

Log H-437

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: March 22, 1985

 Forwarded to:

State Directors of Pupil Transportation
 Governors of 50 States & D.C.

SAFETY RECOMMENDATION(S)

H-85-4 through -6

About 3:25 p.m. on April 12, 1984, a westbound Chesapeake and Ohio Railway Company freight train traveling about 49 mph struck the front right side of a northbound 1980 Isle of Wight County schoolbus stopped at a railroad grade crossing on State Route (SR) 615 near Carrsville, Virginia. The weather was clear, the sun was to the schoolbus driver's left, and the train's whistle and bell were sounding before the collision. There were crossbucks on both sides of the single track crossing. The driver's sight distance in the direction of the approaching train was about 1/3 of a mile. The 64-passenger schoolbus body separated from the chassis at impact, rotated counterclockwise 180 degrees, rolled over 270 degrees to the right, and came to rest on its left side about 80 feet southwest of the crossing. Of the 26 school-aged bus passengers, two were injured seriously, one had moderate injuries, and the other 23 sustained minor injuries. The busdriver was seriously injured and died five days after the accident. The traincrew was not injured. 1/

According to the students in the bus, on the day of the accident the busdriver discharged two students in front of their home at a private driveway on the north side of the crossing, drove across the crossing, discharged another two students opposite a side road called Duke's Lane (a private road parallel to and 60 feet south of the tracks), drove south about 900 feet, and discharged a fifth student at a private driveway. She then shifted into reverse gear and backed the bus about 900 feet northbound on SR 615 and into Duke's Lane, turned right from Duke's Lane onto northbound SR 615, and drove onto the crossing where she stopped the bus with the steering axle between the rails.

The driver's husband reported that his wife had previously stated to him that a turnaround point on her designated route was unsafe, but that she did not specify the location. The map of her route shows three turnaround points, including the one on SR 615. Two of the children on the bus reported that the driver formerly used a driveway

1/ For more detailed information, read: Highway Accident Report--Collision of Isle of Wight County, Virginia, Schoolbus with Chesapeake and Ohio Railway Company Freight Train, State Route 615, Near Carrsville, Virginia, April 12, 1984. (NTSB/HAR/-85/02)

"down the road" as a turnaround point on SR 615, but had recently been backing up and using Duke's Lane to turn around. One of these children reported that the driver had told her before the accident that she could not continue to turn around in the driveway because of "a government policy or law." Since there is no evidence to indicate that the driver changed either of the other two specified turnaround points on her route, it is reasonable to assume that the turnaround point on SR 615 is the one to which she was referring. If the driver had been approaching the crossing driving forward for a greater distance without the distraction of backing the bus, she would have had more time to see and gauge the speed of the approaching train, and the train would not have been blocked from her view for a period of time while she was turning around in Duke's Lane.

The annual contract between the driver and the Isle of Wight County School Board specified that the driver was to make no unauthorized changes to the assigned route. The County Coordinator for Pupil Transportation stated that the county had no program to systematically monitor schoolbus driver compliance with established routes, that he was unaware of the change in the turnaround point made by this driver, but that he did observe schoolbus driver actions on his way to and from work and while driving in the area. The Safety Board believes that school officials should periodically monitor the compliance of all schoolbus drivers with established route requirements.

The resident whose two children were dropped off north of the crossing just before the accident reported that 8 days before the accident, on April 4, 1984, she mentioned during a visit with the secretary of the principal of the Carrsville Elementary School that the driver involved in the accident was not stopping the bus at the crossing. Both the principal and his secretary denied ever having received such a report about any Carrsville schoolbus driver.

Another resident of the area who lives on Duke's Lane about 2/10 of a mile east of the accident site reported that his wife, who died on March 10, 1984, had called the "school board" on three separate occasions during the 1982-83 school year to report that one or more bus drivers were not stopping at the crossing. The last call reportedly was made in the spring of 1983. He could not identify which school official was contacted, or whether it was a Carrsville or some other school's bus which his wife observed failing to stop for this crossing. Buses for the Windsor High School in Windsor, Virginia, also use this crossing. This resident reported that schoolbuses would never stop at the crossing and that the first time he ever saw a schoolbus stop and open the entrance door at the crossing was on May 24, 1984, the day he was interviewed by a Safety Board investigator. (The busdriver involved in this accident did not use this crossing on the route she drove for Windsor High School.)

Based on an interview with a former driver on the accident route, the Safety Board believes that the driver was aware that trains were likely to be encountered at this crossing. However, as previously mentioned, several persons reported that they had observed schoolbuses fail to stop at the accident crossing, both before and after the accident. There was no program in effect in Isle of Wight County to systematically monitor the compliance of schoolbus drivers with railroad crossing stop requirements. Reports that schoolbus drivers were not stopping at the crossing either were not made or effective action was not taken by school officials.

The Safety Board believes that school officials should stress, during initial and in-service training of schoolbus drivers, the necessity for complying with statutory and contractual requirements that schoolbuses stop at crossings and that school officials

should monitor systematically driver compliance with these requirements by on-scene observations. Also, at or near the start of each school year, school officials should issue an announcement to parents and students which contains the railroad crossing stop requirements for schoolbuses in effect in that jurisdiction and which requests that schoolbus drivers who fail to comply be reported to a designated school official.

The investigation disclosed that the schoolbus driver had been under a great deal of both continuing and immediate stress during the months before, and the day of, the accident. It was reported that this driver had been involved in marital discord during the weeks before the accident and had been wearing dark glasses to hide her eyes which were swollen from crying and sleeplessness.

Evidence also indicates that the driver's new schoolbus route caused her stress. She formerly was assigned to a route transporting high-school-aged children. All her friends who were interviewed recalled her talking about her dislike for the new schoolbus route and the disciplinary problems she was having with the elementary-school-aged children on the route. The children on the bus were characterized by the driver and others as being very loud, and according to the children on the bus at the time of the accident, their behavior on the accident run apparently was typical. Several children commented that on the accident run the driver did not pull over to the side of the road to restore order as she had almost every day before the accident. Due to her possible preoccupation with other matters the day of the accident, the driver may have blocked out the noise on the bus intentionally, which also would have the effect of blocking out other audible stimulæ, including the whistle of an approaching train. This kind of dissatisfaction and lack of control of the work environment is rated highly on stress-evaluation scales such as the Holmes-Rahe test and can, in itself, cause many stress-related symptoms. 2/ Other symptoms of stress, which are typical but which the driver did not exhibit according to the interviews, include performance deficiencies, needless risk taking, carelessness, and high accident rate. 3/ These symptoms are consistent with her apparent failure to perceive the danger of not stopping at railroad crossings as was reported by several of the students on the schoolbus route, and why she altered the turnaround point on SR 615. This alteration included a backing maneuver about 900-foot long and which blocked the approaching train from her view at its point of termination in Duke's Lane. While some level of stress can enhance performance, excess stress can lead to substandard performance. Initially as stress increases, performance improves until some optimal relationship occurs. Any further increase in stress will result in performance degradation. When a person becomes overloaded because of any stress, there is a narrowing of his/her attention. Any central task will be focused upon while quality of the performance of any peripheral tasks will deteriorate. 4/

2/ Rahe, R.H. "Life Crisis and Health Change," Report No. 67-4, Naval Medical Neuropsychiatric Research Unit, San Diego, California, 1967.

3/ Reighard, H.L., MD., Federal Air Surgeon, "Warning Signs of Employee Distress," Memorandum to Federal Aviation Administration Regional Flight Surgeons, dated February 29, 1984.

4/ Yerkes, R.M., and Dodson, J.D., "The Relations of Strength of Stimulus to Rapidity of Habit Formation," Journal of Comparative Neurology & Psychology 18" (1908); 459-82.

A change in the driver's route assignment 4 1/2 months before the accident probably exacerbated her problem with coping with the stress she was experiencing due to marital discord. Because of the unique physical and mental demands placed upon schoolbus drivers, and because these demands may induce stress which adversely affects job performance, the Safety Board believes that persons responsible for schoolbus driver selection and supervision should: discuss the physical and mental demands placed upon schoolbus drivers with driver applicants during the selection process, encourage drivers to discuss their problems and their satisfaction with the present job assignment during routine contacts and during performance evaluations, and encourage supervisors to have frequent contact with their schoolbus drivers to discuss and resolve behavior problems concerning schoolbus passengers. Persons responsible for schoolbus driver selection and training may also consider developing and incorporating a stress recognition and management program into the initial and in-service training for schoolbus drivers and their immediate supervisors. 5/

As a result of its investigation of this accident, the National Transportation Safety Board recommends that the State Directors of Pupil Transportation of the 50 States and the District of Columbia:

Encourage local school jurisdictions to establish and enforce procedures to systematically monitor schoolbus driver compliance with railroad crossing stop requirements and routing requirements which include on-scene observations of driver performance. (Class II, Priority Action) (H-85-4)

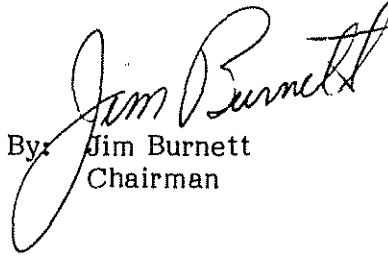
Encourage local school jurisdictions to issue an announcement to parents and students at or near the start of each school year which (1) states the jurisdiction's rules regarding schoolbuses stopping at railroad crossings, (2) requests that schoolbus drivers who fail to comply be reported to a designated school official, and (3) provides the name and telephone number of the official. (Class II, Priority Action) (H-85-5)

Encourage local school jurisdictions to: discuss with driver applicants during the selection process the physical and mental demands placed upon schoolbus drivers, encourage in-service drivers to discuss their problems and their satisfaction with the present job assignment with their supervisors during routine contacts and during performance evaluations, and encourage supervisors to have frequent contact with their schoolbus drivers to discuss and resolve behavior problems concerning schoolbus passengers. (Class II, Priority Action) (H-85-6)

5/ Murphy, Lawrence R., Ph.D, "Worksite Stress Management Programs," 1981-1982 Employee Assistance Program (EAP) Digest Annual, pp. 81-84, published by Performance Resource Press, Inc., 2145 Crooks Road, Suite 103, Troy, Michigan 48084.

The National Transportation Safety Board is an independent Federal agency with the statutory responsibility ". . .to promote transportation safety by conducting independent accident investigations and by formulating safety improvement recommendations" (Public Law 93-633). The Safety Board is vitally interested in any actions taken as a result of its safety recommendations and would appreciate a response from you regarding action taken or contemplated with respect to the recommendations in this letter.

BURNETT, Chairman, GOLDMAN, Vice Chairman, and BURSLEY, Member, concurred in these recommendations.


By: Jim Burnett
Chairman

