



# National Transportation Safety Board

Washington, D.C. 20594

## Safety Recommendation

---

**Date:** August 8, 2002

**In reply refer to:** H-02-08

Honorable Joseph M. Clapp  
Administrator  
Federal Motor Carrier Safety Administration  
400 Seventh Street, S.W.  
Washington, DC 20590

---

On November 17, 2000, about 4:35 p.m., eastern standard time, near Intercession City, Florida, a 23-axle, heavy-haul vehicle, operated by Molnar Worldwide Heavy Haul Company, was delivering a condenser to the Kissimmee Utility Authority (KUA) Cane Island Power Plant. The private access road to the plant crossed over a single railroad track owned by CSX Transportation, Inc. (CSXT). As the vehicle, traveling between 1 and 3 mph, crossed the tracks, the crossing warning devices activated and the gates came down on the load. Seconds later, Amtrak train 97, operated by the National Railroad Passenger Corporation, collided with the right side of the rear towed four-axle tractor. No injuries occurred. The collision destroyed the tractor and caused over \$200,000 damage to the train and crossing signals.<sup>1</sup>

The National Transportation Safety Board investigated a similar accident that occurred on November 30, 1993, at the same location.<sup>2</sup> In that accident, an overdimension, low-clearance vehicle operated by Rountree Transport and Rigging, Inc., was en route to deliver an 82-ton turbine to the electricity generating plant. The cargo deck of the transporter bottomed out on the roadway surface as the vehicle moved across the tracks. To gain sufficient clearance, the four-member truck crew shimmed the transporter while the cargo deck was on the tracks. About 12:40 p.m., the lights and bells at the grade crossing activated; the crossing gates descended, striking the turbine. Seconds later, Amtrak train 88, carrying 10 crewmembers and 89 passengers, struck the side of the cargo deck and the turbine. Six people sustained serious injuries and 53 suffered minor injuries. The vehicle and turbine were destroyed; the locomotive and first three railcars were damaged extensively. Total damage exceeded \$14 million.

The National Transportation Safety Board determined that the probable cause of the November 2000 collision of Amtrak train 97 with the tractor-combination vehicle was the failure

---

<sup>1</sup> For additional information, read National Transportation Safety Board, *Collision Between Amtrak Train 97 and Molnar Worldwide Heavy Haul Company Tractor-Trailer Combination Vehicle at Highway-Rail Grade Crossing in Intercession City, Florida, on November 17, 2000*, Highway Accident Report NTSB/HAR-02/02 (Washington, DC: NTSB, 2002).

<sup>2</sup> For additional information, read National Transportation Safety Board, *Collision of Amtrak Train No. 88 With Rountree Transport and Rigging, Inc., Vehicle on CSX Transportation, Inc., Railroad Near Intercession City, Florida, November 30, 1993*, Highway Accident Report NTSB/HAR-95/01 (Washington, DC: NTSB, 1995).

of the Kissimmee Utility Authority, its construction contractors and subcontractors, and the motor carrier to provide for the safe passage of the load over the grade crossing.

This accident was very similar to the 1993 accident. Although the motor carrier was different, the KUA was not only the owner of the crossing and the receiver of both loads, it also had representatives at the crossing during both collisions. Additionally, no one contacted the railroad in either accident to determine whether it was safe to cross the tracks.

In 1993, the Amtrak train hit the truck near the center of its load, and as a result, the locomotive and three railcars were damaged extensively, 59 people were injured, and damages exceeded \$14 million. In 2000, by contrast, the Amtrak train hit the rear of the combination vehicle at the pusher truck. The train essentially pushed the truck and its 82-ton load out of the way, and the train remained upright and on the tracks. However, had the truck started to cross the tracks several seconds later or the train arrived several seconds sooner, the collision may have occurred near the center of the 82-ton load, and the consequences could have been quite different.

In this accident, due to the intersection's proximity to the crossing and the elevated configuration of the vehicle, the maximum speed the vehicle could maintain near the crossing was between 1 and 3 mph. Based on this speed, the minimum time the vehicle would occupy the crossing was between 57 seconds and 2 minutes 50 seconds. Active railroad grade crossing devices are required to provide a minimum of 20 seconds of warning time to motorists before the arrival of a train, and typically these devices provide between 20 and 25 seconds of warning. The warning devices at this crossing provided a warning time of 25 seconds. Thus, the accident truck required at least two and as much as seven times more warning of an approaching train than the active warning devices provided, effectively neutralizing the active warning devices.

Additionally, although the train engineer applied the brakes prior to actually identifying the truck on the crossing, he had no opportunity to avoid the collision. His brake application and throttle reduction during the approximately 16 seconds before the accident reduced the train speed by 19 mph, delaying his arrival at the crossing by about 1.71 seconds. While the train's reduced speed and slightly delayed arrival at the crossing may have altered the collision dynamics, there was still not enough time to avoid the collision. The truck would have needed an additional 3.4 seconds to 10.27 seconds to clear the tracks.

The vehicle created a hazard at this crossing, since it occupied the tracks well beyond the standard minimum warning time provided for a vehicle to cross safely. The only prudent way to minimize the risk was to notify the railroad sufficiently in advance of crossing to ensure that train traffic was stopped or not present at the time the vehicle traversed the tracks. The Safety Board concludes that neither the KUA, nor its contractors, nor the motor carrier properly considered the risks of crossing the tracks without first notifying the railroad to arrange safe passage.

Despite the trucking industry's education and training efforts since 1993, awareness of the hazards of maneuvering oversize/overweight vehicles at grade crossings and the consequent need to notify railroads is still lacking. For instance, the Safety Board discovered during its investigation of the November 2000 Intercession City accident that prior to the accident, neither the shippers, nor the motor carrier, nor the receivers notified the CSXT of the oversize/overweight load traversing its tracks. Furthermore, the lack of clarity in the Florida

permit process allowed the motor carrier, pilot car drivers, and truckdriver to plausibly argue that they were not aware of the need to notify the railroad.

To better understand why those involved with the movement of this oversize/overweight load did not notify the railroad and request safe passage at this crossing, the Safety Board examined the roles and responsibilities of those involved in planning and executing the movement of this oversize load.

The truckdriver told Safety Board investigators that he was not aware that any States had requirements to notify the railroad before crossing its tracks. He was also unaware of the minimum warning times at railroad grade crossings or how the warning devices operated. In addition, he stated that he did not see the emergency signs with the CXST 1-800 number posted at the crossing. Since the carrier did not have a formal training program, the truckdriver received no specific training on the hazards of long, slow-moving vehicles at grade crossings. Although the truckdriver may have been exposed to some information regarding grade crossing safety through the commercial driver's license (CDL) program, the CDL tests do not specifically address the operation of grade crossing warning devices and the hazards of long, slow-moving vehicles at grade crossings.

In addition to the two accidents that occurred at the same highway-rail grade crossing in Intercession City on November 30, 1993,<sup>3</sup> and November 17, 2000, the Safety Board has investigated five other accidents at highway-rail grade crossings involving four low-clearance or slow-moving vehicles (Sycamore, South Carolina;<sup>4</sup> Glendale, California;<sup>5</sup> Sumner, Washington;<sup>6</sup> and Milford, Connecticut<sup>7</sup>) and a long combination vehicle (Portage, Indiana<sup>8</sup>) and published a safety study<sup>9</sup> on passive grade crossings.

During these accident investigations, the Safety Board discovered that few of the participants involved were aware of the hazards associated with maneuvering

---

<sup>3</sup> NTSB/HAR-95/01.

<sup>4</sup> National Transportation Safety Board, *Highway-Rail Grade Crossing Collision Near Sycamore, South Carolina, May 2, 1995*, Highway Accident Report NTSB/HAR-96/01 (Washington, DC: NTSB, 1996).

<sup>5</sup> National Transportation Safety Board, *Collision Between Metrolink Train 901 and Mercury Transportation, Inc., Tractor-Combination Vehicle at Highway-Railroad Grade Crossing in Glendale, California, January 28, 2000*, Highway Accident Report, NTSB/HAR-01/02 (Washington, DC: NTSB, 2001).

<sup>6</sup> On December 23, 2000, a truck, towing a house, had stopped on the tracks to adjust tow dollies when it was struck by an Amtrak train. The load was being escorted by a pilot car and three uniformed, off-duty county police officers. No permit had been obtained to cross the tracks. (National Transportation Safety Board Docket No. Highway-01-IH013).

<sup>7</sup> On October 3, 1995, a low-bed semitrailer, transporting an excavator, was struck by a commuter train after becoming lodged on the railroad tracks; the truckdriver attempted to raise the semitrailer for 3 or 4 minutes before the train arrived. No one contacted the railroad before attempting to cross the tracks or after the accident. (National Transportation Safety Board Docket No. Highway-SRH-96-MH001).

<sup>8</sup> National Transportation Safety Board, *Collision of Northern Indiana Commuter Transportation District Train 102 With a Tractor-Trailer, Portage, Indiana, June 18, 1998*, Railroad Accident Report, NTSB/RAR-99/03 (Washington, DC: NTSB, 1999).

<sup>9</sup> National Transportation Safety Board, *Safety at Passive Grade Crossings*, Safety Study NTSB/SS-98/03 (Washington, DC: NTSB, 1998).

oversize/overweight, low-clearance, slow-moving vehicles over highway-rail grade crossings or of the need or a requirement to notify the railroad before attempting such maneuvers.

The Safety Board has addressed the issue of training truckdrivers about the hazards of railroad crossings in previous safety recommendations. The Board has been advised that the development of a truckdriver training tool is the subject of discussions between the Federal Motor Carrier Safety Administration (FMCSA) Southern Service Center and the Federal Railroad Administration (FRA) Office of Safety in Atlanta, Georgia. According to FMCSA and FRA officials, they plan to develop a brochure, video, or Web site that addresses the dangers of grade crossings and the new FMCSA regulations regarding disqualification for highway-rail grade crossing violations. The new regulations, found in subpart D—Driver Disqualifications and Penalties (49 *Code of Federal Regulations* 383.51), list six disqualifying offenses at highway-rail grade crossings. The regulations at section (vi), “For all drivers, failing to negotiate a crossing because of insufficient undercarriage clearance,” state that the first violation carries a 60-day disqualification, the second violation within a 3-year period carries a 120-day disqualification, and the third violation within a 3-year period carries a disqualification penalty of at least 1 year. This regulation becomes effective October 2002. The development of such a module is commendable.

The CDL disqualification and the penalties for highway-rail grade crossing violations, effective October 2002, should promote railroad grade crossing safety. However, these actions do not address the issue of railroad notification.

Therefore, the National Transportation Safety Board recommends that the Federal Motor Carrier Safety Administration:

Amend *Code of Federal Regulations* 383.51 (e), “Disqualification for railroad-highway grade crossing violation,” to include a violation for drivers of low-clearance or slow-moving vehicles who fail to make arrangements with the railroad for safe passage, when required. (H-02-08)

The Safety Board also issued safety recommendations to the Federal Highway Administration, National Committee on Uniform Traffic Laws and Ordinances, American Association of State Highway and Transportation Officials, Kissimmee Utility Authority, and all class 1 and regional railroads.

Please refer to Safety Recommendation H02-08 in your reply. If you need additional information, you may call (202) 314-6177.

Chairman BLAKEY, Vice Chairman CARMODY, and Members HAMMERSCHMIDT, GOGLIA, and BLACK concurred in this recommendation.

*Original Signed*

By: Marion C. Blakey  
Chairman