on the
ROAD...

Looking for Safety Zones

by Camille Villanova

STAY ALERT

Time for An Orange Cone?

It's summer and time for an orange cone. You jump in the car with your family, only to get stuck in traffic caused by a highway work zone and lots of orange cones. Although not the delicious melt-in-your-mouth treat you expected, these orange cones are good for everyone—especially for the workers they protect.

On June 9, 1998, the Congress approved a 6-year program for improving existing roads and bridges, new construction, and other transportation issues. Passed as a public law and known as the *Transportation Equity Act for the 21st Century*, or TEA-21, the act includes approximately $217 billion for a variety of transportation programs. The most visible are those marked with the orange cones and barrels indicating a highway work zone. Other coverage includes historic covered-bridge preservation, seat belt and child passenger protections, high-speed rail, transit planning and research, recreational trails, and new vehicle technologies.

Highway work zones may be found everywhere from new road and highway construction to pothole repair. The Department of Transportation's Federal Highway Administration (FHWA) develops and issues regulations and designs for the safety of the public in and around these work zones. Occupational Safety and Health Administration (OSHA) standards, which reference some Department of Transportation (DOT) regulations, apply to the employers and workers within these work zones. OSHA standards cover specific items such as traffic control signs, devices, barricades, and signaling methods by flaggers as well as much broader construction safety and work practices for the construction industry.[1]

Highway Safety Zones

The first orange cone you are likely to see on the road usually follows a sign indicating a highway work zone and/or speed reductions ahead. Orange is used as the warning signal for construction and maintenance in the area. The orange cones may indicate short-duration repairs for pot holes or utilities, or the beginning of a taper to redirect the traffic or to close a lane. Barrels and barricades, impact attenuators, rumble strips, screens, more signs, flaggers, and concrete barriers may follow the orange cones. These devices and speed reductions are used to balance both traffic flow and the need to reduce hazards for workers. Highway construction work can be very hazardous. According to the Bureau of Labor Statistics data, 104 workers died in Fiscal Year 1998

[1] *Title 29 of the Code of Federal Regulations (CFR)*, Part 1926.

National Work Zone Safety Awareness Week

SAFETY TIPS TO LIVE BY

1. **STAY ALERT!**
   Dedicate your full attention to the roadway.
2. **PAY CLOSE ATTENTION!**
   Signs and work zone flaggers save lives.
3. **TURN ON YOUR HEADLIGHTS!**
   Workers and other motorists must see you.
4. **DON'T TAILGATE!**
5. **DON'T SPEED!**
   Note the posted speed limits in and around the work zone.
6. **KEEP UP WITH THE TRAFFIC FLOW!**
7. **DON'T CHANGE LANES IN THE WORK ZONE!**
8. **MINIMIZE DISTRACTIONS!**
   Avoid changing radio stations and using mobile phones while driving in the work zone.
9. **EXPECT THE UNEXPECTED!**
   Keep an eye out for workers and their equipment.
10. **BE PATIENT!**
    Remember the work zone crew members are working to improve your future ride.

Source note: Reprinted with permission of the Federal Highway Administration, the American Association of State Highway and Transportation Officials, and the American Traffic Safety Services Association.

from highway, street, bridge, and tunnel construction,[2] an increase of 22 worker fatalities from Fiscal Year 1997. Highway construction means working side by side with 3,000 pounds of metal speeding along 2 to 3 feet from you 8 hours a day!

Highway work zone safety combines public and occupational safety concerns. The American Traffic Safety Services Association (ATSSA), using National Highway Traffic Safety Administration (NHTSA) data, estimates that, on average, 760 neighbors, relatives, friends, and workers died from work zone crashes during 1993-1995.[3] The trend had been decreasing until 1998 when there was a 10-percent increase in fatalities. The number of all persons injured in work zone crashes is even more alarming. It was approximately 39,000 in 1998. And these fatalities and injuries increase by almost 30 percent during the summer.

But it doesn't have to be that way. The public and the construction industry can work together to reduce the hazards of these jobs. Drivers should follow the speed limits and instructional signs. Work zone construction sites should have appropriate protections, such as solid barriers, trucks with crash barriers, and workers wearing highly visible protective gear.

Do you remember the driver's education class about stopping distance is roughly your speed in feet? Well, that distance can be considerable more. NHTSA has found that a small car traveling at 20 miles an hour has an average stopping distance of 17 to 20 feet; a medium size car going 20 miles an hour has an average of stopping distance of 19 feet. As most everyone has observed, highway work zones often give motorists only inches between the flagger or barriers. If you are speeding through a work zone at 40 miles an hour in a small car, you will need approximately 70 to 80 feet to stop—And

[2] Bureau of Labor Statistics, 1998 and 1997, "Annual Data from the Census of Fatal Occupational Injuries," Table A-1, Fatal occupational injuries by industry and event exposure.

[3] American Traffic Safety Services Association, "1998 Workzone Crashes Fact Sheet."

there are a lot of workers and equipment within that 70 feet of work zone!

Partners in Safety

One of OSHA's strategic goals is to reduce worker fatalities by emphasizing safety and health in highway work zones. Several OSHA offices in OSHA's Chicago region have begun a local emphasis program for "Road Construction Work Zone Activities." This program combines enforcement and outreach as well as collaboration with the National Safety Council (NSC), the American Road and Transportation Builders Association, the Illinois Road Builders, Illinois DOT and State Police, Laborers International Union, International Union of Operating Engineers, and The Insurance Industry. This provides an excellent forum for exchanging information on safety and health practices in highway work zones.

The NSC will train the construction industry and assist in training OSHA inspectors who conduct highway work zone inspections. And OSHA inspectors will be able to help employers develop safe traffic control patterns in accordance with Federal and State DOT guidelines and *29 CFR 1926.20* (b)(2), utilize personal protective equipment that contrasts with the background and reflects light, and determine alternate methods to stop or direct traffic.

Even before the Chicago program began, OSHA field personnel had been working to reduce hazards in highway work zones. Since 1995, the Parsippany and other area offices in OSHA's New York region have been working to improve worker safety in highway work zones. These offices continue to work closely with the New Jersey State Police, the New Jersey Department of Transportation, the FHWA, the New Jersey OSHA Consultation program, the Utilities and Transportation Contractor's Association, Rutgers University, and local county police departments to reduce work zone fatalities.

This collaboration began with specialized training for the New Jersey State Police on the hazards found in and around highway work zones, such as struck-by, fall, caught in/between, and electrocutions. New Jersey has established a State Police Construction Unit to work with local police forces to identify and eliminate hazards in highway work zones. As a result, they identified and estimated 2,927 hazards and removed approximately 6,275 workers from these dangerous areas.[4]

Through partnerships and leveraging resources, OSHA continues to create much safer and more healthful working conditions for your neighbors, relatives, and friends who work in a highway work zone.

Work zone construction should have appropriate protections, such as solid barriers, trucks with crash barriers, and workers wearing highly visible protective gear.

Other federal agencies and employer and employee groups have recently joined together to increase worker and public awareness and call for more caution in highway work zones. The week of April 3, 2000 was the the first "National Highway Work Zone Safety

[4] OSHA, April 25, 2000, "Update: The New Jersey Highway Construction Work Zone Collaborative Coalition."

National Work Zone Safety Awareness Week

FACT SHEET

- Over the last 5 years the number of persons killed in motor vehicle crashes in work zones has gone from a high of 828 in 1994 to a low of 693 in 1997, for an average of 760 fatalities per year.
- In 1998, 772 fatalities resulted from motor vehicle crashes in work zones of which 222 resulted from large truck crashes.
- On average from 1994 to 1998, 16 percent of the fatalities resulting from crashes in work zones were non-motorists (pedestrians and bicyclists).
- Approximately 39,000 people were injured as a result of motor vehicle crashes in work zones.
- Approximately 3,000 people were injured in large truck work zone crashes in 1998.
- In 1998, more than half of all work zone crashes occurred during the day, while about three-quarters of fatal large truck work zone crashes occurred during the day.
- Almost three times as many work zone crashes occurred on weekdays compared to weekends.
- Fatal work zone crashes, regardless of whether a large truck was involved or not, occurred most often in the summer and the fall.
- The percentage of fatal work zone crashes occurring on urban interstates was more than twice the percentage of all fatal crashes occurring on urban intersections (14 percent compared to 6 percent).
- For fatal large truck crashes, the percentage of work zone crashes occurring on urban Interstates was twice as high compared to all fatal truck crashes (20 percent compared to 10 percent).
- The majority of fatal work zone crashes for all vehicles and large trucks occurred on roads with speed limits of 55 miles per hour or greater (59 percent and 71 percent, respectively).

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Awareness Week," sponsored by the State of Virginia, FHWA, American Association of State Highway and Transportation Officials (AASHTO), and ATSSA. More than 30 federal agencies, state and local governments, highway patrol officers, and associations contributed to the campaign kickoff in Springfield, VA, or conducted seminars throughout the nation. The theme—"Stay Alert, Stay Alive"—focused on increasing awareness of this important message to the public, employers, and workers. When work zone safety is followed, everyone can return home safely at the end of the day.

Plans are already underway for next year's event from April 9-13, 2001. And although the name has been slightly modified to "National Work Zone Awareness Week," the spirit of the program—safety and mobility through our nation's work zones—remains the same.

In December 1999, the National Institute for Occupational Safety and Health (NIOSH) held a workshop "Preventing Vehicle- and Equipment-Related Occupational Injuries in Highway and Street Construction Work Zones." Representatives from associations of road constructors, labor unions, and various governmental agencies participated in an exchange about how to reduce worker exposures during highway construction. They discussed four main topics: pedestrian worker safety around traffic vehicles, safe operation of construction vehicles and equipment in highway work zones, planning for safe operations within work zones, and special safety issues associated with night work in highway construction. NIOSH plans to publish a document summarizing the ideas, recommendations, and utilization of new

technologies discussed at this workshop sometime in 2000.

These efforts are really just the beginning; much more needs to be done to increase driver and worker awareness and safety about highway work zones. But you can help. Take a look at our tips for the road. Make the trip for your orange cone safer for you and others on the highway as well as for the workers in the work zones you see along the way.

Sources of Assistance

For more information, contractors and workers can find best practices at www.fhwa.dot.gov under **FHWA Programs**, *Best Practices-Work Zones*. A summary of the practice or policy is included along with the benefit and a contact for each state. Later this year, the FHWA and AASHTO will publish a document containing these best practices, which will be available on FHWA's website.

Another source of information is the Work Zone Safety Information Clearinghouse at http://wzsafety.tamu.edu. This site is a cooperative partnership with the FHWA, the American Road and Transportation Builders Association (along with the National Utility Contractors Association and Institute of Transportation Engineers), and the Texas Transportation Institute. This site also links to the FHWA best practices and contains information and links to topics such as new equipment and technologies, crash/accident data, and research projects. JSHQ

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