

**NATIONAL TRANSPORTATION SAFETY BOARD**  
**Public Meeting of October 4, 2016**  
**(Information subject to editing)**

**Multivehicle Work Zone Crash on Interstate 75, Chattanooga, Tennessee**  
**June 25, 2015**  
**NTSB/HAR-16-XX**

This is a synopsis from the NTSB's report and does not include the Board's rationale for the conclusions, probable cause, and safety recommendations. NTSB staff is currently making final revisions to the report from which the attached conclusions and safety recommendations have been extracted. The final report and pertinent safety recommendation letters will be distributed to recommendation recipients as soon as possible. The attached information is subject to further review and editing to reflect changes adopted during the Board meeting.

**EXECUTIVE SUMMARY**

On June 25, 2015, about 7:10 p.m., a 2007 Peterbilt truck-tractor in combination with a 2005 Great Dane semitrailer, operated by Cool Runnings Express, Inc., was traveling northbound in the center lane of Interstate 75, near Chattanooga, Tennessee, when the driver did not respond to the slow-moving traffic ahead and collided with the rear of a 2010 Toyota Prius. Traffic had slowed near milepost 11.7 because of road construction and a work zone lane closure at milepost 12. The truck-tractor continued forward and collided with seven additional vehicles, forcing them into subsequent collisions. Of the 18 vehicle occupants, six died and four were injured. A postcrash fire consumed one vehicle. The truck driver's trip began earlier that day, about 5:16 a.m., in Haines City, Florida. His destination was the carrier terminal in London, Kentucky.

The investigation identified the following safety issues:

- ***Truck driver's performance:*** The truck driver did not respond to the slowed traffic and the formation of the traffic queue. His lack of evasive steering maneuvers or emergency braking indicates a performance decrement, which was likely associated with fatigue and methamphetamine use.
- ***Limitations of current drug testing program:*** National Transportation Safety Board (NTSB) investigators reviewed the truck driver's toxicology test results from a variety of sources—including a urine test, a hair test, and a postcrash blood test. The test results indicated a pattern of drug use not identified by the US Department of Transportation drug testing program. This investigation reaffirmed the need to gather data on the prevalence of commercial motor vehicle (CMV) driver use of impairing substances and to consider alternative drug testing methods.
- ***Inadequacies of driver license records and background checks:*** The commonwealth of Kentucky is one of only two US jurisdictions that do not provide crash data in their 3-year driver license records. Consequently, Cool Runnings Express did not have crash data for

the truck driver, limiting its ability to assess his safety performance and potential risk. The driver had had four crashes in the previous 3 years, two of which were CMV crashes.

- ***Truck overrepresentation in work zone crashes:*** Although trucks account for 11.4 percent of all fatal crashes, they are involved in 30.1 percent of fatal work zone crashes. Speeding, distraction, and impairment are key factors in these crashes. To improve work zone safety, local agencies can take more proactive actions with regard to procedures and training for law enforcement presence and control. At the national level, additional guidance can be developed for the use of supplemental traffic control strategies to mitigate work zone crashes involving trucks or heavy vehicles.

As a result of this investigation, the NTSB makes new safety recommendations to the Federal Motor Carrier Safety Administration (FMCSA), the Tennessee Highway Patrol, the Tennessee Department of Transportation, the Kentucky Transportation Cabinet, and the Idaho Transportation Department. The NTSB also reiterates one recommendation to the Federal Highway Administration, and reiterates and reclassifies one recommendation to the FMCSA.

## CONCLUSIONS

1. None of the following were factors in the crash: (1) mechanical condition of any of the nine vehicles involved; (2) weather conditions; (3) visibility of the road hazard; (4) truck driver licensing; or (5) truck driver's medical condition, alcohol use, or distractions.
2. The emergency response to the crash was timely and adequate.
3. Multiple visual cues were available to warn the truck driver of the work zone and traffic conditions ahead.
4. The truck driver's operation of the combination vehicle through the work zone at 78–82 mph significantly hindered his ability to react in time to take evasive action to avoid vehicles at the back of the traffic queue and led to a more severe collision.
5. The truck driver did not respond to the slow-moving traffic or take evasive action to avoid the crash.
6. The truck driver did not take rest breaks as required by hours-of-service regulations; and he was likely experiencing fatigue-related performance decrements because of recent sleep restriction, insufficient sleep recovery, and amount of time awake and driving.
7. The truck driver had illegally used methamphetamine prior to the crash, and its effects degraded his driving performance.
8. Had Cool Runnings Express, Inc., used pre-employment hair drug tests, it would likely have identified the truck driver's methamphetamine use.

9. The driver motor vehicle records provided for employer review by both Kentucky and Idaho are insufficient because they do not automatically include crash data.
10. Cool Runnings Express, Inc., did not have crash data for the truck driver, which limited its ability to assess his safety performance and potential risk.
11. The pre-employment review process can be improved by providing motor carriers with additional guidelines to determine whether a driver meets the minimum requirements for safe driving or is disqualified to drive a commercial motor vehicle consistent with the annual inquiry and review process.
12. The Pre-Employment Screening Program is an effective, yet underutilized, tool to improve pre-employment reviews.
13. Tennessee Department of Transportation processes and procedures were consistent with the work zone safety and mobility requirements of *23 Code of Federal Regulations Part 630*, and its traffic control plan followed the requirements and most guidance in the Manual on Uniform Traffic Control Devices, but the agency and other state departments of transportation would benefit from additional Federal Highway Administration guidance on the use of supplemental traffic control strategies and devices to mitigate crash events involving heavy commercial vehicles.
14. Although the Tennessee Department of Transportation has procedures and guidance in place with regard to law enforcement participation in preconference meetings and its function in work zone projects, these procedures were not followed.

## **PROBABLE CAUSE**

The National Transportation Safety Board determines that the probable cause of the Chattanooga, Tennessee, crash was the truck driver's failure to respond to the slow-moving traffic within a work zone because of performance decrements likely associated with his fatigue and methamphetamine use. Contributing to the crash was the failure of the pre-employment screening process to identify driver risk factors. Contributing to the severity of the crash was the truck-tractor's high impact speed.

## **RECOMMENDATIONS**

### **New Recommendations**

As a result of its investigation, the National Transportation Safety Board makes the following new safety recommendations:

**To the Federal Motor Carrier Safety Administration:**

1. Disseminate information to motor carriers about using hair testing as a method of detecting the use of controlled substances, under the appropriate circumstances. (H-16-XX)
2. Modify 49 *Code of Federal Regulations (CFR)* 391.23(a) to include the requirements described in 49 *CFR* 391.25(b)(2); that is, to specify that the motor carrier must (1) consider the driver's crash record; (2) consider any evidence that the driver has violated laws governing the operation of motor vehicles; and (3) give great weight to violations—such as speeding, reckless driving, and operating while under the influence of alcohol or drugs—that indicate the driver has exhibited a disregard for public safety. (H-16-XX)
3. Evaluate motor carrier use of, and perspectives on, your Pre-Employment Screening Program (PSP), and identify and address barriers affecting the use of the PSP, examining issues such as the value, accuracy, and timeliness of the information, and the cost of, and incentives for, using the program. (H-16-XX)
4. Collect and publish best practices for pre-employment investigations and inquiries within the trucking industry. (H-16-XX)

**To the Kentucky Transportation Cabinet and the Idaho Transportation Department:**

5. Include driver status, license expiration, driving restrictions, violations, and crashes in the 3-year driver motor vehicle record. (H-16-XX)

**To the Tennessee Department of Transportation and the Tennessee Highway Patrol:**

6. Take steps to ensure that law enforcement personnel attend and participate in preconstruction conferences on work zone projects on the interstate system. (H-16-XX)
7. Establish requirements for your personnel to complete recurring training on law enforcement presence and control functions in highway work zones that follow such current guidance as the American Traffic Safety Services Association–Federal Highway Administration *Safety Practices for Law Enforcement Personnel Operating in Highway Work Zones: A Pocket Guide*. (H-16-XX)

**Previously Issued Recommendation Reiterated in This Report**

As a result of its investigation, the National Transportation Safety Board reiterates the following safety recommendation:

**To the Federal Highway Administration:**

Amend the *Manual on Uniform Traffic Control Devices* “Guidance” for work zone projects on freeways and expressways to advise traffic engineers on the use of supplemental traffic control strategies and devices to mitigate crash events involving heavy commercial vehicles. (H-15-16)

### **Previously Issued Recommendation Reiterated and Reclassified in This Report**

As a result of its investigation, the National Transportation Safety Board reiterates and reclassifies Safety Recommendation H-15-38 from its current classification of “Open—Initial Response Received” to “Open—Unacceptable Response.”

#### **To the Federal Motor Carrier Safety Administration:**

Determine the prevalence of commercial motor vehicle driver use of impairing substances, particularly synthetic cannabinoids, and develop a plan to reduce the use of such substances. (H-15-38)