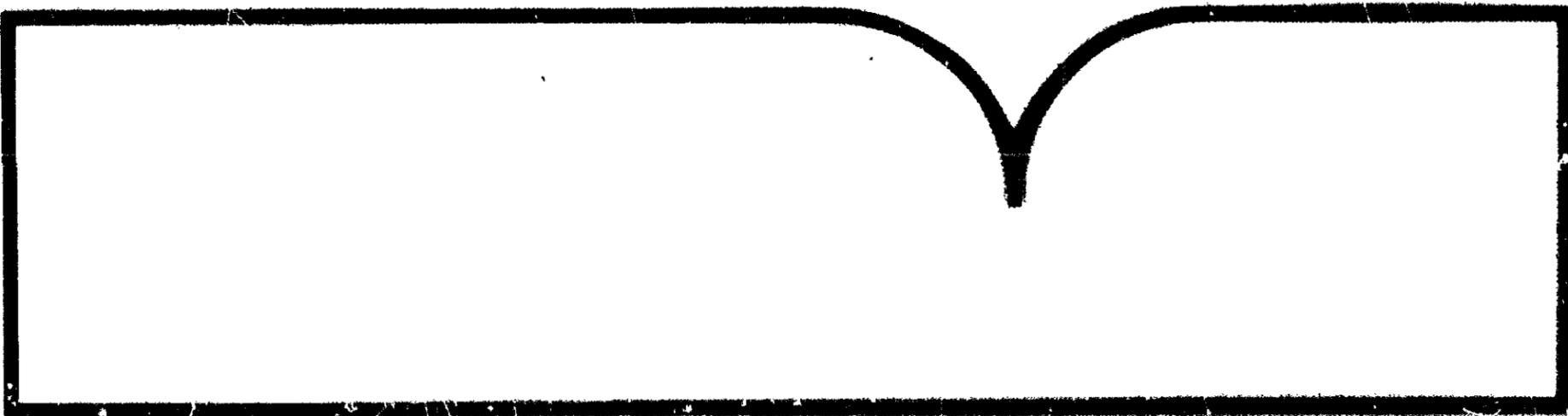


PB87-916206

Highway Accident Report - Intercity Tour
Bus Loss of Control and Rollover into the
West Walker River, Walker, California
May 30, 1986

(U.S.) National Transportation Safety Board
Washington, DC

19 Jun 87



U.S. Department of Commerce
National Technical Information Service

NTIS

TECHNICAL REPORT DOCUMENTATION PAGE

1. Report No. NTSB/HAR-87/04		2. Government Accession No. PB87-916206		3. Recipient's Catalog No.	
4. Title and Subtitle Highway Accident Report-- Intercity Tour Bus Loss of Control and Rollover into the West Walker River, Walker, California, May 30, 1986				5. Report Date June 19, 1987	
				6. Performing Organization Code	
7. Author(s)				8. Performing Organization Report No.	
9. Performing Organization Name and Address National Transportation Safety Board Bureau of Accident Investigation Washington, D.C. 20594				10. Work Unit No. 4425B	
				11. Contract or Grant No.	
12. Sponsoring Agency Name and Address NATIONAL TRANSPORTATION SAFETY BOARD Washington, D. C. 20594				13. Type of Report and Period Covered Highway Accident Report May 30, 1986	
				14. Sponsoring Agency Code	
15. Supplementary Notes					
16. Abstract <p>About 10:10 a.m. Pacific daylight time on May 30, 1986, a southbound intercity charter bus operated by Starline Sightseeing Tours, Inc. went out of control while negotiating an S-curve on U.S. Route 395, about 11 miles south of Walker, California. The two-way, two-lane, mountainous roadway was clear and dry. The bus twice veered left and right across the roadway, and struck a rock retaining fence on the right shoulder. Continuing forward, the bus crossed into the northbound lane, overturned and slid on its left side, rolled over onto its roof, and came to rest upright in the West Walker River. As a result of the accident, 21 passengers died and 19 passengers and the driver were injured.</p> <p>The National Transportation Safety Board determines that the probable cause of this accident was the failure of the charter busdriver to comply with highway speed limits and advisory speed signs and to reduce the bus speed sufficiently to negotiate safely the "S" curve on U.S. Route 395. Contributing to the accident was the inadequate screening and supervision of the busdriver by the motor carrier.</p>					
17. Key Words Office of Motor Carrier Safety; Federal Highway Administration; Commercial Motor Vehicle Motor Vehicle Safety Act of 1986; Selective Compliance and Enforcement Program; Federal Motor Carrier Safety Regulations; Safety Net Programs; Driver's License Compact; Motor Carrier Safety Assistance Act of 1984; Uniform Violators Compact				18. Distribution Statement This document is available to the public through the National Technical Information Service Springfield, Virginia 22161	
19. Security Classification (of this report) UNCLASSIFIED		20. Security Classification (of this page) UNCLASSIFIED		21. No. of Pages 90	22. Price

CONTENTS

EXECUTIVE SUMMARY.....	iv
INVESTIGATION.....	1
The Accident.....	1
Emergency Response.....	4
Injuries to Persons.....	6
Driver Information.....	6
Employment History.....	6
License and Violation Record Information.....	7
Medical Information.....	9
Busdriver's Activities Before the Accident.....	10
Busdriver Training.....	11
Vehicle Information and Damage.....	11
Vehicle Specifications.....	11
Damage.....	12
Highway Information.....	15
Highway Accident History.....	16
Medical and Pathological Information.....	17
Regulations Governing Operation of Commercial Buses.....	17
Requirements Governing Hiring of Busdrivers.....	17
State.....	17
Federal.....	18
Requirements Governing Motor Carrier Operations.....	18
State.....	18
Federal.....	18
Starline Sightseeing Tours, Inc., Operations.....	20
Company Structure.....	20
Training.....	21
Preemployment Screening of Busdriver Applicants.....	21
Supervision of Drivers.....	23
Oversight of Carriers.....	24
State.....	24
Federal.....	27
Availability of Commercial Driver and Accident/ Violation Records.....	29
Tests and Research.....	30
Friction Tests.....	30
Vehicle Handling.....	31
ANALYSIS.....	32
The Accident.....	32
Vehicle Factors.....	35
Driver Factors.....	36
Medical Conditions.....	36
Fatigue.....	36
Inattention or Distraction.....	37
The Driver's Qualification to Drive Commercial Motor Vehicles.....	38
Carrier's Actions.....	39
The Preemployment Screening Process.....	39
Supervision of Drivers.....	41

State and Federal Oversight of Starline.....	43
State.....	43
Federal.....	43
Availability of Driver Violation and Accident Records.....	45
Commercial Motor Vehicle Safety Act of 1986.....	50
Emergency Response.....	51
 CONCLUSIONS.....	 51
RECOMMENDATIONS.....	54
 APPENDIXES	
Appendix A--Investigation, Hearing, and Depositions.....	57
Appendix B--Agencies Participating in Rescue and Recovery Activities On-Scene.....	58
Appendix C--Combined Traffic Violation and Accident Record.....	59
Appendix D--Tiremarks Observed at the Accident Site.....	61
Appendix E--Accident Data on U.S. Route 395.....	63
Appendix F--CFR 49 Section 391.11 Subpart B-- Qualification and Disqualification of Drivers.....	65
Appendix G--CFR 49 Section 391.51--Recordkeeping Requirements for Motor Carriers.....	67
Appendix H--California Assembly Bill 3262 (Commercial Vehicles: Tour Buses) and Assembly Bill 3666 (Tour Bus Certification Program)...	75
Appendix I--Friction Tests.....	87

EXECUTIVE SUMMARY

About 10:10 a.m. Pacific daylight time on May 30, 1986, a southbound intercity charter bus operated by Starline Sightseeing Tours, Inc. went out of control while negotiating an S-curve on U.S. Route 395, about 11 miles south of Walker, California. The two-way, two-lane, mountainous roadway was clear and dry. The bus initially crossed the center line to the left and then veered back across the roadway, onto the right shoulder. The bus then swerved left and right again, and its rear struck a rock retaining fence on the right shoulder. Continuing forward, the bus crossed into the northbound lane, overturned and slid on its left side, rolled over onto its roof, and came to rest upright in the West Walker River. As a result of the accident, 21 passengers died and 19 passengers and the driver were injured.

The primary safety issue in this accident concerns commercial busdriver preemployment screening and postemployment supervision by motor carriers and oversight of the carrier by the State of California, and the Federal Highway Administration (FHWA) Office of Motor Carrier Safety (OMCS). Another safety issue was the adequacy of the systems available for the exchange of data on the driver's accident and driving violation records. The Safety Board also examined the stability of the bus in the event of deflation of an air spring (part of the suspension system).

The National Transportation Safety Board determines that the probable cause of this accident was the failure of the charter busdriver to comply with highway speed limits and advisory speed signs and to reduce the bus speed sufficiently to negotiate safely the "S" curve on U.S. Route 395. Contributing to the accident was the inadequate screening and supervision of the busdriver by the motor carrier.

As a result of this investigation, the National Transportation Safety Board has recommended that the FHWA amend 49 CFR 391.15 to specify the number and type of violations that should disqualify a driver from driving a motor vehicle in interstate commerce and to specify the time interval in which that number of violations will result in disqualification. Finally, the Board has recommended that FHWA make the commercial license information (to be created as a result of the Commercial Motor Vehicle Safety Act of 1986) available to the law enforcement community, the courts, and the motor carriers. The Safety Board has reiterated Safety Recommendation H-80-16 to FHWA to revise the Federal Motor Carrier Safety Regulations so that certain driving offenses will disqualify a driver without regard to the type of vehicle driven at the time of the offense and without regard to whether or not the driver was on duty. Finally, the Safety Board has recommended that the OMCS increase its number of agents to enable them to perform adequate initial and follow-up reviews of motor carriers consistent with the Selective Compliance and Enforcement Program.

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594

HIGHWAY ACCIDENT REPORT

Adopted: June 19, 1987

INTERCITY TOUR BUS LOSS OF CONTROL
AND ROLLOVER INTO THE WEST WALKER RIVER
WALKER, CALIFORNIA
MAY 30, 1986

INVESTIGATION

The Accident

At 8 a.m. ^{1/} on May 30, 1986, a charter bus operated by Starline Sightseeing Tours, Inc., (Starline) of Hollywood, California, departed Reno, Nevada, with 40 passengers. The bus was traveling south on U.S. Route 395 to Santa Monica, California, returning from a tour to the Lake Tahoe and Reno area. The bus was scheduled to stop for lunch in Bishop, California. The weather and road conditions were clear and dry. Several witnesses near Holbrook Junction, Nevada, observed the southbound bus traveling at a high speed on U. S. Route 395. (See figure 1.) Witnesses said that northbound vehicles near Holbrook Junction and Topaz Lake were forced to move to their extreme right to avoid the bus, which was partially in their lane.

About 10:10 a.m., while negotiating an S-curve, the bus crossed from the southbound traffic lane, into the northbound lane, and then headed back to the right of the roadway. The bus then swerved left, crossing the solid center line again in front of an oncoming red pickup truck. The bus swerved right again across the southbound traffic lane, back onto the right shoulder. Its rear then struck a rock retaining fence and the bus continued forward, crossing once again onto the northbound traffic lane before sliding leftward and overturning on its left side. The bus then rolled over onto its roof and finally landed upright, facing west in the West Walker River. (See figure 2.)

The busdriver stated that about 1 mile before the accident, he passed a group of motorcyclists on the left. He continued on, entering a curved section of the roadway at about 35 to 40 mph. At that point, he heard a loud "plop." When he applied his service brakes, he felt the rear end of the bus move to the right. He said that he then steered right in an attempt to straighten the bus, but the rear of the bus began to move from

^{1/} All times are Pacific daylight time.

Origin of return trip from Reno, Nevada

Witness observed bus near
Holbrook Junction, Nevada

Vehicle run off the
road by the bus near
Topaz Lake, California

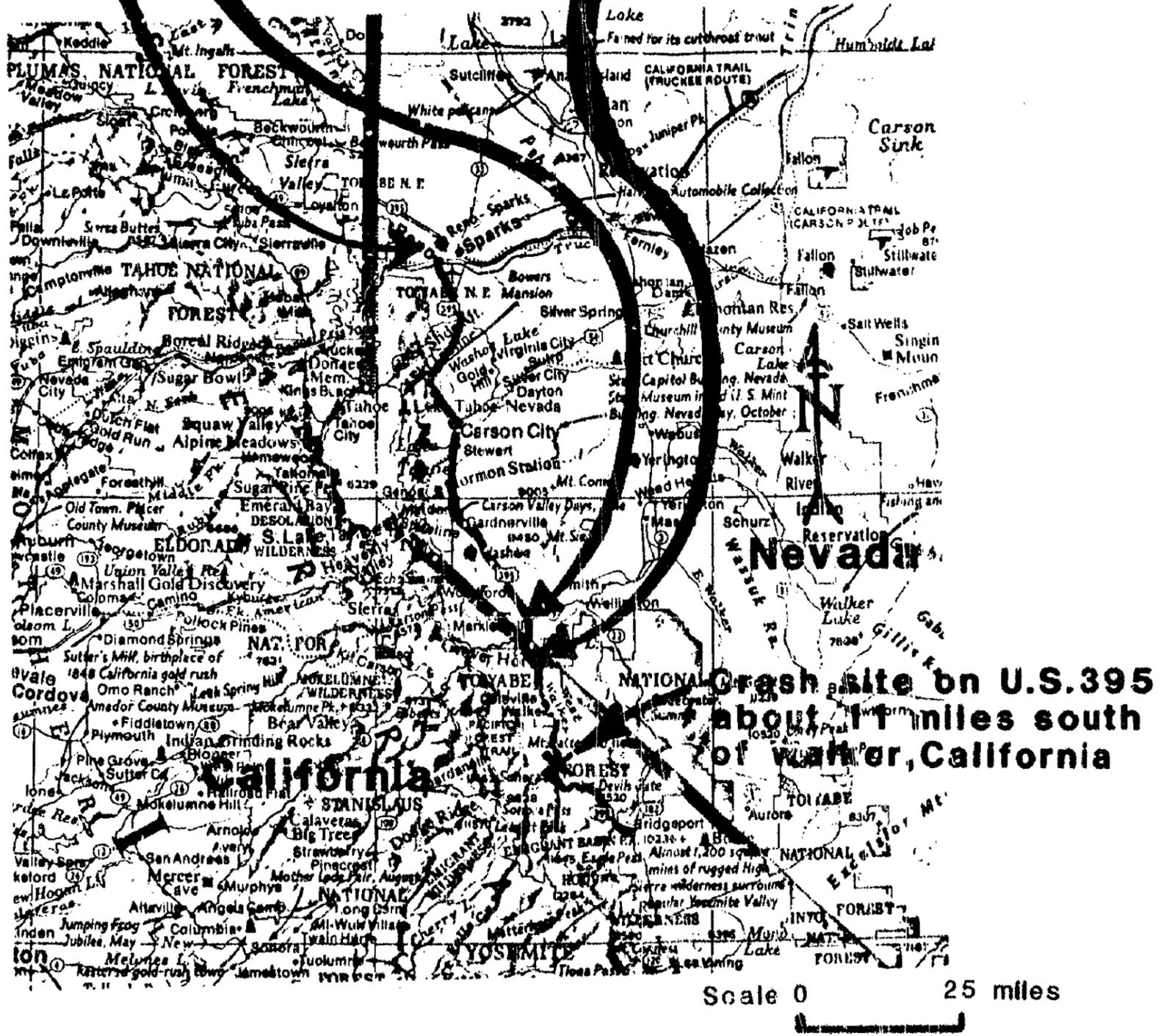


Figure 1.--Accident bus's route of travel.

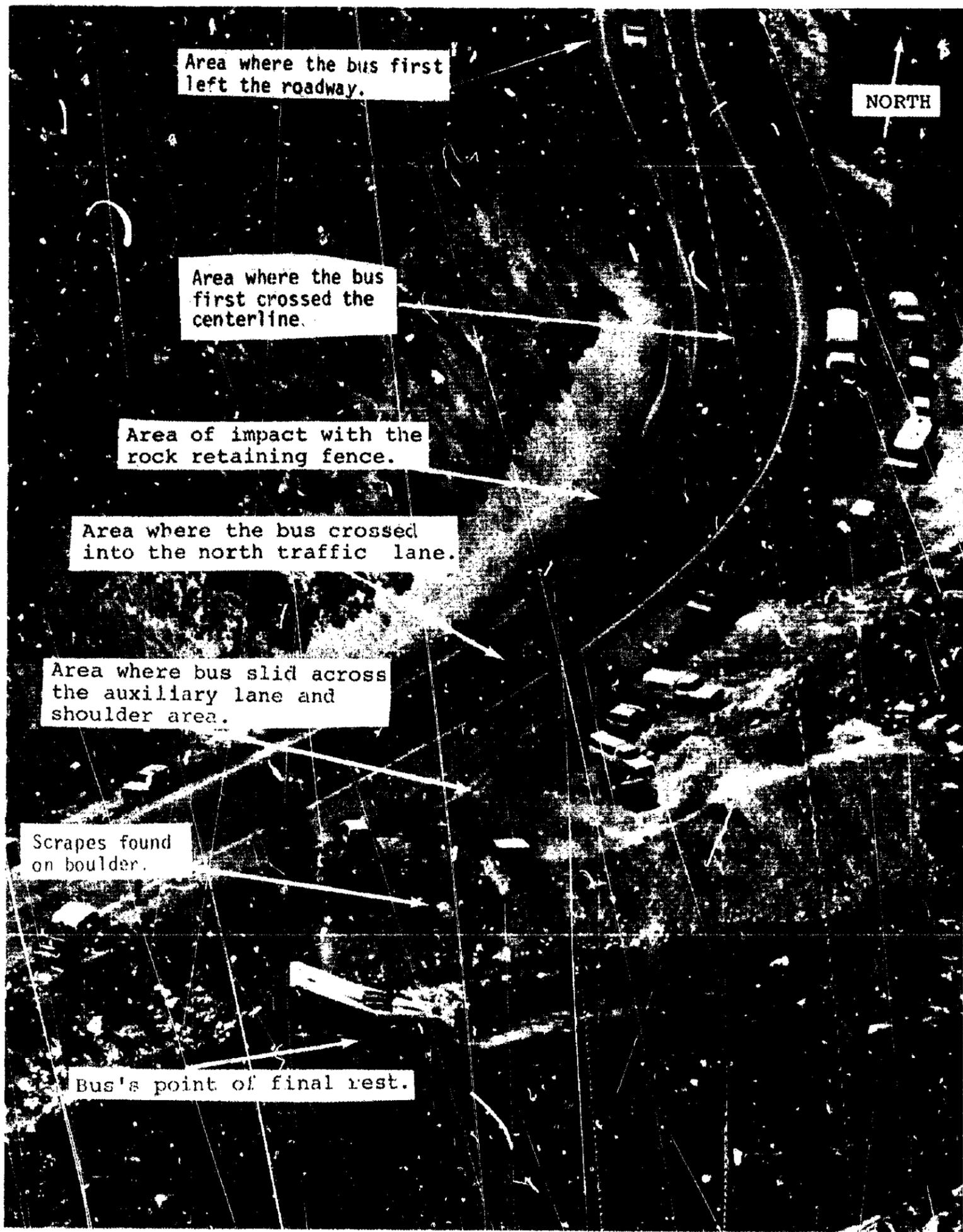


Figure 2.--Aerial view of accident scene.
(Courtesy of the Modesto Bee)

side to side. While attempting to regain control of the bus through two curves, he thought that the rear bumper of the bus may have touched a small rock retaining fence on the right. He also stated that the bus fell to the left before sliding into the water.

Two passengers seated directly behind the driver's position stated that on several occasions, both during the trip to and the trip from Reno, Nevada, they observed the busdriver reaching for what appeared to be a soft drink. A passenger stated that every time the driver would reach down to get the soft drink on the floor, the bus would "weave around" in the road. The tour director for the trip advised the busdriver to be more careful when he reached down for the drink.

Several passengers reported that, just before the accident, they felt the bus swerve from side to side, and that the oscillation intensified just before the bus overturned. Four passengers reported that the busdriver was alert prior to the accident, and one recalled the busdriver's "frantic" attempt to regain control of the bus. None of the passengers reported any noticeable change in the quality of the bus ride just before the accident, nor did they report the loud noise described as a "plop".

One passenger stated that he was ejected from the bus through a window before the bus entered the river. He did not recall if the window was broken before or during his ejection. Another passenger said of the oscillation that "I knew we were going to go over." Other passengers noted that passengers were being thrown about the interior of the bus before it rolled over. One passenger stated that as the bus rolled, "There was glass flying everywhere."

When the bus came to rest, those passengers who were able, exited the bus by walking out the front door after it was opened by the first passersby on the scene. Those passengers who could recall stated that, although the headroom in the bus was reduced due to roof deformation, they could still get out.

Emergency Response

The Mono County Sheriff's Office (MCSO) was initially notified of the accident at 10:24 a.m. The MCSO notified the California Highway Patrol (CHP), the Antelope Valley Fire Department (AVFD), and Mono County Medic 1 (Medic 1), a paramedic unit. Medic 1, the first unit on the scene, arrived at 10:41 a.m. after traveling about 11 miles through mountainous terrain. Upon its arrival, paramedics from Medic 1 found the bus in the West Walker River. Eight fatally injured persons were found in the bus and on the nearby shore. Six survivors outside the bus were ambulatory and the remaining survivors were in or near the bus. Some of the injured were assisted out of the bus by

passersby who arrived at the site within minutes of the accident. These passersby provided the assistance they could while awaiting the arrival of the emergency rescue personnel.

Medic 1 requested additional fire and rescue units as well as assistance from the nearby United States Marine Corps (USMC) training center at Pickle Meadows, California. Medic 1 also notified the Mono County Civil Defense, which partially activated its disaster plan and coordinated communications among the fire, rescue, and hospital units within the area. Shortly afterwards, emergency assistance was provided by more than 93 rescue persons manning at least 23 emergency vehicles including ambulances, helicopters, and fire and rescue units. In addition, 42 officers from 5 law enforcement agencies responded to the accident scene. (See appendix B for a list of participating agencies.)

Rescuers removed the injured from the bus by hand and by stretcher and brought them to the shoulder of the roadway, where a triage area was established and all injured persons were treated. Passengers and rescuers stated that no one was trapped in the wreckage and rescuers said that no special effort was needed to remove the persons from the bus. However, the modesty panel in front of the right front seats was removed to facilitate removal of passengers. As ground and airborne transportation arrived, victims were transported to six area hospitals. Because the accident location was remote and sparsely populated, adequate medical facilities for all survivors were not available in the immediate area. As a result, some persons had to be transported to hospitals approximately 100 miles away. Sixteen persons were stabilized and treated at nearby Mono General Hospital before being transported to other hospitals.

None of the passengers interviewed could recall how they sustained specific injuries. Many could not recall how they got out of the bus. Passengers uniformly praised all aspects of the rescue operation, and all the people involved.

In addition to the 8 fatally injured persons who were found in or near the bus, another 10 fatally injured persons were found downstream. Another body was found 3 days after the accident, about 7 miles downstream of the accident site. Two of the critically injured persons died in the hospital, one 4 days and the other 15 days after the accident.

Injuries to Persons

	<u>Driver</u>	<u>Passengers</u>	<u>Total</u>
<u>Fatally Injured</u>			
Unknown (AIS-9) 2/ 3/ Maximum Injury - Virtually Unsurvivable (AIS-6)	0	7	7
Critical (AIS-5)	0	10	10
Severe (AIS-4)	0	0	0
Serious (AIS-3)	<u>0</u>	<u>3</u>	<u>3</u>
Subtotal	0	21	21
<u>Nonfatally Injured</u>			
Severe (AIS-4)	0	3	3
Serious (AIS-3)	0	3	3
Moderate (AIS-2)	0	11	11
Minor (AIS-1)	<u>1</u>	<u>2</u>	<u>3</u>
Subtotal	<u>1</u>	<u>19</u>	<u>20</u>
Total	1	40	41

Driver Information

Employment History -- The 48-year-old busdriver had been employed by Starline for 7 months at the time of the accident; company records show he was hired on November 6, 1985. When interviewed after the accident, the driver stated that he had also worked as a busdriver for Allied Tours (about 2 years), Western Panorama (about 8 years), and California Touring (about 5 years). He indicated that some of this time he worked for two companies simultaneously. The driver claimed to have 13 years experience as a driver and guide in western States of the U.S. He also stated that he had his Class 2 license in California 4/ for more than 6 years. He said that he first got a driver's license in Germany in 1956 to drive trucks.

2/ AIS refers to the abbreviated injury scale derived from the American Association for Automotive Medicine.

3/ The cause of death of all persons coded AIS-9 was drowning. Because of the unique circumstances of this accident, some of these persons sustained traumatic injuries. Although these injuries were well documented, it could not be determined which injuries were antemortem and which were postmortem.

4/ The Class 2 California license allows the license holder to drive any bus, any one vehicle with three or more axles, any of these vehicles towing another vehicle weighing not more than 6,000 pounds fully loaded, and all Class 3 vehicles. It differs from a Class 3 license because there is no axle limit. It is valid for operating a Class 2 vehicle only when the license holder's medical certificate is valid.

Another motor carrier, Lounge Car, employed the busdriver for 5 months from October 1984 to March 1985. His employment was terminated after the California Highway Patrol arrested him on March 10, 1985, for speeding and driving with a suspended license.

License and Violation Record Information -- The busdriver initially applied for a restricted Class 2 California driver's license on May 8, 1981. On the application, the busdriver replied "yes" to the question, "Has your driving privilege or license been cancelled, refused, suspended, or revoked during the last seven (7) years?" Handwritten next to it were the words "financial responsibility." ^{5/} Also on this application was the notation that the driver must wear corrective lenses. He was issued a restricted Class 2 license, which limited him to driving buses up to a 19-passenger capacity.

Subsequently, the driver applied for and was issued an unrestricted Class 2 license. At the time of the accident, he held a valid, unrestricted Class 2 driver's license from the State of California. The license was issued on June 11, 1985, and was to expire on June 12, 1989. Photocopies of California driver's licenses dated December 22, 1983, and June 11, 1985, both note that corrective lenses were required. There was no evidence that the driver had, at the time of the accident, additional licenses in other states.

Safety Board investigators requested and reviewed the composite busdriver's Driver Record Information from the California Department of Motor Vehicles (DMV) and from the Nevada Division of Motor Vehicles for the period from March 1983 through May 1986. (See table 1.) According to the DMV information, during that period, he had been convicted seven times while driving a bus for violations of the California Motor Vehicle Code and four times while driving a car. Four of the bus convictions were for speeding, one was a violation for following too close, one was a conviction for driving while driving privilege was suspended, and one was a municipal violation for exceeding the weight limit on a city street. He had also been involved in five accidents in California. Three speeding violations, three accidents, and the municipal violation occurred in buses owned by Starline Sightseeing Tours. (See appendix C for the driver's violation record.)

The busdriver's Class 2 license had been suspended, as mentioned above, because he violated his written promise to appear in court on September 6, 1984. The suspension remained in effect until June 11, 1985, when he paid his fines. On March 10, 1985, during the suspension period, the CHP stopped the busdriver for speeding while operating a bus on U.S. Route

^{5/} The Safety Board interprets (and uses in this report) the meaning of financial responsibility as not meeting the prescribed limits for insurance as required by the licensing state.

Table 1.--Driver's convictions/accidents, March 1983 through May 1986

<u>Accidents</u>	<u>Passenger Car</u>	<u>Bus</u>	<u>Total</u>
CA	1	4	5
NV	0	1	1
<u>Violations 6/</u>			
CA (speeding)	3 (2)	7 (4)	10 (6)
NV (speeding)	0 (0)	1 (1)	1 (1)
<u>Failures to Appear</u>			
CA	2	1	3
NV	0	1	1

395 in Independence, California. The officer took the busdriver into custody for driving while his license was suspended, and served him with a warrant for failure to appear (FTA).

In addition to his California violation record, the Safety Board learned that the busdriver had a history of violations of motor vehicle regulations in other States. On September 16, 1976, while holding a license in the State of Washington, the busdriver's privilege to drive in that State was suspended for failure to appear in court. The license remained suspended and eventually expired in March 1979, without payment of the reinstatement fee. Although the suspension remained on the driver's record, it should have been purged from the records in 1981.

In addition, the driver was issued a citation in Nevada for speeding on March 1, 1986. He failed to appear in court in Nevada on March 8, 1986, and in June 1986, the Nevada Court placed the unpaid citation in "warrant status." On July 15, 1986, the unsatisfied fine was paid and the warrant was withdrawn. In Nevada, only Nevada-licensed drivers are subject to suspension under the FTA statutes. The driving privilege of non-resident drivers operating in Nevada is not suspended, nor is notice of their FTA sent to their home states. Because of this the busdriver's California license was not suspended.

While employed with Starline, the busdriver received citations for three speeding violations and one minor violation, and was involved in three accidents while driving a bus. Two of

6/ Violations include speeding, following too close, exceeding weight limit on a city street, and driving on a suspended license.

the accidents were minor and were not reported to the police. In the third accident, his bus was struck in the rear by a tractor-semitrailer.

Medical Information -- Following the accident, the driver showed the Safety Board investigators his medical examiner's certificate, which was dated April 21, 1985, and which contained a signature, ostensibly that of a physician. The busdriver stated that the physician whose name appeared on his medical examiner's certificate was the only doctor he was seeing. He also stated that he had not seen the doctor in a long time because he did not need a doctor. The physician told Safety Board investigators that he last saw the busdriver on October 17, 1983. The physician also stated that he neither examined the busdriver nor signed the medical certificate that bore the date of April 21, 1985. He described the signature on the April certificate "as an obvious forgery."

Two California DMV Medical Examination Reports appeared in the doctor's file on the busdriver, one dated March 30, 1981, and a second dated April 20, 1983. These reports indicated that, with corrective lenses, the busdriver's vision was 20/20 (left eye), 20/40 (right eye), and 20/20 (both eyes). The driver was issued medical examiner's certificates by the physician on March 30, 1981, and in April 1983.

During the examination on March 30, 1981, the doctor noted that the level of sugar in the busdriver's urine was higher than normal and requested that the driver return for a complete laboratory examination. On March 31, 1981, a fasting blood sugar test revealed 332 milligrams per deciliter (mg/dl) of glucose, the normal range being 70-115 mg/dl.

On April 27, 1981, the doctor prescribed a diet for the busdriver, and on June 16, 1981, he prescribed medicine to lower the level of blood glucose for his diagnosed diabetic condition. After repeated adjustments to the medication and visits to the doctor, the busdriver's blood sugar remained higher than normal. However, by October 17, 1983, the busdriver's final visit to the doctor, his blood sugar had decreased to 127 mg/dl.

The busdriver sustained moderate injuries in the accident and was admitted to a hospital in Reno, Nevada. Tests performed on a non-fasting blood sample drawn from the busdriver at 2 p.m. the day of the accident indicated that his blood sugar level was 341 mg/dl. Z/ Tests performed by the CHP and at a hospital following the accident were negative for alcohol and drugs of abuse.

Z/ All previous reported blood sugar levels were taken after the busdriver had fasted.

The busdriver stated that he was taking no medication at the time and that his license was restricted for corrective lenses. He was wearing prescription sunglasses when the accident occurred. Although he was eligible to join a health maintenance organization sponsored by Starline, he did not submit the necessary application, and investigators were unable to locate any physician who was caring for the busdriver immediately prior to the accident.

Busdriver's Activities Before the Accident -- From May 21 through May 26, the busdriver was primarily assigned to charter trips in the Los Angeles area and 1-day trips to cities close by. From May 27 through May 30, the busdriver was assigned to the longer term charter trip to Reno, Nevada.

The busdriver told NTSB investigators that he reported for work on Tuesday, May 27, 1986, at 5 a.m. He arrived at the pickup point at 6 a.m. and departed at 7 a.m. According to the schedule printed for the tour, he was to arrive at the MGM Grand Hotel in Reno, Nevada at 6:30 p.m. His daily log sheet indicates he arrived at 8 p.m., and went off duty at 10 p.m. According to this information, the driver had a total duty time of 17 hours, 1 1/2 of which were driving time. The driver stated that he retired shortly after going off duty. Passengers confirmed their arrival in Reno at about 8:30 p.m. They stated that the bus had mechanical problems on the trip, which reduced the bus's power while climbing hills. While en route, the busdriver stopped but was unable to repair the bus.

On Wednesday, May 28, 1986, the busdriver arose about 7 a.m., picked up the tour at 8 a.m., and drove them to the "Governor's Mansion" in Carson City (Carson City is less than 1 hour from Reno by bus). He returned to the MGM Grand Hotel at 7:30 p.m. He stated that he then washed the bus and arranged to have the bus engine turbocharger repaired the next day at a garage operated by Pacific Trailways. Following a period of gambling, the driver retired around 10 p.m.

On Thursday, May 29, 1986, the busdriver arose about 7 a.m., picked up the tour, and drove them a short distance before returning to the garage to repair the bus. At 1 p.m., he returned to pick up the tour and take them to the Hyatt Hotel in Lake Tahoe. The driver stated that he returned to Reno about 6:30 p.m., and he fueled and cleaned the bus, finishing about 9 p.m.

On May 30, 1986, the day of the accident, the busdriver went on duty about 7 a.m., and departed from the MGM Grand Hotel en route to Santa Monica, California, about 8 a.m. The accident occurred at about 10:10 a.m.

Copies of the driver's log sheets and pay records were obtained from Starline to determine the busdriver's hours of service during the 10 days preceding the accident. Because the logs and pay records were either incomplete and/or missing, the busdriver's on-duty time had to be reconstructed from the payroll records with the assistance of Starline's payroll manager. However, according to Starline, its payroll records reflect not just driving time, but the hours when a driver cannot reasonably return to his home, whether those hours are spent waiting for passengers, performing maintenance on the bus, or in leisure activities. The Safety Board was unable to determine precisely what portion of the driver's on-duty time was spent in driving or other duty-related activities and what portion of the time was spent on leisure activities. A summary of the busdriver's approximate on-duty times (as established by the payroll records and the limited driver logs) is listed below in table 2 :

Table 2.--Busdriver's duty time

<u>Date</u>	<u>On-duty time</u>
May 21	16.75 hours
May 22	14 hours
May 23	10 hours
May 24	16.5 hours
May 25	20 hours
May 26	11.5 hours
May 27	17 hours
May 28	12 hours
May 29	14 hours
May 30	3 hours
Total	134.75 hours

Busdriver Training -- According to the driver, he had not received any formal bus training since 1953, when, while still in Germany, he took a 6-month course in bus and truck driving. He described this course as very thorough and challenging. His training with four bus companies in the United States consisted of familiarization trips in the buses. He stated that Starline had no special training, orientation, or training materials for their drivers except for tour guide booklets.

Vehicle Information and Damage

Vehicle Specifications.--The 50-passenger intercity bus was manufactured in April 1985, by Neoplan in Stuttgart, West Germany. The bus was owned and operated by Starline and had last been inspected by the State of California in October 1985. The bus was equipped with a 350-horsepower V6 Detroit diesel engine and an Allison 4-speed automatic transmission. At the time of the accident, the odometer indicated 40,327.8 miles. The three-axle bus was rated to carry a loaded gross weight of 49,500 pounds. The bus was equipped with an air ride suspension system

(composed of six air springs, two on each axle), a transmission speed retarder, a steerable tag axle ^{8/}, air-mechanical service brakes, power steering, and radial tires on all axles. There were also two emergency roof exits. The maximum speed in fourth gear for the bus was about 68 mph at an engine speed of 2150 rpm.

The bus had one row of double seats on each side of the aisle. There were 13 seat pairs on the left side and 12 on the right. Each seat had an individual reclining seatback. The driver's seat and the first row of seats on each side were equipped with seatbelts. Each seat pair shared a common frame. All of the seats were attached to the bus by means of a K-shaped bracket at the sidewall and a center pedestal bolted to the floor.

Damage.--A postaccident inspection of the bus was conducted independently by CHP investigators and Safety Board investigators at the CHP Station in Bridgeport.

The top of the bus sustained considerable damage during the rollover portion of the crash sequence. (See figure 3.) The windshield and scenic windows above the windshield were missing. All side passenger windows except the windows above the door and above the driver's window were missing. The window frames on both sides of the bus were bowed outward up to 9.5 inches on the left and 12 inches on the right.

The roof's superstructure was skewed rightward about 26 inches. The roof was collapsed near the center about 30 inches from its original position. Abrasion marks on the bus's roof ran diagonally right to left; small particles of rock were found imbedded in the exterior roof decking. The minimum clearance between the roof and the floor was 40 3/4 inches measured at the center of the aisle at row 5. Damage to the bus below the window level was minimal. (See figure 4.)

During the retrieval of the bus from the West Walker River, a CHP officer observed the air spring on the right drive axle fall into the river. He recovered the left drive axle air spring, which was out of its normal position, from the underside of the bus. The air spring that fell into the river was not recovered despite extensive efforts to locate it.

The vehicle's steering system and tag axle were inspected and tested. The Safety Board was unable to determine whether the tag axle was in the locked or unlocked position at the time of the accident. No discrepancies were noted in either system. All other vehicle frame and chassis components were intact and undisturbed by the impact.

^{8/} Tag axle is a non-drive axle installed to improve the weight distribution in commercial vehicles.



Figure 3.--View of the damage sustained on the bus's front.

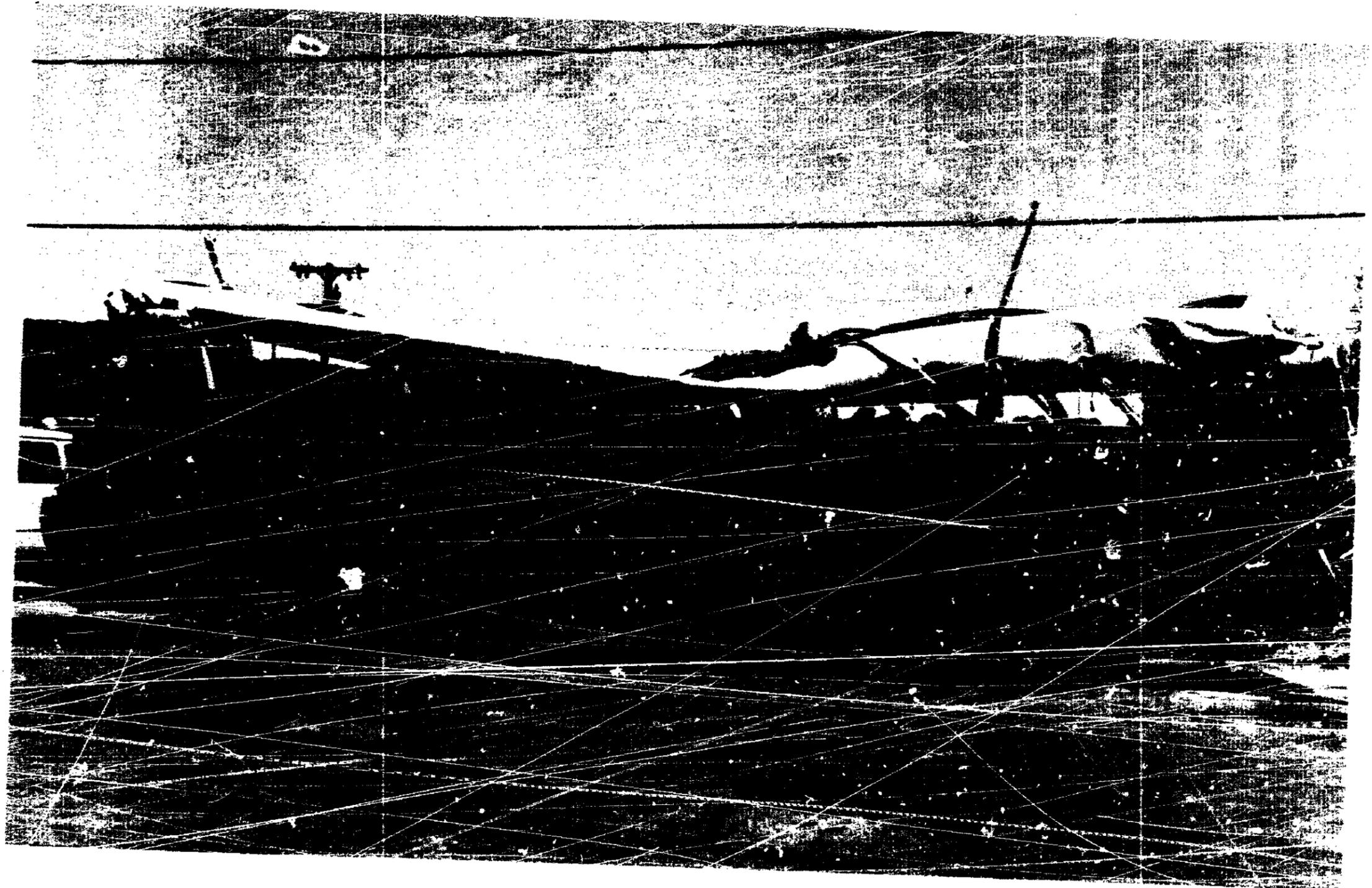


Figure 4.--Side view of the damage sustained by the bus.

The air lines to the air springs were plugged and the service brake system was activated and pressurized to 120 psi air pressure. No air leaks or component malfunctions were discovered. The brake system hardware was inspected and the slack adjustments were measured. All service brakes were found to be adjusted according to the manufacturer's recommended specifications.

When the engine was started and the governor tested, no malfunctions were noted. Investigators also noted that the transmission drive shaft rotated in all gear selections.

When the tires were checked after the accident, they were inflated to a pressure between 66 and 108 psi. ^{9/} The average tread depth of the tires on the front and tag axle was 12/32 inch and the average tread depth of the tires on the drive axle was 3/32 inch. ^{10/}

Highway Information

U.S. Route 395 runs south from the northeast corner of California, along the Nevada-California border, and through California until it intersects with I-15 near San Bernardino. U.S. Route 395 from the Nevada-California border is typically a two-lane, two-way highway with an occasional third lane for passing. The road winds along the West Walker River near the accident site. The speed limit is generally 55 mph except through towns like Walker, California, where the speed limit is reduced to 50 mph. In the 17-mile segment before the accident site, the speed limit is 55 mph although there are several curves and reverse curves with 35- to 45-mph advisory speed plates posted. ^{11/} About 1,337 feet before the location where the bus came to rest, there is a reverse curve sign (36 inches by 36 inches) with a 40-mph advisory speed plate for southbound traffic. The roadway in this area has a slight upgrade.

The lanes are nominally 13 feet wide in both directions, with asphalt shoulders 3 to 4 feet wide. On the east side of the highway is an asphalt-paved pullout about 15 to 16 feet wide from about 246 feet north of to about 74 feet south of the final rest point for the bus. Outside this paved shoulder and

^{9/} The manufacturer's recommended maximum inflation pressure is 110 psi for single and dual tires. Although the tire on the right tag axle was measured at 66 psi, it was capable of supporting the estimated load in the accident bus based on the tire manufacturer's load/inflation pressure specifications.

^{10/} The California Vehicle Inspection Code requires a minimum of 4/32 inch tread depth on the front tires and a minimum of 2/32 inch tread depth on the rear tires.

^{11/} Highway advisory signs are not regulatory or enforceable speed limit signs. They are intended to warn motorists of safe cornering speeds for vehicles.

pullout is a bladed shoulder of loose gravel. The width of the shoulder varies from 7 to 49 feet but at some locations is restricted to a width of 14 to 28 feet by a rock pile formation. The east shoulder has a negative slope of about 2.5 percent, which extends toward the West Walker River, and the river embankment has a negative slope of about 33 percent, which extends to the water line.

On the west side, 600 to 800 feet before the final location of the bus, there is another gravel-type pullout that varies from 14 to 37 feet wide. Also on the west side is a wire link fence supported by posts to keep rocks from falling onto the road from the mountain cut to the west. The fence extends 436 feet north of the crash site and 2 to 3 feet west of the edge of the west shoulder of the highway.

At the time of the accident, the surface of the roadway had a weathered appearance with longitudinal cracks sealed with asphalt. About 990 feet before the bus came to final rest, the edge of the west shoulder was broken away, which created a 1 to 2-inch drop. The edge lines were in good condition at the time of the accident, but the double yellow centerline was barely visible and in poor condition.

Safety Board investigators found five distinct sets of tire marks on the highway, beginning about 850 feet north of the crash site. All five sets of tire marks were arc-like in shape and appeared to be scuffmarks. ^{12/} (See figure 2.) The super-elevation for the road surface in the "S" curve ranged from 2.2 to 7.1 percent. The locations and configurations of the tire marks are listed in appendix D.

Safety Board investigators found no skid marks or other evidence on the highway to indicate that the brakes had been fully applied.

Highway Accident History

The California Highway Patrol provided the Safety Board with accident data for January 1, 1983, through July 2, 1986. The data for the area of this accident indicate that during the period covered there had been a total of 23 accidents that resulted in 2 fatal injuries, 11 serious injuries, and 18 moderate and minor injuries. Appendix E provides additional data on these accidents. Prior to this accident, no vehicles had gone over the embankment near the curve where the bus rolled into the water. The accident rate for the 2-mile section of U.S. 395

^{12/} A tire mark made on a road surface by a vehicle tire which is rotating and sliding sideways simultaneously.

(1 mile south to 1 mile north of the accident site) was calculated at 176 accidents per 100 million vehicle miles (MVM). The expected rate on similar roads throughout California is 294 accidents per 100 MVM.

On April 10, 1985, Caltrans initiated a field investigation between mileposts 96.33 and 96.55 to determine if the advisory speed plates were correctly posted. The investigation was initiated after the Caltrans quarterly accident summaries for a 6-month period indicated that the accident rate for the road segment in which the accident occurred, was high compared with the accident rate for similar roads. However, the accident rate dropped during the following periods. A ball-bank indicator ^{13/} was used to perform the evaluation. As a result of its investigation, Caltrans recommended that the 36-inch by 36-inch advisory sign be upgraded to a 48-inch by 48-inch sign, and did not suggest changes in the advisory speeds. Although the size of the advisory sign was unchanged when the accident occurred, the sign was upgraded by September 1986.

Medical and Pathological Information

After the accident, autopsies were performed on all 21 of the fatally injured senior citizen passengers. Autopsies for 19 of the passengers were conducted in Bridgeport, California, while the autopsies for the passengers who perished after the accident were conducted in Reno, Nevada. Passenger injuries could not be correlated to potential injury-causing mechanisms onboard the accident bus because of the secondary injuries many of the passengers received when they were ejected during the rollover onto the stone laden river bank or into the swift moving river, which was lined with sharp rocks. Based on the postmortem examinations, investigators could determine only that 7 persons died as a result of drowning and 14 died as a result of multiple traumatic injuries.

Regulations Governing the Operation of Commercial Buses

Requirements Governing the Hiring of Busdrivers (Operators)

State.--The State criteria for persons applying for a commercial bus operator's license in the State of California are the same as the Federal requirements for drivers in interstate operations set forth in the Federal Motor Carrier Safety Regulations (FMCSR). (See next section for a discussion of these requirements.) Applicants must also successfully complete a road test administered by a State Department of Motor Vehicles (DMV) inspector or by a qualified carrier.

13/ Ball-bank indicator: A curved level used to determine the safe speed around a curve. The basis for the safe speed determination encompasses the combined effect of the vehicle body roll angle, centrifugal force exerted on the vehicle, and the curve's superelevation angle.

Federal.--Busdrivers operating in interstate commerce are subject to the prescreening requirements set forth under FMCSR, contained under Title 49 CFR Section 391.11, Subpart B (appendix F). In summary, to be qualified, an applicant must be at least 21 years old, read and speak the English language well enough to converse with the general public, successfully complete a road test, administered by the motor carrier, in the type of vehicle he or she would be hired to operate, be medically qualified to drive, have a valid driver's license, and take a written examination, also administered by the carrier (although it is not necessary to pass the examination). The applicant must also complete and provide to the motor carrier an application for employment. Federal regulations specify the information that the application must contain, including a list of the names and addresses of the applicant's previous employers, a list of previous motor vehicle accidents, and a list of violations of motor vehicle laws and ordinances (other than parking violations)--all for the 3 years prior to the date of the application. The applicant is required to sign a statement that the information provided is complete and true. However, the FMCSR do not contain a rule that prohibits the falsification or omission of information (including traffic violations, accidents, and medical history) by an applicant busdriver or other commercial drivers.

The FMCSR require the motor carrier to make an inquiry into the driver's driving record in each State in which the driver has held a motor vehicle license, and to make an investigation of the driver's employment record. These checks are to cover the 3 years prior to the date of employment and must be done within 30 days of the commencement of the driver's employment. However, the FMCSR do not provide any guidance to motor carriers on how to evaluate an applicant with a history of traffic violations and accidents.

Requirements Governing Motor Carrier Operations

State.--The California Public Utilities Commission grants operating authority to motor carriers operating buses in the State of California. In addition, all motor carriers must comply with applicable vehicle registration, vehicle inspection, and driver licensing requirements. They must also maintain adequate records concerning driver qualifications, vehicle inspection, and maintenance as specified in the State of California Vehicle Code and the Public Utilities Code.

Federal.--Motor carriers engaged in interstate commerce are subject to the requirements set forth under the FMCSR Parts 390 through 399. The motor carrier must maintain a qualification file and a personnel file on each driver. (These files may be combined.) Part 391.51 of the FMCSR requires the motor carrier to retain, among other things: a medical examiner's certificate (or a copy) of the driver's physical qualification to drive, a

note showing the company has conducted an annual review of the driver's driving record, a list of the driver's violations of motor vehicle laws and ordinances, the driver's employment application, the responses of State agencies and past employers to inquiries made at the time of the driver's application for employment, a certificate of the driver's carrier-administered road test, and a certificate of written examination, along with the questions, which were supplied by the FHWA, and the driver's answers. (See appendix G.)

Part 391.15 also sets forth the conditions under which a driver is disqualified to drive a commercial motor vehicle. Drivers are disqualified while their State licenses to operate commercial vehicles have been, either temporarily or permanently, suspended, revoked or withdrawn. A driver is also disqualified under part 391.15 when convicted of the criminal offenses committed while on duty of (1) operating a motor vehicle under the influence of alcohol or a Schedule 1 ^{14/} drug or substance, (2) transportation, possession or unlawful use of Schedule 1 drugs or substances, (3) leaving the scene of an accident resulting in injury or death, (4) a felony involving the use of a motor vehicle. Part 391.15 does not specify any other conditions under which a driver will be disqualified.

Part 395 of the FMCSR establishes the limitations for maximum driving and on-duty time. Part 395, in general, prohibits a motor carrier from permitting or requiring a driver to drive more than 10 hours following 8 consecutive hours off duty; to drive for any period after having been on duty 15 hours following 8 consecutive hours off duty; to be on duty more than 60 hours in any 7 consecutive days; or to be on duty for more than 70 hours in 8 consecutive days. Interpretations by the FHWA of the FMCSR state that drivers alternating between inter- and intra-state operations must include in their logs a record of the hours of service for both types of operations and the hours of service limitations must consider both types of operations. ^{15/}

The accident notification requirements specified in Part 394 establish the duties of motor carriers to record and report accidents involving their operations.

The motor carrier must also comply with all vehicle maintenance and equipment requirements specified in Parts 393 and 396 and the vehicle operation requirements set forth in Parts 390

^{14/} Schedule 1 drugs or substances are specified in Appendix D to Subchapter B of the Federal Motor Carrier Safety Regulations.

^{15/} U.S. Department of Transportation, Federal Highway Administration, Federal Motor Carrier Safety Regulations, Interpretation, November 23, 1977, p. 18.

and 392. Busdrivers engaged in interstate commerce are also required by Federal regulation to comply with applicable driver licensing and commercial vehicle regulations of the States in which they reside.

Starline Sightseeing Tours, Inc., Operation

Company Structure.--Starline has been operated by its present owners for 17 years. The corporate headquarters is in Hollywood, California, and its principal operating facility is in Santa Fe Springs, California. The company engages in both intrastate and interstate commerce and operates under the authority granted by the California Public Utilities Commission and the Interstate Commerce Commission. Currently, about 75 percent of Starline's business is involved with intrastate activities and the remaining 25 percent is involved with interstate activities. The carrier is certified to transport school children in its buses, which requires that its vehicles be annually inspected by the California Highway Patrol Motor Carrier Division. The company operates 50 intercity coaches and 12 passenger vans and employs 62 full-time drivers, 16 part-time drivers, 5 managers, and 32 maintenance persons.

The operations department handles scheduling, logistics, and the financial aspects of the tour or charter business. The operations manager schedules drivers and buses for trips.

The responsibilities of Starline's quality control manager include driver hiring, qualification, training, and supervision. In addition to providing daily supervision of busdrivers, the quality control manager hires and trains them. It is his responsibility to ensure that all prospective drivers meet the qualification requirements of CFR 49 Section 391.11 Subpart B (appendix F) and that Starline keeps the driver records required by CFR 49 Section 391.51.

In his role of overseeing drivers' performance, the quality control manager monitors bus accidents, driver reported violations, and customer-generated complaints. However, according to the quality control manager, in the absence of any adverse information, the company "assumed that a driver's performance was acceptable."

Two maintenance managers oversee the maintenance department. Each vehicle receives a complete inspection every 10,000 miles. In addition, the driver is supposed to perform a pretrip inspection of the vehicle each time it is dispatched. According to Starline, driver-reported vehicle problems are fixed as soon as they are reported to the Starline maintenance department. Safety Board investigators reviewed the pretrip inspection forms for the accident bus for the month preceding the accident. All of the problems that had been noted by busdrivers had been recently repaired.

The maintenance facility is open 24 hours, but is not staffed by a full shift at all times. The 32 full-time employees assigned to bus maintenance work 8-hour shifts. Each shift has a supervisor, three journeyman mechanics, and several mechanic apprentices, cleanup men, and general laborers.

Training.--According to Starline, because it primarily hires experienced drivers, the company does not have a formal training program for its charter bus operators. Starline does have a formal training program for its passenger van operators.

Mechanical training is provided to senior mechanics who in turn train apprentice mechanics. Company maintenance personnel have participated in manufacturer-offered training by NEOPLAN, as well as other bus industry manufacturers in recent years.

Preemployment Screening of Busdriver Applicants.--Safety Board investigators interviewed Starline managers, drivers, and maintenance workers, and they examined company records to determine Starline's procedures and criteria for pre-employment screening of busdrivers.

At the time of the accident, Starline had a formal policy and procedures manual that provided guidelines for the quality control manager to use in hiring busdrivers. Section 1.2 of the company's policy and procedures manual outlined the policy for hiring coach operators as follows:

1.2 HIRING PROCEDURES (ISSUED 5-1-85)

COACH OPERATORS: If the new employee is classified as a "coach operator" and will operate vehicles that come under the jurisdiction of the Department of Transportation's Safety Regulations, they must first successfully complete a road test and further be processed in accordance with applicable federal and state rules and regulations prior to operating Company vehicles over the public roadways.

The following are driver employment qualifications:

1. Must first furnish a copy of their driving record.
2. Must be able to handle the necessary reading and arithmetic skills to handle the driving and non-driving requirements.
3. Must have weight proportionate to height (this is to be determined by the company doctor).
4. Must successfully pass prescribed pre-employment physical examination.

5. Must be physically capable of complying with all of the Company's policies relating to job functions.
6. Must have an acceptable employment record and demonstrate mature judgment and good character.
7. Must be twenty-five (25) years of age or more.
8. Must have a minimum of two (2) years' experience operating heavy equipment (bus or diesel truck).
9. Must have no more than two (2) moving violations and/or accidents in the last three (3) years, and no suspension or revocation in the last three (3) years. Also, no more than four (4) moving violations and/or accidents in the last five (5) years, or one suspension or revocation within the last five (5) years.
10. Must meet all State and Federal regulatory requirements.
11. Must be capable and willing to comply with all federal and state DOT rules, regulations and laws.
12. Must be capable of obtaining a Government Security clearance.
13. Must be willing to conform with all Starline tours rules and regulations.
14. Must successfully pass an extensive driving test.
15. Must successfully complete a 90 day probationary period.

In an interview with Safety Board staff, the quality control manager listed the hiring criteria as follows:

An applicant must be at least 22 years of age.

An applicant must have at least 2 years prior experience in the kind of equipment we operate.

An applicant must have an acceptable driving record.

An applicant must not have more than two (2) speeding violations in a period of three (3) years before the accident.

Further, according to the quality control manager, each busdriver at Starline is required by the company to furnish a list of all accidents and traffic convictions over the previous 3-year period. The accident busdriver records indicate that upon employment he listed three past violations: one speeding violation in a passenger car, one moving violation in a passenger car for following too close, and one speeding with no registration violation while operating a bus.

Starline obtained a copy of the busdriver's California DMV record later in November 1985, for the period from March 1983, to November 1985. The information furnished did not include out-of-state convictions. The convictions included four speeding violations, three failure to appear violations, and one citation for driving while his license was suspended. The violation and conviction information was listed on the DMV printout in numerical code rather than in words.

The accident busdriver's file did not include any documentation to indicate that Starline had contacted any of his previous employers for a reference. Safety Board investigators contacted an official of the busdriver's previous employer, Lounge Car Tours. She stated emphatically that they had not been contacted by Starline. The Lounge Car official also stated that the busdriver's employment was terminated after he was arrested by the CHP near Independence, California, on March 10, 1985.

Representatives of Starline testified during the public hearing held in September 1986, that the busdriver was not given a written examination as required by Federal and State regulations, but was administered a driving test in accordance with the requirements specified in CFR Section 391.31.

According to the busdriver, Lounge Car was the only company that administered the written test for bus and truck drivers required by the Office of Motor Carrier Safety (OMCS) of the Federal Highway Administration (FHWA), United States Department of Transportation (DOT). He could not recall any details about the test. The Safety Board was not able to determine whether any of the driver's previous employers (motor carriers) administered written tests.

Supervision of Drivers.--The Starline quality control manager is responsible for monitoring the hours of service, traffic violations, and accidents of busdrivers employed with the company. The quality control manager testified during the public hearing in September 1986, that he had received a copy of the accident busdriver's DMV record in November 1985, and was aware of his extensive traffic violations. He further stated that he counseled the busdriver before hiring him and advised him that any additional violations would result in his termination. The

busdriver received two additional speeding citations, and was involved in three accidents while operating a Starline bus. Apparently, no disciplinary action was taken by Starline management in regard to these violations of motor vehicle laws or accidents before this accident occurred.

Chapter one of Starline's policy and procedures manual outlines the policy for bus operators concerning traffic citations and accident records:

If after employment, a person employed in the capacity of a bus operator is consistently involved in accidents and receipt of traffic violation convictions, their employment cannot -- will not be continued.

Many Starline drivers are assigned to drive both small 16-passenger tour buses on tours of the Hollywood area and larger buses on longer trips. Several drivers interviewed stated it was not uncommon for a driver to work on local (intrastate) tours for 8 to 10 hours and, upon arriving back at the terminal, to be dispatched on another assignment. Starline does not require its drivers to record into a daily hours of service log the driving time they accrue locally before beginning a charter (interstate) trip on the same day.

According to the reconstructed hours of service record, the busdriver had worked approximately 88 hours during the 6-day period preceding his departure to Reno. The driver had also been on duty for more than 15 hours during 3 of the 5 days prior to the commencement of the trip to Reno.

Following the accident, Safety Board investigators reviewed Starline's files of other drivers. The Safety Board found files without documentation to demonstrate that written examinations had been taken, files with improper driver logs, and files with data indicating that busdrivers had accumulated a considerable number of violations of motor vehicle laws.

As a result of the Safety Board's public hearing and following its review, the California DMV reviewed the records of Starline's drivers to determine if they were qualified to drive under California laws. The DMV also found inadequacies in the records of other Starline drivers. At this time, the California District Attorney's office has formally charged Starline's management with five counts of submitting false training records to the California DMV. Court action is pending.

Oversight of Carriers

State.--The State agencies involved in the regulatory oversight of commercial bus carriers in California at the time of the accident included the Public Utilities Commission (PUC), the California Highway Patrol (CHP), and the DMV. The PUC

had the overall responsibility for the economic regulation of motor carriers, including the granting of operating authority to carriers. Also, it reviewed a carrier's performance as it related to public conveyance and necessity.

Complaints against a motor carrier could be initiated by the DMV or CHP; however, the PUC was responsible for the review of all complaints and for determining appropriate action to be taken against motor carriers.

The PUC relied largely on the CHP to evaluate the safety performance of motor carriers, buses, and drivers. The CHP inspected the motor carrier facilities and equipment, and audited company records to ensure compliance with all the motor carrier regulations specified in the California Vehicle Code. These inspections were conducted annually on carriers that transport children to and from school, and on other carriers on an as-needed basis.

Primary responsibility for screening and licensing applicants rests with the DMV, which administers applicant examinations and issues licenses under the authority of the California State Vehicle Code. In addition to the initial granting of a commercial license, the DMV maintains a record of convictions for violations of motor vehicle laws and of accidents; it periodically reviews these records for license renewal. Suspension is recommended for commercial drivers who demonstrate a history of violations and, or chargeable accidents.

At the time of the accident, the point system that was in place did not provide for mandatory license suspension or revocation for a commercial driver who had accumulated a specific number of points on his driving record during a given time period. Only points for violation convictions received while operating in a commercial vehicle were considered. Convictions or accidents while driving in private vehicles or outside California were not considered in a performance evaluation by DMV of a driver's commercial license.

Coordination between the PUC, CHP, and DMV relating to the exchange of information was conducted primarily through correspondence and reports from one agency to another. The coordination of enforcement and safety activities was handled via a formal agreement between the PUC and CHP, which permitted the CHP to make safety recommendations directly to the PUC regarding the noncompliance of a carrier.

A similar formal agreement existed between the DMV and the CHP. If the DMV, through its investigative process, uncovered a carrier non-compliance problem, it had to funnel its findings through the CHP who, after review, passed a recommendation to the

PUC for final action. The DMV could not make recommendations directly to the PUC in non-compliance matters. Under this process, an agency with safety-related activities or pending enforcement actions would not notify the other agencies.

After the accident, the CHP on two occasions audited Starline's driver records and inspected the mechanical conditions of their vehicles. The first review, conducted in July 1986, revealed that Starline had several deficiencies in both areas. Driver inspection reports did not indicate true vehicle conditions, vehicles were not expeditiously repaired, and driver qualification records and logs were either incomplete or improperly filled out. In addition, Starline had received several citations from the CHP on roadside inspections conducted on Starline buses. As a result of both the on-site and roadside inspections, Starline was rated unsatisfactory by the CHP.

A followup review was performed in August 1986. The CHP inspectors noted a definite improvement in the mechanical condition of Starline equipment and the company's supervision of driver qualification records and hours of service requirements. As a result of this inspection, Starline's previous rating was upgraded to satisfactory. However, the CHP indicated to Starline management, in view of its past performance (including the recent bus accident and numerous terminal and roadside violations), that it would conduct additional inspections during the next year. If at any time Starline received an unsatisfactory rating, a recommendation for revocation of its operating authority would be forwarded to the PUC.

After the accident, the State of California enacted legislation designed to improve regulation of the commercial bus industry and to improve the coordination and exchange of information among the PUC, CHP, and DMV. Although the State initiated legislation concerning tour bus operations before the accident, the legislation (appendix H) did not go into effect until January 1, 1987. The new laws specifically require the DMV to:

- Strictly enforce bus safety and driver qualifications

- Administer a special examination for tour bus drivers which includes a behind-the-wheel practical road test

- Provide carriers employing 500 or fewer drivers with semi-annual printouts of driver records, and provide carriers employing more than 500 drivers with annual printout of the driver records.

Report automatically any traffic violation convictions to the motor carrier or driver's employer

Require license revocation proceedings to be initiated when a driver accumulates four or more points in 1 year, six points in 2 years, or eight points in 3 years, and include points accumulated for violations while driving passenger cars.

In addition, the legislation requires the CHP to recommend that the PUC suspend the operating authority of any carrier cited for safety violations or incomplete driver qualification records.

The carrier is responsible for certifying compliance with applicable regulations. Failure to comply with the regulations will result in the carrier's operating authority being revoked or temporarily suspended.

The new PUC guidelines permit the CHP or the DMV, after documenting serious violations of safety regulations, to file a complaint directly with the PUC. Upon receipt of a complaint by CHP or the DMV, the PUC is required to suspend the carrier's operating authority immediately until the safety deficiencies have been satisfactorily corrected. The new policy also provides for an appeal process by carriers. In addition, the agreement requires that all three agencies be kept apprised of action initiated against a carrier by the other two.

Federal. --The Department of Transportation Office of Motor Carrier Safety is primarily responsible for the Federal oversight of motor carriers engaged in interstate commerce. The OMCS normally conducts safety audits to determine if carriers are complying with the FMCSR. However, the OMCS at times also conducts safety audits after a carrier is involved in a serious accident. Currently, there are 300 OMCS special agents nationwide charged with enforcing Federal motor carrier safety regulations on more than 200,000 carriers. The Federal enforcement and compliance effort is supplemented by State-operated programs funded in part by the Motor Carrier Safety Assistance Program (MCSAP), which is administered by the OMCS. Each of the 45 MCSAP-participating States provides personnel who conduct roadside driver/vehicle safety inspections and initiate enforcement actions.

The OMCS has conducted three Safety Compliance Evaluations on Starline since 1983. Starline received an unsatisfactory rating in March 1983, primarily because it did not possess the insurance required by the Federal Motor Carrier Safety Regulations. Starline was required to correct all previously noted deficiencies or be subject to civil and/or criminal litigation by OMCS. OMCS later contacted the carrier to ensure that they had obtained the proper insurance and no further action

was taken. Two subsequent followup compliance evaluations were conducted on April 10, 1985, and June 11, 1986, respectively. Based on a review of only those drivers and vehicles engaged in interstate commerce, Starline was rated as satisfactory after both evaluations. In the three carrier evaluations, the OMCS inspected a random group of driver qualifications files, driver hours of service logs, and vehicle maintenance records. This evaluation involved the review, by OMCS special agents, of specific documents to determine if the carrier was complying with applicable Federal regulations.

As a result of the Motor Carrier Safety Act of 1984 and initiatives of the Department of Transportation (DOT), the OMCS devised a new procedure to audit motor carriers. Under this new procedure, each motor carrier not previously rated will receive an initial safety review by an OMCS agent to determine if the carrier has the systems and procedures necessary to ensure compliance with the FMCSR. In the past, the OMCS conducted safety management audits of a carrier's records to ensure compliance. An objective of the new initiative is to enable OMCS to evaluate 185,000 previously unrated carriers over a 3-year period, beginning in 1987. As a result of this change in the OMCS carrier evaluation process, OMCS special agents will spend about 4 hours reviewing a carrier's written procedures relating to compliance with Federal regulations instead of the 1 to 5 days previously required to review detailed records. Discrepancies discovered during the initial safety review will alert OMCS staff that a more in-depth compliance review is required.

During the initial safety review, motor carriers will be assigned a rating of "satisfactory," "conditional," or "unsatisfactory" based on the adequacy of their systems and procedures to effect compliance with applicable safety regulations. Motor carriers that receive a rating other than satisfactory will be placed in the Selective Compliance and Enforcement Program (SCE). The SCE was placed in effect by OMCS on October 1, 1986, in conjunction with the new procedures for evaluating and monitoring motor carriers' compliance with the Federal Motor Carrier Safety and Hazardous Materials Regulations. The program is scheduled to be fully implemented by August 1987.

A followup in-depth compliance review will be performed on all carriers placed in the SCE program. The compliance review will provide a basis for changing a prior rating, designating a carrier for future selective monitoring, or initiating enforcement action. A goal of the SCE Program is to perform a followup compliance review on all carriers that have been subject to an enforcement action, within 120 days of the settlement date. No such target has apparently been set for those carriers that were rated less than satisfactory but were not subject to an enforcement action.

To enhance the effectiveness of the States' oversight of motor carriers, OMCS has developed the Safety Net System, a computer software system to interface with IBM personal computers. The system is designed to connect all States with the data center at the OMCS headquarters in Washington, D.C. It can now provide users with OMCS ratings of motor carriers and with data gathered during roadside inspections. The system will eventually be expanded to permit the States to access commercial vehicle accident data compiled by OMCS. Currently, 20 States, including California, can obtain data from the Safety Net System. OMCS is encouraging States to use the system by funding 80% of the States' costs for conducting roadside inspections and for purchasing the computers and software programs necessary for accessing the OMCS data file.

Availability of Commercial Driver and Accident/Violation Records

The exchange of accident and driver license history information is facilitated through cooperative agreements among the States. The Uniform Violators Compact ^{16/} is a reciprocal agreement among 36 States who have agreed to exchange traffic violation conviction information. A provision of the Compact requires that a driver who is notified of an unsatisfied fine or is required to appear in court for an out-of-state traffic violation must rectify the situation or face possible suspension in the State where he or she holds a license.

Another agreement among States is the Driver's License Compact. Under this compact, any member State with conviction data on a driver will send that data to the driver's licensing State, if that State is also a member of the Compact. However, an out-of-state conviction for driving while intoxicated is not provided to other States through the Compact because these convictions are considered to be criminal violations and not motor vehicle violations.

The State of Nevada recently implemented a computerized system, partially funded through MCSAP grant funds, that involves a cooperative effort by the Nevada Highway Patrol and Division of Motor Vehicles to screen new commercial driver applicants, commercial drivers requesting license renewal, and commercial drivers under investigation by the highway patrol. Nevada authorities have agreements with all States and the District of Columbia, which allow for the automated exchange of driver history files. Nevada Highway Patrol officials checked the

^{16/} Uniform Violators Compact--A formal agreement among 36 States which provides for the reporting of traffic convictions, revocations, and suspensions to home states by other member states.

driving record on the accident busdriver for Safety Board investigators. The nationwide check was completed within 2 hours and included conviction information on the busdriver not included in the California DMV files.

Using the traffic violation and accident records obtained on the accident driver, the Safety Board retrieved the same information using a system in another state that the Board believed to be typical of the systems available to most carriers in most States. The process in the latter case was time consuming and required that each State DMV be contacted separately. Although the results of the search were the same as those obtained by Nevada, the process involved the use of manual record searches as well as computer files. This required the efforts of at least 53 persons nationwide and took about 4 days to compile.

The National Driver Register (NDR) is a clearinghouse for the States to exchange driver license information. Since its inception in 1960, the NDR has been operated by the National Highway Traffic Safety Administration of the DOT. The NDR has been limited to information voluntarily supplied by States regarding licensing denials and withdrawals. Access to the NDR files was limited to State DMVs and to a limited number of Federal agencies. In 1982, the scope of the NDR was revised to allow the employers of commercial drivers and driver licensing officials to obtain information for driver improvement and highway safety programs. However, State law enforcement agencies, which are charged with the primary surveillance of commercial drivers and enforcement of applicable traffic laws, do not have direct access to the NDR.

When Safety Board investigators submitted the name of the accident busdriver to the NDR, no record on him was found in the system. Suspensions or revocations because of a failure to appear do not meet the criteria for inclusion in the NDR data base.

Tests and Research

Friction Tests.--Tests were conducted at the accident site to determine the coefficient of friction for the road surface and shoulders. Friction tests were performed with a drag sled weighing 24.7 pounds. ^{17/} The sled was pulled across the road surface and its shoulders at various locations to measure the forces required to pull the sled. A coefficient of friction for

17/ Drag Sled: A device used to measure the coefficient of friction on various surfaces. It is normally constructed with a tire section, standard weights, and pull scales to measure longitudinal forces required to pull the loaded tire section across the surface.

the road surface at low speeds is obtained by dividing the measured longitudinal force by the normal force (weight of the sled). The data recorded and the coefficient of friction calculated at various locations are presented in appendix I.

Vehicle Handling.-- On December 23, 1986, the Safety Board, in cooperation with the Maryland State Police, Starline Sightseeing Tours, Inc., and Neoplan USA Corporation, performed vehicle handling tests at Andrews Air Force Base in Camp Springs, Maryland. The tests were conducted to determine the performance capabilities of a similar bus under similar pavement conditions, and to observe the effect of a deflated air spring on the handling and stability of the bus. A 1986 Neoplan model N116-3 intercity coach was used to conduct the tests. The bus was loaded with ballast to simulate a load of 41 passengers with luggage. The total weight of the bus for the test was about 40,175 pounds.

An asphalt airport runway with a rubber/aggregate seal, 150 feet wide and 1,500 feet long, was used to perform the tests. Traffic cones were placed 25 feet apart over a 700-foot distance to simulate the initial road alignment at the accident site where the vehicle lost control. However, no provisions were made to compensate for superelevation on the road. Two sets of cones were used to simulate the traffic lane width of 13 feet 18/, and the layout of the test area was arranged to permit at least 1,000 feet of approach and exit for the acceleration and deceleration of the bus in all test runs.

Tests were conducted to determine the coefficient of friction for the airport runway. Friction tests were performed with a drag sled and with a stationwagon braking at 30 mph. The test results indicated the coefficient of friction for the test surface ranged from 0.90 to 0.93.

Two video cameras were used to record and document all tests. Observers were stationed in and outside the bus to detect vehicle handling irregularities that might have influenced the bus dynamics. Speed was measured both by radar and by the speedometer for the first seven tests, and recorded only from the bus odometer for the remaining tests.

Twenty tests were conducted at speeds varying between 35 to 55 mph. Six tests were run with the suspension undisturbed. No adverse effects were observed in the handling and stability of the test bus. Also, six tests were run with the right drive

18/ Although the test lane was 13 feet wide, physical evidence indicates that the bus may have used the entire width of the road (26 feet) to negotiate the "S" curve.

axle air spring deflated. On tests 11 and 12, the rear end of the bus slid slightly at a test speed of 55 mph; however, no loss of control was observed. Four additional tests were run with the left drive axle air spring deflated and the tag axle in the locked and unlocked positions. On test 16, the left drive axle lifted off the paved surface as the bus negotiated a sharp radius curve, causing the rear end to slide to the right. The tag axle tire buffed the pavement, leaving a mark similar to a skidmark. 19/ In other tests conducted above 45 mph, only light scuffmarks were observed on the pavement, and no discernible tiremarks could be attributed to the tag axle. The instability occurred at a speed of 52 mph.

Four tests were conducted with all of the air springs deflated. No other irregularities were observed. Table 3 provides a listing of the test conditions and remarks.

ANALYSIS

The Accident

Data gathered in the vicinity of the accident site indicate that this location did not have a high accident rate. The data also indicate that no vehicle had previously gone over this embankment. These data and a review of the condition of the highway indicate that the highway was not a factor in this accident. Further, the weather, as reported at the time of the accident, was also not a factor.

Witness statements indicate that the southbound tour bus, at times, had been traveling at a high speed on U.S. 395 and had not always remained in the southbound lane. The scuffmarks on the approach to the accident site indicate that the busdriver apparently was attempting to "straighten the curve" 20/ to increase the speed at which he could negotiate the "S" curve. The arc-shaped tire scuffmarks located about 850 feet from the final rest position of the bus indicate that the bus was almost completely in the northbound lane when it entered the "S" curve. The bus went off the road to the right and then moved leftward, returning to the southbound lane. The busdriver apparently did not correct his steering soon enough because the bus veered into the northbound lane toward an oncoming pickup truck. The busdriver steered rightward to avoid hitting the truck. The

19/ A tiremark made on a road surface by a tire that is sliding without rotation.

20/ Straightening the curve is a term which describes a driving maneuver in which a vehicle moves through a curve from a tangent through the curve's apex to the next tangent.

Table 3--Bus test runs

<u>Run No.</u>	<u>Maximum recorded speed (MPH)*</u>	<u>Tag axles</u>	<u>Rear suspension</u>	<u>Remarks</u>
1	35	L	N	Non-Eventful
2	35	U	N	"
3	45	L	N	"
4	45	U	N	"
5	55	L	N	"
6	55	U	N	"
7	35	L	R/D	"
8	35	U	R/D	"
9	45	L	R/D	"
10	45	U	R/D	Front end
11	55	L	R/D	slightly unstable
12	55	U	R/D	"
13	45	L	L/D	"
14	45	U	L/D	"
15	50	L	L/D	Left drive axle
16	63	U	L/D	lifted and bus slid to right at 52 mph
17	45	L	A/D	Non-eventful
18	45	U	A/D	"
19	53	L	A/D	"
20	52	U	A/D	"

Legend

- (L) Locked
- (U) Unlocked
- (N) Normal inflated air springs
- (R/D) Right drive axle air spring deflated
- (L/D) Left drive axle air spring deflated
- (A/D) All rear air springs deflated

** A maximum speedometer reading of 63 mph was recorded. However, the left drive axle wheel lifted off the pavement at 52 mph and caused an excessive odometer run up to occur.

* The maximum speed noted on the bus speedometer was within a ± 3 mph difference of the speed recorded by the RADAR unit during the tests.

driver failed to keep the bus in the southbound lane and it once again went off the road to the right. The rear of the bus struck a rock retaining fence, and to return to the roadway, the driver steered leftward, apparently overcorrecting again. The bus then went into a leftward slide upright on its wheels across the road surface and onto the east shoulder. It then rolled down the embankment. Impact damage on the bus indicates that the bus rolled over at least 360° before it came to rest upright in the West Walker River.

The bus traveled about 850 feet from the point where the first set of tire scuffmarks were observed to its final resting position in the river.

Following the accident, the driver told to Safety Board investigators that the bus was traveling approximately 35 to 40 mph as it approached the "S" curve. However, based on physical evidence 21/ measured at the accident site, Safety Board calculations indicate that the bus probably was traveling at a speed of about 65 to 68 mph as it entered the "S" curve. By the time the bus began to roll sideways into the West Walker River, its forward speed had been reduced to between 20 to 26 mph. The driver was requested to testify at the Safety Board's Public Hearing (which was held in Reno, Nevada, in September 1986). However, the driver declined to testify based on the advice of his attorney.

No skidmarks or other evidence on the highway suggested that the busdriver applied his service brakes as the bus continued through the "S" curve. However, the passengers indicated that the busdriver was alert and that he was not physically impaired at the time of the accident. Further, the busdriver was familiar with the operation of the Neoplan model N116-3 bus and had previously driven this route in a similar bus. However, the busdriver had a history of driving commercial buses in excess of the speed limit. Also, shortly before the accident, the bus was observed to have been operated at fairly high speeds and apparently "straightening curves" at several locations on the return trip. Witnesses indicated that the tour bus had forced two oncoming cars to their extreme right on U.S. 395 near Topaz Lake, about 25 miles north of the accident site.

In an attempt to determine why the busdriver failed to steer the bus properly into the southbound lane after "straightening the curve" at the entrance to the "S" curve, the Safety Board analyzed the factors affecting the vehicle and driver's performance in this accident.

21/ Physical evidence--curve radii of scuffmarks, road surface superelevation and coefficient of friction, and the slide-to-rest position of the bus on the east shoulder.

Vehicle Factors

The postaccident mechanical inspection of the bus revealed that all bus systems were functioning properly at the time of the accident. However, both air springs on the drive axle assembly had become dislodged from their proper positions. Further, the driver told investigators that just before the accident he had heard a "plop" sound and had difficulty controlling the bus. This would suggest the possibility that one or both of the air springs may have deflated or unseated before the rollover and had adversely affected the bus handling characteristics. Therefore, postaccident tests were conducted on a bus with deflated air springs on the rear axle. The tests, which were conducted on a flat paved surface with a similar bus, indicated that the bus could become unstable at a speed as low as 52 mph with the left drive axle air spring deflated and with the rear tag in the unlocked position.

After this test, in which the bus became unstable, Safety Board investigators noted that the unlocked tag axle had produced a tiremark on the paved surface that looked like a skidmark. This tiremark was not similar to any of the scuffmarks produced during the other postaccident bus tests (tests in which the bus did not become unstable), nor to any of the tiremarks observed at the accident site.

Furthermore, the tests were conducted on a flat surface that was not representative of the road geometry at the accident site. The cross slope of the accident roadway was superelevated, unlike the test roadway, and the physical evidence indicates that the busdriver used both travel lanes while negotiating the "S" curve instead of a single lane as was used to conduct the tests. Had the bus tests been performed under conditions more similar to those of the roadway, it is highly probable that the test bus could have negotiated the "S" curve arrangement at a higher speed for all test conditions.

The Safety Board contacted the bus manufacturer, two air spring manufacturers, and a suspension system manufacturer to determine how many air spring failures had been reported. A Neoplan representative indicated that they were not aware of any warranty claims or reports from bus owners of air spring failures. Representatives of the air spring and suspension manufacturers indicated that air spring failures normally result from punctures by flying objects, holes created by chafing of adjoining parts, or deterioration in the rubber. The normal life expectancy for air springs varies from 250,000 to 800,000 miles after installation, and air springs normally do not rapidly deflate when failure occurs.

Safety Board investigators also contacted two motor carriers that use Neoplan buses, and their representatives reported that they were not aware of any problems related to air spring failures on their buses.

Further, if the rapid deflation of the air springs had precipitated the accident sequence, the ride of the bus would have become noticeably harsh. However, none of the bus passengers indicated that they noticed any change in the quality of the ride before or during the loss of control sequence except for the oscillation, which resulted from the driver's steering maneuvers. Therefore, the Safety Board concludes that the loss of control was not precipitated by a deflation of a drive axle air spring.

Driver Factors

Medical Conditions.--From March 30, 1981, to October 17, 1983, the busdriver was under the care of a physician for diabetes. During this time, the busdriver's fasting blood sugar ranged from 352 mg/dl in July 1981, to 127 mg/dl in October 1983. The physician was treating the busdriver with oral medication for the diabetic condition, but had not prescribed the use of insulin.

Tests done on samples of blood drawn about 2 pm on the day of the accident indicated that the driver's blood sugar was 341 mg/dl. This blood sugar level, although elevated above the normal limit of 115 mg/dl, is considered to be only a moderately elevated level. Further, it is within the range of elevated levels measured while the busdriver was under the care of a physician. Also, this test result is probably higher than the previously measured levels because the driver had not fasted prior to this test as he had before the previous tests. Fasting often produces a lower blood sugar level. Although moderately elevated blood sugar levels may produce long-term medical problems, such as vision or kidney damage, they generally will not produce in a non-insulin dependent patient, acute symptoms, such as loss of consciousness. ^{22/} Accordingly, the Safety Board concludes that his elevated blood sugar level was not a factor in the accident.

Fatigue.--The driver had been on duty on each of the 6 days before the trip to Reno, accumulating as many as 88 hours of duty time. During those days, the driver was primarily engaged in driving short charter trips in the Los Angeles, California, area and 1-day trips to nearby cities. The driver was accustomed to working long days with limited rest.

^{22/} Krolewski, A.S., J.H. Warram, and A. R. Ghristieb "Onset, Course, Complications and Prognosis of Diabetes Mellitus" in Joslin's Diabetes Mellitus, 12th Ed, Lea & Febeger, Philadelphia, 1985.

On the day of the trip to Reno, May 27, 1986, the driver was on duty for 17 hours and drove 11.5 hours. The trip was somewhat difficult because the turbocharger, which was not functioning properly, caused the bus to be underpowered in the mountainous terrain. Thus, the trip took longer than would normally be expected. However, the driver completed the trip without causing any untoward events. The driver reported for duty that day at 5 a.m. and went off duty at 10 p.m.

During the next two days, the driver drove the tour group to nearby Carson City and Tahoe, Nevada, and arranged for and had the bus repaired and washed. The driver had ample opportunity to sleep at night, going off duty about 9 p.m. each night after going on duty about 7:30 a.m. The opportunities for sleep coincided with the driver's normal sleep periods and thus would not have affected the driver's circadian body rhythms. Further, the driver had time on both days to relax after driving the tour group to its destination. For example, although the records indicate that on May 28 the driver was on duty for 12 hours (8 a.m. to about 8 p.m.), it appears that from about 9 a.m. until about 6 p.m. the driver had no duties and was able to relax in any way he decided during the 9-hour period. In general, his duty time on May 28 and 29, 1986, was considerably less demanding and fatiguing than his duty time driving short charter trips in the Los Angeles area.

On May 30, 1986, the day of the accident, the driver began his duty day at 7 a.m. after going off duty at 9 p.m. the night before. The driver prepared the bus for the trip and departed Reno at about 8 a.m. Witnesses noticed the bus traveling at high speeds, while moving out of its proper lane (apparently while straightening curves or while passing slower moving cars.) This indicates that the busdriver was driving in his established aggressive style and suggests that he was alert and not manifesting effects of fatigue. Further, some of the passengers told investigators that the busdriver was alert, and was not in any way impaired or incapacitated. Despite the driver's somewhat easier than normal schedule while in Reno, the opportunity for normal periods of sleep the several nights before the accident, the limited on-duty time the day of the accident, his reported alertness, and his reportedly aggressive pattern of driving, the Safety Board concludes that the driver's failure to apply the brakes may have resulted from fatigue because of his extended duty time before the accident. Therefore, fatigue cannot be ruled out as a factor in this accident.

Inattention or Distraction. -- The Safety Board cannot rule out the possibility that the driver became inattentive, or perhaps distracted, just as he entered the "S" curve and began to

"straighten the curve," causing him to delay his steering input to correct the course of the bus and allowing the bus to drift slightly off the road to the right. On the trip from Los Angeles to Reno on May 27, 1986, and on the return trip, passengers noticed the bus move abruptly rightward, on several occasions, as the driver leaned down to his right to reach for a soft drink can on the floor. The driver was admonished by the tour director to be more careful. While the Safety Board has no evidence that such an action on the part of the driver took place at the entrance to the "S" curve, it cannot rule out the possibility that a similar type of event may have momentarily distracted the driver or that he may have temporarily become inattentive for some other reason.

The Driver's Qualification to Drive Commercial Motor Vehicles.--
The State of California requires an applicant for a Class 2 license to meet the Federal requirements. The Federal regulations (49 CFR 391.11) set forth the conditions under which a person is qualified to drive a motor vehicle in interstate commerce. Among the conditions that must be met are that he have a currently valid motor vehicle operator's license or permit, has prepared and given to the motor carrier a list of traffic violations, has not been disqualified under 49 CFR 391.15, has successfully completed a road test and has taken a written examination, has completed and provided the carrier with a proper application for employment, and is physically qualified to drive. Physical qualification is proved by the possession of a medical examiner's certificate, which must be renewed every 24 months.

The driver had completed and provided to Starline an application form. He had also provided a list of violations of motor vehicle laws and of accidents; however, the list he provided was incomplete. Certain violations were not on the list. The driver had successfully completed a road test but apparently had not been administered a written test by Starline. (There was no record of such in Starline's files.) The driver had provided a copy of a medical examiner's certificate, dated April 1985, but the physician claimed the signature purported to be his, was not his. The physician stated that he had not examined the driver in 1985. During the course of the investigation, the Safety Board was unable to find any evidence that the driver had received a valid medical examination within the 2 years prior to the accident. (The Safety Board has no evidence that the driver would not have been medically qualified to drive had he taken a physical examination. It is likely the elevated blood sugar levels would not have disqualified him from driving because he was not injecting insulin.)

The driver had had a license in the State of Washington that had been suspended because the driver failed to pay a fine in 1976. However, the license expired in 1979, and although the suspension remained in the record, it should have been removed in

1981. Thus, this suspension would not have affected his qualification to be hired by Starline (nor his qualification at the time of the accident). The driver also had several violations of motor vehicle laws in Nevada, including a warrant against him issued by Nevada for failing to pay a fine. However, because the driver was not licensed in Nevada, Nevada could not suspend his license and therefore his record in Nevada (which included a speeding violation) would not have affected the validity of his California license at the time of his employment by Starline or at the time of the accident.

The driver also had, at the time he was hired by Starline, a number of convictions for violations of motor vehicle laws within California during the preceding 3-year period, including four speeding violations while driving buses, two speeding violations while driving passenger cars, at least four failures to appear, and one citation for driving while his license was suspended. The driver had also been involved in at least five accidents in California, four while driving a bus and one while driving a passenger car, during the same 3-year period. However, under the system in place in California at the time of his employment with Starline, the driver's violation record would not have precluded his holding a valid motor vehicle license within California or his driving in interstate commerce under the Federal regulations. However, the Safety Board believes that the record of violations (and accidents) accumulated prior to his employment by Starline should have disqualified him to drive passenger buses in interstate commerce.

In fact, because at the time of his employment with Starline the driver had apparently not been administered a written test, had not fully and accurately completed the list of violations, and had not had a valid medical examination, he was not qualified to drive a motor vehicle in interstate commerce in accordance with 49 CFR 391.11.

Carrier's Actions

The Preemployment Screening Process. -- Primary responsibility for determining if an applicant meets the requirements to qualify for a position as a busdriver rests with the employing carrier. The carrier is required by Federal regulations to obtain and keep on file an application form completed by the driver applicant. Federal regulations define the information to be recorded on the application form. The carrier is also required by Federal regulation to obtain and check the applicant's history of employment, history of violation of motor vehicle laws, and history of accidents--all for the 3 years before the date of the application. The driver's files, which Federal regulations require that the carrier maintain, must contain records of this information and a record of the carrier's check with the applicant's previous employers. The driver's files must also contain documentation of the completion of a road test and a written examination.

When reviewed by Safety Board investigators after the accident, the driver's files maintained by Starline contained a DMV printout that it had requested and received shortly after Starline hired the driver. However, this printout, which was in numerical code, did not contain the driver's out-of-state violations (later discovered during the investigation of this accident) of motor vehicle laws within California or the violations he had received outside of California. Although the driver's history of accidents and violations of motor vehicle laws would not have prohibited him from driving a motor vehicle in interstate commerce, it did not meet the criteria set forth in Starline's policies and procedures manual. Starline's policy specified that in order for an applicant to be qualified, the applicant:

Must have no more than two (2) moving violations and/or accidents in the last three (3) years, and no suspension or revocation in the last three (3) years. Also, no more than four (4) moving violations and/or accidents in the last four (4) years, or one suspension or revocation within the last five (5) years.

Although the November 1985 DMV printout that Starline had in its files did not contain out-of-state conviction information, it did reveal that, from March 1983 until July 1985, the driver had accumulated seven speeding violations, two violations for failure to appear in court, and one citation for driving with a suspended license. These violations, alone, should have precluded the hiring of the driver by Starline because of its written policy.

The Starline file did not contain a written record in the driver's files to indicate he had taken a written exam. This was a violation of the Federal requirement and therefore is also a violation of Starline's written policy. Starline's file on the driver also did not contain a copy of the questions asked, the driver's answers to the questions, or a certificate of written examination as required by Federal regulations. These omissions are not only a violation of the regulations, but also of Starline's written policy.

Further, Federal regulations require that the carrier contact each of the driver's past employers during the preceding 3 years and put a written record of this in the driver's files. The record should have included the name, address, and comments of each employer or representative and the date of the contact. Starline's quality control manager stated that he made one phone call in an attempt to contact one of the previous employers (Lounge Car Tours). However, the driver's qualification file contained no written documentation of even this purported attempt to contact a previous employer. Lounge Car stated that it never received a written or oral request from Starline concerning the busdriver. Starline provided no evidence that it had contacted the driver's other previous employers.

Had Starline diligently conducted the proper preemployment checks, its management would have had more information to use in deciding whether to hire the busdriver involved in this accident. Inquiries with the busdriver's previous employers would have disclosed that the driver had been fired and that he had been arrested by the CHP on March 10, 1985, near Independence, California, while operating a commercial bus with a suspended license. Starline violated Federal regulations and did not adhere to its own hiring policies and procedures in failing to contact the driver's previous employers and to put a record of such contacts in his files.

The Safety Effectiveness Evaluation conducted in 1980 ^{23/} addressed the importance of a motor carrier contacting an employee's previous employers for a background check. The report noted that although the Federal regulations require the hiring carrier to contact (and document in its files) all the applicant's employers for the 3 years prior to his hiring, the regulations do not specify the information that the hiring carrier should obtain. In 1980, the Safety Board issued Safety Recommendation H-80-020 to the FHWA asking that it:

Define fully, in the Federal Motor Carrier Safety Regulations, the information that a motor carrier must request from an applicant driver's former employer(s) when making the investigations and inquiries required by the regulations.

The FHWA, after a number of communications with the Safety Board, has included this issue in the regulatory general review of the Federal Motor Vehicle Safety Regulations now underway. The establishment of Docket MC-114 was a first step in this process. The Safety Board believes that the action it requested in Safety Recommendation H-80-020 still needs to be accomplished.

Based on the above, the Safety Board concludes that Starline violated several Federal regulations and its own policy in hiring a driver who did not meet the qualifications set forth in Federal regulations and its own policy and procedures manual.

Supervision of Drivers. -- Starline Management did not adequately monitor the busdriver's hours of service or the traffic violation and accident record he was developing during his brief employment with the company. It was difficult for Safety Board investigators to establish the precise number of hours the driver was on duty during the week before the trip to Reno and while he was on the trip because of the method Starline used to keep its payroll records and because of the lack of complete driver's logs. However, from the records available to the Safety Board

^{23/} "Safety Effectiveness Evaluation of Detection and Control of Unsafe Interstate Commercial Drivers Through the National Driver Register, State Driver Licensing Policies, and the Federal Motor Carrier Safety Regulations," February 15, 1980" (NTSB-SEE-80-1)

and with the help of Starline's payroll manager, investigators found that during the 6-day period preceding the accident, the busdriver had apparently been on duty as many as 88 hours before he was dispatched on the long distance charter trip. At that time, he was already in violation of FMCSR 395.3(b) and Starline Company policy for exceeding the maximum duty time within a 7-day period (or 8-day period) unless 28 hours of his apparent on-duty time had been spent in leisure activities. The driver also may have exceeded the Federal limit of 15 hours of duty following 8 hours off duty, 3 of the 5 days preceding May 27, 1986, the day he began the charter tour to Reno. It is possible that drivers' daily logs may not have been completed or readily available to the quality control manager for his review; however, the manager could have consulted the payroll department and obtained daily time sheets on the driver to determine if he was close to or had exceeded the legal limits for hours of service. Thus, the Safety Board concludes that the busdriver should not have been dispatched on the charter trip.

The driver was also in violation of both the 15-hour daily on-duty limit and the 10-hour driving limit on the day of the trip to Reno. However, the Safety Board is also aware that the driver experienced problems with the bus which slowed the trip to Reno and with the extenuating circumstances the driver may not have had reasonable alternatives to continuing on to Reno. Nevertheless, the Safety Board concludes that Starline did not adequately supervise the driver's hours of service before the trip and in dispatching the driver on the trip, resulting in violations of Federal regulations governing the hours of service.

Starline management did not adequately supervise the busdriver concerning his traffic violations. The quality control manager testified during the public hearing that he had counseled the busdriver about his extensive traffic violations and advised him that any further violations would result in his termination. During his 7 months of employment before the accident, the busdriver received two additional speeding citations and was involved in three accidents with Starline equipment. (Two of these accidents were minor and appear to have been the busdriver's fault, while one accident, in which his bus was struck in the rear by a semi-trailer, was not his fault.)

The Starline policy and procedures manual specifies that "...if after employment, a person employed in the capacity of a bus operator is consistently involved in accidents and the receipt of traffic violation convictions, their employment cannot--will not be continued." However, the Safety Board has no evidence that Starline conducted any followup inquiries with the DMV, counseled the busdriver, or took further action concerning his continued accumulation of traffic violations and accidents. The Safety Board recognizes that the additional violations of motor vehicle laws (and the additional accidents) did not affect the validity of the driver's Class 2 license in California and

thus that these violations did not disqualify him under the Federal regulations from driving in interstate commerce. However, the Safety Board believes that the violations accumulated after his employment with Starline, when combined with those accumulated prior to his employment, should have not only caused Starline to take action, but his record of violations should have been sufficient to have disqualified him from driving in interstate commerce under the Federal regulations.

Thus, the Safety Board concludes that Starline management did not adequately monitor the busdriver's traffic violations after he was hired and did not adhere to their own company policy concerning the termination of bus operators with excessive traffic violations and accident records.

Further, the Safety Board's review of the files of other Starline drivers revealed deficiencies in their files also. This review suggested that supervision by Starline of some of its other drivers was also inadequate.

State and Federal Oversight of Starline

State.-- The CHP conducted two postaccident inspections of Starline in 1986. The carrier was rated unsatisfactory in July 1986, and a followup inspection was performed about 1 month later. The CHP inspectors noted significant improvements in Starline's maintenance practices and supervision of driver logs and records. The CHP also indicated to Starline's management that it would continue to conduct unscheduled inspections during the next year. Further, Starline was warned that if it received another unsatisfactory rating during these inspections, a recommendation for revocation of its operating authority would be forwarded to the PUC. The Safety Board believes since the accident, the CHP has increased its level of monitoring the safety performance of Starline and its buses and drivers.

Federal.--OMCS conducted three safety audits of Starline from 1983 to 1986. The focus of these evaluations was Starline's interstate operation, which was 25 percent of its business. The carrier was rated unsatisfactory in 1983, primarily because it did not possess the insurance required by the Federal Motor Carrier Safety Regulations. The followup audit revealed that the carrier had corrected all previous deficiencies noted, and subsequently was given a satisfactory rating. After the accident, OMCS again audited Starline in June 1986, and rated them satisfactory. The Safety Board believes the audits of Starline conducted by the OMCS should have uncovered the fact that Starline had hired drivers who did not meet the Federal requirements, that Starline was not meeting the Federal requirements for the maintenance of its files, and that hours of service regulations were being violated. The OMCS should have conducted more frequent followup inspections after rating Starline unsatisfactory and taken appropriate action to ensure compliance, if needed.

According to the OMCS, of the more than 200,000 motor carriers (buses, trucks, etc.) registered by the Interstate Commerce Commission (ICC) nationwide, 185,000 are unrated. The size of these carriers ranges from the operation of a single bus or truck to the operation of several hundred buses or trucks. Despite the limited resources of the OMCS, the 300 OMCS special agents will, as a result of the Motor Carrier Safety Assistance Act of 1984, be conducting an initial safety review (about 4 hours duration) of the management programs of the approximately 185,000 unrated carriers during the next 3 years. The purpose of this review is to determine which carriers have the necessary management systems and procedures in place to provide for compliance with the Federal Motor Carrier Regulations. Those carriers with inadequate systems and procedures will be required to upgrade them. Those carriers identified as needing it will receive more in-depth audits.

However, this means that on average, each OMCS agent will be required to review, annually, more than 200 carriers in addition to other safety inspection, investigative, and administrative duties. With only a bit more than 200 working days available per year, each OMCS agent will have to perform an initial safety review of at least one carrier each day. The Safety Board is aware that to supplement the new OMCS enforcement and compliance, States participating in the MCSAP will be encouraged to conduct more roadside vehicle safety inspections. The Safety Board understands the desire of the OMCS to rate all motor carriers and it may be possible to review in 4 hours a carrier's written procedures and systems for complying with motor carrier regulations.

However, the Safety Board is concerned that a 4-hour initial safety review will not be adequate to identify many of the carriers failing to comply with the Federal regulations, even though their written procedures and systems suggest that they are properly organized to comply with the regulations. Even if OMCS agents are able to adequately review most of the carriers for which they are responsible, it is unlikely that the agents will also have the time to travel from one site to the next, to perform the detailed follow-up compliance reviews on the carriers rated as less than satisfactory in the initial review, and to perform the other duties required of them.

The Safety Board believes that the States should accept more responsibility to enforce compliance with safety regulations by motor carriers operating within their borders (especially in the area of improved roadside inspections of vehicles and drivers). However, the Safety Board also believes that OMCS needs an adequate number of agents to properly implement its program of rating all interstate motor carriers and to perform timely followup compliance reviews of those carriers requiring such. The Safety Board believes OMCS needs a considerable increase in its staff to accomplish this mission.

In addition, the Safety Board believes that if the States are to participate effectively in the OMCS enforcement process, they should know about unsafe motor carriers who operate within their borders. Appropriate agencies, such as State motor carrier regulatory and enforcement agencies and State consumer information agencies involved in the oversight of commercial buses or the dissemination of information to the public, should have access to the safety rating data compiled by OMCS. These data will enable the law enforcement and regulatory agencies to target extra surveillance and enforcement efforts on known habitual offenders. This will also permit State consumer agencies to provide information about unsafe carriers to those citizens within their states who attempt to obtain such information.

Motor carrier ratings and roadside inspection data are now available to States through the OMCS Safety Net System. The Safety Board believes that States should use the Safety Net System and disseminate data on all motor carriers that receive a less than satisfactory rating to all agencies within their States, including State consumer protection agencies, which are concerned with transportation by commercial vehicles. The Safety Board is aware that 20 States are already using this relatively new system and it is likely that other States will be using it in the future. The Safety Board believes that the Safety Net System should be fully utilized by each State in its oversight of motor carriers authorized to operate within its borders.

Availability of Driver Violation and Accident Records

Oversight of the commercial driver licensing process is a primary responsibility of the DMV. It is apparent that although Class 2 commercial driver applicants were required to furnish the carrier information on their past accidents and traffic convictions, there was no system in place to verify that the information was correct. The DMV in California had a computerized driver record file on the busdriver that included accident and violation data within California but none of the data on violations outside California. Further, the information in the DMV printout was identified by vehicle code number and not by "user friendly" language. Since the accident, DMV printouts have been modified to include plain language explanations of conviction information.

The DMVs (and thus the motor carriers) in many other States would have the same difficulties obtaining driver violation and accident data as the California DMV. In addition, NDR data is not available to the law enforcement community, except through the DMV. Therefore, State DMVs and law enforcement officials need an efficient method to rapidly retrieve (and make available to the motor carrier) the driving violation record of an applicant for a position as a commercial driver. This is

certainly needed for the carriers who conduct interstate bus operations. Many of the drivers working for these carriers spend a major portion of their driving time in more than one state and may be involved in accidents or be convicted of traffic violations in other states.

Furthermore, the data base of the NDR is not complete since the records put into the NDR are based on voluntary submission of conviction information for revocations and suspensions. Safety Board investigators submitted the name of the busdriver in this accident to the NDR. Because a suspension or the revocation order that results from a failure to appear does not meet the NDR criteria for mandatory inclusion into their data base, there was no record of the accident busdriver in the system.

The exchange of accident and driver license information by States has been facilitated by the Uniform Violators Compact and the Driver License Compact. However, these systems are limited because neither has the full participation of all 50 States and the District of Columbia.

The Safety Board has long been concerned about the difficulties in obtaining complete and accurate records on the violations of motor vehicle laws by commercial drivers. The Board has previously concluded that one of the major reasons, in addition to those cited above, for the difficulties in securing such data is the multiple licenses, and thus the multiple records of violations, held by many commercial drivers.

In its 1986 safety study, "Training, Licensing, and Qualification Standards for Drivers of Heavy Trucks," 24/ the Safety Board said:

One of the most important reasons for establishing the National Truck Driver License is to promote the one-license/one-record concept...The situation must be avoided in which a driver would maintain one license for driving a truck and another for driving a private automobile. That would run counter to the principle of one-license/one-record.

The Safety Board also stated:

...a formula can and should be developed with which a driver would be disqualified for committing a specified number of violations within a specified period of time. The total should include all moving violations, but the system should be able to differentiate between offenses of greater and lesser severity.

24/ Safety Study--"Training, Licensing and Qualification Standards for Drivers of Heavy Trucks." April 17, 1986, (NTSB-SS-86-02).

Even earlier, however, in 1980, in its Safety Effectiveness Evaluation, the Safety Board discussed the difficulties presented by multiple licenses and multiple records in determining the extent of the unsafe driving records of many commercial drivers. The report discussed the extensive number of violations accumulated by some drivers without their being disqualified from driving commercial vehicles under Federal regulations. On March 5, 1980, the Safety Board issued the following safety recommendation to the Federal Highway Administration:

H-80-017

Evaluate the need for, and feasibility of, specifying in the Federal Motor Carrier Safety Regulations a level of traffic violations, based upon the total number and relative seriousness of the violations, above which a driver is disqualified to operate a commercial vehicle, and within one year publish the findings of the evaluation in the Federal Register for public comment or initiate appropriate rulemaking.

On November 20, 1981, the Federal Highway Administration responded that following a 1970 rulemaking action, in which it proposed that disqualification be based on three moving violations in 3 years, it determined that the proposed basis was too discriminatory because of disparities in enforcement from State to State and in the definition of moving violations. However, the FHWA said it would publish an advanced notice of proposed rulemaking (ANPRM) on ways to disqualify persons who repeatedly violate traffic laws. Although the Safety Board did not comment on the ANPRM, the FHWA did advise the Board that, based on comments to the ANPRM, it had initiated a study to correlate a driver's driving record while operating a commercial vehicle in an on-duty status with his record while driving a personal vehicle. The FHWA stated the study would be completed in 1986. A final report of the study, which was conducted by the Highway Safety Research Center of the University of North Carolina, was completed in June 1986 25/.

Although the need to establish a threshold level of violations of motor vehicle laws which would automatically result in disqualification to drive a commercial vehicle was not the focus of the study done for the FHWA, it did address the issue. The study concluded that the driving record is the best predictor of future driving records (of all the predictors considered by the study). It further concluded that "there is no clear cutoff

25/ "The Relationship Between a Truck Driver's Performance in a Personal Vehicle and in a Large Truck," June 1986, Federal Highway Administration Contract Number DTFH61-84-CU0084.

point at which drivers become much worse." The study report discussed the difficulties in thus establishing a threshold level for automatic disqualification. However, the study continued,

This does not mean that a point system [for automatic disqualification] should not be invoked. Drivers with more prior convictions have more subsequent violations and crashes, but the increase in probability of future violations and crashes becomes smaller as the prior record becomes worse.

The Safety Board was notified in September 1985 that the FHWA was reviewing driver qualifications as a part of a regulatory review under Docket MC:114 as a first step in the reissuance of its Federal Motor Carrier Safety Regulations.

The Safety Board believes that the action taken by the FHWA has been responsive to the intent of Safety Recommendation H-80-17 and has classified it as "Closed--Acceptable Action--Superceded." Based on its past experience on the record of the driver involved in this accident at Walker, California, and based on this recent study performed for the FHWA, the Safety Board continues to believe that the FHWA should revise 49 CFR 391.11 and 391.15 to specify the number and type of violations of motor vehicle laws and the time interval in which they are committed that would result in qualification or disqualification of a driver to drive in interstate commerce.

Another deficiency in Part 391.15 is that even the narrow list of violations specified for disqualification will apply only if the violations are committed while operating a commercial vehicle while on duty. As the Safety Board pointed out in its 1986 study,

For example, if a truck driver were convicted of drunk driving while operating a company vehicle on the job, he or she would be disqualified; but if the driver were operating a private vehicle, under otherwise identical circumstances, his or her status under the FMCSR would be unaffected. The driver could even escape disqualification if convicted of driving a truck while intoxicated, as long as it could be demonstrated that the purpose of the trip was personal, rather than commercial.

Earlier in its 1980 Safety Effectiveness Evaluation, the Safety Board had made the point that "a driver who cannot operate a private car safely should not be allowed behind the wheel of an 80,000-pound tractor-semitrailer." As a result, the Safety Board recommended that FHWA:

H-80-16

Revise the commercial driver disqualification provisions of the Federal Motor Carrier Safety Regulations to provide that the specified disqualifying driving offenses shall be disqualifying without regard to the type of highway vehicle at the time of the offense or whether the driver was on or off duty.

After communications between the FHWA and the Safety Board, the FHWA notified the Safety Board that it was commencing a study that would evaluate the intent of Safety Recommendation H-80-016. The study, completed in June 1986, ^{26/} concluded that,

There is a relationship between the record in the private vehicle and that incurred in employment related driving. However, the prior record in the commercial vehicle is a better predictor than either the record in the private vehicle or the total record including both private and commercial driving. It should be recalled that the relationships show, for example, that as the drivers' private vehicle driving record gets worse the corresponding employment related driving records also get worse....

The Safety Board found further evidence that all violations of motor vehicle laws should be included when considering a driver's fitness to drive a commercial vehicle during its investigation in 1985 of an accident in which a cattle truck struck the rear of a stopped schoolbus near Tuba City, Arizona. ^{27/} Two persons died and 28 were injured in the accident. During the 5 years preceding the accident, the driver had been convicted five times for speeding violations and once for undue acceleration. He had also been involved in two other accidents. All of the violations and accidents had occurred while he was driving his personal vehicle. The Safety Board continues to believe that all violations committed while driving any motor vehicle should be considered when evaluating a driver's qualifications to drive a commercial vehicle.

The FHWA has notified the Safety Board that revisions to the regulations on the qualification for and disqualification from driving a commercial vehicle has been made a part of the review of Docket MC-114, as a part of its current efforts to revise the Federal Motor Carrier Safety Regulations.

^{26/} Ibid.

^{27/} Highway Accident Report--"Collision of Tuba City Unified School District Schoolbus and Bell Creek, Inc., Tractor-Semitrailer on U.S. 160, Tuba City, Arizona" (NTSB/HAR-85-06).

The Safety Board believes that 49 CFR 391.11 and .15 should not differentiate between violations committed while driving a commercial vehicle and those committed while driving a private passenger vehicle. Therefore, the Safety Board reiterates Safety Recommendation H-80-016.

Commercial Motor Vehicle Safety Act of 1986

On October 27, 1986, Congress enacted the Commercial Motor Vehicle Safety Act of 1986 (PL 99-570). The new legislation addresses many of the safety issues currently confronting commercial vehicle transportation, including a number of issues involved in the bus accident at Walker River, California. The legislation addresses the responsibility of employers to verify driver qualifications, driver licensing and testing criteria, a system to communicate commercial driver record information nationwide, truck brake regulations, as well as funding and implementation regulations. Briefly, the Act

- Prohibits commercial drivers from holding more than one license.
- Prohibits employers from allowing employees to operate commercial vehicles with suspended or revoked licenses.
- Requires that all commercial drivers be tested under minimum testing standards developed by the DOT.
- Requires that the DOT establish minimum uniform standards by which the States issue licenses.
- Creates a license information system that will serve as a clearinghouse of information on the licensing of commercial drivers.

The Commercial Motor Vehicle Safety Act makes the motor carrier responsible for compliance with driver qualification screening requirements. Periods of previous employment are required to be verified by the employing motor carrier.

The new law requires the implementation of a commercial license information system by no later than January 1, 1989. The system will provide a useful tool for the States and the motor carriers in obtaining driver license information for preemployment and inservice screening. However, the information should include the traffic violation and accident history for drivers while operating both commercial and private vehicles. Otherwise, driver information pertinent to the hiring decision may be omitted. The Safety Board also believes that the proposed

system should supplement the NDR in its present form and should be operated so that State DMVs, the law enforcement community, the courts, and motor carriers have direct access to the data. The system now used by Nevada may provide a model for the new commercial license information system. Also, current efforts in this area by the American Association of Motor Vehicle Administrators may be helpful in the development of the new system.

In addition, adequate guidelines and standards must be developed and then rigorously enforced if the intent of the new law is to be carried out. Further, successful implementation of the intent of the new law will depend, substantially, on the efforts of the individual States. The States must establish or improve the infrastructure needed to support the program, especially the commercial license information system. All States will have to participate actively in the system, providing complete and accurate information on driver's records. The Safety Board believes that this program is one which, if properly supported by the States, can significantly enhance the safety of the nation's highways.

Emergency Response

The emergency response by Mono County was effective for the accident conditions. Mono County partially initiated its disaster plan and coordinated communications between the hospitals, and responding rescue, fire, and ambulance units in the area. A command post and triage area were established on-scene and all surviving passengers received prompt medical attention. Because the medical facilities in the sparsely populated area were limited, several of the surviving passengers had to be transported by helicopter to other hospitals. However, their conditions were stabilized before they were permitted to be transported. The first unit to respond to the accident arrived on-scene about 17 minutes after notification and had to travel through about 11 miles of curved mountainous roads to get to the accident site.

CONCLUSIONS

Findings

1. The weather and roadway conditions were not factors in this accident.
2. The bus entered the "S" curve at the accident site at a speed as high as 65 to 68 mph, and eventually rolled over on its left side, coming to rest upright in the West Walker River.
3. The busdriver apparently was attempting to drive through the "S" curve at high speeds, by "straightening the curve."

4. During the accident, the tour bus crossed the centerline on U.S. 395 at least twice before the rollover sequence occurred.
5. The busdriver apparently overcorrected the steering several times in an effort to regain control of the bus.
6. There is no evidence of pre-existing mechanical discrepancies that may have been a factor in this accident.
7. The loss of control was not precipitated by a deflation of a drive axle air spring.
8. The busdriver did not apply his service brakes during the accident sequence.
9. The elevated blood sugar level of the busdriver on the day of the accident probably was not a factor in this accident.
10. Although the on-duty hours of the driver for the 10-day period prior to the accident appear to have been excessive, the evidence was insufficient to support fatigue as a factor in this accident; inattention or distraction of the driver is more likely to have been a factor.
11. The busdriver did not provide the motor carrier with accurate information about his traffic convictions, accident records and medical qualifications as required under Federal regulations.
12. The busdriver had not received a recent physical examination to qualify him medically to drive a commercial bus as required under Federal regulations.
13. There was no evidence in Starline's files to indicate that the busdriver took the required written examination as required under Federal regulations.
14. The busdriver did not meet the pre-employment conditions of Federal regulations or Starline's written policies to qualify to drive in interstate commerce.

15. Starline did not adequately review the busdriver's previous employment background and driver license qualifications.
16. Starline violated Federal regulations and its own policy concerning hiring and recordkeeping for bus operators.
17. The busdriver was probably in violation of the 7- and 8-day on-duty hours limits of the Federal regulations prior to his being dispatched on the trip to Reno and was in violation of the on-duty and 10-hour driving limits of the Federal regulations on the trip to Reno.
18. Starline management did not adequately monitor the busdriver's hours of service, traffic violation record, and accident history after the busdriver was hired.
19. The driver's preemployment and postemployment record of violations of laws (and accidents) was such that, although he still held a valid Class 2 driver's license in California, and as such was still qualified under Federal regulations, he should not have been permitted to drive in interstate commerce.
20. The number of Office of Motor Carrier Safety (OMCS) agents is inadequate for the agents to perform adequate audits of motor carriers and rate them, to perform prompt followup reviews of those motor carriers who receive less than satisfactory ratings, and to perform their other duties.
21. Twenty States are currently using the OMCS Safety Net System; all States would benefit from using this system.
22. Many states do not have an efficient method for a rapid, nationwide review of drivers' traffic conviction and accident data.
23. Although the Commercial Vehicle Safety Act provides a good legal framework for improving existing requirements for preemployment screening and driver license qualifications, FHWA must develop adequate guidelines and standards if the intent of legislation is to be achieved.
24. The goals of the Commercial Vehicle Safety Act, if properly supported by the States, can significantly enhance the safety of our nation's highways.

Probable Cause

The National Transportation Safety Board determines that the probable cause of this accident was the failure of the charter busdriver to comply with highway speed limits and advisory speed signs and to reduce the bus speed sufficiently to negotiate safely the "S" curve on U.S. Route 395. Contributing to the accident was the inadequate screening and supervision of the busdriver by the motor carrier.

RECOMMENDATIONS

As a result of its investigation, the National Transportation Safety Board recommended that the Federal Highway Administration:

Amend 49 CFR 391.11 and 391.15 to specify the number and type of violations of motor vehicle laws and the time interval in which they are committed that would result in qualification for or disqualification from driving a motor vehicle in interstate commerce. (Class II, Priority Action) (H-87-36)

Provide access for the law enforcement community, the courts, and the motor carriers to the clearinghouse of license information on commercial drivers that will be established under the Commercial Motor Vehicle Safety Act of 1986. (Class II, Priority Action) (H-87-37)

Also, the Safety Board reiterated Safety Recommendation H-80-16 to the Federal Highway Administration:

Revise the commercial driver disqualification provisions of the Federal Motor Carrier Safety Regulations to provide that the specified disqualifying driving offenses shall be disqualifying without regard to the type of highway vehicle at the time of the offense or whether the driver was on or off duty.

The National Transportation Safety Board recommended that the Department of Transportation:

Increase the number of Office of Motor Carrier Safety (OMCS) agents to enable OMCS to perform an adequate safety audit of all interstate motor carriers and to perform timely followup compliance reviews of those carriers that receive a less than satisfactory rating. (Class II, Priority Action) (H-87-38)

BY THE NATIONAL TRANSPORTATION SAFETY BOARD

/s/ JIM BURNETT
Chairman

/s/ PATRICIA A. GOLDMAN
Vice Chairman

/s/ JOHN K. LAUBER
Member

/s/ JOSEPH T. NALL
Member

/s/ JAMES L. KOLSTAD
Member

JIM BURNETT, Chairman, filed the following dissent:

I concur in the analysis, conclusions, probable cause, and recommendations contained in the report with the following exceptions:

Despite the busdriver's somewhat easier than normal schedule while in Reno, and his reported alertness and aggressive driving pattern, I believe the driver's failure to apply his service brakes during the accident sequence may have resulted from his being tired because of his extended duty time prior to the accident. In view of this, I believe that fatigue cannot be ruled out as a factor in this accident and conclusion number 10 should be revised accordingly to reflect this.

APPENDIXES

APPENDIX A

INVESTIGATION, HEARING, AND DEPOSITIONS

INVESTIGATION

The National Transportation Safety Board was notified of the accident on May 30, 1986. Investigators were dispatched from the Safety Board's Los Angeles Field Office and from Headquarters in Washington, D.C., and arrived on the scene May 31, 1986.

Parties to the investigation included representatives from the Federal Highway Administration, Office of Motor Carrier Safety, the California Division of Motor Vehicles, Starline Sightseeing Tours, and Neoplan, USA. The California Highway Patrol declined to participate in the Safety Board's investigation due to the possibility of criminal charges being filed against the busdriver. The California Highway Patrol did, however, work with Safety Board investigators in a cooperative manner where possible.

HEARING

The Safety Board convened a public hearing in Reno, Nevada, from September 23 to September 24, 1986, to inquire further into the bus crash. The Safety Board examined the institutional aspects of the accident specifically State and Federal regulatory oversight and its potential nationwide safety impact.

DEPOSITIONS

The Safety Board conducted followup depositions at the Starline Sightseeing Tours facility in Santa Fe Springs, California, on December 4, 1986. The deposition proceedings were held to review carrier records and evaluate compliance with the Federal Motor Carrier Safety Regulations.

APPENDIX C

COMBINED TRAFFIC VIOLATION AND ACCIDENT RECORD

<u>DATE</u>	<u>INCIDENT</u>	<u>LOCATION/VEHICLE</u>
9/16/76	. FTA*	State of Washington License Suspended for FTA
4/13/81	. Speeding	Avenal County, CA - Passenger Car
	. Non-Transfer of Registration	" " "
	. FTA	" " "
3/30/83	. Following too Close	Oceanside, CA - Bus
4/21/83	. Speeding	Newhall County, CA - Passenger Car
2/13/84	. Speeding	Oxnard, CA - Passenger Car
3/1/84	. FTA*	Downey County, CA - Passenger Car
	. Expired Registration	" " "
	. License Plate Not Displayed	" " "
6/5/84	. FTA*	San Diego, CA - Bus
	. Speeding	" " "
1/6/85	. Accident	Carson City, NV - Bus
1/11/85	. Accident	Culver City, CA - Passenger Car
3/10/85	. Speeding	Independence, CA - Bus
	. Arrested for Suspended License Due to FTA	" " - Bus
12/22/85	. Speeding	Compton, CA - Bus
12/28/85	. Exceeding the Weight Limit on City Street	Beverly Hills, CA - Bus
3/3/86	. Speeding	Nevada - Bus

APPENDIX C

<u>DATE</u>	<u>INCIDENT</u>	<u>LOCATION/VEHICLE</u>
3/28/86	. Accident	Los Angeles, CA - Bus
4/5/86	. Accident (Minor)	Santa Fe Springs, CA - Bus (In bus yard, not reported)
4/5/86	. Accident (Minor)	Burbank, CA - Bus (Not reported)
5/24/86	. Speeding	Santa Ana, CA - Bus

* Failure to Appear (FTA) is a separate violation of law from that of a traffic violation and is imposed by the court after a person cited for violating traffic violation(s) does not appear in court in answer to the charge(s) against the driver.

APPENDIX D

Tiremarks Observed at Accident Site

Tiremark A - The first mark visible began at 850 feet and ended about 825 feet. Overall, it was arc-like with a radius of 660 feet. This tiremark was barely visible, and was located from 6' 6" to 7' 9" from the centerline.

Tiremark B - This mark was about 2 inches wide with a 1.25-inch gape in the middle of the 2-inch stripe. It had a 1.5-inch mark between 0.5-inch spaces. The marks appeared perpendicular to the direction of travel. This mark was lighter in color than other marks closer to the basis final position. A cord 50 feet long and a middle ordinate of 4.5 inches was measured, indicating a radius of 833.5 feet to the left. (This mark was later determined not to be a part of this accident.)

Tiremark C/Track C - This set of dual tiremarks appeared to "clean" the pavement initially and continued to track through the "gravel" shoulder. The tiremark began at 775 and ended at 575.

Tiremark D - This light dual tiremark was near the edgeline. The right dual was the most visible. It began at 675 and ended at 575 feet.

Tiremark E - A dark dual tiremark started that was thin and got thicker and was lighter on the inside of curve and darker on the outside. The right tiremark was measured between 500 to 450 to determine radius. The mark had striations. The cord was 50 feet and the middle ordinate was 8.125 inches, which indicates a 61.9-foot radius. This mark was a right turn. The tiremark started at 505 and ended at 325.

Tiremark F - From 480 to 416 was a thin mark that diverged from the dual tiremark E. This mark was "clean" on one side and darker on the outside with striations.

Tiremark G - This mark was thin and began at 455 feet.

Tiremark H - This dual tiremark began at 388 along the right shoulder and fence that was turning left and crossed the centerline near 189. A 50-foot cord and a 9-inch middle ordinate was measured between 280 and 230 that indicated a 417-foot radius left turn. The black tiremark seemed alternate a dark and light pattern. A third mark ran to the right of these marks beginning at 250 on the edge of the shoulder. At 225 this mark was 12' 5" from the centerline.

APPENDIX D

Tiremark I - Another set of dual marks began at 300 and were lighter than tiremark H and had skips that began at 250. The marks crossed the centerline at 208.

Tiremark J - This mark began at 180 and ended at 75. Initially, it appeared to exhibit a rib pattern that changed to a darker outer edge, with a lighter inner edge around 150 that became a wide smear around 115 where it started to become narrower. Two chords and middle ordinates were measured:

Location	Chord	Middle Ordinate	Radius
158 to 108	50'	22 1/8"	170.4
75 to 97	22"	11 5/8"	62.9'

Tiremark K - This mark ran parallel to tiremark J about 7' 7" away. This mark began at 176. The mark ended at 128.5.

Tiremark L - This dual tiremark began at 166. The marks left the paved shoulder at 134. A third mark began at 153. At 150 it was 23' 7" from the centerline, and went off the pavement at 139. These marks started as two striations and became smeared. These marks appear to have continued in the dirt.

APPENDIX E

ACCIDENT DATA ON U.S. ROUTE 395

<u>Vehicle Type</u>		<u>Direction of Travel</u>
Passenger Car/Station Wagon	16	North 16
Pickup/Panel Truck	6	South 14
Motorcycle	1	
Truck/Tractor	1	
Truck/Tractor with Trailer	4	
Animal (deer)	1	
Other	2	

<u>Location of Collision</u>		<u>Object Struck</u>	<u>Primary</u>	<u>Secondary</u>
Southbound		Traffic Sign/Sign Post	1	
Beyond Shoulder Left	3	Guidepost, Culvert	3	1
Beyond Shoulder Rt	5	Cut Slope/Embankment		2
Northbound		Over Embankment		3
Beyond Shoulder Left	1	Water (post mile 97.1)		1
Beyond Shoulder Rt	3	Fence	2	1
		Other Obj Off Road	1	
		Overtaken	7	4

<u>Weather</u>		<u>Lighting</u>		<u>Surface Conditions</u>
Clear	19	Daylight	12	Dry 20
Cloudy	2	Dusk/Dawn	1	Wet 1
Snowy	2	Dark-No Street Light	10	Snowy, Icy 2

<u>Direction of Travel</u>	
North	16
South	14

Appendix E.--Accident History Profile Information
from Milepost 95.5 to 97.5 on U.S. Route 395

<u>Type of Collision and Number</u>		<u>Primary Causation Factor</u>	
Head-on	1 (fatal accident)	Influence Alcohol	2
Sidewipe	2	Follow too Close	1
Rear-End	2	Improper Turn	3
Broadside	1	Speeding	3
Hit Object	7	Other Violation	8
Overturn	7	Improper Driving	2
Other	3	Other than Driver	3
		Unknown	1
Total	23		

9/Ball-bank indicator: A curved level used to determine the safe speed around a curve. The basis for the safe speed determination encompasses the combined effect of the vehicle body roll angle, centrifugal force exerted on the vehicle, and the curve's superelevation angle.

APPENDIX F

CFR 49 Section 391.11
Subpart B--Qualification and
Disqualification of Drivers

(a) A person shall not drive a motor vehicle unless he is qualified to drive a motor vehicle. Except as provided in Sec. 391.63, a motor carrier shall not require or permit a person to drive a motor vehicle unless that person is qualified to drive a motor vehicle.

(b) Except as provided in Subpart G of this part, a person is qualified to drive a motor vehicle if he --

REV EFF 1/1/72

(1) Is at least 21 years old;

(2) Can read and speak the English language sufficiently to converse with the general public, to understand highway traffic signs and signals in the English language, to respond to official inquiries, and to make entries on report and records;

(3) Can, by reason of experience, training, or both, safely operate the type of motor vehicle he drives;

(4) Can, by reason of experience, training, or both, determine whether the cargo he transport (including baggage in a passenger-carrying motor vehicle) has been properly located, distributed, and secured in or on the motor vehicle he drives;

(5) Is familiar with methods and procedures for securing cargo in or on the motor vehicle he drives;

(6) Is physically qualified to drive a motor vehicle in accordance with Subpart E - Physical Qualifications and Examinations - of Part 391;

(7) Has been issued a currently-valid motor vehicle operator's license or permit;

(8) Has prepared and furnished the motor carrier that employs him with the list of violations or the certificate as required by Sec. 391.27;

(9) Is not disqualified to drive a motor vehicle under the rules in Sec. 391.15;

APPENDIX F

- 66 -

(10) Has successfully completed a driver's road test and has been issued a certificate of driver's road test in accordance with Sec. 391.31, or has presented and operator's license or a certificate of road test which the motor carrier that employs him has accepted as equivalent to a road test in accordance with Sec. 391.33;

(11) Has taken a written examination and has been issued a certificate of written examination in accordance with Sec. 391.35, or has presented a certificate of written examination which the motor carrier that employs him has accepted as equivalent to a written examination in accordance with Sec. 391.37; and

(12) Has completed and furnished the motor carrier that employs him with an application for employment in accordance with Sec. 391.21.

APPENDIX G

CFR 49 Section 391.51--Recordkeeping Requirements for Motor Carriers

(a) Each motor carrier shall maintain a driver qualification file for each driver it employs. A driver's qualification file may be combined with his personnel file.

(b) The qualification file for a driver who has been a regularly employed driver of the motor carrier for a continuous period which began before January 1, 1971 must include --

(1) The medical examiner's certificate of his physical qualification to drive motor vehicle or a legible photographic copy of the certificate;

(2) The regional Federal Highway Administrator's letter granting a waiver of a physical disqualification, if a waiver was issued under Sec. 391.49;

(3) The note relating to the annual review of his driving record required by Sec. 391.25;

(4) The list or certificate relating to violations of motor vehicle laws and ordinances required by Sec. 391.17; and

(5) Any other matter which relates to the driver's qualifications or ability to drive motor vehicle safely.

(c) The qualification file for a regularly employed driver who has not been regularly employed by the motor carrier for a continuous period which began before January 1, 1971 must include--

(1) the documents specified in paragraph (b) of this section:

(2) The driver's application for employment completed in accordance with Sec. 391.21;

(3) The responses of State agencies and past employees to motor carrier's inquiries concerning the driver's driving record and employment pursuant to Sec. 391.23;

(4) The certificate of driver's road test issued to the driver pursuant to Sec. 391.31(e), or copy of the license or certificate which the motor carrier accepted as equivalent to the driver's road test pursuant to Sec. 391.33; and

(5) The questions asked, the answers the driver gave, and the certificate of written examination issued to him pursuant to Sec. 391.35, or a copy of a certificate which the motor carrier accepted as equivalent to a written examination pursuant to Sec. 391.37.

(d) The qualification file for an intermittent, casual, or occasional driver employed under the rules in Sec. 391.63 must include --

(1) The medical examiner's certificate of his physical qualification to drive a motor vehicle or a legible photographic copy of the certificate;

(2) The certificate of driver's road test issued to the driver pursuant to Sec. 391.31(e), or a copy of the license or certificate which the motor carrier accepted as equivalent to the driver's road test pursuant to Sec. 391.31;

(3) The questions asked, the answers the driver gave, and the certificate of written examination issued to him pursuant to Sec. 391.35, or a copy of a certificate which the motor carrier accepted as equivalent to a written examination pursuant to Sec. 391.37; and

(4) The driver's name, his social security number, and the identification number, type, and issuing State of his motor vehicle operator's license.

(e) A using carrier's qualification file for a driver who is regularly employed by another motor carrier, and who is employed by the using carrier in accordance with Sec. 391.65 of this part, shall include a copy of a certificate, as prescribed by Sec. 391.65(a)(2) of this part, by the regularly employing carrier that the driver is fully qualified to drive a motor vehicle.

(f) Except as provided in paragraphs (g) and (h) of this section, each driver's qualification file shall be kept at the motor carrier's principal place of business for as long as a driver is employed by that motor carrier and 3 years thereafter.
EFF 7/12/77

(g) Upon a written request to, and with the approval of, the Director, Regional Motor Carrier Safety office, for the region in which a motor carrier has his principal place of business, the carrier may retain one or more of its driver's

addresses and jurisdictions of the Directors of Regional Motor Carrier Safety Offices are shown in Secs. 390.40 of this subchapter.

REV EFF 8/11/71

(h) The following records may be removed from a driver's qualification file after 3 years from date of execution:

(1) The medical examiner's certificate of his physical qualification to drive a motor vehicle or the photographic copy of the certificate as required by Sec. 391.43(d).

(2) The note relating to the annual review of his driving record as required by Sec. 391.25.

(3) The list of certificate relating to violations or motor vehicle laws and ordinances as required by Sec. 391.27.

(4) The letter issued under Sec. 391.49 granting a waiver of a physical disqualification.

EFF 7/12/77

A review of this bus driver's file did not include any information concerning whether his previous employer had screened his application.

AMENDED IN SENATE AUGUST 26, 1986

AMENDED IN SENATE AUGUST 14, 1986

AMENDED IN ASSEMBLY JUNE 24, 1986

AMENDED IN ASSEMBLY JUNE 9, 1986

CALIFORNIA LEGISLATURE—1985-86 REGULAR SESSION

ASSEMBLY BILL

No. 3666

Introduced by Assembly Members Hayden, Areias, Harris,
Katz, Killea, and Robinson
(Coauthor: Senator Torres)

February 20, 1986

An act to amend Sections 12520, 12520.5, and 12810.5 of, and to add Sections 612, 12519.5, and 12520.7 to, the Vehicle Code, relating to transportation.

LEGISLATIVE COUNSEL'S DIGEST

AB 3666, as amended, Hayden. Transportation: tour bus drivers.

(1) Under existing law, an applicant for a driver's license is required to submit to an examination of the Department of Motor Vehicles appropriate to the type of motor vehicle the applicant desires a license to drive. Existing law requires a bus driver to have a class 2 license and a school bus driver to have either a class 2 license or a class 3 license with a certificate issued by the Department of the California Highway Patrol, as specified.

This bill would prohibit any person, on and after July 1, 1987, from operating a tour bus, as defined, unless that person also has, in his or her immediate possession, a certificate to operate a tour bus issued by the Department of Motor Vehicles, thereby imposing a state-mandated local program

AB 3666

- 2 -

by creating a new crime. The bill would require the department to issue the certificate only to applicants qualified by examinations prescribed and conducted by the department, and upon payment of a ~~12~~ \$41 fee.

The bill would provide for the denial and cancellation, suspension, or revocation of a certificate under specified conditions and make other conforming changes.

(2) The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for a specified reason.

Vote: majority. Appropriation: no. Fiscal committee: yes. State-mandated local program: yes.

The people of the State of California do enact as follows:

1 SECTION 1. Section 612 is added to the Vehicle
2 Code, to read:

3 612. "Tour bus" means a bus designed for carrying
4 more than 16 passengers and the driver which is operated
5 by or for a charter-party carrier of passengers, as defined
6 in Section 5360 of the Public Utilities Code.

7 SEC. 2. Section 12519.5 is added to the Vehicle Code,
8 to read:

9 12519.5. (a) No person shall operate a tour bus unless
10 that person has in his or her immediate possession a valid
11 driver's license for the appropriate class of vehicle
12 operated. When transporting one or more passengers,
13 that person shall also have in his or her immediate
14 possession a certificate to operate a tour bus issued by the
15 department pursuant to subdivision (b).

16 (b) The driver's certificate shall be issued only to
17 applicants qualified by examinations prescribed and
18 conducted by the department upon payment of a ~~twelve~~
19 ~~dollar~~ ~~(12)~~ *forty-one dollars (\$41)* fee.

20 (c) An operator of a tour bus shall, at all times when
21 operating a tour bus, do all of the following:

22 (1) Use a safety belt.

1 (2) Report any accidents involving the tour bus to the
2 Department of the California Highway Patrol.

3 (d) This section shall become operative on July 1, 1987.
4 The department may establish implementation dates for
5 this section by regulation in order to accomplish an
6 orderly certification program.

7 SEC. 3. Section 12520 of the Vehicle Code is amended
8 to read:

9 12520. (a) The department shall deny any
10 application for the issuance of a farm labor vehicle or tour
11 bus driver's certificate made by any applicant who:

12 (1) Has been convicted, within the three years next
13 preceding the applicant's application for the certificate,
14 of any violation involving felony hit-and-run driving, any
15 violation of Section 23152 or 23153, or reckless driving, or
16 whose driving privilege is or has been under suspension,
17 revocation, or probation, by the department for a cause
18 involving safe operation of a motor vehicle.

19 (2) Because of excessive and continuous use of
20 alcoholic beverages, is incapable of safely operating a
21 motor vehicle.

22 (3) Habitually or excessively uses or is addicted to the
23 use of any drug.

24 (4) Does not meet minimum medical standards
25 established or approved by the department.

26 (b) The department may deny a farm labor vehicle or
27 tour bus driver's certificate to any applicant who:

28 (1) Has been involved, within the two years next
29 preceding his or her application, as a driver in any
30 accident causing death or personal injury or damage to
31 the property of any one person in excess of two hundred
32 dollars (\$200).

33 (2) Has been involved as a driver in three or more
34 accidents within the 12-month period preceding his or
35 her application.

36 (3) Has been determined to be a reckless or
37 incompetent driver.

38 SEC. 4. Section 12520.5 of the Vehicle Code is
39 amended to read:

40 12520.5. (a) The department shall revoke the farm

AB 3666

- 4 -

1 labor vehicle or tour bus driver's certificate of any holder
2 who after issuance of the certificate:

3 (1) Is convicted of any violation involving felony
4 hit-and-run driving, driving under the influence of an
5 alcoholic beverage, reckless driving or has had his driving
6 privilege suspended or revoked by the department for a
7 cause involving the safe operation of a motor vehicle, or
8 is found by the department to be a negligent operator.

9 (2) Because of excessive and continuous use of
10 alcoholic beverages, is incapable of safely operating a
11 motor vehicle.

12 (3) Habitually or excessively uses or is addicted to the
13 use of any drug.

14 (b) The department may revoke the farm labor
15 vehicle or tour bus driver's certificate of any holder for
16 any cause, whether existing before or after the issuance
17 of the certificate, which would either authorize or
18 require the department to refuse to issue a certificate.

19 SEC. 5. Section 12520.7 is added to the Vehicle Code,
20 to read:

21 12520.7. The department may refuse to issue, or may
22 cancel, suspend, or revoke, a certificate to operate a tour
23 bus if the applicant for, or holder of, a certificate does any
24 of the following:

25 (1) Voluntarily requests cancellation.

26 (2) Has his or her driving privilege suspended or
27 revoked for a cause involving other than the safe
28 operation of a motor vehicle.

29 (3) Fails to meet the requirements for issuance and
30 retention of a driver certificate, including, but not
31 limited to, payment of the proper fee and submittal of an
32 acceptable medical report.

33 SEC. 6. Section 12810.5 of the Vehicle Code is
34 amended to read:

35 12810.5. (a) Any person, including persons holding
36 certificates pursuant to Section 2512, 12517, 12519,
37 12519.5, 12521, 12523, 12804.1, or 12804.3 whose driving
38 record shows a violation point count of four or more
39 points in 12 months, six or more points in 24 months, or
40 eight or more points in 36 months shall be prima facie

1 presumed to be a negligent operator of a motor vehicle.
2 In applying the provisions of this subdivision to a driver,
3 the department shall give due consideration to the
4 amount of use or mileage traveled in the operation of a
5 motor vehicle.

6 (b) Any class 1 or class 2 licensed driver, except
7 persons holding certificates pursuant to Section 2512,
8 12517, 12519, 12519.5, 12521, 12523, 12804.1, or 12804.3,
9 whose driving record shows a violation point count of six
10 or more points in 12 months, eight or more points in 24
11 months, or 10 or more points in 36 months shall be prima
12 facie presumed to be a negligent operator of a motor
13 vehicle.

14 SEC. 7. No reimbursement is required by this act
15 pursuant to Section 6 of Article XIII B of the California
16 Constitution because the only costs which may be
17 incurred by a local agency or school district will be
18 incurred because this act creates a new crime or
19 infraction, changes the definition of a crime or infraction,
20 changes the penalty for a crime or infraction, or
21 eliminates a crime or infraction.

APPENDIX H

CALIFORNIA LEGISLATURE—1985-86 REGULAR SESSION

ASSEMBLY BILL

No. 3262

Introduced by Assembly Members Katz, Allen, Arcias, Clute,
Eaves, Ferguson, Killea, Harris, Polanco, Papan, and
Robinson

February 18, 1986

An act to amend amend Sections 768, 5373, and 5373.1 of, and to add Section 5380 to, the Public Utilities Code, to amend Sections 1808.1, 2807.2, 14601, 14601.1, 14601.2, 14601.3, ~~34500~~, 34506, and 40000.21 of, and to add Sections 612, ~~34500.1~~ 34501.3, 34501.4, 34505, 34505.1, 34513, and 40000.6 to, the Vehicle Code, relating to vehicles, and making an appropriation therefor.

LEGISLATIVE COUNSEL'S DIGEST

AB 3262, as amended, Katz. Commercial vehicles: tour buses.

(1) Under existing law, each initial application for a certificate or permit to act as a charter-party carrier of passengers is required to be accompanied by a specified fee. Existing law also requires each annual application for a permit and the annual renewal of each certificate to act as a charter-party carrier of passengers to be accompanied by a specified fee.

This bill would require those applications to be accompanied by an additional fee of \$15 per tour bus or a maximum fee of \$6,500 for each operating carrier, to offset the cost of charter-party carrier bus terminal inspections conducted by the Department of the California Highway Patrol. The bill would require those fees to be deposited in the Motor Vehicle Account in the State Transportation Fund.

(2) Under existing law, the equipment, maintenance, and operation of commercial vehicles, including buses, are regulated and certain bus drivers are required to have special certificates to operate specified types of buses, such as schoolbuses, school pupil activity buses, and youth buses, under regulations adopted by the Department of the California Highway Patrol.

Existing law also requires the Public Utilities Commission to regulate common carriers, including charter-party carriers of passengers, as defined.

This bill would require the denial, suspension, or revocation of a permit or certificate of a charter-party carrier of passengers for a specified time upon specified violations.

The bill would also extend the equipment, maintenance, and operation regulations of the department, as specified, to tour buses and tour bus drivers, violations of which would be a crime, thereby imposing a state-mandated local program. The bill would also define "tour bus" for purposes of the Vehicle Code.

(3) Under existing law, the Department of Motor Vehicles is required to develop a notification process to provide, upon request and payment of a fee, the employer or prospective employer of the driver of a vehicle requiring a specified certificate, with a report showing the driver's public record as recorded by the department, including subsequent convictions, failures to appear, accidents, or driver's license suspensions or revocations, while the employer's request remains valid and uncanceled.

This bill would require the employer or prospective employer of the driver of a tour bus to request participation in the department's notification process, and would require that employer to notify the department to cancel the request upon the termination of the driver's employment, thereby imposing a state-mandated local program by creating a new crime.

The bill would require the operating carrier of a tour bus owners to quarterly obtain the report of the driver's traffic violation record at least every 6 months, except if the operating carrier employs more than 500 tour bus drivers, the bill would require the employer to obtain the report no less than once annually, and would make it a misdemeanor to employ an unlicensed driver to drive a tour bus, thereby imposing a state-mandated local program. The bill would also require a minimum fine, as specified, in addition to the existing maximum fine or imprisonment for driving with a suspended or revoked driving privilege.

The bill would also provide a presumption of exceeding speed limits based upon specified drivers log book entries and a presumption of exceeding hours of service limitations based upon failure to produce complete log books by a driver of specified commercial vehicles.

The bill makes would make other conforming changes. Because violations of the provisions of the bill would be crimes, the bill would impose a state/mandated local program.

(3)

(4) The bill would require the Department of Motor Vehicles to make a specified study of commercial vehicle operators and to submit a report to the Legislature on or before January 1, 1988.

~~(4)~~
(5) The bill would require the commission to review and increase insurance requirements for tour bus operators by January 1, 1988, and to examine whether passenger stage corporations should be included in the program established by this bill. The bill would require the commission to make a specified report on bus carrier standards of financial responsibility and any recommendations for legislation to the Legislature on or before January 1, 1988.

~~(5)~~
(6) The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for a specified reason.

~~(6)~~
(7) The bill would appropriate \$154,000, of which \$92,000 would be to the Department of Motor Vehicles and \$62,000 to the commission, from specified accounts for purposes of the bill.

Vote: majority. Appropriation: yes. Fiscal committee: yes. State-mandated local program: yes.

The people of the State of California do enact as follows:

SECTION 1. The Legislature finds and declares all of the following:

(1) Recent bus accidents have called into question the adequacy of the existing regulatory scheme for buses in this state. Thirty passengers have been killed in bus accidents in California since 1984, with scores of other passengers injured. With deregulation of the bus industry, many new bus carriers have entered the market, some of which lack sufficient financial resources to adequately maintain their bus fleets in a safe and prudent manner.

(2) Spot checks of tour buses by the California Highway Patrol have resulted in one of every four buses checked being removed from service as being too unsafe to drive. There is a need to check the safety of tour buses on an individual and systematic basis, similar to existing programs which help ensure proper maintenance of schoolbuses.

(3) Coordination between the California Highway Patrol and the Public Utilities Commission is essential to expeditiously remove the operating authority of those tour bus companies which fail to keep their buses in safe operating condition. In addition, the adequacy of existing insurance requirements has been questioned following recent bus accidents.

SEC. 2. Section 768 of the Public Utilities Code is amended to read:

768. The commission may, after a hearing, require every public utility to construct, maintain, and operate its line, plant, system, equipment, apparatus, tracks, and premises in a manner so as to promote and safeguard the health and safety of its employees, passengers, customers, and the public. The commission may prescribe, among other things, the installation, use, maintenance, and operation of appropriate safety or other devices or appliances, including interlocking and other protective devices at grade crossings or junctions and block or other systems of signaling. The commission may establish uniform or other standards of construction and equipment, and require the performance of any other act which the health or safety of its employees, passengers, customers, or the public may demand. The Department of the California Highway Patrol shall have the primary responsibility for the regulation of the safety of operation of passenger stage corporations, highway common carriers, and other motor carriers. The commission shall cooperate with the Department of the California Highway Patrol to ensure safe operation of these carriers.

SEC. 3. Section 5373 of the Public Utilities Code is amended to read:

5373. (a) Each annual application for a permit to act as a charter-party carrier of passengers pursuant to this chapter shall be accompanied by a filing fee of three hundred dollars (\$300). Each certificate to act as a charter-party carrier of passengers shall be accompanied by an annual renewal fee of three hundred dollars (\$300).

(b) The commission shall also require each application to be accompanied by a fee to offset the cost of the charter-party carrier bus terminal inspections conducted by the Department of the California Highway Patrol. The fee shall be fifteen dollars (\$15) per tour bus, as defined in Section 612 of the Vehicle Code, or a maximum of six thousand five hundred dollars (\$6,500) for each operating carrier.

(c) The commission shall deposit the fees collected pursuant to subdivision (b) in the Motor Vehicle Account in the State Transportation Fund.

SEC. 4. Section 5373.1 of the Public Utilities Code is amended to read:

5373.1. (a) Each initial application for a certificate or permit shall be accompanied by a filing fee as follows:

- (1) Class A certificates—five hundred dollars (\$500).
- (2) Class B certificates—five hundred dollars (\$500).
- (3) Permits—five hundred dollars (\$500).

(b) The commission shall also require each initial application to be accompanied by a fee to offset the cost of the charter party carrier bus terminal inspections conducted by the Department of the California Highway Patrol. The fee shall be fifteen dollars (\$15) per tour bus, as defined in Section 612 of the Vehicle Code, or a maximum of six thousand five hundred dollars (\$6,500) for each operating carrier.

20 17

(c) The commission shall deposit the fees collected pursuant to subdivision (b) in the Motor Vehicle Account in the State Transportation Fund.

SEC. 5. Section 5380 is added to the Public Utilities Code, to read:

5380. (a) Upon notification by the Department of the California Highway Patrol that a charter-party carrier of passengers has failed to comply with the inspection requirements in the Vehicle Code, or has received an unsatisfactory terminal rating, the commission shall immediately deny, suspend, or revoke the carrier's permit or certificate.

(b) Applications for reissue or reinstatement of a permit or certificate denied, suspended, or revoked pursuant to subdivision (a) shall be accompanied by a filing fee of five hundred dollars (\$500).

SEC. 6. Section 612 is added to the Vehicle Code, to read:

612. "Tour bus" means a bus designed for carrying more than 16 passengers and the driver which is operated by or for a charter-party carrier of passengers, as defined in Section 5360 of the Public Utilities Code.

SEC. 7. Section 1808.1 of the Vehicle Code is amended to read:

1808.1. (a) The department shall develop a notification process for the purpose of providing the employer or prospective employer of a driver who drives a tour bus or a vehicle requiring a certificate issued pursuant to Section 12524, 12804.1, or 12804.3 with a report, at the employer's request, showing the driver's employer or prospective employer of a driver who drives a tour bus shall make a request to the department to participate in a notification process for the purpose of providing the employer with a report showing the driver's current public record as recorded by the department, and any subsequent convictions, failures to appear, accidents, driver's license suspensions, or driver's license revocations added to the driver's record while the employer's notification request remains valid and uncanceled. The employer or prospective employer of a driver who drives a vehicle requiring a certificate issued pursuant to Section 12524, 12804.1, or 12804.3 may, upon request, participate in the notification program. The request shall be accompanied by a fee determined by the department to be sufficient to defray the entire actual cost to the department for the notification service. For the receipt of subsequent reports, the employer shall also be charged a fee established by the department pursuant to Section 1811.

~~(b)~~ ~~When an employer~~

(b) An employer of a tour bus driver shall notify the department to cancel the request upon the termination of the driver's employment.

(c) When an employer of a driver of a vehicle requiring a certificate issued pursuant to Section 12524, 12804.1, or 12804.3 no longer wishes to receive information pursuant to this section, the employer shall notify the department to cancel the request.

~~(c)~~

(d) The operating carrier of a tour bus shall obtain a report of each employee who operates the bus ~~at least every three months~~ and verify that the employee's operator's license has not been suspended or revoked, the employee's traffic violation point count, and whether the employee has been charged with a violation of Section

23152 or 23153. ~~The quarterly~~ The operating carrier shall obtain the report at least every six months except that an operating carrier who employs more than 500 tour bus drivers shall obtain the report no less than annually. The report shall be signed and dated by the owner and maintained at the principal place of business of the owner. The ~~quarterly~~ reports shall be presented upon demand to any authorized representative of the Department of the California Highway Patrol during the regular business hours of the owner.

~~(d)~~

(e) An operating carrier of a tour bus, who, after receiving the ~~quarterly~~ report pursuant to subdivision ~~(c)~~ (d), employs or continues to employ as a driver of a tour bus any person whose driver's license has been suspended or revoked, is guilty of a public offense, and upon conviction thereof, shall be punished by imprisonment in the county jail for not more than six months, by a fine of not more than one thousand dollars (\$1,000), or by both that fine and imprisonment.

SEC. 8. Section 2807.2 of the Vehicle Code is amended to read:

2807.2. The Department of the California Highway Patrol shall, by regulation, provide for a preventive maintenance inspection guide for use by operators of tour buses and motor vehicles specified in Sections 2807 and 2807.1. The regulations shall provide that the record of inspection shall be signed by the person making the inspection, and the record of the inspections shall be retained on file by the operator for review and inspection by the Department of the California Highway Patrol.

SEC. 9. Section 14601 of the Vehicle Code is amended to read:

14601. (a) No person shall drive a motor vehicle at any time when that person's driving privilege is suspended or revoked for reckless driving in violation of Section 23103 or 23104, any reason listed in subdivisions (b) to (f), inclusive, of Section 12805 requiring the department to refuse to issue a license, negligent or incompetent operation of a motor vehicle as prescribed in subdivision (e) of Section 12809, or negligent operation as prescribed in Section 12810, and when the person so driving has knowledge of the suspension or revocation. Knowledge shall be presumed if notice has been given by the department to the person. The presumption established by this subdivision is a presumption affecting the burden of proof.

(b) Any person convicted under this section shall be punished as follows:

(1) Upon a first conviction, by imprisonment in the county jail for not less than five days or more than six months and by fine of not less than three hundred dollars (\$300) or more than one thousand dollars (\$1,000).

(2) If the offense occurred within five years of a prior offense which resulted in a conviction of a violation of this section or Section 14601.1 or 14601.2, by imprisonment in the county jail for not less than 10 days or more than one year and by fine of not less than five hundred dollars (\$500) or more than two thousand dollars (\$2,000).

(c) If the offense occurred within five years of a prior offense which resulted in a conviction of a violation of this section or Section 14601.1 or 14601.2 and is granted probation, the court shall impose as a condition of probation that the person be confined in the county jail for at least 10 days.

(d) Nothing in this section prohibits a person from driving a motor vehicle, which is owned or utilized by the person's employer, during the course of employment on private property which is owned or utilized by the employer, except an offstreet parking facility as defined in subdivision (c) of Section 12500.

SEC. 10. Section 14601.1 of the Vehicle Code is amended to read:

14601.1. (a) No person shall drive a motor vehicle when his or her driving privilege is suspended or revoked for any reason other than those listed in Section 14601 or 14601.2 and when the person so driving has knowledge of the suspension or revocation. Knowledge shall be presumed if notice has been given by the department to the person. The presumption established by this

amended to read:

14601.3. (a) It is unlawful for a person whose driving privilege has been suspended or revoked to accumulate a driving record history which results from driving during the period of suspension or revocation. A person who violates this subdivision is designated a habitual traffic offender.

For purposes of this section, a driving record history means any of the following, if the driving occurred during any period of suspension or revocation which resulted from a conviction of an offense or offenses of driving under the influence of alcohol or drugs, or both, or from negligent driving:

(1) Two or more convictions within a 12-month period of an offense given a violation point count of two pursuant to Section 12810.

(2) Three or more convictions within a 12-month period of an offense given a violation point count of one pursuant to Section 12810.

(3) Three or more accidents within a 12-month period that are subject to the reporting requirements of Section 16000.

(4) Any combination of convictions or accidents, as specified in paragraphs (1) to (3), inclusive, which results during any 12-month period in a violation point count of three or more pursuant to Section 12810.

(b) Knowledge of suspension or revocation of the driving privilege shall be presumed if notice has been given by the department to the person. The presumption established by this subdivision is a presumption affecting the burden of proof.

(c) The department, within 30 days of receipt of a duly certified abstract of the record of any court or accident report which results in a person being designated a habitual traffic offender, may execute and transmit by mail a notice of that designation to the office of the district attorney having jurisdiction over the location of the person's last known address as contained in the department's records.

(d) The district attorney, within 30 days of receiving the notice required in subdivision (c), shall inform the department of whether or not the person will be prosecuted for being a habitual traffic offender.

(e) Any person convicted under this section of being a habitual traffic offender shall be punished as follows:

(1) Upon a first conviction, by imprisonment in the county jail for 30 days and by a fine of one thousand dollars (\$1,000).

(2) Upon a second or any subsequent offense within seven years of a prior conviction under this section, by imprisonment in the county jail for 180 days and by a fine of two thousand dollars (\$2,000).

SEC. 13. Section 34500.1 is added to the Vehicle Code, to read:

34500.1. In addition to the duties imposed by Section 34500, the department shall regulate the safe operation of tour buses.

SEC. 14. Section 34501.3 is added to the Vehicle Code, to read:

34501.3. (a) No motor carrier shall schedule a run nor permit nor require the operation of any motor vehicle subject to this division between points in a period of time which would necessitate the vehicle being operated at speeds greater than those prescribed by this code.

(b) A log book of a driver, which reflects a trip or trips between points within a period of time which would have necessitated excessive speed to complete, shall give rise to a rebuttable presumption that the driver exceeded the lawful speed limit.

SEC. 15. Section 34501.4 is added to the Vehicle Code, to read:

34501.4. Any driver subject to the hours of service limitations and log book requirements of this division, who is unable to produce upon request of a representative of the department any driver's logbook or is only able to produce an incomplete driver's log book for the prior 24 hour-period, is rebuttably presumed to be in violation of the hours of service limitations in Sections 34501 and 34501.2.

SEC. 16. Section 34505 is added to the Vehicle Code, to read:

34505. (a) Tour bus operators shall, in addition to the systematic inspection, maintenance, and lubrication services required of all motor carriers, require each tour bus to be inspected at least every 45 days, or more often if necessary to ensure safe operation. This inspection shall include, but not be limited to, all of the following:

- (1) Brake adjustment.
- (2) Brake system components and leaks.
- (3) Steering and suspension systems.
- (4) Tires and wheels.

(b) A tour bus shall not be used to transport passengers until all defects listed during the inspection conducted pursuant to subdivision (a) have been corrected and attested to by the signature of the operator's authorized representative.

(c) Records of inspections conducted pursuant to subdivision (a) shall be kept at the operator's maintenance facility or terminal where the tour bus is regularly garaged. The records shall be retained by the operator for one year, and shall be made available for inspection upon request by any authorized employee of the department. Each record shall include, but not be limited to, all of the following:

(1) Identification of the vehicle, including make, model, license number, or other means of positive identification.

(2) Date and nature of each inspection and any repair performed.

(3) Signature of operator's authorized representative attesting to the inspection and to the completion of all required repairs.

(4) Company vehicle number.

SEC. 17. Section 34505.1 is added to the Vehicle Code, to read:

34505.1. Upon determining that a tour bus operator failed to complete and document an inspection required by this code, or that a tour bus operator's terminal is rated unsatisfactory, the department shall recommend to the Public Utilities Commission or the Interstate Commerce Commission that the carrier's operating authority be denied, suspended, or revoked, whichever is appropriate. The department shall retain a record, by operator, of every recommendation made pursuant to this section.

SEC. 18. Section 34506 of the Vehicle Code is amended to read:

34506. It is a misdemeanor to fail to comply with any rule or regulation adopted by the Department of the California Highway Patrol pursuant to Sections 34501, 34501.5, 34508, or 34513 regarding any of the following:

- (a) Hours of service of drivers.
- (b) Hazardous material transportation.
- (c) Schoolbus constructions, design, color, equipment, maintenance, or operation.
- (d) Youth bus equipment, maintenance, or operation.
- (e) Tour bus equipment, maintenance, or operation.

SEC. 19. Section 34513 is added to the Vehicle Code, to read:

34513. The department shall adopt rules and regulations relating to the equipment and maintenance of tour buses.

SEC. 20. Section 40000.6 is added to the Vehicle Code, to read:

40000.6. A violation of subdivision (d) of Section 1808.1, relating to tour buses, is a misdemeanor and not an infraction.

SEC. 21. Section 40000.21 of the Vehicle Code is amended to read:

40000.21. A violation of any of the following provisions is a misdemeanor, and not an infraction:

- (a) Section 34506, subdivision (a), relating to the hours of service of drivers.
- (b) Section 34506, subdivision (b), relating to the transportation of hazardous materials.

(c) Section 34506, subdivision (c), relating to schoolbuses.

(d) Section 34506, subdivision (d), relating to youth buses.

(e) Section 34505 or subdivision (e) of Section 34506, relating to tour buses.

SEC. 22. The Department of Motor Vehicles shall perform a study of Class 1 and Class 2 drivers licenses and report the results of the study to the Legislature on or before January 1, 1988. The study shall examine a statistically valid random sample of all Class 1 and Class 2 drivers to provide the following information, on an anonymous basis:

(1) The frequency of records under aliases or similar names.

(2) The frequency of duplicate licenses of the same or different classes.

(3) The frequency of so-called "x-files" for unidentified drivers of this license class.

(4) An analysis of the point counts for the drivers, and a listing of driving under the influence convictions.

The department ~~shall utilize thumb prints~~ may utilize thumb prints or other information to ensure the identity of the drivers selected.

SEC. 23. (a) The Public Utilities Commission shall, on or before January 1, 1988, review and adjust the amount of insurance required pursuant to Sections 1040 and 5391 of the Public Utilities Code for tour bus operators to an amount which is sufficient to provide for ability to respond in damages for injury, medical, and liability to passengers and others.

(b) The Public Utilities Commission shall also adopt standards which ensure that all bus carriers subject to its jurisdiction have sufficient financial resources to properly and safely maintain their buses, and that those carriers with insufficient resources do not receive an extension of their operating authority.

(c) The Public Utilities Commission shall examine whether passenger stage corporations should be included in the program established by this act.

(d) The commission shall report to the Legislature on or before January 1, 1988, on the action it has taken, or plans to take, and on any recommendations regarding this section which may require legislation.

SEC. 24. No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution because the only costs which may be incurred by a local agency or school district will be incurred because this act creates a new crime or infraction, changes the definition of a crime or infraction, changes the penalty for a crime or infraction, or eliminates a crime or infraction.

SEC. 25. There is hereby appropriated the sum of one hundred fifty-four thousand dollars (\$154,000) for the purposes of this act for allocation as follows:

(a) From the Motor Vehicle Account in the State Transportation Fund to the Department of Motor Vehicles, the sum of ninety-two thousand dollars

(b) From the Public ~~Utility~~ Utilities Commission Transportation Reimbursement Account in the General Fund to the Public Utilities Commission, the sum of sixty-two thousand dollars (\$62,000).

APPENDIX I
FRICTION TESTS

<u>Location</u>	<u>Surface</u>	<u>Weight of Sled (lbs)</u>	<u>Measured Longitudinal Pull Force (lbs)</u>	<u>Calculated Coefficient of Friction</u>
625 to 650	Loose gravel	24.7	13	.53
625 to 650	Loose gravel Removed to Surface	24.7	13 to 14	.53
	Stone cleared	24.7	10 to 14 Avg. 13	.53
Near 500	Asphalt	24.7	22	.89
100	Loss Shoulder	24.7	10 to 14	.49