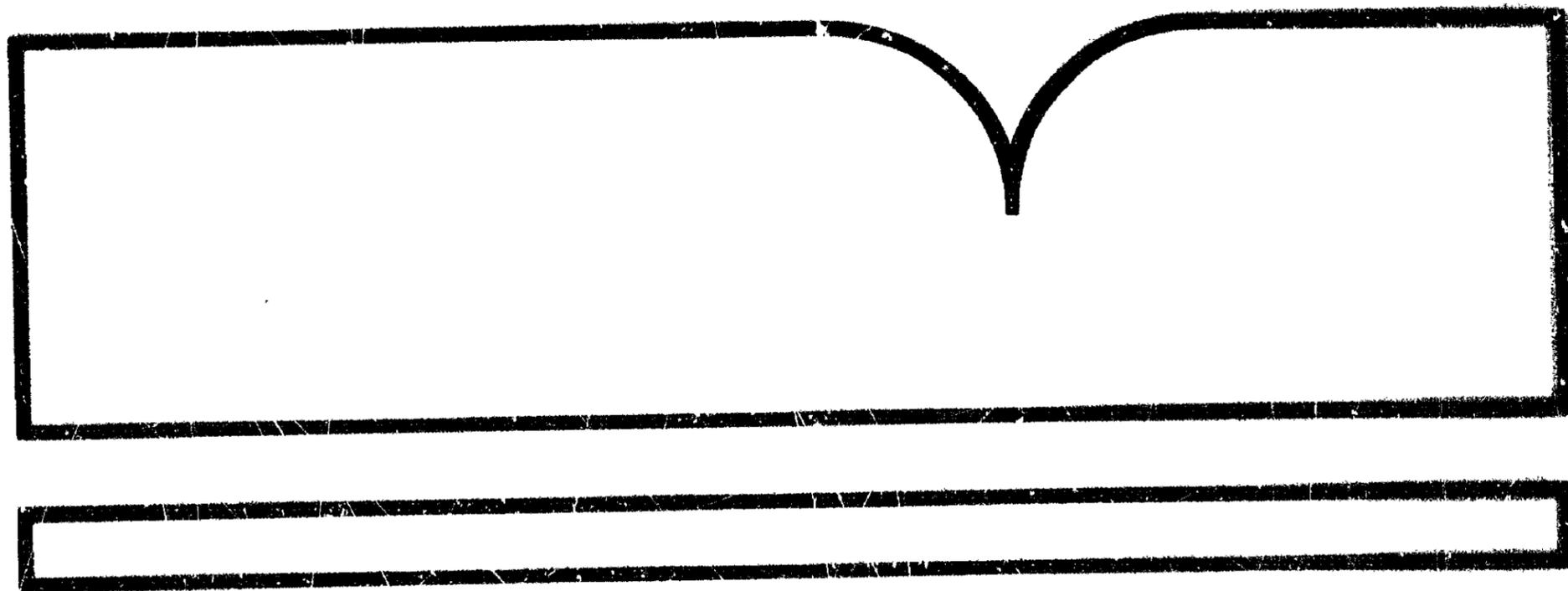


PB85-916205

Highway Accident Report  
Fatigue-Related Commercial Vehicle Accidents  
Cheyenne, Wyoming, July 18, 1984 and  
Junction City, Arkansas, October 19, 1984

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

25 Jun 85



U.S. Department of Commerce  
National Technical Information Service

**NTIS**

TECHNICAL REPORT DOCUMENTATION PAGE

1. Report No. NTSB/HAR-85/04	2. Government Accession No. PB85-916204	3. Recipient's Catalog No.	
4. Title and Subtitle Highway Accident Report--- Fatigue-Related Commercial Vehicle Accidents: Cheyenne, Wyoming, July 18, 1984, and Junction City, Arkansas, October 19, 1984		5. Report Date June 25, 1985	
		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. 4009B	
		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 July 18, 1984, and October 19, 1984	
		14. Sponsoring Agency Code	
15. Supplementary Notes			
16. Abstract The two accidents discussed in this report involved drivers of commercial vehicles who were found to have been inattentive and suffering from lack of sleep and from acute fatigue. The busdriver who ran into the rear of the tractor-semitrailer in Cheyenne, Wyoming, worked as a full-time firefighter, a part-time driver/helper for a moving and storage company, and a part-time intercity busdriver. He had a maximum of 3 1/2 hours sleep in the 27 1/2 hours before the accident. The full-time truckdriver who ran into the rear of the stopped schoolbus in Junction City, Arkansas, had about 2 hours rest in the 17 hours before the accident. These two accidents resulted in 1 fatality and 40 injuries.  This report examines deficiencies in regulations governing maximum "on-duty" hours of service for interstate commercial vehicle drivers issued by the Bureau of Motor Carrier Safety of the Federal Highway Administration, as well as compliance with the regulations and actions to improve the regulations and compliance therewith.			
17. Key Words rear-end collision; interstate truck/bus drivers; driver fatigue; human performance; hours of service; "on-duty" time; driver daily log; intercity bus; Cheyenne, Wyoming; Junction City, Arkansas		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 41	22. Price

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**NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.**

**HIGHWAY ACCIDENT REPORT**

**Adopted: June 25, 1985**

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**FATIGUE-RELATED COMMERCIAL VEHICLE ACCIDENTS:  
CHEYENNE, WYOMING, JULY 18, 1984, AND  
JUNCTION CITY, ARKANSAS, OCTOBER 19, 1984**

**INTRODUCTION**

The two accidents discussed in this report involved drivers of commercial vehicles who were found to have been inattentive and suffering from lack of sleep and from acute fatigue. The busdriver who ran into the rear of the tractor-semitrailer in Cheyenne, Wyoming, worked as a full-time firefighter, a part-time driver/helper for a moving and storage company, and a part-time intercity busdriver. He had a maximum of 3 1/2 hours sleep in the 27 1/2 hours before the accident. The full-time truckdriver who ran into the rear of the stopped schoolbus in Junction City, Arkansas, had about 2 hours rest in the 17 hours before the accident. These two accidents resulted in 1 fatality and 40 injuries.

This report examines deficiencies in regulations governing maximum "on-duty" hours of service for interstate commercial vehicle drivers issued by the Bureau of Motor Carrier Safety of the Federal Highway Administration, as well as compliance with the regulations and actions to improve the regulations and compliance therewith.

**SYNOPSIS**

About 12:50 a.m. on July 18, 1984, a 1976 intercity bus, operated by Denver, Colorado Springs, and Pueblo Motorway, Inc., struck the rear of a loaded 1981 tractor-flatbed semitrailer, operated by American Colloid Carrier Corporation, in the right lane of northbound Interstate 25 about 3 miles south of Cheyenne, Wyoming. The estimated vehicle speeds were 65 to 75 mph for the bus and 55 mph for the truck. Both vehicles remained jammed together as they came to rest upright in the right lane. It was dark, the weather was clear, and the pavement of the four-lane, divided highway was dry. Of the 11 bus passengers, 1 passenger was killed, 1 passenger sustained moderate injuries, and 9 passengers received minor injuries. The busdriver was injured seriously, and the truckdriver sustained minor injuries. The truckdriver's wife, who was in the sleeper berth of the truck tractor at the time of the collision, was not injured.

The National Transportation Safety Board determines that the probable cause of this accident was the busdriver's inattention due to lack of sleep and acute fatigue, which resulted in his failure to recognize that he was overtaking a slower-moving vehicle.

About 7:30 a.m. on October 19, 1984, a tractor-flatbed semitrailer, operated by Brown Transit, Inc., and traveling about 50 to 55 mph, struck the rear of a stopped schoolbus on southbound State Route 167 near Junction City, Arkansas. The 1977 schoolbus, operated by the Junction City, Arkansas School District, with its 33 occupants was pushed about 220 feet south of the point of impact where both vehicles came to rest. The pavement of the straight, two-lane highway was dry, the weather was clear, and the

sight distance to the rear of the schoolbus was at least 1,000 feet. One bus passenger was injured seriously. The truckdriver, the busdriver, and 25 bus passengers had minor injuries. Six bus passengers were not injured.

The National Transportation Safety Board determines that the probable cause of this accident was the truckdriver's inattention due to lack of sleep and acute fatigue, which resulted in his failure to recognize that there was a stopped vehicle in his traffic lane.

## INVESTIGATIONS

### The Cheyenne, Wyoming, Accident

About 12:50 a.m. on July 18, 1984, a 1976 intercity bus, operated by Denver, Colorado Springs, and Pueblo Motorway, Inc. (DCS&P), struck the rear of a loaded 1981 tractor-flatbed semitrailer, operated by American Colloid Carrier Corporation, in the right lane of northbound Interstate 25 (I-25) about 3 miles south of Cheyenne, Wyoming. The vehicles became jammed together and came to rest upright in the right lane. (See figures 1 and 2.) It was dark, the weather was clear, and the pavement of the four-lane, divided highway was dry.

No other vehicles were reported to have been near the truck or bus at the time of the collision. According to the truckdriver, the truck was in 13th gear and was traveling at 55 mph when it was struck. The busdriver stated that he did not recall any events leading up to the accident. A relief busdriver, who was sitting behind the busdriver at the time of the accident, reported that everything seemed normal during the trip from Denver, Colorado, and that he was dozing at the time of the accident and did not see the truck before the accident.

According to the drivers of four other northbound trucks, a bus passed their vehicles on the 8-mile section of northbound I-25 between the Colorado-Wyoming State line and the accident site minutes before the accident. In statements obtained by the Wyoming Highway Patrol after the accident, two truckdrivers stated that their trucks were traveling about 50 to 55 mph at or near the State line when a bus passed their vehicles. Another truckdriver stated that his truck was traveling about 60 mph as he approached the Port of Entry 1/ about 1 mile south of the accident site when a bus passed his truck. He stated that the bus appeared to be going quite fast. Another truckdriver stated that he was exiting the Port of Entry at about 35 to 40 mph when a bus passed him. He stated that the bus appeared to be operating at a "normal" speed. None of the truckdrivers positively identified the bus that passed them as being the bus involved in the accident.

Of the 11 bus passengers, 1 passenger was killed, 1 passenger sustained moderate injuries, and 9 passengers received minor injuries. The busdriver was injured seriously, and the truckdriver sustained minor injuries. The truckdriver's wife, who was in the sleeper berth of the truck tractor at the time of the collision, was not injured.

### Emergency Response

After the bus came to rest, and before rescue personnel arrived, several occupants opened the emergency side windows and lowered themselves to the pavement. Later, the other surviving passengers were evacuated through these windows by rescue personnel.

1/ A Port of Entry is a facility similar to a truck weighing station. In addition to weighing the trucks, State officials obtain information about routes for use in computing ton-mile taxes assessed by a State.

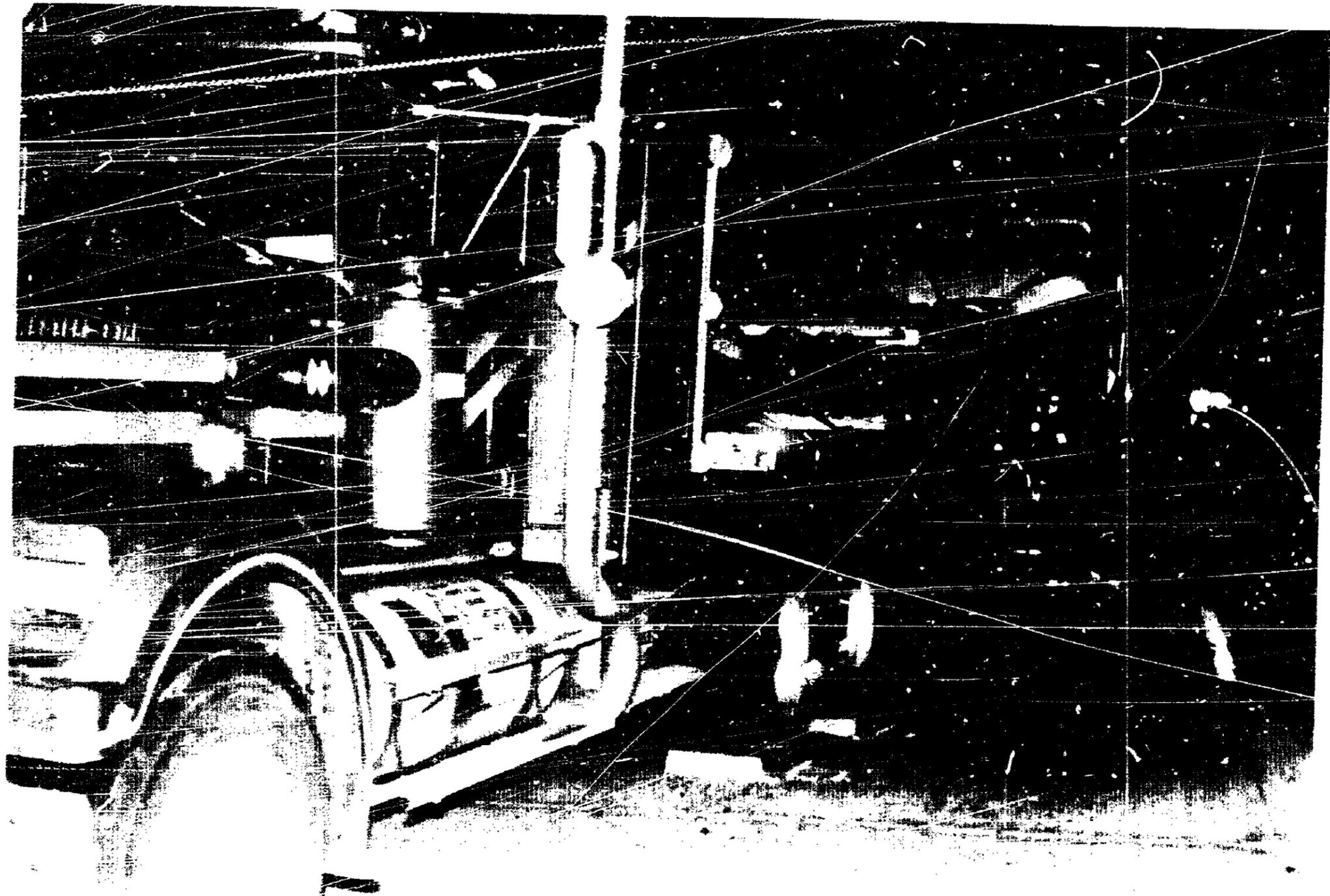


Figure 1.--Truck and bus at the site of the Cheyenne, Wyoming, accident.

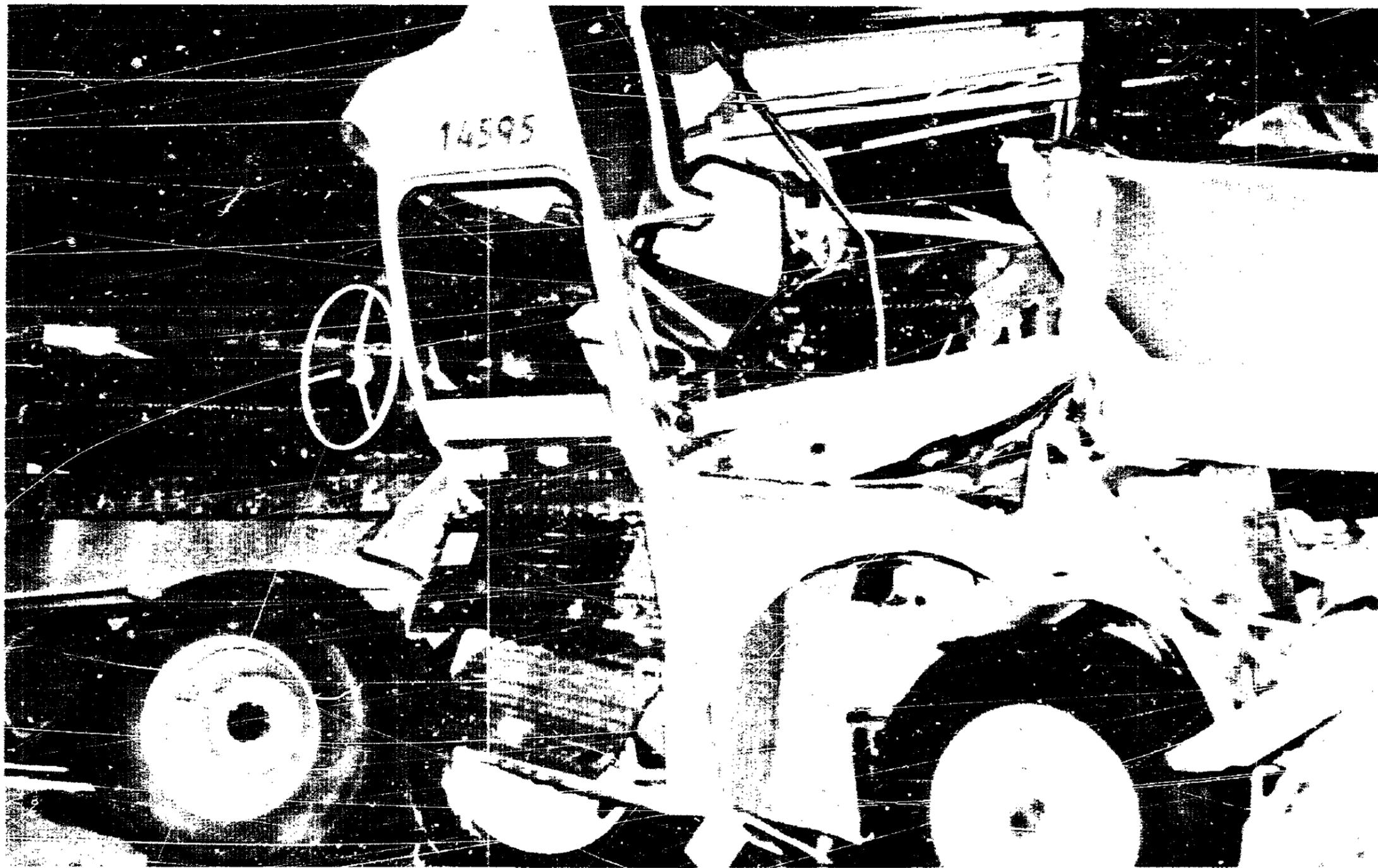


Figure 2.--View of left-front damage to the bus in the Cheyenne, Wyoming, accident.

All the survivors were transported by ambulance to one of two hospitals in the Cheyenne area about 5 miles away. The busdriver, whose legs were pinned in the wreckage, was the last survivor to be removed from the bus. He was evacuated through a 4-foot by 6-foot opening cut in the left side of the bus behind the driver's seat and was delivered to the hospital about 2:45 a.m.

### Driver Information

The 45-year-old busdriver held a valid Colorado driver license, which permitted him to operate intercity buses with no restrictions. He had been a part-time busdriver for about 8 years. His medical examiner's certificate, which he obtained 2 days before the accident, showed that he was physically qualified to operate commercial vehicles in interstate commerce. During the past 2 years, he had received one traffic citation in 1982 for careless driving of his personal vehicle.

The busdriver worked for three employers in the Denver area. He was employed as a full-time firefighter by the Air National Guard, as a part-time busdriver by DCS&P (an interstate motor carrier), and as a part-time driver/helper by a moving and storage company (an interstate motor carrier). The busdriver's activities from 7 a.m. on July 12, 1984, to the time of the accident at 12:50 a.m. on July 18, 1984, are summarized in table 1.

At the time of the accident, the busdriver had been on duty about 19 hours since his last 8 or more consecutive hours off duty, and had worked during this time for both DCS&P and the moving and storage company. He obtained a maximum of about 3 1/2 hours sleep during the 27 hours 35 minutes before the accident. The last entry in the busdriver's daily logbook was on July 9, 1984. DCS&P did not ask the driver for a statement of hours of service or for his daily log before he started the accident trip, as required by Federal regulations for part-time drivers who work for another motor carrier.

(See appendix B for information on the truckdriver.)

### Vehicle Information and Damage

The 46-passenger, 1976 Silver Eagle intercity bus was being operated by DCS&P, a wholly-owned subsidiary of Trailways Lines, Inc. (Trailways), of Dallas, Texas. The three-axle bus was equipped with air-mechanical brakes, power steering, and a four-speed manual transmission. When the bus was placed back in service following the installation of a new engine on July 16, 1984, it was inspected by DCS&P maintenance personnel, and no defects were discovered. Another driver who drove the bus on July 16, 1984, reported no defects on the vehicle condition report he prepared. Postcrash inspections by Safety Board and DCS&P personnel also disclosed no preaccident defects. At the time of the accident, the bus weighed about 30,000 pounds.

Photographs taken at the accident site by the Wyoming Highway Patrol showed that the right 5 feet of the front of the 8-foot-wide bus contacted the left 5 feet of the rear of the 8-foot-wide semitrailer. The collision crushed the front lower half of the bus about 3 feet rearward. (See figure 2.) The busdriver's seat and both the left and right first-row seats were torn loose from their floor attachments. The right-front door was crushed by the collision and could not be opened after the accident. (See figure 3.) The seven large windows on each side of the bus were designed to be used as emergency exits.

The truck was a 1981 White Western Star tractor with a 13-speed manual transmission operated in combination with a 1981 Utility flatbed-semitrailer loaded with oilfield pipe. The truckdriver owned the tractor and leased it to American Colloid Carrier

Table 1.--Busdriver's activities from 7 a.m. on July 12, 1984,  
until 12:50 a.m. on July 18, 1984.

Date	Time	Elapsed Time		Sleep Time	Busdriver Activity
		Amount	Cumulative		
July 12	7:00 AM				Reported for firefighter duty.
July 13	7:00 AM				Completed firefighter shift.
	7:35 AM to 5:35 PM			Unknown	Worked at moving and storage company.
July 14/15				Unknown	At home working around the house.
July 16	Morning			Unknown	Took fiancée to doctor.
	Afternoon				Took DOT physical.
	9:15 PM	0	0		Reported to Denver, CO, bus garage. Picked up bus and drove bus to Denver bus terminal.
	10:30 PM	1 hr. 15 min.	1 hr. 15 min.		Departed Denver bus terminal.
July 17	1:15 AM	2 hrs. 45 min.	4 hrs. 0 min.		Arr. at Cheyenne, WY bus terminal.
	2:40 AM	1 hr. 25 min.	5 hrs. 25 min.		Departed Cheyenne bus terminal.
	5:30 AM	2 hrs. 50 min.	8 hrs. 15 min.		Arrived at Denver bus terminal.
	5:30 AM to 7:45 AM	2 hrs. 15 min.	10 hrs. 30 min.	1-1/2 to 2 hrs.	Went home, ate breakfast, slept for about 1-1/2 to 2 hrs, then went to moving and storage company.
	7:45 AM to 4:00 PM	8 hrs. 15 min.	18 hrs. 45 min.		Worked at the moving & storage co.
	4:30 PM	0 hr. 30 min.	19 hrs. 15 min.		Picked up paycheck at Denver bus terminal & was advised he was sched- uled to drive Denver-Cheyenne run.
	4:30 PM to 7:15 PM	2 hrs. 45 min.	22 hrs. 0 min.		Went to supper & went shopping with fiancée, then returned home.
	7:15 PM to 9:00 PM	1 hr. 45 min.	23 hrs. 45 min.	1-1/2 hrs.	Slept at home. Left home for Denver bus garage.
	9:15 PM	0 hr. 15 min.	24 hrs. 0 min.		Reported to Denver bus garage, drove bus to Denver bus terminal.
	10:00 PM	0 hr. 45 min.	24 hrs. 45 min.		Left Denver en route to Cheyenne.
July 18	12:50 AM	2 hrs. 50 min.	27 hrs. 35 min.		Accident

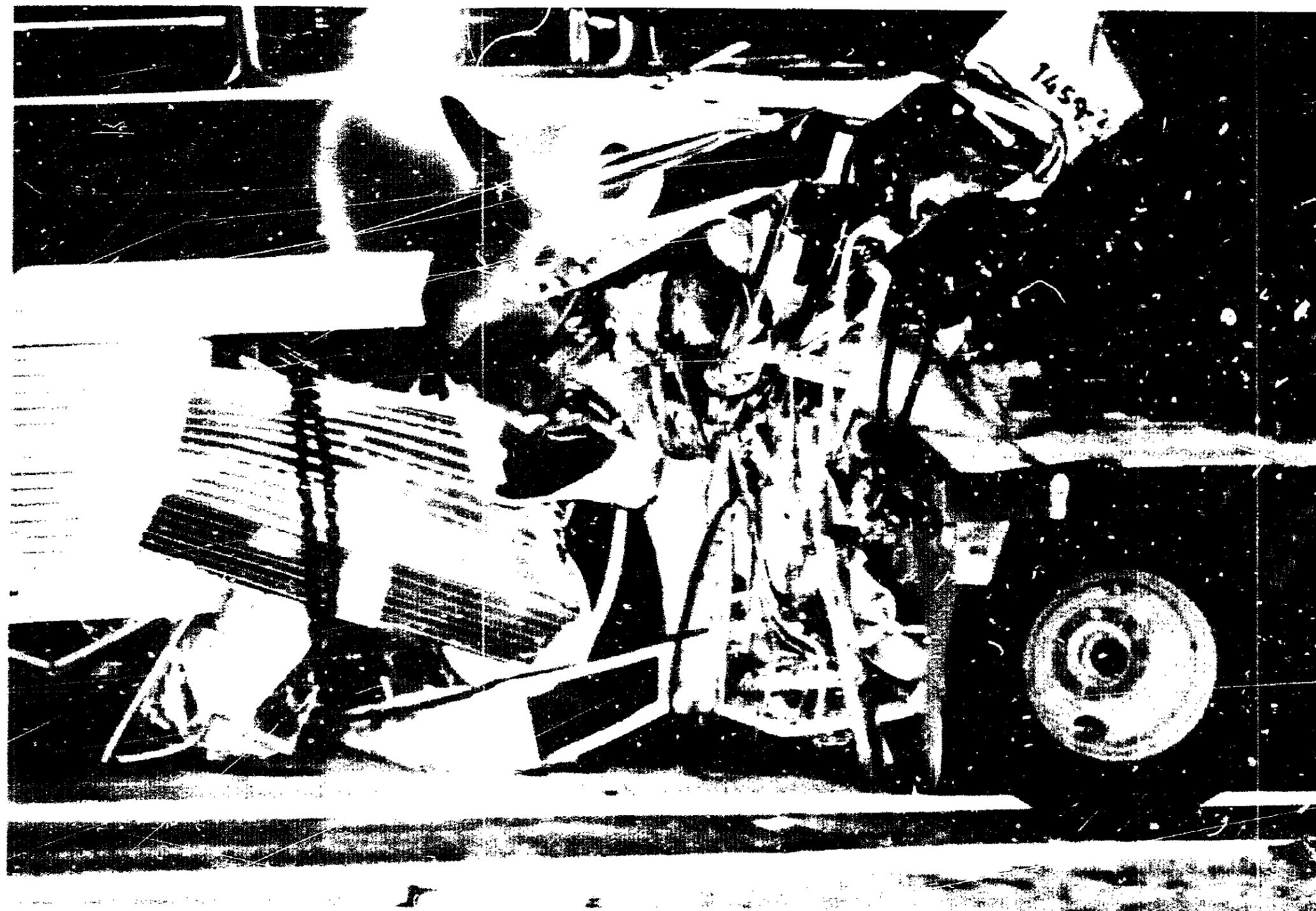


Figure 3.--View of right-front damage to the bus in the Cheyenne, Wyoming, accident.

Corporation, which owned the semitrailer. The gross weight of the vehicle at the time of the accident was 77,640 pounds. After the accident, the semitrailer's left-rear lamp housing was bent forward under the trailer bed, the left-rear spring hanger was displaced forward about 1 1/2 inches, the center identification lamp on the rear was broken out, and the left mudflap was pushed forward over the left-rear dual tires. The tread surfaces of the left-rear dual tires were abraded severely for about 2 feet around the circumference of each tire.

The semitrailer was equipped with the lamps and reflectors required by Section 393.14 of the Federal Motor Carrier Safety Regulations (FMCSR). The headlamps on the tractor; the identification, clearance, and sidemarker lamps on the tractor and semitrailer; and the tail lamps on the semitrailer were controlled by a single switch in the tractor cab. After the accident, all of the tail, clearance, and identification lamps on the rear of the semitrailer, except the damaged center identification lamp, were illuminated when switched on. (See figure 4.) The truckdriver reported that all the rear lights on the semitrailer were illuminated when he walked past them while stopped at the Port of Entry 1 mile south of the accident site about 5 minutes before the accident.

#### Highway Information

I-25 at the accident site is a four-lane, north-south, divided highway with two 12-foot-wide Portland cement concrete lanes in each direction, a 40-foot-wide grass median, 8-foot-wide bituminous outside shoulders, 3-foot-wide bituminous median shoulders, and a 55-mph posted speed limit. The northbound approach to the accident site is straight for about 1/4 mile with a 2.3-percent downgrade. The accident site is about 300 yards north of the College Drive overpass. Records for the last 5 years showed no previous accidents at this location.

Two tire scuff marks preceded two 429-foot 3-inch-long parallel tire marks in the right lane at the accident site. The parallel tire marks began 1 1/2 feet right of the dashed lane line, were straight for the first 38 feet, and then curved right-left-right over the remaining 391 feet. The center of these marks ended 5 feet to the right of the dashed lane line separating the northbound traffic lanes. (See figure 5.)

#### Method of Operation

Full-time drivers for DCS&P are required to prepare and submit a driver log of duty hours in compliance with the FMCSR each day, whether they drive or not. Dispatchers working the 11 p.m. to 7 a.m. shift use a log check-off sheet and furnish the Lead Transportation Supervisor once each week with a list of all missing logs for full-time drivers. When a log is missing, the driver is given a letter telling him that he will be removed from service if the logs are not brought up to date. After 13 days, the driver is removed from service until all logs more than 13 days old are turned in to DCS&P.

The Lead Transportation Supervisor for DCS&P reported that it was company policy to obtain driver daily logs in lieu of a signed statement from intermittent drivers showing on-duty time during the preceding 7 days. He said that all dispatchers should have known that these logs were required to be obtained and that DCS&P depended upon the part-time drivers to turn in their logs. No records were maintained to indicate when a part-time driver log was due. If it was known that a part-time driver log was due, no action would have been taken to remove the driver from service until 13 days after the date of the overdue log.

The Transportation Supervisor/Dispatcher who contacted the accident busdriver concerning the runs to be driven the evenings of July 16 and 17, 1984, reported that she was not aware of the requirement that information on prior hours of service must

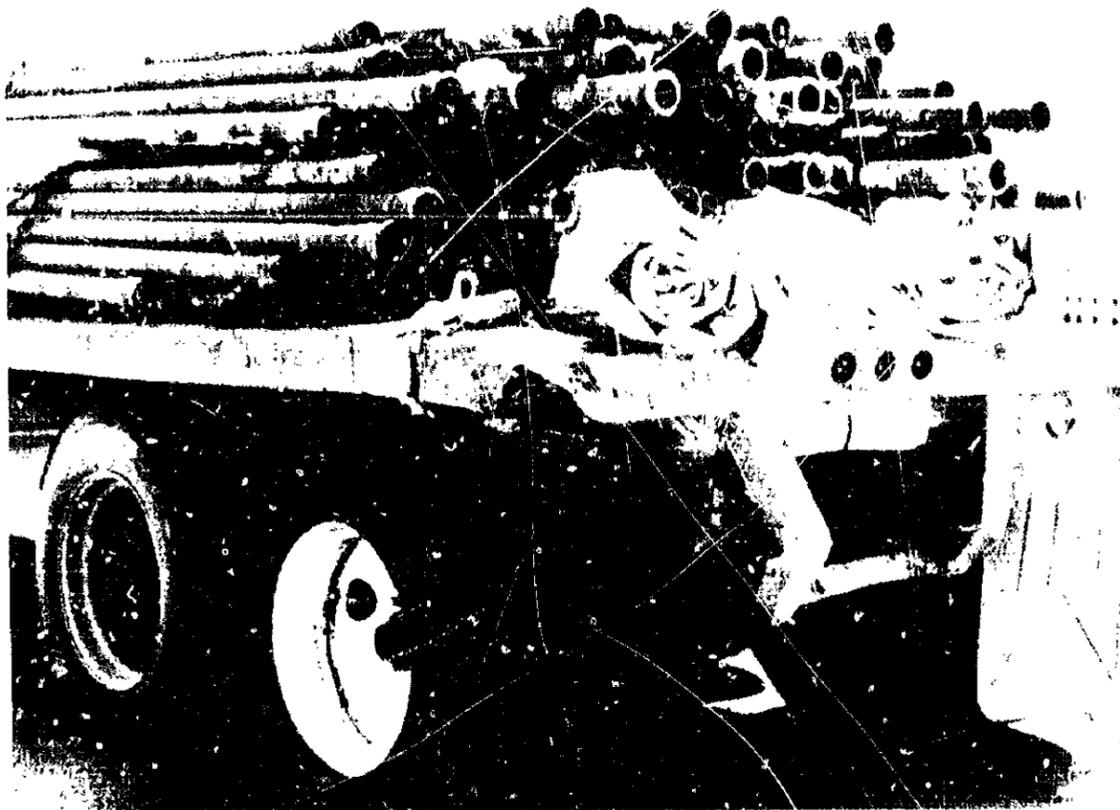


Figure 4.--Rear of semitrailer struck by the bus in the Cheyenne, Wyoming, accident.



Figure 5.--Tire scuff marks found at the Cheyenne, Wyoming, accident site.

be obtained from part-time drivers, and that she had been given no procedures to follow to obtain this information. She stated also that if she had known about the busdriver's part-time job at the moving and storage company, she would not have given the busdriver the dispatch on the evening of July 17, 1984.

All DCS&P personnel interviewed by Safety Board investigators reported that they were unaware of the busdriver's part-time job with the moving and storage company. However, several stated that they were aware of the driver's employment as a full-time firefighter.

Effective January 1, 1983, the FMCSR were amended to allow commercial drivers 13 days to turn in their driver daily logs or duty status records rather than daily. The Vice President of Safety and Security for Trailways reported that when the rule was amended, he distributed the new rule with a cover memorandum which stated that Trailways and its affiliates would not change the driver daily log procedures and that logs still would be turned in daily. He also reported that DCS&P decided, apparently without consulting Trailways, to implement a change in procedure which permitted the 13-day period before logs had to be turned in. He stated that he did not implement the new 13-day log turn-in rule because it "conceivably in my view lessened our ability to supervise and control" the drivers, and "in fact, my judgment was that I may lose something safety-wise."

After the accident, Trailways and all its affiliates instituted procedures requiring part-time drivers to furnish the employing bus company annually a list of their other employers and the hours worked with each employer. This information is to be made available to dispatchers at each dispatch point. Dispatchers now are required to obtain from a part-time driver a statement of on-duty time during the preceding 7 days prior to each time the part-time driver is dispatched.

DCS&P drivers are furnished a rule book which outlines operating requirements and procedures. Rule G-25, entitled "Schedule Performance," states:

The company-published time schedules shall be adhered to as closely as safety will allow. Delaying at terminals and stops and running ahead of scheduled times are not permitted. Unauthorized rest and meal stops are prohibited. IT IS FAR MORE IMPORTANT TO ARRIVE SAFELY THAN IT IS TO ARRIVE ON TIME.

#### Medical and Pathological Information

<u>Injuries</u>	<u>Bus</u>	<u>Truck</u>	<u>Total</u>
Fatal	1	0	1
Serious	1	0	1
Moderate	1	0	1
Minor	9	1	10
None	0	1	1
<u>Total</u>	<u>12</u>	<u>2</u>	<u>14</u>

None of the bus occupants was ejected. The bus passenger seated in the first-row aisle seat on the right died of head injuries. The busdriver sustained the most serious injuries of any survivor in the bus, including numerous lacerations and contusions, a traumatic amputation of the right foot, and a fractured left leg. The relief busdriver

seated in the first-row aisle seat on the left behind the driver sustained moderate injuries including lacerations on the forehead and right foot, and contusions. The remaining bus passengers sustained minor injuries including small lacerations, contusions, blunt chest trauma, abrasions, and bruises. The truckdriver had minor injuries. His wife, who was in the truck sleeper berth, was not injured.

A blood test performed on the busdriver after the accident was negative for alcohol, caffeine, and amphetamines. The busdriver stated that he could not recall if he was wearing the installed seatbelt. The truckdriver said that he was wearing his seatbelt at the time of the collision.

#### Tests and Research

The DCS&P outbound schedule from Denver to Cheyenne called for a 10 p.m. departure from Denver with a 12:45 a.m. arrival in Cheyenne. To determine if the schedule was realistic, the route was driven by a Safety Board investigator and a DCS&P representative using a vehicle equipped with a calibrated odometer. Based upon the results of the test, it was determined that the scheduled arrival time in Cheyenne was reasonable, given the scheduled departure time from Denver, the speed limits, the road and traffic conditions, and the scheduled en route stops.

The downgrade approach to the accident site on northbound I-25 has the nighttime lights of the city of Cheyenne and the interchange lighting of the College Avenue entrance ramp in the background. To determine if the lights on the rear of the semitrailer were "masked" by background lighting, the route was driven twice under similar atmospheric conditions by Safety Board investigators at about the same time of day that the accident occurred. It was determined that, although the lights of the city and other distant roadside lighting were visible, an alert driver could see clearly the rear lights of a vehicle ahead in either of the two northbound lanes of I-25.

#### The Junction City, Arkansas, Accident

About 1 a.m. on October 19, 1984, a tractor-flatbed semitrailer, operated by Brown Transit, Inc. (Brown), departed Conway, Arkansas, for an 8 1/2-hour trip to Lafayette, Louisiana. The truckdriver stated that he had rested about 1 hour at each of two rest stops after he left Conway. About 7:30 a.m., while in the southbound lane of State Route (SR) 167 near Junction City, Arkansas, the truck struck the rear of a stopped 1977 schoolbus carrying 32 students and pushed it about 220 feet forward. The pavement of the straight, two-lane roadway was dry, the weather was clear, and the sight distance for the truck to the rear of the schoolbus was at least 1,000 feet. (See figure 6.)

The truckdriver stated that he did not remember any of the events immediately before the accident and that he could not recall seeing the stopped schoolbus. The busdriver reported that at impact the schoolbus service brakes were applied, the right-front entrance door was open, and the red flashing lights were illuminated. Two students had just boarded the schoolbus and were walking to their assigned seats when the schoolbus was struck. All the other schoolbus occupants were seated. The mother of one of the students who had just boarded the schoolbus reported that the red flashing lights on the schoolbus were activated. She saw the truck approach without any apparent slowing and collide with the schoolbus. Immediately after the accident, she telephoned the Junction City Volunteer Fire Department.

One passenger seated in the rear of the schoolbus was injured seriously. The truckdriver, the busdriver, and 25 schoolbus passengers received minor injuries. Six schoolbus passengers were not injured.

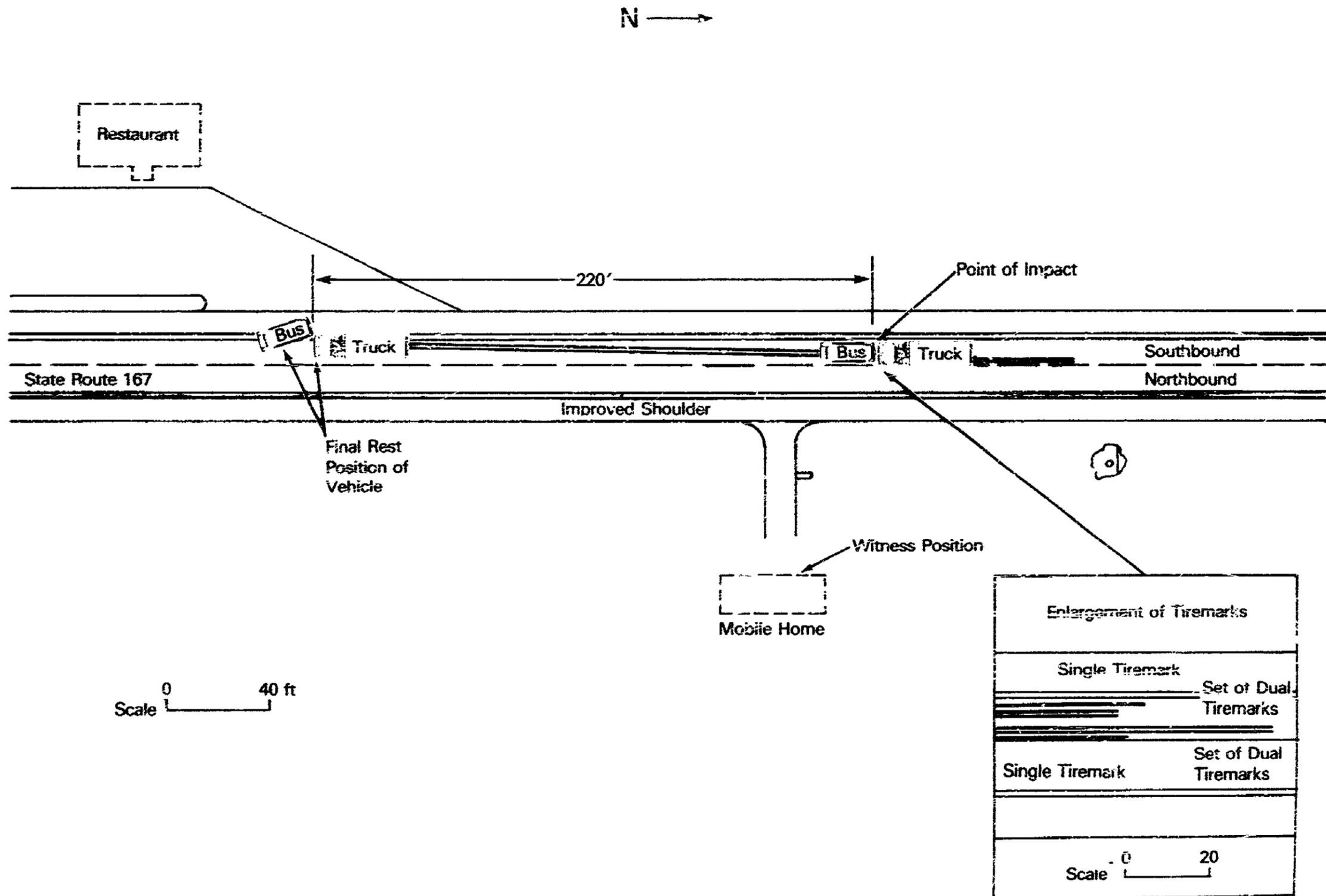


Figure 6.--Plan view of the Junction City, Arkansas, accident site.

### Emergency Response

The busdriver, the truckdriver, and a passerby assisted in evacuating the 32 schoolbus passengers through the right-front door of the schoolbus. The rear emergency door was jammed shut after the collision. The busdriver and the passerby extricated four students who were trapped in the last two rows of seats at the rear of the schoolbus. Three ambulances, two fire/rescue units, and several police units responded to the scene. The first fire/rescue unit arrived at the scene at 7:37 a.m., and the last injured person was removed from the scene about 8 a.m. The injured were transported 17 miles to two hospitals in El Dorado, Arkansas. The most seriously injured victim was transferred later by helicopter to a hospital in Little Rock, Arkansas.

### Driver Information

The 24-year-old truckdriver held a valid Arkansas driver license, had 4 years' experience as a truckdriver, and had no record of traffic violations or accidents. He had worked full-time for Brown for about 5 months and stated that he did not have any part-time jobs.

During the 3 weeks preceding the accident, the truckdriver had 4 days off duty-- October 7, and October 11 through 13. The truckdriver stated that on the day before the accident he left Kansas City, Missouri, about 3:30 p.m. in a Brown truck to make a delivery at Conway. He arrived in Conway about midnight. He telephoned the Brown dispatcher before he arrived in Conway to advise him that he was about to make the delivery in Conway. The dispatcher asked the truckdriver if he would take a loaded trailer from Conway to Lafayette, and advised the truckdriver that the load did not have to be delivered until sometime on October 19, 1984. The truckdriver accepted the dispatch. When he arrived in Conway, he dropped his trailer, fueled his truck, made a pretrip inspection, and left for Lafayette with the new load at about 1 a.m.

The last entry found in the truckdriver's daily log was made on the day before the accident. Brown did not ask, nor was it required to ask, the full-time truckdriver for a statement of hours of service or a daily log before he started on the accident trip.

(See appendix C for information on the schoolbus driver.)

### Vehicle Information and Damage

The 54-passenger schoolbus had a Ward body mounted to a Ford chassis and was assembled in March 1977. The schoolbus was not required to and did not comply with Federal safety standards for schoolbus crashworthiness and occupant protection which became effective in April 1977. The schoolbus was owned and operated by the Junction City, Arkansas School District and had received its last semiannual inspection as required by the State in August 1984. The odometer of the 15,800-pound bus registered 57,372 miles. The schoolbus was equipped with hydraulic service brakes, power steering, a four-speed manual transmission, and 18 bench-type seats. The driver's seat was the only seat equipped with a seatbelt.

Impact damage extended across the entire rear of the bus, with a maximum deformation of about 10 inches inward on the right rear near the jammed rear emergency door. The last two rows of seats were collapsed forward, and the floor was buckled between these two rows of seats. Ten seatbacks were bent rearward 20 to 60 degrees. The floor and sidewall anchorages of seven seats were separated partially, and the seats were free to rotate rearward. All four floor anchorages of the driver's seat were severed during the impact. There were no precrash mechanical defects reported, and no precrash defects were discovered during an examination of the schoolbus after the accident.

The truck was a 1982 International Harvester three-axle, cab-over-engine truck owned by Brown and operated in combination with a 1964 Strick flatbed-semitrailer, which was supplied by the shipper of the cargo being transported. The gross weight of the vehicle with its 5,000 pounds of cargo was about 25,750 pounds. The truck was equipped with air-mechanical service brakes, a seven-speed manual transmission, and power steering.

Impact damage was confined to the front of the truck tractor. The front bumper was pushed rearward about 4 inches, the front grille was bent rearward in several places, and the windshield and left headlamp were broken. The steering column and linkage were displaced forward, and the steering system was disabled. The clutch, transmission shift lever, and accelerator linkage were broken, and the headliner and the dashboard in front of the driver's side of the cab were displaced forward. Blood transfers were observed on the left door, the headliner, and the dashboard on the driver's side of the cab. The top of the headerboard on the semitrailer was bent forward about 8 inches, and two of the cargo tie-down straps were severed.

Postcrash examination disclosed that although the brakes on the first drive axle of the truck tractor were properly adjusted, the brakes on the tractor's rear drive axle and the brakes on both semitrailer axles were adjusted improperly according to the manufacturer's recommended specification for readjustment. (See appendix D.)

#### Highway Information

The accident site is about 2.9 miles north of Junction City on SR 167. At this location, SR 167 is a straight, two-lane, asphalt highway with 11-foot-wide travel lanes, 10-foot-wide shoulders, and a 50-mph posted speed limit. The southbound approach to the accident site has a 1.4-percent downgrade and is marked as a "no passing" zone for southbound vehicles.

Two sets of dual skidmarks and two single skidmarks were found at the scene. The longest of these marks extended for 37 feet in the southbound lane before the point of impact, shifted about 3 inches eastward near the estimated point of impact, and continued south for another 50 feet. (See figure 6.) The schoolbus and the truck came to rest about 220 feet south of the point of impact with the right-front corner of the truck contacting the left-rear corner of the schoolbus.

#### Method of Operation

Brown is a general commodities interstate motor carrier which operates within a 500-mile radius of Little Rock. The company has 32 full-time drivers, 2 dispatchers, 37 tractors, and 89 trailers (25 of which are leased). The dispatchers monitor driver progress by talking to each driver twice daily. The company vice president reported that drivers "are required to drive the legal hours," that "they have to turn in a legal log," and that "each log is checked." If Federal rule violations are discovered, the terminal manager counsels the driver. The company owner stated that the company has "not had too much trouble" with improper entries and that its drivers "don't have to run illegal."

Two other Brown drivers interviewed by Safety Board investigators said that they had never been asked by the company to violate the Federal regulations which limit the hours of service of interstate commercial vehicle drivers.

On October 29, 1984, the Office of Motor Carrier Safety (OMCS) of Region 8 of the Federal Highway Administration (FHWA) conducted a safety compliance survey of Brown. The OMCS noted at least 80 violations of Federal Motor Carrier Safety Regulations

(FMCSR) and rated the company unacceptable because of violations to FMCSR Part 395 "Hours of Service of Drivers." The OMCS charged the company later with 30 counts of "Requiring or permitting drivers to make false entries upon a record of duty status" and recommended that the company establish a program to eliminate driver log violations.

#### Medical and Pathological Information

<u>Injuries</u>	<u>Drivers</u>	<u>Passengers</u>	<u>Total</u>
Fatal	0	0	0
Serious	0	1	1
Minor	2	25	27
None	0	6	6
<u>Total</u>	<u>2</u>	<u>32</u>	<u>34</u>

The most seriously injured student, who was sitting in the last aisle seat on the right, sustained a depressed skull fracture, a fractured femur, and a lacerated knee. The busdriver, the truckdriver, and 25 of the schoolbus passengers, aged 8 to 16, received minor injuries which included contusions, abrasions, and lacerations to the head and extremities. Six of the schoolbus passengers were not injured. None of the occupants was ejected from the schoolbus. Toxicological tests on both drivers were negative for alcohol and other drugs.

The truckdriver reported that he was wearing his seatbelt at the time of the accident. The busdriver reported that he was not wearing the available seatbelt in the schoolbus.

#### Tests and Research

The service brakes on the truck were tested by pulling the tractor-semitrailer with a wrecker at speeds ranging from 5 to 12 mph with the air brake system pressurized to 120 psig. Due to the impact damage to the front of the truck tractor, the steering axle wheels were elevated off the ground during the test. When the service brakes were applied during the test, the right wheels on the second drive axle of the tractor and the rear axle wheels of the semitrailer failed to stop rotating.

### **GENERAL INFORMATION**

#### Federal Hours of Service Regulations

Section 395.2 of the Federal Motor Carrier Safety Regulations (FMCSR) defines "on duty" time as all time from the time a driver begins to work or is in readiness to perform work until the time he is released from work and from all responsibility for performing work in the capacity of, or in the employ or service of, a common, contract, or private motor carrier. "On duty" time does not include the time a driver works for another business employer who is not a motor carrier.

Section 395.3 of the FMCSR, with some exemptions, prohibits interstate commercial drivers from driving more than 10 hours since their last 8 or more consecutive hours off duty, driving after having been on duty more than 15 hours since their last 8 or more consecutive hours off duty, and remaining on duty more than 60 hours in any period of 7 consecutive days.

Drivers are required to record and report their hours of service either on the 24-hour driver daily log form, on a multiday log sheet showing the driver's activities for a period of up to eight consecutive 24-hour periods, or on a 24-hour time grid incorporated into any other document used by the employing motor carrier which contains certain specified items of information. Drivers operating within a 100 air-mile radius of the normal work reporting location are exempted from the duty status record preparation if certain other requirements are met. (See appendix E.) Employing motor carriers must retain required driver hours of service records for 6 months.

Section 395.8(i) of the FMCSR, as amended effective January 1, 1983, states that, "The driver shall submit or forward by mail the original driver's record of duty status to the regular employing motor carrier within 13 days following the completion of the form." Before this change in the rule, a driver was required to deliver the original log sheet to the motor carrier immediately upon completion of the last log, or to mail the record to the carrier if the driver was not going to be at a carrier facility for more than 5 days after the last log sheet was completed.

Although the preamble to the rule in the Federal Register does not discuss how the 13-day period was selected, BMCS officials advised the Safety Board that because the maximum of 8 days permitted on any multiday log sheet, added to the 5-day mailing time specified in the rule before it was amended, totaled 13 days; therefore, the period of 13 days was selected to be the maximum time to be allowed by the revised rule for the submission of the duty status record. The revised rule does not differentiate between the single-day log sheet, the multiday log sheet, or the time grid incorporated into another document. A driver may therefore retain custody of a single-day log sheet for up to 13 days after the time it is required to be completed.

As part of the Cheyenne investigation, BMCS officials stated to Safety Board investigators that, from an enforcement viewpoint, there was no need for logs to be submitted each day, that the BMCS believed enforcement of the hours of service rules would not be hampered by the rule changes, and that motor carriers could impose more stringent requirements for forwarding logs or duty status records if they desired.

Although the rule change that became effective on January 1, 1983, permits a driver to retain custody of the duty status record for 13 days, the logbook rule which has been in effect since the logbook requirements were established in 1938 still requires that the duty status record be kept current to the time shown for the last change of duty status.

Part 395.8(j)(2) of the FMCSR requires that:

Motor carriers, when using a driver for the first time or intermittently, shall obtain from the driver a signed statement giving the total time on duty during the immediately preceding 7 days and the time at which the driver was last relieved from duty prior to beginning work for the motor carriers.

This rule requires that a motor carrier using a driver who also is employed by another motor carrier(s) obtain a record showing all of that driver's "on-duty" time which provides information the motor carrier needs to determine if further use of the driver will result in a violation of the FMCSR limiting a driver's hours of service. Its effectiveness depends upon the motor carrier requiring the statement before the driver is dispatched and the driver giving an accurate account of his activities. A BMCS interpretation of this rule published in the Federal Register on November 23, 1977, stated that a driver's log or record of duty status for the previous 7 days is an acceptable substitute for the signed statement specified by the regulation.

## ANALYSIS

### The Cheyenne, Wyoming, Accident

The weather, the highway, and the mechanical condition of the vehicles were not factors in the Cheyenne accident involving the collision of the intercity bus into the rear of the moving tractor-semitrailer. The tail, clearance, and identification lamps on the rear of the semitrailer were illuminated at the time of the accident. Both drivers were experienced in handling their vehicles, were physically qualified, and held valid licenses.

The abraded tread surfaces found on the left-rear dual tires of the semitrailer during the postaccident examination indicated that the two 429-foot 3-inch-long parallel tire marks found in the right northbound lane of I-25 were made by the accident semitrailer. When the front of the bus collided with the rear of the semitrailer, its left-rear dual tires locked in place and could not rotate. The tires slid over the highway surface to the final rest position of the vehicles. The starting point of the parallel tire marks indicated that the truck was traveling slightly to the right of the center of the right northbound lane at the time of the collision. The tire scuffs found 2 feet before the starting point of the parallel tire marks were collision scuffs made by the steering axle tires of the bus when it struck the rear of the truck.

Based upon the damage pattern to the vehicles, the almost straight line of travel of the vehicles after the collision indicated by the dual tire marks, the lack of bus tire marks which could be attributed to braking, and the degree to which the two vehicles were crushed and jammed together after impact, it appears that the busdriver had made no attempt to steer around the slower-moving truck. The bus struck the rear of the truck while traveling in a path which was parallel to but which was offset about 2 feet left of the precollision path of the truck.

Since the accident occurred at 12:50 a.m. about 3 miles from Cheyenne, the bus was about 8 to 10 minutes behind schedule at the time of the accident. Although the postaccident test run indicated that the scheduled time for the bus trip between Denver and Cheyenne was reasonable, and the record indicates that it was the bus company's policy to encourage drivers not to attempt to make up time when running behind schedule, the Safety Board believes that the busdriver was driving above the 55-mph posted speed limit at the time of the collision. Based on the statements of the truckdrivers who were passed by a bus within minutes or seconds before the accident, the amount of damage to the front of the bus, the statement of the truckdriver in the accident that his truck was traveling at 55 mph at the time of impact, and the distance both vehicles traveled after impact, the estimated speed of the bus when it struck the rear of the truck was between 65 and 75 mph.

Tests showed that the rear lights of a vehicle were not "masked" by highway lighting or area background lights and were visible to a following driver. The roadway was straight for about 1/4 mile with no visibility obstructions to the point of collision. Although the busdriver was operating above the speed limit and at a speed greater than that of the truck, he would have had sufficient time to change lanes and avoid the collision if he had been alert. At a speed between 65 and 75 mph, the bus could have been steered easily into the left northbound lane in about 350 to 400 feet to avoid contacting the truck. About 3 to 4 seconds would have been required to perform this maneuver.

During the 27 1/2 hours before the accident, the busdriver had worked for the bus company and for the moving and storage company and had slept for not more than about 3 1/2 hours. The busdriver had not worked at any of his three jobs for the 3 days preceding his first trip to Cheyenne on the evening of July 16. He had done light work

around his home over the weekend and taken care of personal business on Monday. Therefore, he is not considered to have been suffering from chronic fatigue. The facts of the accident indicate, and the Safety Board concludes, that the busdriver was inattentive and was suffering from lack of sleep and from acute fatigue at the time of the accident.

#### The Junction City, Arkansas, Accident

The weather, the highway, and the mechanical condition of the vehicles were not factors in the Junction City accident involving the collision of the tractor-semitrailer into the rear of the stopped schoolbus. Examination of the damage to the front of the tractor and the rear of the schoolbus indicated that the truck struck the schoolbus squarely in the rear. Based on the vehicle weights, the amount of braking before and after impact indicated by the skidmarks at the scene, and the distance the vehicles traveled after impact, the Safety Board estimated that the truck was traveling about 50 to 55 mph when it struck the stopped schoolbus.

The 37 feet of skidmarks preceding the point of collision indicated that the truckdriver was not aware of the schoolbus until the last seconds before impact. Although the service brakes on four of the truck's five axles were adjusted improperly, the Safety Board believes that the truckdriver nevertheless had ample time and distance to see and react to the stopped schoolbus 1,000 feet ahead and to stop the truck had he been alert. Since there were no other vehicles on the road at the time of the accident, the truckdriver also could have steered onto the improved shoulder or into the opposing traffic lane to avoid the collision.

The truckdriver had been on duty for about 16 hours since his last 8 or more consecutive hours off duty and had been driving his truck 13 of those 16 hours with two 1-hour rest periods. He probably was awake at least another hour preparing for and traveling to work before he went on duty. The truckdriver had had 3 consecutive days off duty in the 6 days prior to the accident. During the first 5 days of this 6-day period, he received adequate rest. Therefore, he is not considered to have been suffering from chronic fatigue. The facts of the accident indicate, and the Safety Board concludes, that the truckdriver was inattentive and was suffering from lack of sleep and from acute fatigue at the time of the accident.

#### Driver Alertness and Fatigue

Fatigue can be differentiated into two types, chronic and acute. Chronic fatigue results from extended periods of work over a span of several days or weeks, or from long periods of sleep deprivation. Acute fatigue occurs in a relatively short timeframe and can arise from any significant shortening in a person's usual sleep cycle, from physical exertion, stress, or long work hours, and accompanies changes in a person's circadian rhythms, i.e., the daily variations in the level of physiological arousal.<sup>2/</sup> Research indicates that human performance of certain tasks reaches its lowest level during the early morning hours just preceding dawn. This phenomenon, which is documented in many studies relating to fatigue and human performance during periods of shift work, is attributed to the effects of circadian rhythms. A more detailed discussion of these effects can be found in the Safety Board's report of the Livingston, Texas, intercity bus accident on November 30, 1983.<sup>3/</sup>

<sup>2/</sup> McNaughton, Grant B., "Fatigue in MAC," The Mac Flyer, a publication of the United States Air Force, July 1984.

<sup>3/</sup> Highway Accident Report--"Trailways Lines, Inc., Bus/E.A. Holder, Inc., Truck, Rear End Collision and Bus Run-Off-Bridge, U.S. Route 59, near Livingston, Texas, November 30, 1983" (NTSB/HAR-84/04).

The relationship between circadian rhythms and the commercial driving task is addressed in a research effort initiated by the FHWA's Bureau of Motor Carrier Safety (BMCS) in 1972 in which researchers examined, among other things, work periods that are irregular with respect to the day-night cycle. The research indicated that, on the basis of heart-rate measurements, diurnal (daily) variations in the level of physiological arousal occurred in professional truckdrivers who drove both daytime and nighttime hours, but that a disproportionate number of accidents involving "sleepy or inattentive" drivers occurred between midnight and 8 a.m. when physiological indices of arousal generally are at their lowest levels. BMCS experiments on relay truck driving, sleeper truck driving, and bus driving showed pronounced increases in subjective fatigue, marked changes in physiological state, and earlier degradation of performance on trips that involved driving during these hours. 4/

Some of the effects of fatigue on operator performance include disruption in timing, loss of fine motor control, increased variability in performance, and lowering of performance standards. Operational tasks most affected by fatigue are those based upon minute cues in which vigilance and alertness are important. Vigilance appears to be the function most affected by fatigue. 5/

Sleep loss and acute fatigue had suppressed the vigilance of the drivers in the Cheyenne and Junction City accidents to a virtually ineffective level. In the few minutes preceding each collision, the drivers apparently still were capable of performing the minimal tracking tasks required to keep their vehicles on the road and in the proper lane. The truckdriver in the Junction City accident apparently was visually sensing his environment without being able to perceive a threat before the collision. The "tendency to fixate, stare and channelize attention" is a further effect and symptom of fatigue. 6/ The busdriver in the Cheyenne accident probably was asleep when he collided into the rear of the truck because of the lack of braking and of any attempt to steer around the tractor-trailer.

Researchers in Sweden documented in an experiment, by using brain wave criteria, that train engineers in the experiment fell asleep for intermittent periods during one out of every six night runs. Nonetheless, the engineers continue throughout such "naps" to keep full pressure on the accelerator pedal while remaining unresponsive to red stop signals. 7/

In calendar years 1982 and 1983, 64,938 passenger and property carrier accidents were reported to the BMCS, as required by Part 394 of the FMCSR. In 97 percent (63,990) of the accident reports, the driver condition checked was "apparently normal before the accident." In 1.6 percent (1,051) of the accidents, the reporting carrier checked the item that the driver "dozed at the wheel." Other driver condition categories checked, including "sick," "had been drinking," "medical waiver," and "other," accounted for the remaining 1.2 percent (779) of the driver condition data reported to the BMCS. Seven percent (4,546) of all accidents were single-vehicle, noncollision accidents which occurred when the reporting carrier's vehicle ran off the roadway. This category of accident accounted for 26 percent (214) of all commercial vehicle driver fatalities and 15 percent (2,426) of all commercial vehicle driver injuries reported to the BMCS in 1982 and 1983.

4/ "A study of the Relationships Among Fatigue, Hours of Service, and Safety of Operations of Truck and Bus Drivers," U.S. Department of Transportation, Federal Highway Administration, Bureau of Motor Carrier Safety, 1972.

5/ USN Flight Surgeon's Manual, United States Navy, 1968, pp. 651-653.

6/ McNaughton, op. cit.

7/ Czeisler, Charles A., "Biological Clocks and Shift Work Scheduling," Hearing Before The Subcommittee on Investigations and Oversight of the Committee on Science and Technology, U.S. House of Representatives, 98th Congress, First Session, March 23 and 24, 1983 (No. 7).

Although the cause of all these single-vehicle accidents cannot be attributed exclusively to driver inattention or fatigue--a mechanical defect that caused the accident could have gone undetected or unreported--the Safety Board believes that driver inattention or fatigue is an underlying, although not clearly identifiable, cause of many commercial vehicle accidents in which a vehicle runs off the roadway or strikes another vehicle in the rear, and for which the driver's condition is reported to the BMCS as being "apparently normal."

Driver inattention and fatigue have been identified as recurring factors in several commercial vehicle accidents investigated by the Safety Board and have resulted in numerous injuries and fatalities. In the Livingston accident, six persons were killed and six persons were injured when the intercity bus struck the rear of a tractor-semitrailer. As a result of the Livingston accident, the Safety Board issued Safety Recommendation H-84-60 to the BMCS on August 8, 1984:

Determine practical methods and means to prevent or minimize dozing at the wheel by drivers of carriers in interstate commerce, and advise the Safety Board of its findings.

In its September 25, 1984, response to this recommendation, the BMCS agreed to undertake a research study on the problem of driver fatigue. To date, the BMCS has not done so. The Safety Board believes that the BMCS is not placing enough emphasis on methods to prevent potentially catastrophic accidents involving fatigued drivers of commercial vehicles engaged in interstate commerce, and the Safety Board reiterates Safety Recommendation H-84-60 to the BMCS.

The motor carrier who employed the part-time driver in the Cheyenne accident did not obtain a statement of hours of service or daily logs from the driver for the past 7 days as required by Federal regulations. The bus company was not aware that the busdriver held a second part-time job with another motor carrier. Furthermore, the dispatcher who assigned the part-time driver to the accident trip and was responsible for obtaining a statement of hours of service or daily logs from a part-time driver was not aware that such a requirement existed. Moreover, it appears that other bus company personnel had the incorrect perception that part-time drivers did not have to submit their logs for up to 13 days after the logs were prepared. This could have been based on the BMCS rule interpretation which allows part-time drivers to substitute driver logs for a signed statement of duty hours of service during the previous 7 days and the rule change in 1983 permitting drivers to retain their logs for 13 days.

The motor carrier who employed the full-time driver in the Junction City accident displayed an apparent disregard for the FMCSR in general and the driver hours of service regulations in particular. Although the motor carrier probably did not coerce its drivers to violate the regulations, the carrier also did not enforce the regulations, as evidenced by the BMCS compliance survey which disclosed evidence of 80 rule violations and led to charges on 30 counts of "Requiring or permitting drivers to make false entries upon a record of duty status."

In both accidents, the employing motor carriers failed to monitor their drivers sufficiently to prevent their operating a vehicle while fatigued. Motor carriers should inform their drivers and other personnel responsible for driver supervision of the circumstances of these accidents and caution them about the hazards of operating a vehicle while fatigued. Motor carriers also should review their internal procedures for determining and controlling the hours of service of full-time and part-time drivers to ensure that fatigued drivers are not permitted to drive.

### Federal Regulations--"On Duty" Time

The "on duty" time defined in Section 395.2 of the FMCSR and recorded on the driver daily log does not include the time a commercial driver is employed on a job other than with another motor carrier. For example, the part-time busdriver in the Cheyenne accident was not required to record the time he spent on his full-time job as a firefighter, but he was required to record the 8 hours he worked for the moving and storage company (a motor carrier) 8 hours before the accident. The Safety Board believes that the definition of "on duty" time in Part 395.2 of the FMCSR should be revised to include all time worked by a commercial vehicle driver for all other full-time and part-time employers.

### Federal Hours of Service Regulations

Between 1938 and 1977, drivers engaged in interstate commerce were required to record and report their hours of service on a driver daily log. Drivers were required either to turn in their log for the previous 24 hours when they reported for duty at the carrier's facility the next day, or to mail it to the employing motor carrier immediately after the 24-hour period was completed if they were not to return to the employer's facility within the time required for a normal mail delivery.

In 1976, the Congressional Commission on Federal Paperwork (CFP) determined that the driver daily log was an excessively burdensome Federal paperwork requirement and recommended that it be discontinued and that an alternate monitoring system be devised to ensure compliance with the hours of service regulations. When the CFP was dissolved, the implementation of its recommendations was assigned to the Office of Management and Budget (OMB).

In 1977, drivers were allowed to use either a driver daily log or a FMCSR form covering 8 days to reduce paperwork. The rule pertaining to filing of either the single-day or the multiday logs required that, "The driver shall deliver the original log sheet immediately upon completion of the last log, to his home terminal or to the carrier's principal place of business. Log sheets must be mailed to the carrier when the driver will not return within 5 days of the completed log page." Drivers using the 8-day log had an extra 5 days--a total of 13 days from the first date on the log sheet--to forward the log sheet to the employing motor carrier if the driver did not report to his home terminal or to the carrier's principal place of business during the 5-day period after the last day on the log was completed.

In 1980, the Paperwork Reduction Act (Public Law 96-511) and Executive Order 12291 issued February 17, 1981, gave the OMB additional authority to oversee past and present regulatory actions of Federal agencies and to ensure that unnecessary or particularly burdensome requirements were alleviated. In June 1982, the U.S. Department of Transportation released a report, "Drivers Log Alternatives: Regulatory Impact Analysis and Regulating Flexibility Analysis," that examined current requirements and methods for logging driver time, and described and evaluated alternative methods for tracking driving hours. The report also discussed the paperwork burden imposed on drivers and motor carriers by the logging requirements.

On February 17, 1982, the BMCS issued a Notice of Proposed Rulemaking (NPRM) seeking comments on a proposal to reduce the paperwork burden for motor carriers and drivers by eliminating the required driver log form. About 90 of approximately 1,330 comments supported some degree of reduction in the logging requirements ranging from complete abolition to a slight relaxation of the present rules. About 1,200 of the comments opposed the elimination of the log, including comments from 27 State regulatory agencies in 23 States which expressed the need for uniformity. Commenters

who favored the retention of the logging requirements in their present form also included the International Brotherhood of Teamsters and the Commercial Vehicle Safety Alliance (an organization of truck safety regulatory agencies from about 16 western States).

A rule amendment effective January 1, 1983, revoked the requirement for logging driver on-duty time on prescribed forms and permitted incorporation of a time grid into any other document maintained or used by the employing motor carrier. The amendment deleted several "data elements" which previously were required, including total miles driving today, name of co-driver, home terminal address (city and State), total hours, shipping document number or name of shipper and commodity, towed vehicle identification, origin, and destination or turnaround point. Also, Section 395.8(i) was amended to allow a driver to submit or forward by mail the original driver's duty status record to the employing motor carrier anytime within 13 days of the completion of the form.

On March 2, 1983, the International Brotherhood of Teamsters, Chauffeurs, Warehousemen and Helpers of America (IBT) petitioned the United States Court of Appeals for the District of Columbia Circuit to review and set aside the final logkeeping rules which became effective on January 1, 1983. The IBT contended that the changes in the logbook system were arbitrary, capricious, and without rational basis; that they represented a significant erosion of the BMCS authority and enforcement effectiveness; that they were not supported by the rulemaking record; and that the public was not afforded adequate opportunity to comment on the serious and material differences between the original proposed rule and the final rule.

On June 12, 1984, the court concluded, in part, in its opinion that:

We therefore, uphold the agency's modification of the recordkeeping requirement to permit drivers to use their own forms. However, the agency has failed to demonstrate that it engaged in reasoned decisionmaking or that it had any basis at all for its decision to omit the seven items of information and expand the exemption from the recordkeeping requirement. For this reason, we hold that the agency acted arbitrarily and capriciously in adopting the new rules to the extent that they expand the exemption from the recordkeeping requirement. 8/

On November 23, 1984, the BMCS amended its rules to comply with the court's findings.

On November 17, 1983, the Committee on Government Operations of the U.S. House of Representatives issued a report, "Improving the Effectiveness of the Bureau of Motor Carrier Safety and Its Enforcement of Hazardous Materials Regulations," which stated that, "Log and other safety violations have shown no sign of abating. Yet, auditors have a diminishing number of reporting tools because BMCS headquarters has significantly reduced log requirements, as of January 1, 1983." The report also stated:

The relaxation of the log requirements will save the industry a few minutes each day. BMCS admits that it will hurt auditing at a time when BMCS also admits that its auditing force is undermanned.

\* \* \*

8/ United States Court of Appeals for the District of Columbia, Circuit No. 83-1228 (International Brotherhood of Teamsters vs. United States and American Trucking Associations, Inc.) No. 83-1228, slip op. at 18 (D.C. Cir. June 12, 1984).

Some of the (1983) regulation changes will save almost no time but will hamper investigators. For example, the log is no longer required to include the number of the trailer hauled by the drivers. Investigators will not be able to determine whether unsafe trailers were actually in use. The log will not have to list the carrier's cargo identification number, which auditors can use as a reference point.

\* \* \*

One DOT employee told subcommittee investigators that the Office of Management and Budget had virtually dictated the direction of DOT's report [in 1982]. He felt OMB was determined to completely eliminate the log. The Bureau was in a defensive posture throughout the rulemaking procedure. BMCS felt it had preserved some bare essentials of the log. The employee stated, "The report dealt with the regulation's impact on industry, not on BMCS. OMB said it didn't care about the impact on enforcement." 9/

In rule changes between 1977 and January 1, 1983, the BMCS extended the time period in which a driver must forward a daily log or duty status record to the employing motor carrier from "each day" to a maximum of 13 days, regardless of the type of log or duty status record being used by the driver or employing motor carrier. The Safety Board does not concur in the belief expressed by BMCS officials in the Cheyenne accident investigation that the 13-day retention rule will not adversely affect enforcement activities. A BMCS investigation of a driver's activities may in fact be hindered because the existence of such a rule may prevent the BMCS from obtaining a driver's duty status record from a motor carrier until the driver turns it in 13 days after an incident occurs. Since a driver can retain custody of the duty status record, the record can be changed to conceal a driver's true activities performed within a given period of time from both the motor carrier and BMCS investigators. Drivers are free to "backtrack" and spread out the amount of work performed over a longer period of time, to insert fictional rest breaks when in fact they were not taken, and in general to have a greater amount of time to "doctor" their duty status records to conceal violations.

The Safety Board concludes that the rule which permits a driver to retain custody of the duty status record for up to 13 days after it is prepared not only does not reduce any paperwork burden, but rather it has weakened the capability of the BMCS to promptly investigate and detect hours of service violations. This rule should be amended to require drivers to immediately forward their duty status records to the employing motor carrier upon completion of the record.

## CONCLUSIONS

### Findings in the Cheyenne Accident

1. The mechanical condition of the vehicles and the experience of the drivers were not factors in this accident.
2. The rear clearance, tail, and identification lamps on the semitrailer were illuminated as the bus overtook and struck the semitrailer.

9/ "Improving the Effectiveness of the Bureau of Motor Carrier Safety and Its Enforcement of Hazardous Materials Regulations," Twenty-First Report by Committee on Government Operations, United States House of Representatives Report No. 98-562, November 17, 1983, pp. 43-44.

3. The roadway was straight for 1/4 mile before the accident site, and there were no weather or traffic-related visibility obstructions.
4. Personnel at the bus company were unaware of the busdriver's part-time job at the moving and storage company.
5. The bus company failed to obtain a statement of the part-time driver's hours of service as required by Federal regulation.
6. The truck was traveling about 55 mph, and the bus was traveling between 65 and 75 mph at the time of the collision.
7. Although the bus was traveling at a faster speed than the truck, the busdriver would have had time to steer around the truck and avoid the collision if he had been alert.
8. The busdriver had no more than about 3 1/2 hours sleep from 9 p.m. on July 16, 1984, to the time of the accident at 12:50 a.m. on July 18, 1984, and had been on duty about 19 hours since his last 8 or more consecutive hours off duty.
9. The busdriver was fatigued and was not alert at the time of the accident.

#### Findings in the Junction City Accident

1. The schoolbus was stopped with its flashing lights activated when the accident occurred.
2. The stopped schoolbus was visible to the approaching truckdriver for at least 1,000 feet before impact.
3. The weather and highway conditions were not factors in this accident.
4. The service brakes on four of the five axles on the Brown Transit, Inc., vehicle were out of adjustment according to the manufacturer's recommended practices. However, the collision could have been avoided if the driver had been alert.
5. The truckdriver had been on duty at least 16 hours since his last 8 or more consecutive hours off duty, and was fatigued and was not alert at the time of the accident.

#### General Findings

1. The rule contained in 49 CFR 395.8(i) of the Federal Motor Carrier Safety Regulations (FMCSR) which permits an interstate commercial vehicle driver to retain custody of the duty status record for up to 13 days after it is completed has weakened the capability of the Federal Highway Administration's Bureau of Motor Carrier Safety to promptly investigate and detect hours of service violations.
2. The definitions of "on-duty" time in the FMCSR includes only the time a commercial driver works for an employer who is a motor carrier.

**Probable Cause of the Cheyenne Accident**

The National Transportation Safety Board determines that the probable cause of this accident was the busdriver's inattention due to lack of sleep and acute fatigue, which resulted in his failure to recognize that he was overtaking a slower-moving vehicle.

**Probable Cause of the Junction City Accident**

The National Transportation Safety Board determines that the probable cause of this accident was the truckdriver's inattention due to lack of sleep and acute fatigue, which resulted in his failure to recognize that there was a stopped vehicle in his traffic lane.

**RECOMMENDATIONS**

As a result of its investigations of these accidents, the National Transportation Safety Board made the following recommendations:

--to the American Bus Association and the American Trucking Associations, Inc.:

Inform your members of the circumstances of the accidents of July 18, 1984, near Cheyenne, Wyoming, and of October 19, 1984, near Junction City, Arkansas, and urge your members to review their internal policies and procedures for determining the hours of service for full-time and part-time drivers to ensure that drivers do not operate vehicles while fatigued. (Class II, Priority Action) (H-85-19)

--to the Bureau of Motor Carrier Safety of the Federal Highway Administration:

Revise Section 395.8(i) of Title 49, Code of Federal Regulations, to require that drivers forward each duty status record to the employing motor carrier immediately upon completion. (Class II, Priority Action) (H-85-20)

Revise Section 395.2 of Title 49, Code of Federal Regulations, to add all time worked by a commercial vehicle driver for all full-time and part-time employers to the definition of "on-duty" time. (Class II, Priority Action) (H-85-21)

Also as a result of its investigation of these accidents, the National Transportation Safety Board reiterates Safety Recommendation H-84-60 issued to the Bureau of Motor Carrier Safety of the Federal Highway Administration on August 8, 1984:

Determine practical methods and means to prevent or minimize dozing at the wheel by drivers of carriers in interstate commerce, and advise the Safety Board of its findings.

**BY THE NATIONAL TRANSPORTATION SAFETY BOARD**

/s/ JIM BURNETT  
Chairman

/s/ PATRICIA A. GOLDMAN  
Vice Chairman

/s/ G.H. PATRICK BURSLEY  
Member

June 25, 1985

**APPENDIXES**  
**APPENDIX A**  
**INVESTIGATION**

**Investigation**

The National Transportation Safety Board was notified of the Cheyenne, Wyoming, accident through news media reports at 10:30 a.m. on July 18, 1984. Highway accident investigators were dispatched from the Safety Board's Washington, D.C., headquarters and arrived on scene at 9:30 p.m. on July 18, 1984. Participating in the investigation were representatives of the Wyoming State Highway Patrol; the Wyoming State Department of Highways; the Wyoming Motor Carrier Safety Office of the Federal Highway Administration, the American Colloid Carrier Corporation; the Denver, Colorado Springs, and Pueblo Motorway, Inc.; Trailways Lines, Inc.; and the Federal Highway Administration's Bureau of Motor Carrier Safety.

The Safety Board was notified of the Junction City, Arkansas, accident at 9:19 a.m. on October 19, 1984, by the Arkansas Highway Patrol. Highway accident investigators were dispatched from the Safety Board's Washington, D.C. headquarters and arrived on scene at 1:30 a.m. on October 20, 1984. Participating in the investigation were the Arkansas Highway Patrol and the Arkansas Motor Carrier Safety Office of the Federal Highway Administration.

**Depositions and Hearing**

During the course of the investigation of the Cheyenne, Wyoming, accident, depositions were taken on January 23 and 24, 1985, from the truckdriver; the busdriver; representatives of the Denver, Colorado Springs, and Pueblo Motorway, Inc.; Trailways Lines, Inc.; the Wyoming State Highway Patrol; the Wyoming Motor Carrier Safety Office of the Federal Highway Administration; and the Department of Transportation's Bureau of Motor Carrier Safety.

There were no depositions taken and no public hearing held in conjunction with the investigation of the Junction City, Arkansas, accident.

**APPENDIX B**

**CHEYENNE, WYOMING, ACCIDENT  
TRUCKDRIVER INFORMATION**

The 31-year-old truckdriver held a valid Nebraska operator's license which permitted him to operate tractor-semitrailers with no restrictions. He had a current medical examiner's certificate and had been operating large trucks for 9 years. From March 10, 1979, to July 18, 1984, the truckdriver was cited for six moving vehicle violations. According to the motor carrier's records, the last citation was for speeding in a tractor-semitrailer on October 5, 1983.

**APPENDIX C**

**JUNCTION CITY, ARKANSAS, ACCIDENT  
SCHOOLBUS DRIVER INFORMATION**

The 56-year-old schoolbus driver held a valid Arkansas driver license, had driven schoolbuses for 25 years, and had received two speeding citations since 1982. He rested for about 7 hours the night before the accident and awoke at 5:30 a.m. the morning of the accident. He was driving his scheduled route and his assigned schoolbus when the accident occurred. The busdriver stated that it was school policy to pick up and discharge students with the schoolbus stopped in the travel lanes on two-lane rural roads to discourage other vehicles from passing the schoolbus while it was stopped.

APPENDIX D

JUNCTION CITY, ARKANSAS ACCIDENT  
TRUCK BRAKE INFORMATION

<u>Location</u>	Air Brake Pushrod Stroke (inches)			<u>Brake Chamber Type</u>
	<u>Left</u>	<u>Right</u>	<u>Recommended Readjustment Length</u>	
<b>Tractor</b>				
Steering Axle	2-1/4	2-1/4	1-3/4	16
Second Axle	1-3/4	1-3/4	2	30
Third Axle	2	2-1/4	2	30
<b>Semitrailer</b>				
Front Axle	2-1/2	2-1/2	2	30
Rear Axle	2-1/2	2-1/2	2	30

APPENDIX E  
EXCERPTS FROM  
49 CFR PART 395  
HOURS OF SERVICE OF DRIVERS

[37 FR 26113, Dec. 8, 1972]

§ 395.2 Definitions.

As used in this part, the following words and terms are construed to mean:

(a) *On-duty time*. All time from the time a driver begins to work or is required to be in readiness to work until the time he is relieved from work and all responsibility for performing work. The term "On-duty" time shall include:

(1) All time at a carrier or shipper plant, terminal, facility, or other property, or on any public property, waiting to be dispatched, unless the driver has been relieved from duty by the motor carrier.

(2) All time inspecting equipment as required by §§ 392.7 and 392.8 or otherwise inspecting, servicing, or conditioning any motor vehicle at any time;

(3) All driving time as defined in paragraph (b) of this section;

(4) All time, other than driving time, in or upon any motor vehicle except time spent resting in a sleeper berth as defined in paragraph (g) of this section;

(5) All time loading or unloading a vehicle, supervising, or assisting in the loading or unloading, attending a vehicle being loaded or unloaded, remaining in readiness to operate the vehicle, or in giving or receiving receipts for shipments loaded or unloaded;

(6) All time spent performing the driver requirements of §§ 392.40 and 392.41 relating to accidents;

(7) All time repairing, obtaining assistance, or remaining in attendance upon a disabled vehicle;

(8) Performing any other work in the capacity of, or in the employ or service of, a common, contract or private motor carrier.

(b) *Driving time*. The terms "drive" and "driving time" shall include all time spent at the driving controls of a motor vehicle in operation.

(c) *Seven consecutive days*. The term "7 consecutive days" means the period of 7 consecutive days beginning on any day at the time designated by the motor carrier for a 24-hour period.

(d) *Eight consecutive days*. The term "8 consecutive days" means the period of 8 consecutive days beginning on any

PART 395—HOURS OF SERVICE OF DRIVERS

Sec.

395.1 Compliance with, and knowledge of, the rules in this part.

395.2 Definitions.

395.3 Maximum driving and on-duty time.

395.7 Travel time.

395.8 Driver's record of duty status.

395.10 Adverse driving conditions.

395.11 Emergency conditions.

395.12 Relief from regulations.

395.13 Drivers declared out of service.

**AUTHORITY:** Sec. 204, 49 Stat. 546, as amended; 49 U.S.C. 304, unless otherwise noted.

**SOURCE:** 33 FR 19758, Dec. 25, 1968, unless otherwise noted.

§ 395.1 Compliance with, and knowledge of, the rules in this part.

(a) *General*. Except as provided in paragraph (b) of this section, every motor carrier and its officers, drivers, agents, employees, and representatives shall comply with the rules in this part, and every motor carrier shall require that its officers, drivers, agents, employees, and representatives be conversant with the rules in this part.

(b) *Lightweight mail trucks*. The rules in this part do not apply to a driver who drives only a motor vehicle that—

(1) Is used exclusively to transport mail under contract with the U.S. Postal Service; and

(2) Has a manufacturer's gross vehicle weight rating of 10,000 pounds or less.

day at the time designated by the motor carrier for a 24-hour period.

(e) *Twenty-four hour period.* The term "24-hour period" means any 24 consecutive hour period beginning at the time designated by the motor carrier for the terminal from which the driver is normally dispatched.

(f) *Regularly employed driver.* The term "regularly employed driver" means a driver who in any period of 7 consecutive days is employed or used as a driver solely by a single motor carrier.

(g) *Sleeper berth.* The term "sleeper berth" means a berth conforming to the requirements of § 393.76 of this subchapter.

(h) *Driver-salesman.* The term "driver-salesman" means any employee who is employed solely as such by a private carrier of property by motor vehicle, who is engaged both in selling goods, services, or the use of goods, and in delivering by motor vehicle the goods sold or provided or upon which the services are performed, who does so entirely within a radius of 100 miles of the point at which he reports for duty, who devotes not more than 50 percent of his hours on duty to driving time. The term "selling goods" for purposes of this subsection shall include in all cases solicitation or obtaining of reorders or new accounts, and may also include other selling or merchandising activities designed to retain the customer or to increase the sale of goods or services, in addition to solicitation or obtaining of reorders or new accounts.

(i) *Multiple stops.* All stops made in any one village, town, or city may be computed as one.

(j) *Principal place of business or main office address.* The principal place of business or main office address is the geographic location designated by the motor carrier where the records required to be maintained by this part will be made available for inspection.

(49 U.S.C. 304, 1653; 49 CFR 1.46 and 301.60)

[33 FR 19758, Dec. 25, 1968, as amended at 45 FR 46424, July 10, 1980; 47 FR 53389, Nov. 26, 1982]

#### § 395.3 Maximum driving and on-duty time.

(a) Except as provided in paragraphs (c) and (e) of this section and in § 395.10, no motor carrier shall permit or require any driver used by it to drive nor shall any such driver drive:

(1) More than 10 hours following 8 consecutive hours off duty; or

(2) For any period after having been on duty 15 hours following 8 consecutive hours off duty.

(3) Exemption: Drivers using sleeper berth equipment as defined in § 395.2(g), or who are off duty at a natural gas or oil well location, may cumulate the required 8 consecutive hours off duty resting in a sleeper berth in two separate periods totaling 8 hours, neither period to be less than 2 hours, or resting while off duty in other sleeping accommodations at a natural gas or oil well location.

(b) Except as provided in paragraph (e) of this section, no motor carrier shall permit or require any driver used by it to be on duty, nor shall any such driver be on duty, more than 60 hours in any 7 consecutive days as defined in § 395.2(c) regardless of the number of motor carriers using the driver's services. *Provided, however,* That carriers operating vehicles every day in the week may permit drivers to remain on duty for a total of not more than 70 hours in any period of 8 consecutive days. *Provided further, however,* That the limitations of this paragraph shall not apply with respect to any driver-salesman whose total driving time does not exceed 40 hours in any 7 consecutive days.

(c) The provisions of paragraph (a) of this section shall not apply with respect to drivers used wholly in driving motor vehicles having not more than 2 axles and whose gross weight, as defined in § 390.10, does not exceed 10,000 pounds, unless such vehicle is used to transport passengers or explosives or other dangerous articles of such type and in such quantity as to require the vehicle to be specifically marked or placarded under the Hazardous Materials Regulations, § 177.823 of this title, or when operated without cargo under conditions which require the vehicle to be so

marked or placarded under the cited regulations: *Provided further, however,* That this section shall not apply with respect to drivers of motor vehicles engaged solely in making deliveries for retail stores during the period from December 10 to December 25, both inclusive, of each year.

(d) In the instance of drivers of motor vehicles used exclusively in the transportation of oilfield equipment, including the stringing and picking up of pipe used in pipelines, and servicing of the field operations of the natural gas and oil industry, any period of 8 consecutive days may end with the beginning of any off-duty period of 24 or more successive hours.

(e) A driver who is driving a motor vehicle in the State of Alaska must not drive or be permitted to drive more than 15 hours following 8 consecutive hours off duty. A driver who is driving a motor vehicle in the State of Alaska must not drive or be permitted to drive after he has been on duty for 20 hours or more following 8 consecutive hours off duty. A driver who drives a motor vehicle in the State of Alaska must not be on duty or be permitted to be on duty more than—

(1) 70 hours in any period of 7 consecutive days, if the carrier for whom he drives does not operate every day in the week; or

(2) 80 hours in any period of 8 consecutive days, if the carrier for whom he drives operates every day in the week.

(f) In the case of specially trained drivers of specially constructed oil well servicing vehicles, on-duty time shall not include waiting time at a natural gas or oil well site; *Provided,* That all such time shall fully and accurately accounted for in records to be maintained by the motor carrier. Such records shall be made available upon request of the Federal Highway Administration.

[33 FR 19758, Dec. 25, 1968, as amended at 36 FR 20369, Oct. 21, 1971; 45 FR 46424 and 46425, July 10, 1980]

§ 395.7 Travel time.

When a driver at the direction of a motor carrier is traveling, but not driving or assuming any other responsibility to the carrier, such time shall be

counted as on-duty time unless the driver is afforded at least 8 consecutive hours off duty when arriving at destination, in which case he shall be considered off duty for the entire period.

§ 395.8 Driver's record of duty status.

(a) Every motor carrier shall require every driver used by the motor carrier to record his/her duty status, in duplicate, for each 24-hour period. Every driver who operates a motor vehicle shall record his/her duty status, in duplicate, for each 24-hour period. The duty status time shall be recorded on a specified grid, as shown in paragraph (g) of this section. The grid and the requirements of paragraph (d) of this section may be combined with any company forms. The previously approved format of the Daily Log, Form MCS-59 or the Multi-day Log, MCS-139 and MCS-139A, which meets the requirements of this paragraph, may continue to be used.

(b) The duty status shall be recorded as follows:

- (1) "Off duty" or "OFF."
- (2) "Sleeper berth" or "SB" (only if a sleeper berth used).
- (3) "Driving" or "D."
- (4) "On-duty not driving" or "ON."

(c) For each change of duty status (e.g., the place of reporting for work, starting to drive, on-duty not driving and where released from work), the name of the city, town, or village, with State abbreviation, shall be recorded.

NOTE: If a change of duty status occurs at a location other than a city, town, or village, show one of the following: (1) The highway number and nearest milepost followed by the name of the nearest city, town, or village and State abbreviation, (2) the highway number and the name of the service plaza followed by the name of the nearest city, town, or village and State abbreviation, or (3) the highway numbers of the nearest two intersecting roadways followed by the name of the nearest city, town, or village and State abbreviation.

(d) The following information must be included on the form in addition to the grid:

- (1) Date;
- (2) Total miles driving today;
- (3) Truck or tractor number;
- (4) Name of carrier;

(5) Driver's signature/certification; and

(6) 24-hour period starting time (e.g., midnight, 9:00 a.m., noon, 3:00 p.m.); and

(7) Main office address.

(8) Remarks.

(e) Failure to complete the record of duty activities, failure to preserve a record of such duty activities, or making of false reports in connection with such duty activities as prescribed herein shall make the driver and/or the carrier liable to prosecution.

(f) The driver's activities shall be recorded in accordance with the following provisions:

(1) *Entries to be current.* Drivers shall keep their record of duty status current to the time shown for the last change of duty status.

(2) *Entries made by driver only.* All entries relating to driver's duty status must be legible and in the driver's own handwriting.

(3) *Date.* The month, day and year for the beginning of each 24-hour period shall be shown on the form containing the driver's duty status record.

(4) *Total mileage driven.* Total mileage driven during the 24-hour period shall be recorded on the form containing the driver's duty status record.

(5) *Vehicle identification.* The carrier's vehicle number or State and license number of each truck or tractor unit operated during that 24-hour period shall be shown on the form containing the driver's duty status record.

(6) *Name of carrier.* The name(s) of the motor carrier(s) for which work is performed shall be shown on the form containing the driver's duty status record. When work is performed for more than one motor carrier during the same 24-hour period, the beginning and finishing time, showing a.m.

or p.m., worked for each carrier shall be shown after each carrier name. Drivers of leased vehicles shall show the name of the motor carrier performing the transportation.

(7) *Signature/certification.* The driver shall certify to the correctness of all entries by signing the form containing the driver's duty status record with his/her legal name or name of record. The driver's signature certifies that all entries required by this section made by the driver are true and correct.

(8) *Time base to be used.* (i) The driver's duty status record shall be prepared, maintained, and submitted using the time standard in effect at the driver's home terminal, for a 24-hour period beginning with the time specified by the motor carrier for that driver's home terminal.

(ii) The term "7 or 8 consecutive days" means the 7 or 8 consecutive 24-hour periods as designated by the carrier for the driver's home terminal.

(iii) The 24-hour period starting time must be identified on the driver's duty status record. One-hour increments must appear on the graph, be identified, and preprinted. The words "Midnight" and "Noon" must appear above or beside the appropriate one-hour increment.

(9) *Main office address.* The motor carrier's main office address shall be shown on the form containing the driver's duty status record.

(10) *Recording days off duty.* Two or more consecutive 24-hour periods off duty may be recorded on one duty status record.

(g) *Graph grid.* The following graph grid must be incorporated into a motor carrier recordkeeping system which must also contain the information required in paragraph (d) of this section.



(h) *Graph grid preparation.* The graph grid may be used horizontally or vertically and shall be completed as follows:

(1) *Off duty.* Except for time spent resting in a sleeper berth, a continuous line shall be drawn between the appropriate time markers to record the period(s) of time when the driver is not on duty, is not required to be in readiness to work, or is not under any responsibility for performing work.

(2) *Sleeper berth.* A continuous line shall be drawn between the appropriate time markers to record the period(s) of time off duty resting in a sleeper berth, as defined in § 395.2(g). (If a non-sleeper berth operation, sleeper berth need not be shown on the grid.)

(3) *Driving.* A continuous line shall be drawn between the appropriate time markers to record the period(s) of time on duty driving a motor vehicle, as defined in § 395.2(b).

(4) *On duty not driving.* A continuous line shall be drawn between the appropriate time markers to record the period(s) of time on duty not driving specified in § 395.2(a).

(5) *Location—remarks.* The name of the city, town, or village, with State abbreviation where each change of duty status occurs shall be recorded.

**NOTE:** If a change of duty status occurs at a location other than a city, town, or village, show one of the following: (1) The highway number and nearest milepost followed by the name of the nearest city, town, or village and State abbreviation, (2) the highway number and the name of the service plaza followed by the name of the nearest city, town, or village and State abbreviation, or (3) the highway numbers of the nearest two intersecting roadways followed by the name of the nearest city, town, or village and State abbreviation.

(1) *Filing driver's record of duty status.* The driver shall submit or forward by mail the original driver's record of duty status to the regular employing motor carrier within 13 days following the completion of the form.

(j) *Drivers used by more than one motor carrier.* (1) When the services of a driver are used by more than one motor carrier during any 24-hour period in effect at the driver's home

terminal, the driver shall submit a copy of the record of duty status to each motor carrier. The record shall include:

(i) All duty time for the entire 24-hour period;

(ii) The name of each motor carrier served by the driver during that period; and

(iii) The beginning and finishing time, including a.m. or p.m., worked for each carrier.

(2) Motor carriers, when using a driver for the first time or intermittently, shall obtain from the driver a signed statement giving the total time on duty during the immediately preceding 7 days and the time at which the driver was last relieved from duty prior to beginning work for the motor carriers.

(k) *Retention of driver's record of duty status.* (1) Driver's records of duty status for each calendar month may be retained at the driver's home terminal until the 20th day of the succeeding calendar month. Such records shall then be forwarded to the carrier's principal place of business where they shall be retained with all supporting documents for a period of 6 months from date of receipt.

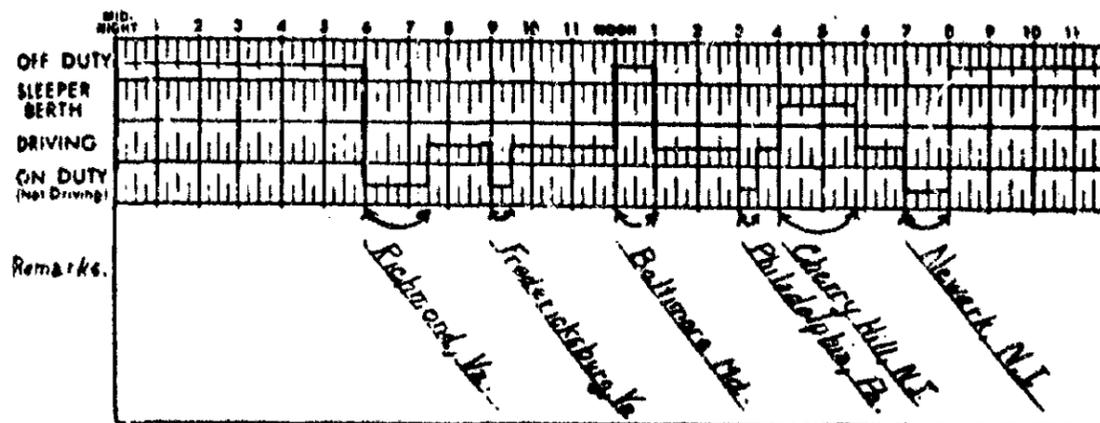
(2) *Exception.* Upon written request to, and with the approval of, the Associate Regional Administrator for Motor Carrier Safety for the region in which the motor carrier has its principal place of business, a motor carrier may forward and maintain such records at a regional or terminal office. The addresses and jurisdictions of the Associate Regional Administrator's offices are shown in § 390.40 of this subchapter.

(3) The driver shall retain a copy of each record of duty status for the previous 7 consecutive days which shall be in his/her possession and available for inspection while on duty.

**NOTE:** Driver's Record of Duty Status.

The graph grid, when incorporated as part of any form used by a motor carrier, must be of sufficient size to be legible.

The following executed specimen grid illustrates how a driver's duty status should be recorded for a trip from Richmond, Virginia, to Newark, New Jersey. The grid reflects the midnight to midnight 24 hour period.



Graph Grid (Midnight to Midnight Operation)

The driver in this instance reported for duty at the motor carrier's terminal. The driver reported for work at 6 a.m., helped load, checked with dispatch, made a pretrip inspection, and performed other duties until 7:30 a.m. when the driver began driving. At 9 a.m. the driver had a minor accident in Fredericksburg, Virginia, and spent one half hour handling details with the local police. The driver arrived at the company's Baltimore, Maryland, terminal at noon and went to lunch while minor repairs were made to the tractor. At 1 p.m. the driver resumed the trip and made a delivery in Philadelphia, Pennsylvania, between 3 p.m. and 3:30 p.m. at which time the driver started driving again. Upon arrival at Cherry Hill, New Jersey, at 4 p.m., the driver entered the sleeper berth for a rest break until 5:45 p.m. at which time the driver resumed driving again. At 7 p.m. the driver arrived at the company's terminal in Newark, New Jersey. Between 7 p.m. and 8 p.m. the driver prepared the required paperwork including completing the driver's record of duty status, vehicle condition report, insurance report for the Fredericksburg, Virginia accident, checked for the next day's dispatch, etc. At 8 p.m., the driver went off duty.

(1) Exemptions--(1) 100 air-mile radius driver. A driver is exempt from the requirements of this section if:

(i) The driver operates within a 100 air-mile radius of the normal work reporting location;

(ii) The driver, except a driver salesperson, returns to the work reporting location and is released from work within 15 consecutive hours;

(iii) The driver had 8 consecutive hours off duty prior to reporting for duty;

(iv) The driver does not exceed 10 hours maximum driving time following 8 consecutive hours off duty;

(v) The motor carrier that employs the driver maintains and retains for a period of 6 months accurate and true time records showing:

(A) The time the driver reports for duty each day;

(B) The total number of hours the driver is on duty each day;

(C) The time the driver is released from duty each day; and

(D) The total time for the preceding 7 days in accordance with paragraph (j)(2) of this section for drivers used for the first time or intermittently.

(2) Drivers of lightweight vehicles. The rules in this section do not apply to a driver of a lightweight vehicle as defined in § 390.17.

(3) Drivers operating in Hawaii. The rules in this section do not apply to a driver who drives a motor vehicle in the State of Hawaii, if the motor carrier who employs the driver maintains and retains for a period of 6 months accurate and true records showing--

(i) The total number of hours the driver is on duty each day; and

(ii) The time at which the driver reports for, and is released from, duty each day.

(Approved by the Office of Management and Budget under control number 2125-0016)

(49 U.S.C. 304, 1653; 49 CFR 1.46 and 301.60; 49 U.S.C. 3102; 49 CFR 1.48(b))  
[47 FR 53389, Nov. 26, 1982, as amended at 49 FR 38290, Sept. 28, 1984]