

SD-20  
Log H-436

NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

ISSUED: March 20, 1985

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Forwarded to:

Mr. J. Earl Geil  
General Superintendent  
California Yearly Meeting  
of Friends Church  
15915 E. Russell Street  
P.O. Box 1607  
Whittier, California 90609-1607

SAFETY RECOMMENDATION(S)  
H-85-1 through -3

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About 4:05 p.m. on July 7, 1984, a bus owned and operated by a church accelerated out of control while descending a long steep grade on State Route (SR) 155 near Wofford Heights, California. The bus failed to negotiate a curve, left the road, and rolled to the right down a steep 28-foot embankment before coming to rest. Two of the 41 bus occupants were killed, 9 occupants sustained moderate to severe injuries, and 30 occupants received minor injuries. 1/

The schoolbus-type bus, owned by the California Yearly Meeting of Friends Church, had departed Long Beach, California, about 9 a.m. for a 7-hour trip to the Quaker Meadows church camp near Johnsondale, California. The bus carried 35 children and 6 adults, including the driver. The driver had driven the bus to the camp in years past and was familiar with the planned route. He neither asked for nor received advice on route selection before departing Long Beach from church officials who arranged the trip.

As in past years, the bus traveled via Interstate 5 north to SR 99, on SR 99 north to Bakersfield, California, and then proceeded east on SR 178. While traveling on SR 178, the driver encountered a massive rockslide blocking both directions of travel and was forced to return to Bakersfield to seek an alternate route. In Bakersfield, the driver stopped the bus for repairs to the exhaust pipe and asked a mechanic if he was aware of an alternate route across the mountains. The mechanic suggested that he take SR 155 and advised the driver to be careful on the steep downgrade on SR 155 after passing Greenhorn Summit. The driver was unfamiliar with two-lane SR 155.

1/ For more detailed information, read Highway Accident Report--"Church Bus Loss of Control on Long Steep Grade, State Route 155, near Wofford Heights, California, July 7, 1984" (NTSB/HAR-85/01).

The driver stated that he was not aware that SR 178 had been closed since May 1984. Church officials in the Los Angeles area stated that they and the personnel at the Quaker Meadows camp had been aware of the road closure before the accident trip, but that they had not informed the busdriver. Had the busdriver known that his intended route was closed, he could have selected the alternate route from the Los Angeles area via Interstate 5 to SR 14, SR 14 east to SR 178, and SR 178 west to SR 190. SR 14 was a safer route for commercial vehicles to travel than either alternate route from Bakersfield since the grades and curves were less severe. After reaching SR 178, it was impractical for the busdriver to drive back to SR 14. Although backtracking to SR 14 would have been safer, it would have prolonged his driving time by at least 2 hours and also may have required the driver to make another rest stop for the passengers. At Bakersfield, the busdriver had a choice of two poor alternatives, both of which required the driver to travel over extremely mountainous terrain with steep grades and short radius curves.

Church officials were aware that SR 178 had been closed. They should have informed the busdriver of this fact before the trip and should have suggested an alternate route for the bus to take. Although the church officials made all the other arrangements for the trip, they did not provide the driver with a trip itinerary to identify suggested rest stops and alternate routing if needed.

The postaccident inspection of the bus revealed that two of four service brakes were improperly adjusted. Airbrake performance can degrade significantly when the pushrod stroke increases beyond the fully adjusted (minimum stroke) distance. As the pushrod stroke increases, overall braking efficiency is reduced and stopping distances are increased proportionately. In a downhill runaway vehicle situation, service brakes that are properly adjusted can be overworked and become overheated. They ultimately lose effectiveness not only from the overheating but also from brake drum expansion. In this accident, the improperly adjusted service brakes became less effective more quickly as the bus gained speed on the long descent. Finally, the service brakes reached a point where they could no longer control the vehicle's speed.

The Safety Board has investigated at least 10 catastrophic accidents from 1974 to 1984 involving unregulated, private activity buses not engaged in "for hire" operations. Seven of the 10 accidents involved church buses. Poor mechanical condition of private activity buses has been a recurring factor in many of the accidents. Seven of the 10 buses involved had serious mechanical problems detected during postaccident inspections. In 5 of the 10 accidents, the mechanical conditions were causal to the accident. Most activity bus owner/operators who purchase used schoolbuses do not have preventive maintenance programs comparable to the original bus owners (school districts). Older buses normally require more maintenance and should be subjected to more frequent periodic inspections if they are to remain in safe operating condition. The Safety Board strongly urges all activity groups to implement effective inspection and maintenance programs to ensure that they are not operating mechanically unsafe vehicles.

Therefore, the National Transportation Safety Board recommends that the California Yearly Meeting of Friends Church:

Disseminate to member churches the circumstances of the accident at Wofford Heights, California, on July 7, 1984. (Class II, Priority Action)  
(H-85-1)

Urge member churches to provide trip itineraries to busdrivers on church-sponsored trips that specify the trip route, scheduled stops, and alternate routes. (Class II, Priority Action) (H-85-2)

Urge member churches to establish a systematic maintenance program which requires frequent inspections of brakes and tires on all activity vehicles. (Class II, Priority Action) (H-85-3)

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

