

Kentucky Injury Prevention and Research Center
Bona fide agent for Kentucky Department for Public Health
333 Waller Avenue, Suite 242 • Lexington, KY 40504 • 859-257-5839

REPORT#: 17KY057

REPORT DATE: 7-29-2019

INCIDENT HIGHLIGHTS



DATE:

November 16, 2017



TIME:

8:22 p.m.



VICTIM:

55-year old traffic control technician



INDUSTRY/NAICS CODE:

All Other Support Services

561990



EMPLOYER:

Traffic maintenance service



SAFETY & TRAINING:

Extensive safety training covering a variety of topics



SCENE:

Four lane interstate highway



LOCATION:

Kentucky



EVENT TYPE:

Struck by vehicle

Traffic Control Worker Struck and Killed by Vehicle While Setting up Cones on Interstate

SUMMARY

On November 16, 2017, a 55-year-old traffic control worker was setting up traffic cones in the left lane of a major, four-lane interstate when he was struck from behind and killed by a motorist.

[READ THE FULL REPORT>](#) (p.3)

CONTRIBUTING FACTORS

Key contributing factors identified in this investigation include:

- Lack of hazard recognition.
- Unsafe driving practices.
- No physical barrier between moving vehicles and workers.

RECOMMENDATIONS

FACE investigators concluded that, to help prevent similar occurrences, employers should:

- Perform a job hazard analysis of the worksite.
- Operators of motor vehicles should always practice safe driving actions and habits when in, or approaching, work zones.
- Law enforcement should be present to aid in traffic control when workers are attempting to close lanes on the interstate.
- The Manual on Uniform Traffic Control Devices (MUTCD) should consider including requirements for short-duration and mobile work to align with Traffic Incident Management Training.
- Implement workplace health and safety programs.





KENTUCKY

State **FACE** Program

Fatality Assessment & Control Evaluation

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Fatality Assessment and Control Evaluation (FACE) Program

This case report was developed to draw the attention of employers and employees to a serious safety hazard and is based on preliminary data only. This publication does not represent final determinations regarding the nature of the incident, cause of the injury, or fault of employer, employee, or any party involved.

This Case report was developed by the Kentucky Fatality Assessment and Control Evaluation (FACE) Program. Kentucky FACE is a NIOSH-funded occupational fatality surveillance program with the goal of preventing fatal work injuries by studying the worker, the work environment, and the role of management, engineering, and behavioral changes in preventing future injuries. The FACE program is located in the Kentucky Injury Prevention and Research Center (KIPRC). KIPRC is a bona fide agent for the Kentucky Department for Public Health.

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Website: <http://www.mc.uky.edu/KIPRC/face/index.html>

INTRODUCTION

On Thursday, November 16, 2017, a traffic technician was struck by a vehicle and killed while preparing to place traffic cones in the left lane of a major interstate. On Friday, November 17, 2017, the Kentucky Fatality Assessment and Control Evaluation program was notified of the incident via an online news source. On January 26, 2018, the Kentucky FACE investigator conducted a site visit to collect photographs of the incident site.

EMPLOYER

The employer was a traffic maintenance service providing 24/7 emergency response. The employer responded to snow and ice storms, water main breaks, gas leaks, power outages, flooding, traffic crashes, and environmental spills. They provide storm restoration, cleanup, railway traffic control, aerial line crossing, permit acquisition, and procurement of police services. They have specialty vehicles, trailered assets, traffic control equipment, signage, and barricades. The employer has been in business since 1993 with 60 locations in over 20 states.

WRITTEN SAFETY PROGRAMS and TRAINING

The employer has an extensive safety program and trained all traffic control personnel in the following topics:

- American Traffic Safety Services Association (ATSSA) flagger training and certification
- State-specific training
- Smith System defensive driver training
- Traffic control training
- Basics of traffic control
- First aid/CPR training and certification

WORKER INFORMATION

The victim was a 55 year old African American male who had been employed with the company since December of 2012. He was married and held an associate's degree. At the time of the incident, the victim and his two coworkers were all wearing ANSI-approved, class 3 high visibility jackets.

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Photo 1. ANSI Approved class 3 jacket.
Stock image.



Photo 2. Street level view of the incident scene.
Photo property of KY FACE.

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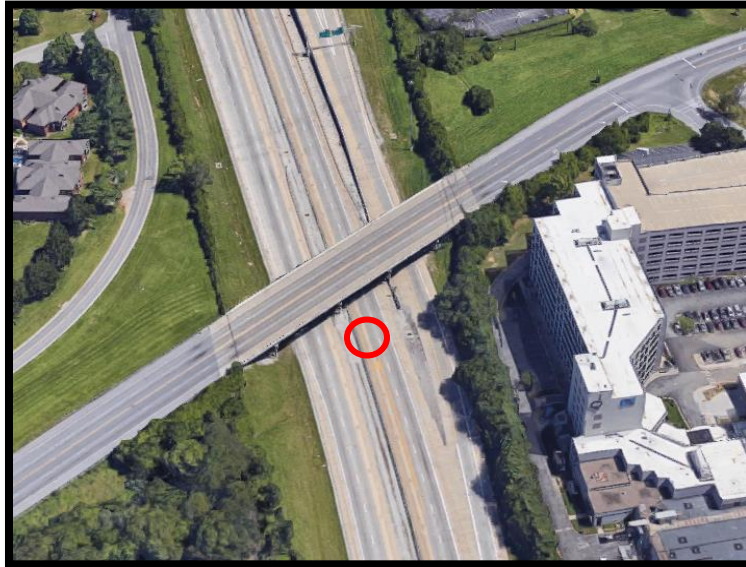


Photo 3. Aerial view of the incident scene. Red circle indicates where the collision occurred.
Photo courtesy of Google Maps.

INCIDENT SCENE

The incident occurred in the eastbound left lane of a major four-lane interstate near an underpass of a state highway. The victim was parked mostly on the shoulder, with a portion of the truck protruding into the left lane, preparing to place traffic cones in the left lane in order to close the lane leading to a construction zone.

WEATHER

The temperature was approximately 37°F at the time of the incident. The humidity was 79% and the wind calm¹. Weather was not considered a factor in this incident.

INVESTIGATION

At 8:00 pm, on Thursday, November 16, 2017, a traffic maintenance crew consisting of three employees were tasked with closing the eastbound left lane of a four-lane interstate in preparation of setting up a road construction site within a populous city. On the night of the incident, the three workers picked up traffic cones from the westbound lanes of the same interstate that had been placed several days before closing the left lane. The employees placed the cones in the beds of the three work trucks they were operating and drove to the left shoulder of the interstate travelling eastbound. Each work truck had operating brake lights, rotating strobe lights, and a 14-light split arrow Manual on Uniform Traffic Control Devices (MUTCD) type-D arrow board mounted on them. The arrows were all flashing to the right, indicating to oncoming traffic the need to merge before the lane ended.

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Photo 4: A 14-light vehicle mounted arrow board, similar to that found on the three work-trucks.
Stock image

When the employees arrived at the assigned area, the first employee parked his work truck on the left shoulder of the interstate, exited the vehicle, and rode with the victim who was operating the second work truck to a second location. The victim then instructed the operator of the third work truck to continue up the interstate. It is unknown the exact distance between the first and second work trucks as well as the distance between the second and third work trucks due to both being moved before emergency services arrived. In an interview with police, the operator of the first work truck noted that there was ‘some distance’ between the trucks. The third co-worker had pulled far enough forward that he was unaware of when the incident occurred.

The victim drove his work truck onto the left shoulder with a portion of the vehicle’s rear protruding into the left lane. After the victim parked, he and his co-worker both exited the vehicle with the purpose of ‘staging the cones’. The cones would be placed on the left shoulder, spaced at distances of every other white lane marker. It was the intention of the workers to have the cones in position so that at 9:00 pm later that night, when the construction contractor would instruct the workers to close the lane, the employees would then move the cones from the shoulder into the left lane closing it to traffic.

As the victim’s co-worker was standing on the driver side of the truck, fully on the shoulder, the victim walked around to the rear passenger side of the truck. As he was preparing to brief the co-worker on their expected work activities, the victim was struck from behind by a compact SUV that was unable to merge into the middle lane in time to avoid the crash. The victim was crushed between the SUV and his work truck and then pushed under the work-truck.

When law enforcement officers arrived, they found the victim under the work truck, and pulled the truck forward. Once the truck was moved, the officers observed that the victim had severe injuries to both legs. One of the officers retrieved a tourniquet and applied it to one of the victim’s legs, but did not have a second

tourniquet. When emergency services arrived at the scene five minutes later, the employee had succumbed to his injuries.

CAUSE OF DEATH

According to the death certificate, the cause of death was blunt force injuries sustained in pedestrian vs motor vehicle collision.

CONTRIBUTING FACTORS

Occupational injuries and fatalities are often the result of one or more contributing factors or key events in a larger sequence of events that ultimately result in the injury or fatality. NIOSH investigators identified the following unrecognized hazards as key contributing factors in this incident:

- Lack of hazard recognition.
- Unsafe driving practices.
- No physical barrier between moving vehicles and workers.
- Lack of laws regarding advanced warning systems.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Perform a job hazard analysis of the worksite.

Discussion: A job hazard analysis (JHA) is a technique employed by site supervisors, experienced employees, and safety personnel that focuses on job tasks as a way of identifying potential hazards that workers may encounter when performing each task. The Occupational Safety & Health Administration (OSHA) states that JHAs should take priority on the following types of jobs: jobs with the highest injury or illness rates; jobs with the potential to cause severe or disabling injuries or illness, even if there is no history of previous accidents; jobs in which one simple human error could lead to a severe accident or injury; jobs that are new to your operation or have undergone changes in processes and procedures; and jobs complex enough to require written instructions². Had a job hazard analysis been performed, it is likely the employer would have recognized the potential hazard of having employees performing work while standing on an interstate highway.

Recommendation #2: Operators of motor vehicles should always practice safe driving actions and habits when in, or approaching, work zones.

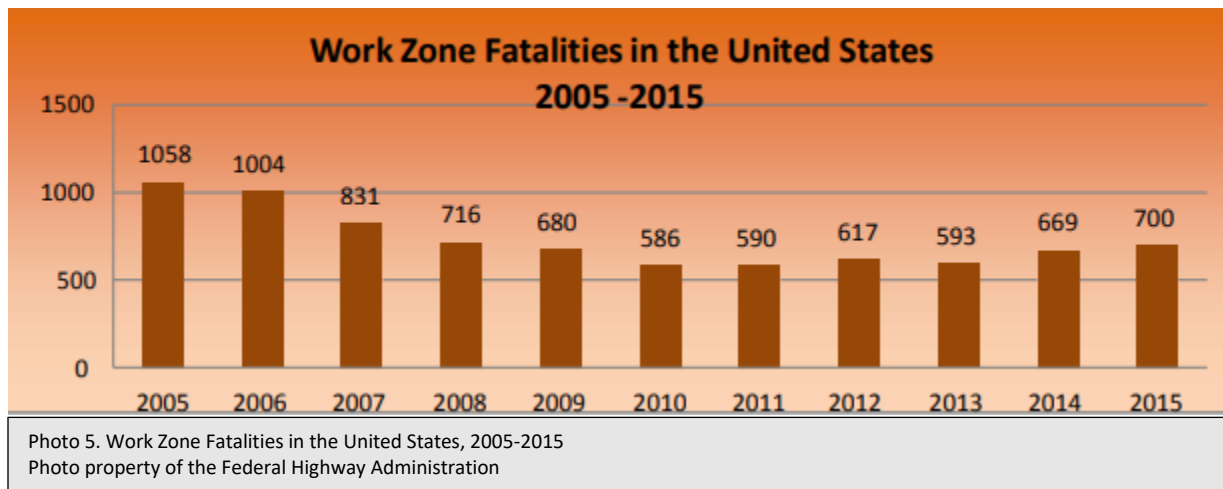
Discussion: According to the Federal Highway Administration, in 2017, 799 people died in work zone accidents; 658 were motorists, 132 were workers³. In the same year, Kentucky saw 15 work zone fatalities⁴. In order to reduce the amount of work zone injuries and fatalities, the Federal Highway Administration (FHWA) recommends the following driving tips to maintain driver and worker safety:

1. Know the work zone signs
2. Pay attention to other drivers
3. Stay focused. Avoid distractions

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4. Expect the unexpected
5. Keep your cool. Be patient.

Due to the efforts of the FHWA, work zone fatalities fell from 1,058 in 2005 to 586 in 2010, a decrease of 44.5%. However, from 2010 to 2015, work zone fatalities rose slightly four of the five years, indicating that drivers may be becoming complacent and less attentive while driving in work zones. Had the driver practiced the recommended driving actions and habits, it is possible they may have noticed the cones that had already been placed on the shoulder, as well as the work trucks with the flashing yellow arrows, and avoided the accident.



Recommendation #3: Law enforcement should be present to aid in traffic control when workers are attempting to close lanes on the interstate.

Discussion: In 2003, Kentucky legislators passed Kentucky Revised Statute (KRS) 189.930, known to many Kentuckians as the ‘Move Over Law’. Section five of the law reads, “Upon approaching a stationary emergency vehicle or public safety vehicle, when the emergency vehicle or public safety vehicle is giving a signal by displaying alternately flashing yellow, red, red and white, red and blue, or blue lights, a person who drives an approaching vehicle shall, while proceeding with due caution: (a) Yield the right-of-way by moving to a lane not adjacent to that of the authorized emergency vehicle... or (b) Reduce the speed of the vehicle, maintaining a safe speed to road conditions, if changing lanes would be impossible or unsafe⁵.” If the police department’s workload allowed, an officer could have been present, engaged the vehicle’s light bar, and placed the cruiser between the first and second parked work-trucks. If the operator of the vehicle had seen an officer’s flashing lights, it’s possible they may have attempted to merge into the middle lane and out of the path of the victim.

Recommendation #4: The Manual on Uniform Traffic Control Devices (MUTCD) should consider revising requirements for short-duration and mobile work to align with Traffic Incident Management Training.

As the incident resulted in the death of a worker, the Kentucky Labor Department conducted a fatality inspection that concluded on 4-30-18. During the inspection, the assigned Certified Safety and Health Officer (CSHO) did not recommend a citation, because the applicable law that was incorporated by reference into 1926.200(g)(2) does not provide a requirement for any advanced warning during short-duration or mobile work. During the CSHO's review of the case, it was determined that the applicable standard for the employees was CFR 1926.200(g)(2), which states, "All traffic control signs or devices used for protection of construction workers shall conform to Part VI of the MUTCD, 1988 Edition, Revision 3, or Part VI of the MUTCD, Millennium Edition, incorporated by reference in Sec. 1926.6."

To determine work duration, Section 6G.02⁶ of the MUTCD was reviewed, and because the workers were placing cones on the shoulder and then moving, the duration was defined at mobile - work that moves intermittently or continuously. Once the work duration had been defined, the CSHO looked at MUTCD Section 6G.03 Location of Work⁶. This standard states that, "When the work space is within the traveled way, **except for short-duration or mobile work**, advance warning shall provide a general message that work is taking place, shall supply information about highway conditions, and shall indicate how motor vehicle traffic can move through the temporary traffic control zone." The company in this case had gone above and beyond the standard by having rotating strobe light, brake lights, and an arrow board that acted as an advanced warning system. The standard as written does not require any advanced warning system that would undoubtedly make this type of work unsafe. To prevent similar incidents from occurring, the MUTCD should consider revising their requirements concerning short-duration and mobile work to align with Traffic Incident Management Training.

Traffic Incident Management (TIM) is a training developed by the Federal Highway Administration that addresses the safety needs of those workers who may render aid, clear roadways, maintain traffic flow, or conduct accident reconstruction. In the TIM training, those employees performing activities on the roadway use block positioning using a 'lane plus one', with the shoulder counting as a lane. Block positioning means using a large, easily visible vehicle with flashing lights in order to give workers an appropriate amount of space needed. In the incident, the employer provided three large work trucks with flashing arrows. The first and second trucks were both parked on the shoulder, leaving the employees in a vulnerable position of working in the left lane. Had the employers been required to park the second work truck in the left lane in a block position, it is possible the driver of the SUV who struck the victim would have seen the vehicle blocking the left lane and either stopped or merged into the middle lane.

Recommendation #5: Workplace Health and Safety Programs

NIOSH encourages employers concerned about drug use among their workforce to implement health and safety policies and programs to both offer services and support to their workers, as well as take steps to create and maintain safe and healthy workplace environments. The form of a workplace health and safety plan or program will vary depending on the work setting and many other considerations.

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If workplaces include drug testing as part of such programs, the testing should be performed as part of an overall plan or program intended to assist workers who struggle with drug use, including those with any substance use disorder⁷. Allowing workers confidential access to screenings, support and treatment should be an important part of such workplace programs.

Employers can also take other steps to prevent drug use related to work injury or conditions of work:

1. Develop and/or maintain proactive and comprehensive occupational safety and health practices and programs to eliminate unsafe working conditions and prevent worker injury or illness.
2. Identify providers that offer evidence-based treatment for injured workers, including the adherence to opioid prescribing guidelines.
3. Provide adequate leave and other benefits after workplace injury including flexibility in scheduling and receiving medical care, support during recovery, and return to work.
4. Take steps to manage workplace stressors and job insecurity to the extent possible.
5. Take steps to decrease the stigma associated with substance misuse through awareness building and supervisor training.
6. Educate workers about how drugs impair work activities, including driving, and encourage them to notify their employers if they are taking medications that may affect their ability to work safely so that a safe solution can be determined.
7. Develop and communicate clear drug-related workplace policies that include an offer of assistance to workers.
8. Offer EAP services, or other psychological, social, and family support when needed⁸.

DISCLAIMER

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PROGRAM FUNDING

The Kentucky Fatality Assessment & Control Evaluation Program (FACE) is funded by grant 5U6o0H008483-15 from the National Institute for Occupational Safety and Health (NIOSH)

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INVESTIGATOR INFORMATION

Beau Mosley, Fatality Investigator, Fatality Assessment and Control Evaluation, Kentucky Injury Prevention and Research Center, University of Kentucky, College of Public Health conducted this investigation.

ACKNOWLEDGEMENTS

The Kentucky FACE program would like to thank the Kentucky State Highway Patrol, the county coroner, former FACE Investigator DeAnna McIntosh, and EMS for their assistance with this report.

SURVEY

[Please click here](#) to take a brief, anonymous survey concerning this report. Your feedback and opinions are appreciated.