guarantee that the operator can see you.
- **Follow each machine’s operating instructions.** Pushing a machine to its limits could cause injury or death to you or your coworkers. Always follow procedures approved by the manufacturer.
- **Avoid getting between two pieces of moving equipment or between moving equipment and fixed objects.** Both of these situations leave no room for escape and can lead to pinning or crushing accidents and death.

For more information

In addition to the “Safety Shorts” video series mentioned above, CTRE’s LTAP library houses many other work zone safety-related resources: V506 “One Step From Death,” V577 “Road Crew Safety,” and a Highway Work Zone Safety Series, with topics ranging from grading safety to loading, transporting, and unloading heavy equipment. (See new work zone video listings on page 16.)

Contact Jim Hogan, library coordinator, 515-294-9481, hoganj@iastate.edu.

Safety-related training should be a part of every work zone worker’s job description.

Work zone safety reminder:

Back up safely!

Use all mirrors. *Don’t* open the driver’s door to look back; you can’t see your mirrors, and you could hurt yourself or the door.

Back up *s-l-o-w-l-y*.

Before backing into an unfamiliar area, get out and look for stakes, holes, and sharp objects.

When backing over a sidewalk and into the street, stop at the sidewalk to check for pedestrians. Stop again at the curb to check for traffic.

If you have to park in a driveway, back into it if possible so you can drive forward into the street.

Adapted from Ohio DOT’s Tailgate Talks, 1992.