Log H-119

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: November 16, 1977

Forwarded to:

Honorable Joan Claybrook
Administrator
National Highway Traffic Safety Administration
400 Seventh Street, S.W.
Washington, D.C. 20590

SAFETY RECOMMENDATION(S)

H-77-27

At 5:05 p.m. on July 1, 1976, near Des Moines, Iowa, a westbound Chicago, Rock Island and Pacific Railroad Company freight train struck an automobile that had slowed but did not stop for the flashing signal lights at a grade crossing. All five persons in the automobile were killed. 1/

Even though the sight distance for observing approaching trains was limited on one side for each direction of travel and even though the crossing signals were operating and visible, none of the drivers who approached the crossing without a vehicle preceding them intended to stop in response to the signals alone. These drivers significantly reduced their approach speed from the posted 45-mph speed limit, but they were also searching for an approaching train while they were still moving and distant from the crossing. They decided either to cross the track or to stop as they were approaching the crossing and based their decision on whether or not they thought a train presented an immediate hazard. Research also indicates that even the average driver who stops at these crossings with limited sight distance may be attempting to shorten the time required to stop in order to maximize his opportunity to cross in front of a train. This and other evidence indicates that driver disregard for warning signals at railroad/highway grade crossings is common nationwide.

In March 1972, the Federal Railroad Administration and the National Highway Traffic Safety Administration (NHTSA) began a joint effort to determine driver performance and related human factors that contributed

1/ For more detailed information about this accident read "Railroad/Highway Accident Report - Collision of a Chicago, Rock Island and Pacific Railroad Company Freight Train With An Automobile, Des Moines, Iowa, July 1, 1976" (NTSB-RHR-77-2).

to motor vehicle/train accidents and to develop and demonstrate the effectiveness of countermeasures for these factors. A significant effort was made to understand driver behavior at railroad crossings, to develop nonaccident measures of behavior (such as driver "looking behavior" and driver attitudes) for evaluating countermeasures, and to predict which countermeasures would increase behavioral safety.

These driver-oriented countermeasures included: (1) driver education to eliminate intolerant attitudes about delays at railroad crossings; (2) enforcement of laws that stipulate grade crossing behavior; and (3) efforts to increase appropriate "looking behavior." As part of the study, drivers were asked to suggest ways to reduce crossing accidents. After increased use of gates and better warning signs and signals, drivers thought improved driver education, stricter law enforcement, and public safety campaigns were useful methods to improve crossing safety.

The National Transportation Safety Board has issued a number of recommendations to improve railroad/highway grade crossing safety. The Safety Board has advocated further development of improved train and crossing equipment, better methods for upgrading crossing protection, and improved driver education and law enforcement. In a 1972 report, the Safety Board recommended that the U.S. Department of Transportation "include in its railroad-highway grade crossing program the development of methods, and a system for their implementation, to improve driver understanding of hazards involved, and the crucial precautions needed for safe passage across railroad-highway intersections." 2/ In a 1973 report, the Safety Board recommended that the International Association of Chiefs of Police "use its influence and resources to redirect the attention of law enforcement agencies to the need for uniform enforcement of traffic laws pertaining to railroad/highway grade crossings. 3/

Congress has mandated that the Federal Highway Administration pursue an aggressive program to develop better crossing equipment and upgrade crossing protection and has provided some specific funds to achieve that objective. However, there is no apparent Federal effort to vigorously pursue a program that would upgrade driver education and law enforcement activity or to devise, implement, or generate interest in public safety campaigns related to crossing safety. NHTSA is responsible for administering such programs. NHTSA has acted to incorporate elements related to crossing safety into broad program areas such as driver education. However, NHTSA's ability to focus on the specific problem of crossing safety apparently has been hampered by a need to use limited resources on programs of higher priority in terms of accidents affected —

2/ "Atchison, Topeka and Santa Fe Passenger Train No. 212 Collision With Stillwater Milling Company Motortruck at 116th Street North Gate Crossing Near Collinsville, Oklahoma, April 5, 1971" (NTSB-RHR-72-1).

3/ "Penn Central Freight Train/Schoolbus Collision, Congers, New York, March 24, 1972" (NTSB-RHR-73-1).

alcohol, passive restraints, seatbelt use, and the 55 mph speed limit law. These programs have reduced, or have the potential to reduce a larger percentage of the 46,000 deaths that occur annually on our Nation's highways.

Crossing fatalities had been steadily decreasing for many years and reached a low of about 910 fatalities in 1975. Highway fatalities decreased in a number of problem areas after 1973. But, while fatalities have remained low in other problem areas, the number of crossing accident deaths increased to about 1,130 in 1976. With projections of increased and faster rail traffic to transport passengers, coal, and other resources, the number of deaths at grade crossings could increase further.

Currently, while there is no nationwide effort to implement driver oriented countermeasures, several States 4/ and major railroads, with the assistance of the National Safety Council, have implemented State crossing safety programs titled "Operation Lifesaver." These programs are directed toward combining and enhancing existing education, enforcement, and engineering efforts with respect to crossing safety and toward maintaining interest in this area after an initial concentrated effort. Initial indications are that the programs have achieved some success, but there is a need to provide additional resources to insure complete development, implementation, and evaluation of this effort. Therefore, the National Transportation Safety Board recommends that the National Highway Traffic Safety Administration:

> Seek additional resources and actively participate and support the National Safety Council in the development, implementation, and evaluation of a nationwide "Operation Lifesaver" railroad/highway grade crossing safety program. (Class II, Priority Action) (H-77-27)

McADAMS, HOGUE, and KING, Members, concurred in the above recommendation. BAILEY, Acting Chairman, did not participate.

Kay Bailey

By: Kay Bailey
Acting Chairman

4/ Alabama, Colorado, Florida, Georgia, Idaho, Illinois, Kansas, Missouri, Nebraska, Oregon, and Utah.