



National Transportation Safety Board

Washington, DC 20594

Highway Accident Brief

Accident No.: HWY-01-F-H010
Accident Type: Single vehicle run-off-road rollover
Location: U.S. Route 101, San Miguel, California
Date and Time: January 2, 2001, about 8:05 a.m.
Vehicle Involved: 2000 Krystal Enterprises, Inc., 31-passenger bus attached to a Ford Motor Company F-550 XLT Super-Duty chassis manufactured with seating for a driver and a front-seat passenger
Owner: West Valley Charter Lines, Inc.
Operator: West Valley Charter Lines, Inc., busdriver
Operation: Transporting children to California School for the Deaf in Fremont, California
Vehicle Damage: Front end and right front of roof crushed and passenger-side roof shifted toward driver's side
People on Board: Driver and five passengers
Injuries: Two fatal, two serious, and two minor

Accident Description

On January 2, 2001, about 1:30 a.m., the West Valley Charter Lines (West Valley) busdriver arrived at the bus yard in Campbell, California, and conducted a safety inspection of the bus. The weather was clear and dry. The driver departed the bus yard about 2:00 a.m. and traveled approximately 22 miles to the California School for the Deaf, Fremont (CSDF) in Fremont, California, to pick up an adult student aide (see figure 1 for route map). They departed CSDF about 2:45 a.m. and drove to San Luis Obispo, approximately 200 miles south of CSDF, taking a half-hour break in King City. The bus picked up one student in San Luis Obispo, departing about 7:15 a.m., and two more students in Atascadero, 17 miles north of San Luis Obispo, departing there about 7:45 a.m. The bus then traveled approximately 10 miles to Paso Robles, where one student boarded the bus. The driver said that, about 8:00 a.m., they left Paso Robles, where he reentered U.S. 101 northbound and set the cruise control at 70 mph (the posted speed limit was 65 mph). The driver stated that he had a limited recollection of events beyond that time. The accident occurred about 8:05 a.m.

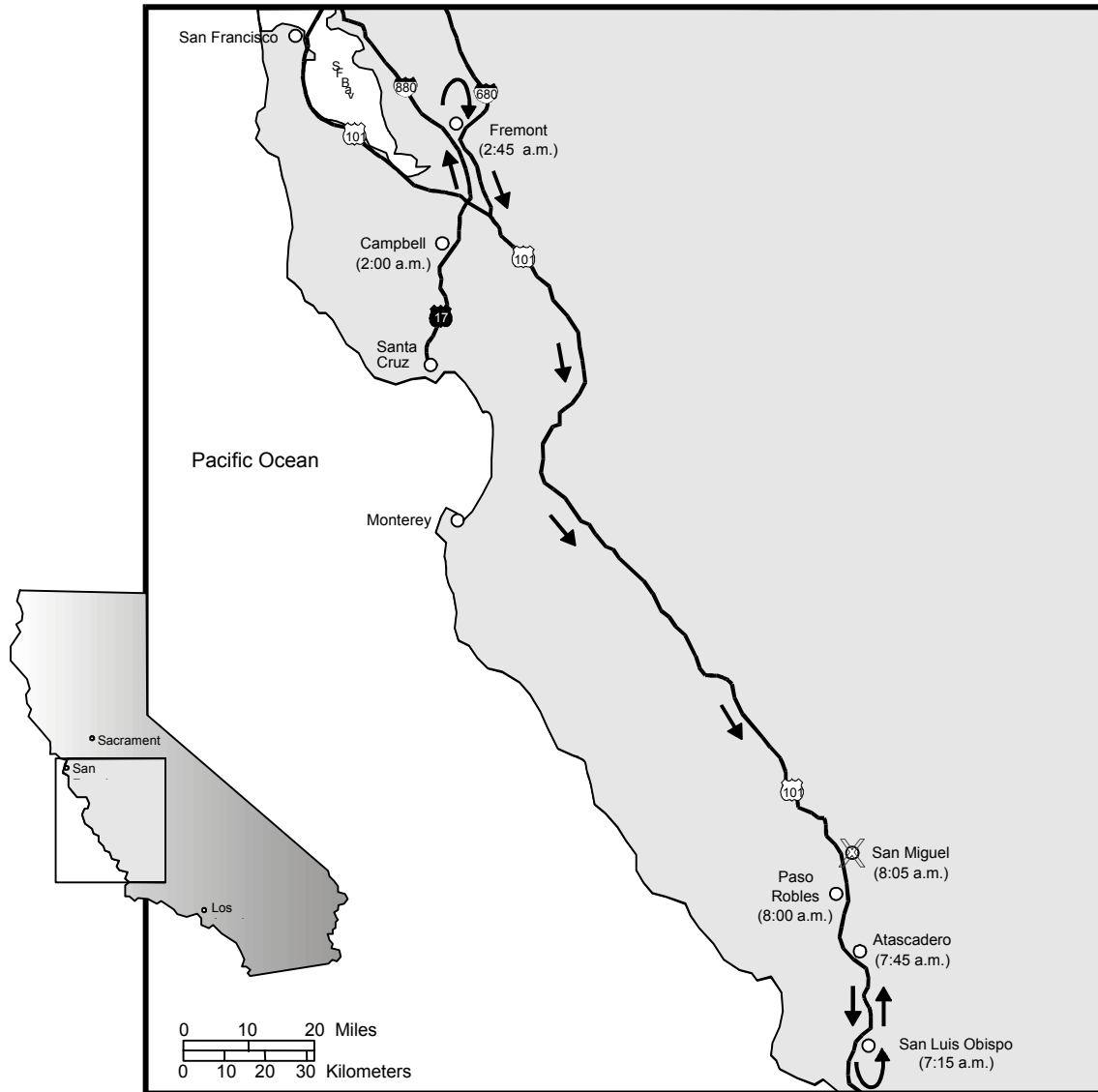


Figure 1. Accident trip route.

Physical evidence from the scene indicated that the bus departed the right side of the road, crossed the asphalt shoulder, and struck the terminal end of a W-beam breakaway cable guardrail. Tire marks on the shoulder leading to the guardrail indicated a departure angle of approximately 4 degrees. The bus then clipped the end of the concrete bridge rail and plunged about 23 feet to the roadway below. The bus began to roll, and the right front of the bus struck the roadway below. The bus continued to roll and turn toward the right after impacting the ground and came to rest on its left side, having rolled 270 degrees and yawed (rotated laterally) 180 degrees.

Two passengers were ejected and came to rest underneath the bus, sustaining fatal injuries. Three passengers remained inside the bus; two sustained serious injuries and one sustained minor injuries. The driver, who was wearing a lap/shoulder belt, sustained minor

injuries. Only the driver seat and right-front passenger seat were equipped with lap/shoulder belts.

Motor Carrier and Route Operations

CSDf contracted with West Valley, as well as with three other carriers, to provide transportation for residential students to their homes on weekends and holidays. West Valley is registered with the Federal Motor Carrier Safety Administration as a for-hire interstate passenger carrier. West Valley is also registered with the California Highway Patrol as a School Pupil Activity Bus (SPAB) and Tour Bus Operation, which California Education Code 39830.1 defines as:

... any motor vehicle, other than a schoolbus, operated by a common carrier, or by and under the exclusive jurisdiction of a publicly owned or operated transit system, or by a passenger charter-party carrier, used under a contractual agreement between a school and carrier to transport school pupils at or below the 12th grade level to or from a public or private school activity, or used to transport pupils to or from residential schools, when the pupils are received and discharged at off-highway locations where a parent or adult designated by the parent is present to accept the pupil or place the pupil on the bus.

As of December 8, 2000, the State of California had registered 1,671 SPAB vehicles. West Valley received a terminal inspection from the California Highway Patrol on August 2, 2000, which resulted in a satisfactory rating of both the SPAB and tour bus operations. The Federal Motor Carrier Safety Administration conducted a compliance review of West Valley's operations on April 16, 1999, resulting in a satisfactory rating.

The route taken by the accident bus was normally scheduled for Sundays. The driver and student aide customarily departed the school about 11:30 a.m. and began picking up students at 3:50 p.m., arriving at CSDf about 7:30 p.m. Sunday night in time for Monday classes. However, in this case, the schedule was modified to accommodate the New Year's Day holiday, which fell on a Monday. Thus, student pickup began instead on Tuesday morning around 7:00 a.m., with arrival at CSDf occurring about 11:00 a.m. to accommodate the 12:30 p.m. Tuesday start time. The contract stated that a student aide would ride on the bus during the trip.

Since the accident, the owner of West Valley said that the company has made a concerted effort to inform its drivers about fatigue, routinely providing information on its effects. In addition, West Valley now has a policy of using only drivers with night driving experience for routes that require such experience. The company also gives drivers several days off prior to driving at night, so that they can adjust their sleep/wake cycles.

Driver

At the time of the accident, the 69-year-old driver possessed a valid medical certificate and a valid commercial driver's license with a passenger endorsement and a SPAB certification.

California Education Code 39830.1 describes the requirements for a SPAB certification as follows:

The driver of a school pupil activity bus shall be subject to the regulations adopted by the Department of the California Highway Patrol governing schoolbus drivers, except that the regulations shall not require drivers to duplicate training or schooling that they have otherwise received that is equivalent to that required pursuant to the regulations, and the regulations may not require drivers to take training in first aid. However, a valid certificate to drive a school pupil activity bus does not entitle the bearer to drive a schoolbus.

SPAB drivers are required to complete 10 hours of recurrent classroom instruction or behind-the-wheel training each year. The training consists of, but is not limited to, current laws and regulations, defensive driving, accident prevention, emergency procedures, and passenger loading and unloading.

Staff and California Highway Patrol officers interviewed the driver. The driver had not driven a bus since December 19, 2000, when he returned from a 4-day interstate trip. The driver stated that on both December 30 and 31, 2000, he was off duty and awoke about 7:00 a.m. and went to bed about 11:00 p.m. On January 1, he awoke about 7:00 a.m. and planned to “take it easy” during the day because he knew he had to work at night. That night, he went to bed about 5:00 p.m. and got up about 11:00 p.m. He said his sleep was restful although sporadic, noting “I wasn’t really that tired.” He also said that, as usual, he got up a couple of times because of prostate problems, for which he was taking medication.¹ He ate a meal about 11:30 p.m. and then left the house about 1:20 a.m. to pick up the bus at West Valley.

Toxicological tests conducted on the driver’s blood did not reveal the presence of alcohol or drugs.

Nonconforming Buses

In the 1970s, the U.S Department of Transportation enacted school bus occupant crash protection standards to safeguard children being transported to and from school or school-related activities. Nonconforming buses—that is, vehicles used for student transportation that meet the Federal definition of a bus² but are not required to meet the Federal occupant crash protection standards for school buses, such as the SPAB vehicle involved in this accident (figure 2)—do not have comparable crashworthiness and occupant protection standards.

¹ The driver had prescriptions for Terazosin for prostate problems and Atenolol for high blood pressure. However, no evidence of these drugs was found in his blood or urine. Furthermore, neither drug would have contributed to drowsiness.

² The Federal Motor Vehicle Safety Standard (49 CFR 571.3) defines *bus* as a motor vehicle designed to carry more than 10 persons and *school bus* as a bus that carries students to or from school or school-related activities.



Figure 2. Body damage to nonconforming bus involved in San Miguel accident.

For its 1999 special investigation of nonconforming buses,³ the Safety Board investigated four accidents. Nine people were killed and 36 were injured in these collisions. Most of the victims, including the eight fatalities, were children.

The nonconforming buses involved in these four accidents did not and were not required to meet the Federal school bus occupant crash protection standards, which require that all school buses have roof rollover protection, energy-absorbing seats, and greater body joint strength than most types of vehicles. Had school buses been used in the four accidents, the vehicles probably would have sustained less intrusion damage, and the passengers may have suffered fewer and less severe injuries.

The States, which are responsible for enforcing the use of school buses, in most cases require that children be transported to and from school only on buses meeting Federal school bus crashworthiness standards. However, California allows the use of nonconforming buses for school activities or for transporting students to residential schools through the SPAB program.

³ National Transportation Safety Board, *Pupil Transportation in Vehicles Not Meeting Federal School Bus Standards*, Special Investigation Report NTSB/SIR-99/02 (Washington, DC: NTSB, 1999).

As a result of the Safety Board's investigations and report, the Safety Board recommended that California (and all States) require that all vehicles carrying more than 10 passengers and transporting children to and from school or school-related activities meet Federal school bus structural standards. California did not respond to this recommendation, nor has the State changed its policy on the use of nonconforming buses for student transportation; thus, the recommendation was classified "Closed—Unacceptable Action—No Response" on April 25, 2001. The bus involved in this accident is yet another example of a nonconforming vehicle that was not built to the more stringent structural standards applicable to buses used to transport children to school. This accident confirms the Safety Board's earlier finding that the best way to maximize pupil transportation safety is to require the use of school buses or buses built to equivalent occupant crash protection standards.

Probable Cause

The National Transportation Safety Board determines that the probable cause of the accident was driver fatigue. Contributing to the accident was the transportation schedule established by the California School for the Deaf, Fremont, and a lack of knowledge by the driver of the effect of inverted sleep/rest cycles. Contributing to the severity of the injuries sustained in this accident was the use of a nonconforming bus for student transportation.

Adopted: February 19, 2002