



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: February 15, 2002

In reply refer to: H-02-1

Honorable Norman Y. Mineta
Secretary of Transportation
400 Seventh Street, S.W.
Washington, D.C. 20590

About 9:47 p.m. on March 15, 1999, National Railroad Passenger Corporation (Amtrak) train 59, with 207 passengers and 21 Amtrak or other railroad employees on board and operating on Illinois Central Railroad (IC) main line tracks, struck and destroyed the loaded trailer of a tractor-semitrailer combination that was traversing the McKnight Road grade crossing in Bourbonnais, Illinois. Both locomotives and 11 of the 14 cars in the Amtrak consist derailed. The derailed Amtrak cars struck 2 of 10 freight cars that were standing on an adjacent siding. The accident resulted in 11 deaths and 122 people being transported to local hospitals. Total Amtrak equipment damages were estimated at \$14 million, and damages to track and associated structures were estimated to be about \$295,000.¹

The National Transportation Safety Board determined that the probable cause of the collision between Amtrak train 59 and a truck tractor-semitrailer combination vehicle at the McKnight Road grade crossing in Bourbonnais, Illinois, was the truckdriver's inappropriate response to the grade crossing warning devices and his judgment, likely impaired by fatigue, that he could cross the tracks before the arrival of the train. Contributing to the accident was Melco Transfer, Inc.'s failure to provide driver oversight sufficient to detect or prevent driver fatigue as a result of excessive driving or on-duty periods.

Following the collision at McKnight Road, the Canadian National/Illinois Central railroad installed video cameras and recording equipment at McKnight Road and several nearby crossings. Several events at these crossings have since been called to the attention of the Safety Board. In one, occurring in August 2000, a truck queued in traffic at St. George Road, the crossing immediately to the north of McKnight Road, stopped on the tracks. While the truck was stopped on the tracks, a train approached, activating the signals; the gate lowered behind the truck cab. The truckdriver succeeded in backing off the tracks but damaged the signal gate. In other instances at McKnight Road, local police received reports that the signal provided inadequate warning time. Review of the video tapes has shown that only one of these reported incidents was truly a delayed activation, which was caused by a broken bond wire in a switch

¹ For more information, see National Transportation Safety Board, *Collision of National Railroad Passenger Corporation (Amtrak) Train 59 With a Loaded Truck-Semitrailer Combination at a Highway/Rail Grade Crossing in Bourbonnais, Illinois, March 15, 1999*, Railroad Accident Report RAR/NTSB-02/01 (Washington, D.C.; NTSB, 2002).

south of the crossing. In the other instances, review of the tapes shows either warning times in excess of the Federally required minimum time, or truckdrivers entering the crossing in violation of the already activated signals.

The Safety Board is pleased to note the steps that have been taken in Illinois and nationwide to improve grade crossing safety through better enforcement of traffic laws at grade crossings. For example, not only do new Federal regulations promulgated in 1999 prevent States from granting a provisional, probationary, or other temporary license to a commercial driver's license (CDL) holder whose CDL has been suspended,² the new regulations require CDL suspension for a driver convicted of a grade crossing violation. Further, current Illinois State law provides that motorists convicted of grade crossing violations may be fined up to \$500. In the case of CDL holders, both the fine and the potential loss of income (by CDL suspension) should provide an incentive for CDL holders to exercise greater caution at grade crossings.

But while greater penalties for grade crossing violations are welcomed, their deterrent effect can be undermined if motorists perceive that they face little threat of detection or apprehension. To address this problem, some States, localities, and other entities have developed innovative ways of approaching grade crossing enforcement. For example, Operation Lifesaver³ organizations in several States have conducted programs to place law officers on trains and at stationary locations along the trains' routes. The officers at the stationary locations stop and ticket those motorists identified by on-board officers as having violated traffic control devices at crossings. While programs such as this can increase law enforcement awareness of grade crossing violations, in some States they are conducted only sporadically. As noted above, motorists who encounter what is, at best, limited and intermittent enforcement of traffic laws at grade crossings may conclude that it is possible to violate those traffic laws with some impunity.

To increase the likelihood that grade crossing violations will not go undetected, some States, municipalities, and railroads have turned to the use of photo enforcement at grade crossings. In use throughout the world for more than 40 years,⁴ photo enforcement technology such as that used for identifying and citing those who run red lights has recently been adapted for use at grade crossings. In 1995, for example, the Los Angeles Metropolitan Transportation Authority (MTA) began a photo enforcement program that has been credited with reducing by almost 50 percent the number of grade crossing violations detected at 17 gated crossings along the Metro Blue Line route.⁵ Encouraged by the program's success, the MTA is planning to expand its use of photo enforcement by installing six more crossing video systems during the first half of 2002.

² The accident truckdriver was operating the vehicle under a 60-day probationary license that had been issued in January 1999 after his CDL was suspended for 90 days because of three traffic citations within a 1-year period.

³ Operation Lifesaver is a not-for-profit organization that provides information about grade crossing safety to motor vehicle operators, as well as to law enforcement agencies, through safety education programs.

⁴ <<http://www.photocop.com>> is a non-commercial web site providing research and technical information about photo enforcement.

⁵ Metropolitan Transportation Authority, *New Signs, Cameras Reducing Accidents, Illegal Crossings on Metro Blue Line*, MTA News <http://www.mta.net/press/stakeholders/scoop_stories/leftturn_trains.htm>.

A grade crossing photo enforcement pilot program has also recently been established in Illinois. The Illinois General Assembly in 1996 required the Illinois Commerce Commission to conduct a study of the effectiveness of photo enforcement at grade crossings. According to the commission, it selected three grade crossings in DuPage County, Illinois, for the test. Because of difficulties in establishing contracts, as well as construction problems, the three sites were completed at different times. Fully functional in January 2000, photo enforcement at the grade crossing in the city of Wood Dale achieved a 47-percent decrease in the number of violations between January and September 2000. This crossing, which had formerly experienced three to four collisions per year had only one collision in the pilot program's first 13 months of operation. Photo enforcement at the grade crossing in the city of Naperville was functional in July 2000, and the crossing has seen a 51-percent reduction in the number of violations.

According to the Federal Railroad Administration, the State of North Carolina has established, with Federal assistance, a program to eliminate grade crossing hazards as part of an attempt to develop a high-speed rail corridor within its borders.⁶ Known as the Sealed Corridor Initiative, the program calls for the improvement or closure of every crossing along the proposed corridor. The plans include installation of four-quadrant gates, longer gate arms, and median barriers as well as video enforcement of grade crossing traffic laws. The testing of the video enforcement project has recently begun.

In the Safety Board's 1998 grade crossing safety study,⁷ the Safety Board noted the sporadic nature of traffic law enforcement at passive crossings (those without train-activated warning devices). In order to promote better law enforcement at passive crossings, the Safety Board issued the following safety recommendation to the Secretary of Transportation:

H-98-29

Provide Federal highway safety incentive grants to States to advance innovative pilot programs designed to increase enforcement of passive grade crossing traffic laws.

After the Department of Transportation indicated that it had made inquiries to State and local law enforcement for suggestions regarding enforcement programs, the Safety Board classified Safety Recommendation H-98-29 "Open—Acceptable Response."

Whereas this recommendation was directed to enforcement at passive grade crossings, this accident, as well as subsequent violations recorded at the McKnight Road and St. George Road grade crossings, indicates that grade crossings equipped with train-activated warning devices could also benefit from innovative enforcement programs such as the photo enforcement programs employed in several locations. The Safety Board therefore makes the following safety recommendation to the Department of Transportation:

⁶ <<http://www.fra.dot.gov/ohsgt/states/NC2.htm>> on January 16, 2002.

⁷ National Transportation Safety Board, *Safety at Passive Grade Crossings, Volumes I and II*, NTSB Safety Study Nos. NTSB/SS-98/02 (Vol. I: Analysis) and NTSB/SS-98/03 (Vol. II: Case Summaries) (Washington, D.C.: NTSB, 1998).

Provide Federal highway safety incentive grants to States to advance innovative pilot programs designed to increase enforcement of grade crossing traffic laws at both active and passive crossings. (H-02-1)

This recommendation replaces Safety Recommendation H-98-29, which has been reclassified "Closed—Superseded."

The Safety Board also issued safety recommendations to the Federal Railroad Administration, all class I and regional railroads, Amtrak, the International Association of Fire Fighters, and the International Association of Fire Chiefs.

Please refer to Safety Recommendation H-02-1 in your reply. If you need additional information, you may call (202) 314-6607.

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

By: Marion C. Blakey
Chairman