

Log H-308

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: March 25, 1982

Forwarded to:

Honorable Forrest James, Jr.
Governor
State of Alabama
Montgomery, Alabama 36104

SAFETY RECOMMENDATION(S)

H-82-1 through -3

At 9:00 a.m. c.d.t., on September 15, 1981, a northbound truck tractor-cargo tank semitrailer loaded with 8,986 gallons of gasoline was struck by a westbound freight train at a railroad/highway grade crossing on Jordan Lane in Huntsville, Alabama. The gasoline cargo escaping from the ruptured cargo tank splashed over the locomotive and four passenger cars, that had stopped north of the track to await the train's passage, and ignited. At the time, the crossing warning red lights were flashing and the bell was ringing; the train lights were illuminated, its bell was ringing, and its whistle was sounding. Five persons were killed, two persons died later as a result of their injuries, and four of five train crewmembers were injured. 1/

The crossing is protected by flashing lights on both sides of Jordan Lane and a bell that were installed in 1942 and upgraded in 1976. The crossing warning lights are located about 23 feet south of the track and 5 feet east of the roadway, and 25 feet north of the track and 7 feet west of the roadway. The railroad whistle post was located 1,540 feet east of Jordan Lane. The flashing lights and bell are controlled by a railroad motion detector approach circuit located 1,700 feet east of the crossing.

The crossing warning system was inspected by the SRS signal maintainer on September 2, 1981, and found to be operating properly. On September 4, 1981, the City of Huntsville repaired a red warning light that hangs over the approach lanes and is activated when the railroad crossing lights are activated. The warning light was operating properly at the time of the accident.

On the northbound approach to the track, stop bars and advance railroad crossing markings are painted 15 feet and 130 feet, respectively, from the track. The condition of the signs, which were repainted on September 9, 1981, was excellent. A railroad crossing advance warning sign is located at the side of the road 115 feet from the crossing.

Between January 1971 and September 3, 1981, 12 train-involved accidents (3 property damage only and 9 personal injury accidents with no fatalities) occurred at the Jordan Lane crossing. In six of the accidents, between June 1977 and April 1981, five persons were injured and the property damage ranged from \$600 to \$4,000 per accident. In five of the accidents, the vehicles were traveling northbound on Jordan Lane. In four of the accidents, the weather was rainy or cloudy. Two of the accidents involved trucks.

1/ For more detailed information, read Highway Accident Report—"Miller Transporters, Inc., Tractor Cargo Tank-Semitrailer/Southern Railway System Freight Train Collision and Fire; Huntsville, Alabama, September 15, 1981" (NTSB-HAR-82-1).

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On August 8, 1978, a State diagnostic team reviewed the Jordan Lane crossing and recommended installation of new signals on 24-foot cantilevers. Another State diagnostic team reviewed the crossing on November 15, 1979, and recommended the installation of a prefabricated rubber crossing. At the time of the accident, the recommendations had not been implemented.

After the accident, the Alabama legislature adopted a joint resolution on October 6, 1981, which "strongly urges the highway department to install said overhead warning signals and safety lowering gates on Jordan Lane and warning signals on the said turning lane of Governor's Drive; and, in the absence of such action, that this body receive a full and detailed explanation of why such actions were not taken."

In response to the joint resolution, the State Highway Department formed another diagnostic team consisting of State, City, and railroad officials. This team reviewed the crossing on October 14, 1981, and made the following summarized recommendations:

- o Install back-to-back cantilever and postmounted railroad crossing flashers.
- o Install two warning bells.
- o Install crossing gates.
- o Construct an additional left turn storage lane on the north approach (southbound) of Jordan Lane.
- o Install an advance railroad sign and flasher for Governor's Drive east (westbound) approach right turn lane. This signal would flash while the crossing signal is activated.
- o Install active signing for Governor's Drive west approach (eastbound) left turn lane. This sign would prohibit left turns while the crossing signal on Jordan Lane is activated.
- o Install R8-8 signs - "Do not stop on tracks."
- o Install rubberized crossing.
- o Remove vegetation alongside railroad tracks.
- o Install optically programmable signal heads for Jordan Lane north (southbound) approach to reduce visual conflict with the railroad crossing signal.
- o Selective enforcement for crossing violations.
- o Repair damage to pavement and markings at crossings.

In compliance with an Alabama State Legislative Resolution and in an effort to improve the safety of this crossing, the State of Alabama Highway Department is currently reviewing the recommendations made by the diagnostic team that evaluated the crossing on October 14, 1981. It is not certain that the recommendations presented by the diagnostic team would have prevented this accident. Because the truckdriver was the only driver in the immediate area who did not react to the activated crossing warning

signals and/or train, the warning system would appear to have been adequate for most drivers. The accident history of this crossing indicates that other northbound vehicle drivers may have also had problems seeing the crossing warning signals in the past, particularly during similar inclement weather as existed at the time of the accident. The changes recommended would provide additional overhead lights to improve conspicuity and a physical barrier in the form of crossing gates which would require a driver to make a positive decision and a specific driving maneuver to bypass the activated warning system. The additional improvement recommendations which were to be related primarily to smooth traffic flow and preventing stopped vehicles from being trapped on the crossing during traffic congestion indicates that local authorities believe they can improve the safety and operation of this crossing. In consideration of the September 15, 1981, accident and the previous accident history, the Safety Board commends the State of Alabama and the City of Huntsville for their desire to improve the traffic control at this crossing and recommends that necessary corrective actions be implemented in a timely manner.

The bill of lading for the gasoline cargo indicated that the loaded truck departed Marathon Oil Company, Birmingham, Alabama, at 6:58 a.m. en route to Boone Oil Service Station in Huntsville, near Sparkman Drive and Memorial Parkway. The driver or carrier could have chosen several routes through the city since Huntsville does not currently have a designated hazardous material highway route for gasoline trucks; however, the route had been designated by the carrier, Miller Transport Inc., because of the widths of roads available and the amount of traffic involved.

Other routes would have affected the distance traveled, required travel over different width roads, and would have involved travel routes that used overpasses to traverse some of the railroad crossings. However, these routes would have resulted in exposure to additional highway traffic and intersections and would have required a thorough evaluation of the safety aspects of each route.

Because the State of Alabama and the City of Huntsville have not designated specific routes for hazardous materials carriers at this time, the Safety Board believes an evaluation of the possible and practical routes through the city should be made to determine if utilization of designated travel routes might increase the safety of the carriers and all traffic that might be exposed to them. The Southern Railway System has made an active contribution to the Operation Lifesaver program and during the past year has recognized a need for a more specialized involvement of the trucking industry.

In cooperation with law enforcement agencies, the Southern Railway System implemented a pilot program in Alabama which involves:

1. Identifying hazardous crossing locations for upgrading and enforcement concentration.
2. Holding educational meetings between the railroad and trucking firms.
3. Providing personal contact and information for the drivers.
4. Notifying trucking firms of incidents discovered by the Southern Railroad near-collision report program.

Trucking firms, including Miller Transporters, Inc., stated they were aware of and supported the program and are interested in increasing their involvement to aid in educating and motivating their drivers to be safety conscious. The Safety Board believes that the State should build on this program to cover all rail crossings in Alabama.

Therefore, the National Transportation Safety Board recommends that the State of Alabama:

Emphasize and expand the existing Operation Lifesaver program to more fully involve municipalities and to build on the Southern Railway System pilot program in order to address the problems specifically associated with trucks carrying bulk hazardous materials over grade crossings. (Class II, Priority Action) (H-82-1)

Study the routes available for travel by carriers of bulk hazardous materials on State highways in congested areas, particularly relative to exposure to railroad crossings, for the purpose of restricting travel to designated routes involving the fewest safety hazards and assist counties and cities in conducting similar evaluations of county and city roadways. (Class II, Priority Action) (H-82-2)

Complete the review of the recommendations of the diagnostic team that examined the Southern Railway System, Jordan Lane crossing on October 14, 1981, and develop appropriate corrective action at an early date. (Class II, Priority Action) (H-82-3)

BURNETT, Acting Chairman, and GOLDMAN and BURSLEY, Members, concurred in these recommendations. McAdams, Member, did not participate.


By: Jim Burnett
Acting Chairman