NATIONAL TRANSPORTATION SAFETY BOARD
Public Meeting of December 11, 2012
(Information subject to editing)

Highway Accident Report: Highway–Railroad Grade Crossing Collision U.S. Highway 95, Miriam, Nevada June 24, 2011

This is a synopsis from the National Transportation Safety Board's report and does not include the NTSB's rationale for the conclusions, probable cause, and safety recommendations. Safety Board 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.

EXECUTIVE SUMMARY

On Friday, June 24, 2011, about 11:19 a.m. Pacific daylight time, a 2008 Peterbilt truck-tractor pulling two empty 2007 side-dump trailers and occupied by a 43-year-old driver was traveling north on U.S. Route 95 near Miriam, Nevada. As the truck approached an active highway–railroad grade crossing consisting of two cantilever signal masts with flashing lights and two crossing gate arms in the descended position, it failed to stop and struck the left side of Amtrak train no. 5, which was passing through the grade crossing from the northeast. The collision destroyed the truck-tractor and several passenger railcars. The train came to a stop without derailing; however, a fire ensued, engulfing two railcars and damaging a third railcar. The accident killed the truck driver, the train conductor, and four train passengers; 15 train passengers and one crewmember were injured.

CONCLUSIONS

1. The following were not factors in this accident: (1) malfunctioning or lack of grade crossing warning devices, (2) alcohol or drug use, and (3) weather.

2. The emergency response was sufficient, given the rural location of the accident.

3. The accident could have been avoided had the truck driver been more attentive and responsive to the visual cues available to him or had the brakes on the truck been in adjustment and operational.

4. The driver was capable of seeing the flashing lights and descending gate at the grade crossing.

5. The ambient noise in the truck cab likely masked the sound of the train horn.

6. Possible reasons for the driver's delayed braking include fatigue, distraction from using his hand-held cell phone, and distraction from pain associated with his medical ailment.

7. By not disclosing all previous employers on his job application, the accident driver failed to provide John Davis Trucking with a complete record by which it could make an informed hiring decision, and there is currently no means by which a company can verify the completeness of information provided by a driver applicant.

8. Requiring motor carriers to access the comprehensive driving history contained in the Commercial Driver's License Information System and the National Driver Register would better help them evaluate driver applicants.

9. Because the Nevada Highway Patrol did not follow the pushrod stroke measurement procedure described in the Commercial Vehicle Safety Alliance out-of-service criteria, it is not possible to make a definitive statement regarding the number of brakes that were out of adjustment on the accident truck.

10. A tow truck company that responded to the accident scene "backed-off" the brakes during vehicle recovery operations, thereby destroying evidence and precluding further brake measurements.

11. John Davis Trucking used improper brake maintenance procedures by manually adjusting the automatic slack adjusters, disabling the antilock braking system on the trailers, failing to maintain brakes in adjustment, equipping two axles with mismatched and incorrectly sized brake chambers, and operating with 11 of the 16 brake drums in service worn beyond specified limits.

12. Had the accident truck been equipped with an onboard brake stroke monitoring system, the truck driver would have had information about the out-of-adjustment and inoperative brakes.

13. Passenger railcars are vulnerable to the loss of occupant survival space from side impacts because of inadequate side impact strength requirements.

14. Fire doors could help limit the spread of fire from one railcar to another.

15. A combined Federal Highway Administration–Federal Railroad Administration evaluation of the actions plans created by the 10 states with the most grade crossing accidents would be valuable to those states and to others interested in creating their own action plans.

16. A model grade crossing action plan and updated guidance would help each state focus on the problem of grade crossing safety and develop improvements specific to their highway systems.

17. Making the 10 state action plans available on the Federal Highway Administration website will provide resource documents that can be used by all states until a model grade crossing action plan is developed.

PROBABLE CAUSE

The National Transportation Safety Board determines that the probable cause of the Miriam, Nevada, accident was the truck driver's delayed braking, and the failure of John Davis Trucking to adequately maintain the brakes on the accident truck. Contributing to the number of fatalities and severity of injuries was insufficient passenger railcar side impact strength.

RECOMMENDATIONS

To the Federal Motor Carrier Safety Administration:

1. Create a mechanism to gather and record commercial driving-related employment history information about all drivers who have a commercial driver's license, and make this information available to all prospective motor carrier employers.

2. Using the mechanism developed in Safety Recommendation 1, require motor carriers to conduct and document investigations into the employment records of prospective drivers for the 10 years that precede the application date.

3. Require motor carriers to retrieve records from the Commercial Driver's License Information System and the National Driver Register for all driver applicants so that they can obtain a complete driving and license history of prospective drivers.

4. Inform commercial vehicle inspectors of (1) the importance of taking pushrod stroke measurements within the specified pressure range, (2) the relationship between pushrod stroke and specific air pressure, and (3) the consequence of taking measurements outside of this range.

To the National Highway Traffic Safety Administration:

5. Develop minimum performance standards for onboard brake stroke monitoring systems for all air-braked commercial vehicles.

6. Once the performance standards in Safety Recommendation 5 have been developed, require that all newly manufactured air-braked commercial vehicles be equipped with onboard brake stroke monitoring systems.

To the Federal Highway Administration:

7. Work with the Federal Railroad Administration to develop a model grade crossing action plan that can be used as a resource document by all states. At a minimum, such a document should incorporate information from U.S. Department of Transportation publications, industry studies, and the American Association of State Highway and Transportation Officials, as well as the best practices and lessons learned at the conclusion of the 5-year grade crossing action plans developed in response to 49 *Code of Federal Regulations* 234, "State Highway–Rail Grade Crossing Action Plans."

8. Work with the Federal Railroad Administration to update your website on the annual reporting requirements for railway–highway crossings, to include comprehensive information on the individual grade crossing action plans developed by the states pursuant to 49 CFR 234, "State Highway–Rail Grade Crossing Action Plans."

To the Federal Railroad Administration:

9. Develop side impact crashworthiness standards (including performance validation) for passenger railcars that provide a measurable improvement compared to the current regulation for minimizing encroachment to and loss of railcar occupant survival space.

10. Once the side impact crashworthiness standards are developed in Safety Recommendation 9, revise 49 *Code of Federal Regulations* 238.217, "Movement of Passenger Equipment With Other Than Power," to require that new passenger railcars be built to these standards.

11. Require that passenger railcar doors be designed to prevent fire and smoke from traveling between railcars.

12. Work with the Federal Highway Administration to develop a model grade crossing action plan that can be used as a resource document by all states. At a minimum, such a document should incorporate information from U.S. Department of Transportation publications, industry studies, and the American Association of State Highway and Transportation Officials, as well as the best practices and lessons learned at the conclusion of the 5-year grade crossing action plans developed in response to 49 Code of Federal Regulations 234, "State Highway–Rail Grade Crossing Action Plans."

13. Work with the Federal Highway Administration to update its website on annual reporting requirements for railway–highway crossings, to include comprehensive information on the individual grade crossing action plans developed by the states pursuant to 49 Code of Federal Regulations 234, "State Highway–Rail Grade Crossing Action Plans."

To the Nevada Highway Patrol:

14. Inform commercial vehicle inspectors of (1) the importance of taking pushrod stroke measurements within the specified pressure range, (2) the relationship between pushrod stroke and specific air pressure, and (3) the consequence of taking measurements outside of this range.

To the Commercial Vehicle Safety Alliance:

15. Inform commercial vehicle inspectors of (1) the importance of taking pushrod stroke measurements within the specified pressure range, (2) the relationship between pushrod stroke and specific air pressure, and (3) the consequence of taking measurements outside of this range.

16. Inform your members to avoid backing off air brake slack adjusters after a vehicle has been involved in an accident.

To the American Trucking Associations and the Owner-Operator Independent Drivers Association:

17. Inform your members of the circumstances of this accident and encourage them to conduct proper maintenance on brake systems with automatic slack adjusters and to install onboard brake stroke monitoring systems on their commercial motor vehicles.

To the Towing and Recovery Association of America:

18. Inform your members to avoid backing off air brake slack adjusters after a vehicle has been involved in an accident.

To the American Bus Association and the United Motorcoach Association:

19. Inform your members of the circumstances of this accident and encourage them to install onboard brake stroke monitoring systems on their commercial motor vehicles.

To John Davis Trucking:

20. Revise your vehicle maintenance to follow recommended practices, particularly with regard to automatic slack adjusters and antilock braking systems.