

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#: 20KY030**

**REPORT DATE: 11/24/2020**

## INCIDENT HIGHLIGHTS



**DATE:**

August 18, 2020



**TIME:**

11:05 AM



**VICTIM:**

Age: 67

Sex: Male

Occupation: Commercial  
Driver



**INDUSTRY/NAICS CODE:**

484110



**EMPLOYER:**

Interstate Commercial  
Carrier



**SAFETY & TRAINING:**

No Formal Training Program



**SCENE:**

Interstate Highway



**LOCATION:**

Kentucky

**EVENT TYPE:**

Vehicle Collision



## Dump Truck Driver Dies in Multi-Vehicle Collision after Truck Overtakes

### SUMMARY

On Tuesday, August 18, 2020, a 67-year-old male commercial dump truck driver (victim) was traveling on a Kentucky interstate en route to deliver gravel to a local facility. While traveling in the right lane, a merging passenger vehicle approached on the right from the merge lane and struck the dump truck, causing the victim to strike another passenger vehicle and overturn in the median.

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### CONTRIBUTING FACTORS

Key contributing factors identified in this investigation include:

- Failure to perform road test
- No formal driver training program
- No defensive driver training

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### RECOMMENDATIONS

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

- Commercial carriers should require drivers to complete defensive driver training, prior to driving company-owned vehicles.
- Commercial carriers should implement a road-testing program for all new incoming commercial drivers to verify their driving skillset.
- Commercial carriers should implement formalized driver training program for all new, incoming drivers that includes a performance evaluation period.

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<http://www.mc.uky.edu/kiprc/face/>



# 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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## INTRODUCTION

On Tuesday, August 18, 2020, a commercial dump truck driver (victim) was traveling west, on a four-lane Kentucky interstate en route to deliver a load of gravel. At approximately 11:05 AM, a passenger vehicle attempting to merge onto the interstate failed to yield and struck the dump truck on the passenger's side. As a result, the driver of the dump truck lost control of the vehicle, collided with a second passenger car and subsequently rolled into the median, spilling the load of gravel onto the interstate in both the east and westbound lanes. The driver of the dump truck was extricated by emergency responders and transported by ambulance to a local hospital. After arriving at the local hospital, the driver's condition deteriorated, and he was flown to a major university hospital located out of state. The victim succumbed to his injuries at 10:30 PM later that same night.

## EMPLOYERS

The employer is an interstate commercial carrier founded in 1967 and consists of 33 total employees. Of the 33 employees, 10 are commercial drivers who operate the company's 10 dump trucks. The company operates seasonally, typically between the months of April and December, and primarily performs asphalt and paving functions throughout Kentucky and Illinois. According to the Federal Motor Carrier Safety Administration (FMCSA), the company travels approximately 200,000 miles annually (FMCSA, 2020).

## WRITTEN SAFETY PROGRAMS and TRAINING

The company has no formalized driver-training program. A company representative stated that company owners typically give new incoming drivers verbal instruction and discuss truck and dump-bed functionality. The company representative explained that depending on a new employee's experience, he or she may be required to ride with a tenured driver to have his or her skills evaluated. The company previously had hiring criteria that required a minimum of two years of commercial driving experience for new incoming drivers; however, due to a nationwide driver shortage, a company representative stated that those requirements have since been relaxed to fulfill operational needs.

## WORKER INFORMATION

The victim was a single, 67-year-old white male with three children. He had driven commercially for more than 30 years before retiring. The day of the collision was his first day back on the job after making the decision to return to commercial driving. The victim's level of education was listed at 8<sup>th</sup> grade or less - a company representative stated that they were aware the victim had not completed a high school education and struggled with both reading and writing.

## INCIDENT SCENE

The incident initially began in the westbound lanes of a major, four-lane interstate highway with a posted speed limit of 70 miles per hour. Eastbound and westbound travel lanes are separated by a grassy median that measures 20 feet across. A cable barrier is present on the eastbound, left shoulder of the interstate. The point of first contact occurred in the right lane as a passenger vehicle was merging onto the interstate via an on-ramp, situated to the right of the interstate. The merging vehicle struck the passenger's side of the victim's vehicle, resulting in the victim losing control. After the victim's vehicle was struck, it veered left and struck a second passenger vehicle, also traveling next to the dump truck in the left lane. The dump truck began to rollover as it rotated 180 degrees and came to final rest overturned on the driver's side in the median.

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Photo 1. Google image of the location where the collision occurred. "Kentucky Interstate," by Google, Digital Image.

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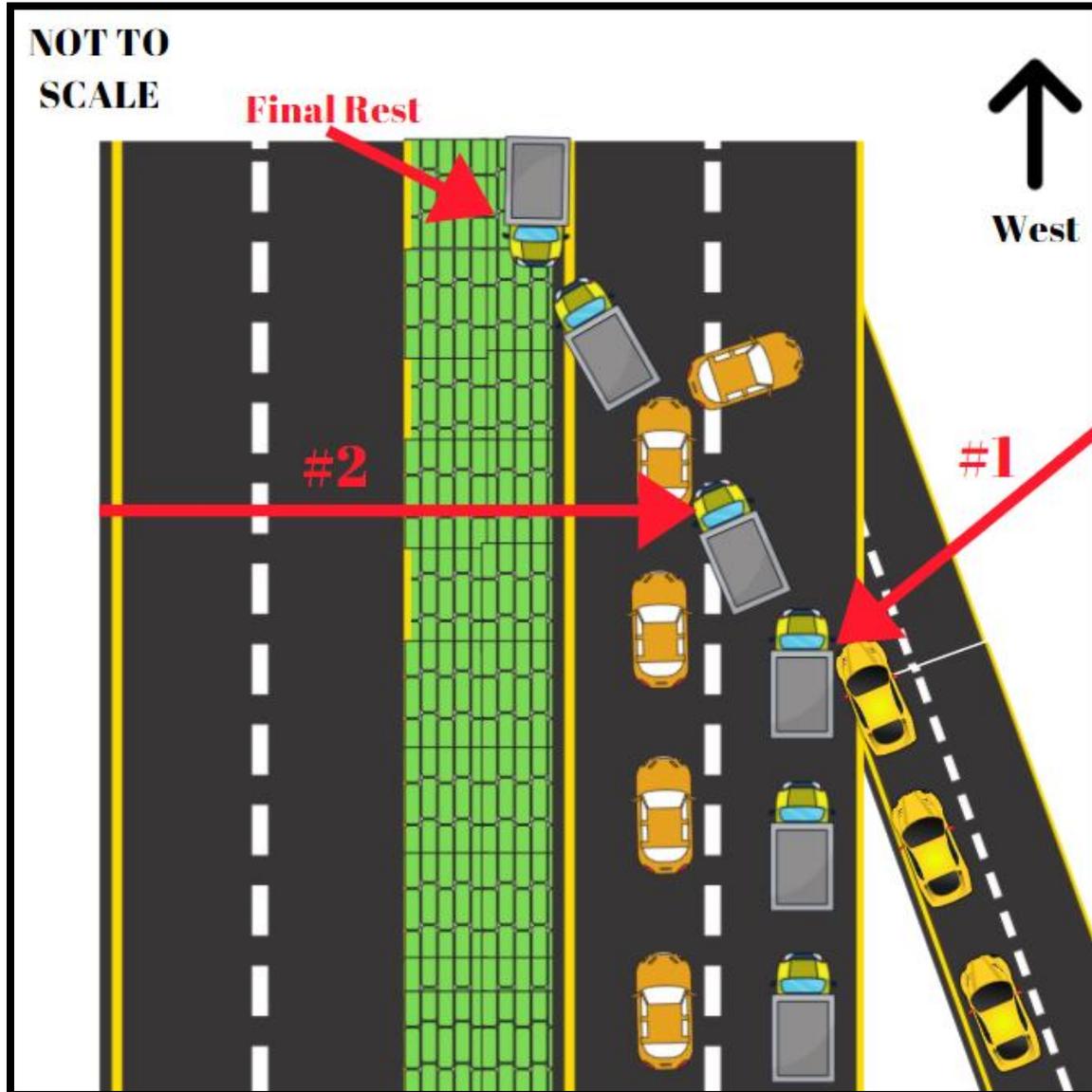


Diagram 1. Diagram depicting course of travel and points of contact of involved vehicles. Photo property of Kentucky FACE.

### WEATHER

The temperature was approximately 83°F at the time of the incident. The humidity was 65% with a northwest wind at 5-mph. There was no precipitation. Weather was not determined to be a factor in the accident (Weather underground, 2020).



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## INVESTIGATION

On August 18, 2020, the victim reported to work at 7:30 AM. Although the victim had previously driven commercially for more than 30 years, he had been retired for an extended period; however, the exact length of his retirement was unknown by company representatives. The day that the collision occurred was the victim's first day after making the decision to return to the workforce and begin working with a new company after having previously retired. Although this was the victim's first day at the company, a representative stated they had known the victim professionally for many years. Upon arriving at work, the company's owners provided some general instruction and guidance to the victim, including orders to obey speed limits, wear a seat belt, and a general overview of the equipment functionality. The company stated that no formal training or verification of driving skills was administered. The company representative stated that the victim was well known by company ownership and had previously operated similar equipment prior to retiring. For those reasons, the company made the decision to allow the victim to drive on his first day without additional training.

The victim departed the company headquarters in a 2005 Mack-CV713 dump truck with the task of loading and delivering gravel. This task, start-to-finish, was approximately a 40-mile round trip, and would need to be completed multiple times that day. The victim successfully loaded and delivered the first load of gravel to the destination safely and had returned to the loading facility to repeat his task. According to a scale ticket obtained from the loading facility, the victim completed loading his second load of gravel at 10:21 AM; the total weight of the cargo and dump truck was 77,580 lbs. The victim departed shortly after en route to his destination approximately 20 miles away. According to company GPS data, as the victim traveled westbound in the right lane at 66 MPH on a major, four-lane interstate, a vehicle merging onto the interstate via an on-ramp, located on the dump truck's passenger side, failed to yield. As a result, the merging sport utility vehicle (SUV), struck the Mack dump truck on the passenger's side. The force of the impact resulted in the victim losing control of the vehicle, forcing the dump truck into the left lane. As the victim's vehicle merged left, it collided with a passenger vehicle, causing both the passenger vehicle and dump truck to rollover. As the dump truck rolled over, it rotated 180 degrees spilling its cargo across both east and westbound lanes. The dump truck rolled over on the driver's side and came to final rest in the grassy median facing east. Emergency services were notified of the collision at 11:08 AM and arrived on scene five minutes later, at 11:13 AM. The cab of the Mack truck was severely damaged, and, the victim had to be extricated from the vehicle. Once removed, the victim was transported via ambulance to a local hospital, arriving at the medical facility at 11:37 AM, 29 minutes after the crash occurred. After arriving at the local hospital, the victim's condition began to decline. The victim was airlifted from the local hospital to a large, out-of-state university hospital. The victim succumbed to the injuries sustained in the crash at 10:30 PM, 11 hours and 25 minutes after the collision occurred. The other involved parties were treated and released with non-life threatening injuries.

## CAUSE OF DEATH

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

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## 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. Kentucky FACE investigators identified the following unrecognized hazards as key contributing factors in this incident:

- Failure to perform road test
- No formal driver training program
- No defensive driver training

## RECOMMENDATIONS/DISCUSSION

***Recommendation #1: Commercial carriers should require drivers to complete defensive driver training, prior to driving company-owned vehicles.***

Discussion: Collision investigators listed no environmental, vehicular, or human factors detected for the victim or his vehicle. However, FACE investigators feel that if the victim had been trained and well versed in defensive driving, he may have been able to perform evasive maneuvers in order to prevent the collision. Defensive driver training focuses on the preventative role: what a driver can do to prevent a collision rather than focusing on fault. Regardless of fault, a driver and company can still suffer the negative consequences of a collision. Defensive driving is an intentional act - driving in such a manner to think in a preventive mind-set, constantly. According to Safemotorist.com, a defensive driver-training provider, defensive driving is driving in a manner that utilizes safe driving strategies and enables motorists to address identified hazards in a predictable manner. Additionally, the key to any good defensive driving strategy is knowing how to avoid traffic crashes and recognize potential hazards before it is too late. That is why defensive driving courses tend to present information on crash prevention techniques.

In a typical defensive driving course, students learn crucial crash prevention techniques that include:

- Scanning the roadway and adapting to surroundings
- Employing the two-second rule for following distances
- Knowing your vehicle's stopping distance
- Being aware of reaction distance
- Environment hazards
- Vehicle emergencies
- Sharing the road
- Passing and necessary clear distance
- Right of way
- Speed adjustments and railroad crossings (Safemotorist.com, 2020).

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Although the victim's level of awareness just prior to the collision occurring cannot be accurately determined, commercial carriers should require drivers to complete defensive driver training prior to driving company owned vehicles to lessen the probability of crashes occurring. Defensive driving is an essential skill for a commercial driver, as they often have to anticipate the actions of other and proactively react to prevent collisions. According to the investigating officer and witnesses, the vehicle merging onto the interstate failed to yield, which it was legally required to do. However, the vehicle failed to do so and struck the victim's vehicle, which started the chain of events that ultimately led to the fatality occurring. Providing drivers with defensive driver training may increase a driver's abilities and levels of awareness to the level that he/she would observe, analyze and react in such a manner to prevent the collision from occurring.

***Recommendation #2: Commercial carriers should implement a road-testing program for all new incoming commercial drivers to verify their skillset.***

Discussion: The involved company made the decision to allow the victim to operate the dump truck without first performing a road test to verify the victim's driving skillset. A company representative stated that although this was the victim's first day, they had personal knowledge of his abilities, as the victim had worked locally for another commercial carrier for many years and they were aware of his record of accomplishment. The Federal Motor Carrier Safety Administration exempts some motor carriers from performing road test, unless the driver will be operating specific types of vehicle that require the driver to pull double, triple or tank trailers. In part 391.33 (a)(1) of the Federal Motor Carriers Safety Regulations, FMCSA also list what may be accepted in lieu of a road test:

**391.33 Equivalent of road test.**

(a) In place of, and as equivalent to, the road test required by §391.31, a person who seeks to drive a commercial motor vehicle may present, and a motor carrier may accept

(1) A valid Commercial Driver's License as defined in §383.5 of this subchapter, but not including double/triple trailer or tank vehicle endorsements, which has been issued to him/her to operate specific categories of commercial motor vehicles and which, under the laws of that State, licenses him/her after successful completion of a road test in a

By federal regulatory standards, the decision to allow the driver to operate the dump truck without performing a road test was legal, as he held a valid class-B CDL. The victim, who had driven commercially for 30 years before retiring, was entering the workforce once again after making the decision to return to commercial driving. The day the collision occurred was his first day out of retirement. According to Road Safe at Work, an advocate for highway safety and provider of driver training programs, "... driving skills are perishable. Lessons learned quickly fade away if not applied. Old habits and complacency "creep" back in. New technology, different vehicles and changed routes present new challenges to drivers accustomed to doing it "the old way". Regularly re-assess drivers to confirm they continue to perform as you expect" (Road Safety at Work, 2020). Although the company could not provide specifics on how long the victim had been retired prior to returning, a verification of skills is a great first step in ensuring the competence of the driver, regardless of his or her previous driving history. Skills such as a driver's level of alertness, ability to anticipate the actions of others, correct lane selection, critical thinking and decision making are all skills that can be observed in suitable road test. If a road test is performed and the new driver lacks these skills, they can be noted and addressed

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through a formalized driver-training program. Considering the gap in commercial driving and returning to work, performing a road test may have allowed a competent skills evaluator to notice potential deficiencies in performance and address before allowing the driver to operate company equipment on his own. As a best practice, commercial carriers should implement a road-testing program for all new incoming commercial drivers to verify their driving skillset.

For companies wishing to implement a road-testing program, FMCSA provides regulatory guidance on the specifics in section 391.31.

### **391.31 Road test**

- (a) Except as provided in subpart G, a person shall not drive a commercial motor vehicle unless he/she has first successfully completed a road test and has been issued a certificate of driver's road test in accordance with this section.
- (b) The road test shall be given by the motor carrier or a person designated by it. However, a driver who is a motor carrier must be given the test by a person other than himself/herself. The test shall be given by a person who is competent to evaluate and determine whether the person who takes the test has demonstrated that he/she is capable of operating the commercial motor vehicle, and associated equipment, that the motor carrier intends to assign him/her.
- (c) The road test must be of sufficient duration to enable the person who gives it to evaluate the skill of the person who takes it at handling the commercial motor vehicle, and associated equipment, that the motor carriers intends to assign to him/her. As a minimum, the person who takes the test must be tested, while operating the type of commercial motor vehicle the motor carrier intends to assign him/her, on his/her skill at performing each of the following operations:
- (1) The pre-trip inspection required by §392.7 of this subchapter
  - (2) Coupling and uncoupling of combination units, if the equipment he/she may drive includes combination units;
  - (3) Placing the commercial motor vehicle in operation;
  - (4) Use of the commercial motor vehicle's controls and emergency equipment;
  - (5) Operating the commercial motor vehicle in traffic and while passing other motor vehicles;
  - (6) Turning the commercial motor vehicle;
  - (7) Braking, and slowing the commercial motor vehicle by means other than braking; and
  - (8) Backing and parking the commercial motor vehicle.
- (d) The motor carrier shall provide a road test form on which the person who gives the test shall rate the performance of the person who takes it at each operation or activity which is a part of the test. After he/she completes the form, the person who gave the test shall sign it.

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(e) If the road test is successfully completed, the person who gave it shall complete a certificate of driver's road test in substantially the form prescribed in paragraph (f) of this section.

(g) A copy of the certificate required by paragraph (e) of this section shall be given to the person who was examined. The motor carrier shall retain in the driver qualification file of the person who was examined

(1) The original of the signed road test form required by paragraph (d) of this section; and

(2) The original, or a copy of, the certificate required by paragraph (e) of this section.

[35 FR 6460, Apr. 22, 1970, as amended at 36 FR 223, Jan. 7, 1971; 59 FR 8752, Feb. 23, 1994; 60 FR 38744, July 28, 1995] (Federal Motor Carriers Safety Regulations, 2020).

***Recommendation #3: Commercial carriers should implement formalized driver training program for all new, incoming drivers which includes a performance evaluation period.***

Discussion: A company representative stated that no formalized driver-training program was currently in place, and that each new hire is a case-by-case basis depending on experience. In the past, the representative stated that a new driver with no experience would ride with a tenured driver for several days to learn the processes that take place each day. However, experienced drivers, like the victim in this case, could potentially begin driving with just a short overview of equipment and verbal guidance from company ownership. Lack of a formalized and consistent driver-training program can lead to gaps in training with no real way to gauge the effectiveness of the program. The transportation industry is among the most dangerous occupations in the United States. According to Bureau of Labor Statistics, transportation incidents are the most frequent type of fatal event and have been so consistently from 2006 to 2019. On average, more than 2,000 work-related, transportation fatalities occur annually, accounting for 40% of all work-related fatalities (Bureau of Labor Statistics, 2019). Considering the known dangers associated with the transportation industry, processes such as driver training need to be adequate, complete, and effective. A driver-training program should begin immediately after a road test, the first step to verify a driver's capabilities. An effective training program should include multiple elements, which include, but are not limited to:

- Overview of applicable Federal Motor Carrier Safety Regulations
- Overview of applicable state and local laws
- Pre-trip inspection procedures
- Overview of company policies and procedures
- Equipment familiarity and functionality
- Task specific task training
- Loading and unloading
- Driving skills, evaluated by competent qualified individual
- Technology functionally
- Other

A road test alone is a quick glance at whether or not a driver has the basic driving abilities to perform the job. During the road test, the evaluator should note areas of improvement that are needed and specifically address in the driver-training

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program. Although the road test is very helpful, the test alone is not an adequate form of verification of skill set, as the evaluator only views only a small glimpse of the driver's abilities. The formalized driver-training program, as a whole, should be designed to set performance standards, teach proper execution of those standards, evaluate the driver's ability to retain information, and apply the skills in a real-world environment. The length of a driver-training program should have a minimum time, regardless of an individual's abilities to establish program consistency. The evaluator, who should be chosen carefully based on skillset and performance track record, should hold sole authority to release a driver from training once the minimum amount of training is completed. However, if the evaluator feels the new driver requires more training, they should possess the ability to make the determination and extend the training program. Likewise, if a driver has completed the minimum amount of training and the evaluator makes the decision to release the new driver, the new driver should have the ability to request additional training should he or she desire to extend the training period until he or she feels comfortable. The dangers associated with failing to provide proper training are deadly and may result in legal liability for the involved company. As a best practice, commercial carriers should implement formalized driver training programs for all new incoming drivers that includes an evaluation period to confirm the desired results.

## PROGRAM FUNDING

The Kentucky Fatality Assessment & Control Evaluation Program (FACE) is funded by grant 5U60H008483-16 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 involved company for their assistance with completion of this report.