

NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

ISSUED: October 21, 1980

Forwarded to:

Mr. John Murphy  
President, National School  
Transportation Association  
325 Melrose  
Providence, Rhode Island 02907

SAFETY RECOMMENDATION(S)

H-80-74

About 3:25 p.m., on April 23, 1980, a truck tractor was traveling north on California State Route 86, a two-lane rural highway, when its left front tire blew out. The tractor swerved to the left, crossed the centerline, and collided head-on with a southbound schoolbus that was transporting nine teenaged students. The busdriver and three students were killed; the truckdriver and six students were injured. 1/

The left front tire of the tractor blew out because an earlier impact injury damaged the tire cords and produced a tread separation that continued to erode and abrade the tire cords until the tire failed. After the tire failed, the truckdriver and busdriver had no real opportunity to avoid the collision. The front of the schoolbus was crushed and deformed rearward and formed a "wall" of debris just forward of the fifth row of seats. Seats to the rear of this damage area remained relatively in place with major damage to the seatbacks in areas where students were seated before the collision.

In 1977, the Safety Board investigated an accident involving a stopped schoolbus that was struck in the rear by a tractor-semitrailer. Of the three children who died, two were sitting in the last row of seats in the bus and one was sitting in the first row of seats. In its 1978 report on this accident, the Safety Board recommended that the National Highway Traffic Safety Administration (NHTSA) revise its pupil transportation safety standard to provide that no passengers occupy seats in either the foremost or rearmost rows until all other seats have been occupied. 2/ An examination of the crash damage to the schoolbus in this Coachella, California, accident and the seat positions of occupants who died and survived supported this recommendation.

1/ For more detailed information read, Highway Accident Report: "B & J Trucking Company Truck Tractor/Coachella Valley Unified School District Schoolbus Collision, State Route 86, Coachella, California, April 23, 1980" (NTSB-HAR-80-6).

2/ "Highway Accident Report--Tractor-Semitrailer/Schoolbus Collision and Overturn, Rustburg, Virginia, March 8, 1977" (NTSB-HAR-78-1).

Except for a passenger in row 10 who suffocated as a result of moderate injuries, only the driver and two passengers in row 5, who were sitting in the major damage zones near the front of the bus, died. The Safety Board's seating recommendation would not have prevented the fatalities which did occur since the two passengers who sat in row 5 could have sat there under the Safety Board's seating recommendation. However, if more passengers had been sitting in the major damage zones, or more particularly, at the front of the bus, more serious or fatal injuries would have occurred.

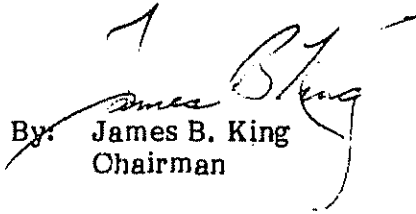
In responding to the Safety Board's recommendation, NHTSA noted that of the 45 occupants who died in highway accidents that occurred between 1975 and 1978, 22 (49 percent) died in front- or rear-end collisions. Also, there was "scant information to indicate whether the occupant's seating location contributed to their deaths in any of these cases." The National School Transportation Association reported that of 150 serious accidents reported to them in the past year, about 60 percent involved collisions with the front or rear of the bus. Rollover and side impact accidents were the other major accident types, but no information was available to indicate percentages for these accident types or whether the forward, middle, or rear areas were struck in side impacts.

Although NHTSA was "doubtful that many lives would be saved by a front-and-rear-seats-last policy," NHTSA believed that "such a policy has the virtues of simplicity and low cost and might in some cases reduce the chances of injury or fatality." NHTSA, therefore, planned "to urge States to adopt the Safety Board's recommendation by revising its pupil transportation safety manuals to include this policy." However, NHTSA has taken no action in this regard as of the date of this Coachella accident report, and the seating arrangement in this accident was, therefore, strictly by chance.

The Safety Board is concerned about the lack of statistical data to support its schoolbus seating recommendation. However, the concept of limiting occupant exposure at or near the most likely impact zones does appear to have theoretical merit and available data indicate that front and rear impacts are the most likely. Therefore, the National Transportation Safety Board recommends that the National School Transportation Association:

Inform its members of the National Transportation Safety Board recommendation that front and rear seats of schoolbuses be left vacant when feasible. (Class I, Urgent Action) (H-80-74)

KING, Chairman, DRIVER, Vice Chairman, McADAMS and GOLDMAN, Members, concurred in this recommendation. BURSLEY, Member, did not participate.

By:   
James B. King  
Chairman