

INJURY UPDATE

*A Report to Oklahoma Injury Surveillance Participants**

January 31, 2008

Work Zone-Related Deaths, Oklahoma, July 1997-December 2006

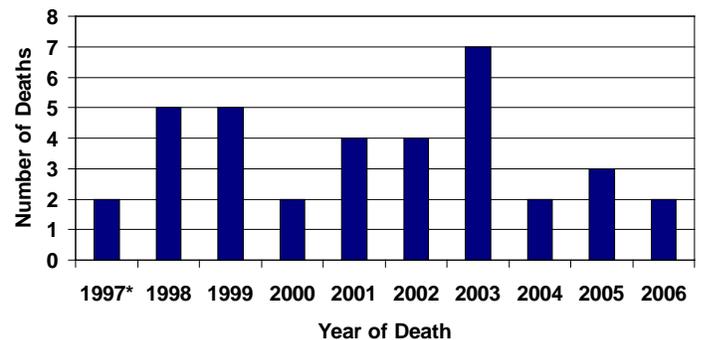
Each year in the United States, approximately 100 highway and street construction industry workers die and 20,000 are injured on the job. Many of these workers are fatally injured when they are on foot in a work zone and struck by a vehicle. About half of workers on foot die after being struck by a passing motorist and about half by a construction vehicle. Other fatality risks to highway workers include falling from machines or structures, being struck by falling objects, and coming into contact with overhead power lines.

According to the Oklahoma Highway Safety Office, 1,068 **traffic** crashes occurred in a work zone in 2005, with nine of these crashes involving a fatality to a worker or a motor vehicle occupant (excludes persons killed within the area restricted by signs or barriers). Almost half of the crashes (42%) occurred on an interstate highway and approximately one-fourth (24%) on a city street. The leading contributing causes for work zone crashes were: followed too closely (24%), unsafe speed (14%), inattention (12%), failed to yield (10%), and changed lanes unsafely (10%). Work zone crashes were most common on Fridays, during the month of July, and between the hours of 5:00 and 6:00 p.m.

The Oklahoma State Department of Health Injury Prevention Service began collecting information on all work-related fatalities in July 1997 with funding from the National Institute of Occupational Safety and Health. Data are collected from death certificates, the Office of the Chief Medical Examiner, the Occupational Safety and Health Administration, the Department of Labor Public Employees Occupational Safety and Health Program, and newspaper clippings.

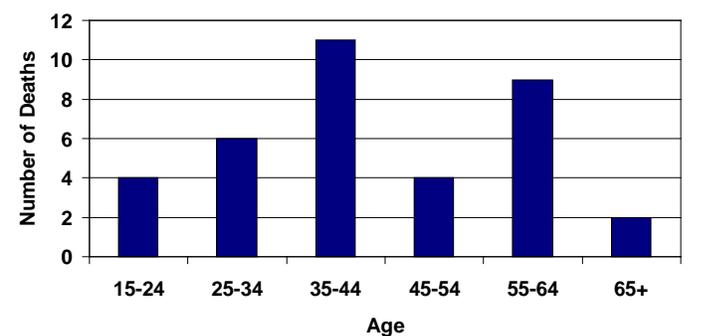
From July 1, 1997 through December 31, 2006, a total of 1,059 work-related deaths were reported. Of these, 36 (3%) occurred in a highway work zone. The number of deaths was highest in 2003 (Figure 1). Ages of workers ranged from 20 to 70 years with a median age of 41 years (Figure 2). All deaths occurred among males. Ninety-two percent of persons who died were white and 31% were of Hispanic origin.

Figure 1. Work Zone-Related Deaths by Year, July 1997-December 2006



*Includes only 6 months

Figure 2. Work Zone-Related Deaths by Age, July 1997-December 2006



*The INJURY UPDATE is a report produced by the Injury Prevention Service, Oklahoma State Department of Health. Other issues of the INJURY UPDATE may be obtained from the Injury Prevention Service, Oklahoma State Department of Health, 1000 N.E. 10th Street, Oklahoma City, Oklahoma 73117-1299, 405/271-3430 or 1-800-522-0204 (in Oklahoma). INJURY UPDATES and other IPS information are also available at <http://ips.health.ok.gov>.

Case Briefs

- A flagman saw a semi-truck approaching that looked like it was going to hit him. The flagman jumped into the adjacent lane, but the semi-truck also swerved into the adjacent lane. As the flagman tried to get back into his original lane, the truck also swerved back and struck him.
- A worker was changing a light on a highway bridge when he fell into a river and drowned.
- A worker was riding with two other employees in the back of the foreman's pickup truck or on the tailgate of the truck. The gate either came open or broke off, and the decedent died after he fell to the pavement and struck his head.
- A worker was delivering water main pipes that were 20 feet long and weighed about 750 pounds each to a construction site along a roadway. The pipes were on the back of a flat bed trailer and had apparently shifted. The worker was unstrapping the load despite his co-workers telling him to wait for a forklift when the strap broke and the pipes rolled off the truck and struck him in the head.
- A worker was marking utility lines in the middle of a highway lane when he was struck by a motor vehicle traveling 65 miles per hour with the cruise control set. There were no skid marks and no road warning signs. The decedent was not wearing any safety clothing.
- A worker was kneeling down setting string line to guide a paving machine putting down a highway asphalt layer. He had his back towards a large dump truck. The driver of the dump truck did not realize the worker was behind him and ran over him. The decedent apparently did not hear the truck backing up due to many other noises at the site.
- An unrestrained truck driver was hauling concrete to a construction site for a county bridge. He was backing up on a dirt road to empty the concrete when the side of the dirt road gave in to the weight of the truck. The truck rolled over onto its top and the cab was crushed.
- A worker was using a rented dirt compacting machine with a faulty ignition switch. He crawled between the wheel well and tire to by-pass the starting mechanism. The vehicle was still in gear when it started, and it rolled over the worker.
- A road construction worker was struck by a drunk driver just after midnight. The driver passed behind a barrier, went through a sign, and struck a parked pickup before hitting the decedent and two co-workers.
- A worker was spreading gravel using a road grader when he got stuck in a ditch. Another road grader was brought over to tow the vehicle that was stuck. A 47-foot tow rope was attached to the grader that was stuck and a loop of the tow rope was placed over a ripper tine on the towing grader. When the rope tightened, the tine came loose and was propelled toward the grader that was stuck. The tine went through the back window of the grader and struck the victim in the head.
- A highway maintenance worker was struck by a motor vehicle when he entered a roadway to pick up a piece of debris. The driver of the vehicle said he was unable to swerve and miss the worker due to oncoming traffic.
- Two workers were struck while standing next to a paving machine that was parked in a median and surrounded by traffic cones. An oncoming driver going approximately 80 miles per hour looked down to turn his radio down and veered into the median and struck and killed both workers.
- A worker at a construction site fell while working on a bridge almost 18 feet above the ground. He lost his footing on the scaffolding and fell to the pavement below. He was not wearing any fall protection equipment.
- A pad-foot drum compactor operator was driving backwards when he hit a large rock or concrete chunk which caused him to fall off the left side of the machinery. As he fell, he got caught on the steps and was dragged approximately 30 feet before he came loose and fell under the pad-foot drum. The vehicle was equipped with a seat belt, but it was not known if it was in use.

Prevention

Preventing work zone-related injuries and deaths requires measures to protect workers from hazards within the work zone and from passing motorists. Within work zones, supervisors and workers should:

- Be alert to potential hazards
- Wear proper safety equipment, such as reflective vests and hard hats
- Use fall protection systems when working at heights
- Wear seat belts available on equipment
- Maintain and utilize equipment according to manufacturer's recommendations
- Keep workers on foot separated from equipment as much as possible
- Use spotters to guide equipment operators
- Establish temporary traffic control plans for work zone areas

The Federal Highway Administration also offers the following tips for driving safely in work zones to protect the lives of motorists and roadway construction workers:

- Expect the unexpected
- Slow down.
- Don't tailgate.
- Keep a safe distance between your vehicle and the construction workers and their equipment.
- Pay attention to the signs.
- Obey road crew flaggers.
- Stay alert and minimize distractions.
- Keep up with the traffic flow.
- Schedule enough time to drive safely and check radio, TV and websites for traffic information.
- Be patient and stay calm.

Prepared by: Pam Archer, MPH
Injury Prevention Service