



National Transportation Safety Board
Washington, D.C. 20594
Highway Accident Brief

Accident No.: HWY-99-FH012
Accident Type: Motorcoach loss of control and overturn
Location: New Mexico State Route 475
9 miles west of the Santa Fe Ski Basin
Date and Time: March 2, 1999, about 4:30 p.m.
Owner/Operator: Shuttle Jack, Inc.
Vehicle: 1979 Motor Coach Industries MC-9
Fatalities: Two
Injuries: Thirty-five

Accident Description

On March 2, 1999, a 1979 Motor Coach Industries MC-9, 47-passenger charter motorcoach, owned and operated by Shuttle Jack, Inc., (Shuttle Jack) of Santa Fe, New Mexico, departed the Santa Fe Ski Basin, carrying the driver, 2 adult chaperons, and 34 middle school-age children. The bus began to descend a 14-mile mountainous roadway. About halfway down the grade, the driver discovered that the vehicle's air brakes were no longer capable of slowing or stopping the bus. He noted that the brake air-pressure-gauge reading was between 90 and 120 pounds per square inch, which was the normal system operating pressure for this vehicle. During the next 3.5 miles, the driver made several unsuccessful attempts to bring the bus under control by pumping the air brakes, downshifting the automatic transmission, pulling on the emergency/parking brake valve, and shutting off the engine. Eventually, the driver lost control of the bus while rounding a left-hand curve. The bus departed the right side of the roadway, crashed into a rock embankment, and then rolled onto its left side back onto the roadway. (See figure 1.) The calculated speed of the bus was 60 to 65 mph at the time of the collision. Two passengers were fatally injured, and the 35 other occupants received varying degrees of injuries.

A postaccident mechanical inspection of the bus by National Transportation Safety Board investigators revealed that the steering axle brakes were out of adjustment and the brake drums had dark spots, typically seen on overheated drums. The drive axle brakes were also out of

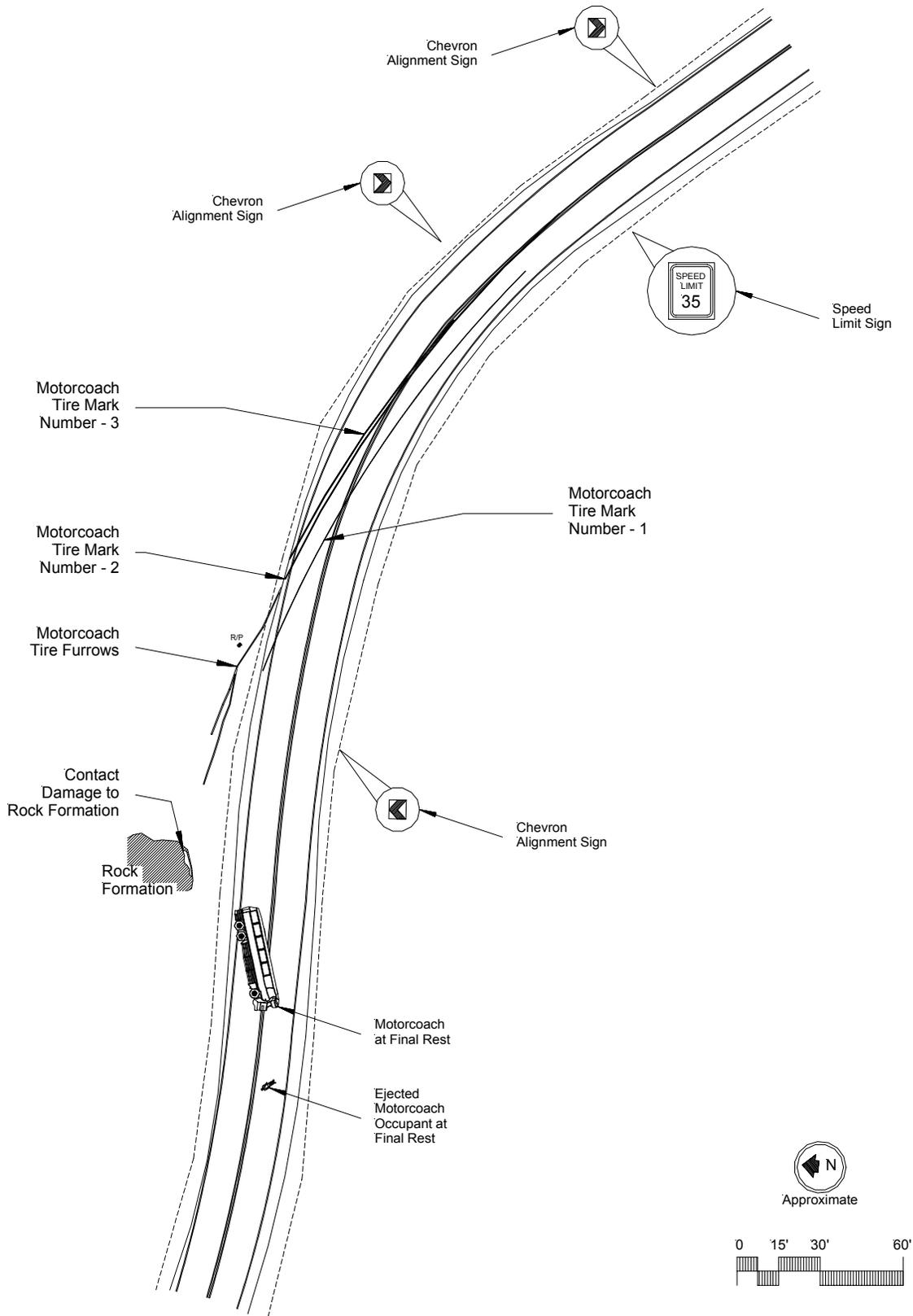


Figure 1. Diagram of motorcoach loss of control and overturn.

adjustment to the extent that they were incapable of providing any braking force. The brakes on the auxiliary weight-bearing axle, commonly referred to as a “tag axle,” were not operational because they were “cammed over.”¹ Both tag axle drums were worn beyond the manufacturer’s accepted limits.

Motor Carrier Operations

From 1977 to 1998, Shuttle Jack was a for-hire passenger carrier, with both intrastate and interstate authority.² The carrier operated an airport shuttle from Santa Fe to Albuquerque, New Mexico, consisting of a door-to-door van service and a regularly scheduled motorcoach route with pick-up points at several hotels. The company was also engaged in charter operations, which transported tour groups within New Mexico and to other States. The shuttle operation and the charter service accounted for 60 and 40 percent, respectively, of its business.

In October 1998, the owner of Shuttle Jack was awarded a \$2.731 million contract from the New Mexico State Highway and Transportation Department, under a Federal Transit Administration grant, to provide a “park-and-ride” service from Santa Fe to Los Alamos, Espanola, and Pojoaque, New Mexico. The Northern New Mexico Park and Ride/Express Bus Company was created to operate, with intrastate authority only, under the contract, which provided funding for the lease of 6 vehicles equipped for use by disabled people and 26 motorcoaches³ and for the hiring of 26 new drivers. The park-and-ride operation began on November 2, 1998. The owner commingled the facilities and operations of Northern New Mexico Park and Ride/Express Bus and Shuttle Jack.

As required by the contract, the new vehicles were scheduled to undergo Commercial Vehicle Safety Alliance (CVSA) Level I inspections⁴ by the New Mexico Motor Transport Division (MTD)⁵ on March 6, 1999. (The accident occurred on March 2.) Level I is an inspection that includes an examination of the driver’s license, medical certificate, and duty status record; a complete vehicle inspection; and hazardous material requirements, as applicable. Inspections took place on March 6, as scheduled, and again on March 13. All but two of the inspected park-and-ride and Shuttle Jack motorcoaches were placed out of service due to various mechanical defects, most related to the brake system. Because of the circumstances surrounding this motorcoach accident and the results of the vehicle inspections, the New Mexico State Highway and Transportation Department subsequently canceled the park-and-ride contract.

¹ A condition in which the s-cam rotates beyond the foundation brake cam rollers and remains lodged in this position. The cause is generally a combination of out-of-adjustment brakes, worn brake shoes, and an excessively worn drum.

² Shuttle Jack began operations in 1973 and is currently out of business; the owner at the time of the accident purchased the company in 1977.

³ 1979 through 1983 Motor Coach Industries model MC-9 buses.

⁴ The CVSA has six inspection protocols.

⁵ The MTD is responsible for commercial vehicle inspection enforcement within the State.

Vehicle Inspection and Maintenance

Title 49 *Code of Federal Regulations* (CFR) 396.11 and 396.13 requires that commercial vehicles be inspected on a daily basis before beginning each trip and upon concluding each trip. The carrier is required to keep records of these inspections for 3 months. New Mexico had adopted these regulations as part of its participation in the Motor Carrier Safety Assistance Program.

According to company mechanics, they did not routinely see the driver pretrip or posttrip inspection forms and did not know whether company drivers completed these inspections. The mechanics stated that the only vehicle inspection forms that were submitted to them were those that noted a defect. According to the accident driver, who had worked for Shuttle Jack since May 1998, he had never completed a pretrip or posttrip vehicle inspection. Although the company had a written policy for periodic vehicle inspection and maintenance, Safety Board investigators found no evidence that this policy had been implemented. A review of the company maintenance records and their dates revealed that vehicle inspection reports were being completed sporadically by some drivers. No records indicated evidence of routine vehicle maintenance.

Shuttle Jack did not keep brake mechanic qualification records as required under 49 CFR 396.25. Safety Board investigators interviewed three of the company's mechanics, and none was able to adequately describe how to conduct a vehicle brake inspection, how to adjust brakes, or what were the maximum brake adjustment levels for the type of brakes on the buses.

Federal and State Oversight

The interstate operation of Shuttle Jack was subject to Federal oversight and the *Federal Motor Carrier Safety Regulations* (FMCSRs); its intrastate operation was subject to State oversight and the *New Mexico Motor Carrier Safety Regulations*.

The New Mexico Motor Carrier Act⁶ (Act) is substantially similar to the FMCSRs. The Act applies to, among other vehicles, buses designed to transport 16 or more passengers and grants the New Mexico Secretary of Transportation the authority to apply necessary safety rules provided they are “not inconsistent with nor more stringent than applicable Federal safety standards.”⁷ The safety rules include provisions for the inspection of vehicles and records at a motor carrier's place of business. Unlike the FMCSRs, the Act only allows the Secretary to assess a fine not to exceed \$500 or 30 days in jail or both for violations of the safety rules. The FMCSRs allow for penalties that include fines and placing the motor carrier out of service.

Shuttle Jack received Federal compliance reviews in 1989, 1991, 1995, 1996, 1997, and 1998. The company was given “satisfactory” ratings for all reviews except 1996, when it received a “conditional” rating because it lacked an adequate drug and alcohol program. These reviews were conducted by Federal and State officials, who examined the carrier's activities

⁶ New Mexico Statutes Annotated 1978, Chapter 65, Article 2.

⁷ *Ibid.*, Article 3.

related to its interstate operation only. Before the accident, Shuttle Jack had not received a review of its intrastate operation only.

The New Mexico MTD conducted three random CVSA Level II inspections⁸ on the accident bus in 1996, 1997, and 1998. A Level II inspection is a roadside walk-around, driver and vehicle inspection, which does not require an inspector to go underneath the vehicle to inspect its brake system or undercarriage components; therefore, no brake inspections were conducted on the accident bus.

Although the New Mexico State Highway and Transportation Department did not perform daily or routine carrier oversight, in terms of vehicle safety, it did monitor and take action on complaints registered by passengers about the operation of the park-and-ride service.

After this accident, the New Mexico Public Regulatory Commission, which has limited vehicle safety oversight responsibilities and relies solely on MTD assistance, asked the MTD to inspect the park-and-ride and Shuttle Jack vehicles that did not fall under the FMCSRs, such as vans designed to transport fewer than 15 passengers. As a result of that inspection, numerous safety violations were found.

Probable Cause

The National Transportation Safety Board determines that the probable cause of this accident was the poor condition of the motorcoach brakes due to the lack of an effective motor carrier vehicle maintenance and inspection program. Contributing to the accident was the lack of State oversight of the motor carrier's intrastate operations.

Adopted: September 17, 2001

⁸ Level II inspections are the most common motorcoach inspections nationwide.