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Motorcoach and Delcar Trucking
Truck Tractor-Semitrailer
Loraine, Texas
June 9, 2002**



Highway Accident Report
NTSB/HAR-03/01

PB2003-916201
Notation 7532



**National
Transportation
Safety Board**
Washington, D.C.

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Adopted February 26, 2003**



**National Transportation Safety Board
490 L'Enfant Plaza, S.W.
Washington, D.C. 20594**

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Abstract: On Sunday, June 9, 2002, about 5:10 a.m. central daylight time, near Loraine, Texas, a 1993 Motor Coach Industries MC-12 motorcoach, operated by Greyhound Lines, Inc., and occupied by the driver and 37 passengers, was traveling east on Interstate 20, on a scheduled route from El Paso, Texas, to Abilene, Texas, at a driver-reported speed of 65 to 67 mph. A truck tractor-semi-trailer, consisting of a tractor and a semi-trailer leased by DelCar Trucking, which was being operated by a driver in training with a codriver in the sleeper berth, was entering the interstate from a picnic area at a driver-estimated speed of 40 mph and proceeding into the eastbound lanes. The motorcoach collided with the rear of the semi-trailer near milepost 228 of Interstate 20, pushing the tractor-semi-trailer approximately 276 feet. Three passengers on the Greyhound bus, all seated in the front of the bus, were fatally injured. Five passengers and the busdriver were seriously injured. Twenty-four passengers sustained minor injuries, and five passengers were uninjured. The truckdriver sustained a minor injury, and the codriver was uninjured.

As a result of this accident investigation, which focuses upon the safety of and management oversight for new entrant motor carriers, the National Transportation Safety Board makes two recommendations to the Federal Motor Carrier Safety Administration.

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Acronyms and Abbreviations

AASHTO	American Association of State Highway and Transportation Officials
CDL	commercial driver's license
CFR	<i>Code of Federal Regulations</i>
DelCar	DelCar Trucking
DOT	U.S. Department of Transportation
DPS	Department of Public Safety (Texas)
EMS	emergency medical service
FMCSA	Federal Motor Carrier Safety Administration
FMCSRs	<i>Federal Motor Carrier Safety Regulations</i>
Greyhound	Greyhound Lines, Inc.
I-20	Interstate 20
MCI	Motor Coach Industries
MTMC	Military Traffic Management Command
NHTSA	National Highway Traffic Safety Administration
SafeStat	Safety Status Measurement System
the act	Motor Carrier Improvement Act of 1999
TRC	Texas Transportation Code
TXDOT	Texas Department of Transportation
Volpe Center	Volpe National Transportation Systems Center

Executive Summary

On Sunday, June 9, 2002, about 5:10 a.m. central daylight time, near Loraine, Texas, a 1993 Motor Coach Industries MC-12 motorcoach, operated by Greyhound Lines, Inc., (Greyhound) and occupied by the driver and 37 passengers, was traveling east on Interstate 20 (I-20), on a scheduled route from El Paso, Texas, to Abilene, Texas, at a driver-reported speed of 65 to 67 mph. A truck tractor-semitrailer, consisting of a tractor and a semitrailer leased by DelCar Trucking (DelCar), which was being operated by a driver in training with a codriver in the sleeper berth, was entering the interstate from a picnic area at a driver-estimated speed of 40 mph and proceeding into the eastbound lanes. The motorcoach collided with the rear of the semitrailer near milepost 228 of Interstate 20, pushing the tractor-semitrailer approximately 276 feet. Three passengers on the Greyhound bus, all seated in the front of the bus, were fatally injured. Five passengers and the busdriver were seriously injured. Twenty-four passengers sustained minor injuries, and five passengers were uninjured. The truckdriver sustained a minor injury, and the codriver was uninjured.

The National Transportation Safety Board determines that the probable cause of this accident was the unnecessarily slow acceleration of the unlighted semitrailer onto a high-speed interstate by an inexperienced and unsupervised driver who was impaired by cocaine. Contributing to the accident was DelCar Trucking's failure to exercise adequate operational oversight and the Federal Motor Carrier Safety Administration's failure to ensure the safety of and provide management oversight for new entrant motor carriers.

As a result of this accident investigation, which focuses upon the safety of and management oversight for new entrant motor carriers, the Safety Board makes two recommendations to the Federal Motor Carrier Safety Administration.

Factual

Accident Narrative

On Sunday, June 9, 2002, about 5:10 a.m. central daylight time, near Loraine, Texas, a 1993 Motor Coach Industries (MCI) MC-12 motorcoach, operated by Greyhound Lines, Inc., (Greyhound) and occupied by the driver and 37 passengers, was traveling east on Interstate 20 (I-20), on a scheduled route from El Paso, Texas, to Abilene, Texas, (see figure 1) at a driver-reported speed of 65 to 67 mph.¹ A truck tractor-semitrailer, consisting of a tractor and a semitrailer leased by DelCar Trucking (DelCar), which was being operated by a driver in training with a codriver in the sleeper berth, was entering the interstate from a picnic area at a driver-estimated speed of 40 mph and proceeding into the

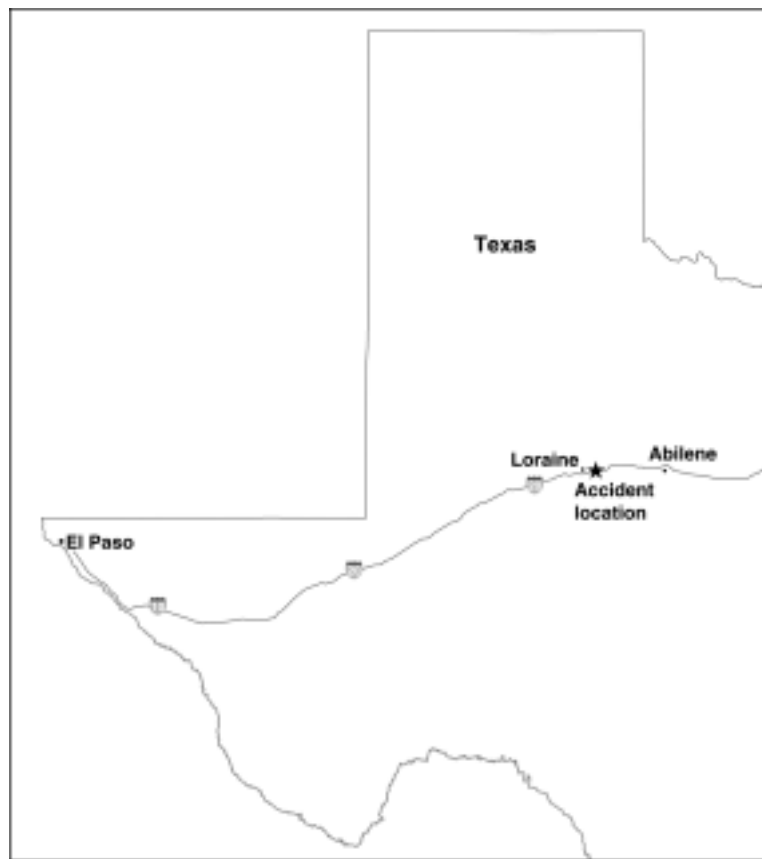


Figure 1. Map of route.

¹ The posted nighttime speed limit was 65 mph.

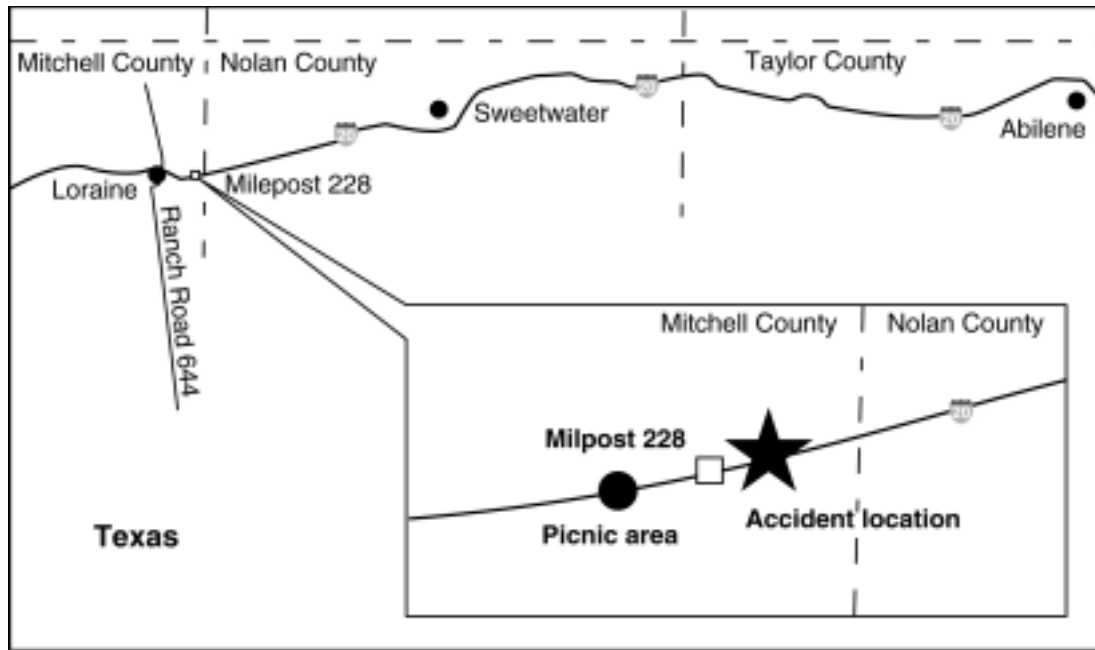


Figure 2. Accident location.

eastbound lanes (see figure 2). The motorcoach collided with the rear of the semitrailer near milepost 228 of I-20, pushing the tractor-semitrailer approximately 276 feet.

Three passengers on the Greyhound bus, all seated in the front of the bus, were fatally injured. Five other passengers and the busdriver were seriously injured. Twenty-four passengers sustained minor injuries, and five passengers were uninjured. The truckdriver sustained a minor injury, and the codriver was uninjured.

Motorcoach

The bus departed El Paso at 8:30 p.m., mountain daylight time, on June 8, 2002, en route to Abilene with a scheduled arrival time of 6:00 a.m. The location and time of the accident indicated that the bus was on schedule when the accident occurred. The driver estimated that he was traveling about 65 to 67 mph and said that he had the low-beam headlights illuminated.

One bus passenger stated he observed the bus collide with the rear of the truck, and it appeared that the truck was stopped in the right lane of the highway. He stated that he “didn’t notice any lights” on the truck. Another passenger who also observed the collision thought the truck was stopped or parked in the right lane of the highway. A third bus passenger stated that after the accident, the busdriver told him the truckdriver “didn’t have his back lights on” and said he “couldn’t see the semi before it was too late.”

Truck

The truckdriver stated he departed El Paso on June 8, 2002, about 9:30 p.m. en route to Michigan. In a written statement that the truckdriver sent to his employer approximately 2 weeks after the accident,² the truckdriver noted that he had stopped in the picnic area to go to the bathroom and check the lights on the semitrailer. He stated that “everything was okay.” He reported that he was entering the highway at about 40 mph.

A Texas Department of Public Safety (DPS) investigating officer on scene reported that when he arrived, the tractor’s headlights were illuminated, but none of the lights on the rear of the semitrailer were illuminated.

A truckdriver parked in the same picnic area told police that while monitoring his citizen’s band radio, he overheard a report by another trucker that a tractor-semi-trailer was stopped in the roadway near the picnic area. When interviewed by National Transportation Safety Board investigators, he stated that he also overheard that the tractor-semi-trailer was operating with no lights. From his location in the picnic area, he said he was unable to observe whether the truck had its lights on.

Another truckdriver drove past the accident site and, in an interview with Safety Board investigators, stated that when he returned to help at the scene, he noticed that the headlights of the tractor were on. He also reported that when he found the busdriver trapped in the wreckage, the busdriver repeatedly stated that the “truck had no lights on” at the time of collision.

Accident Damage

After the collision, the vehicles traveled together for about 276 feet. The front of the motorcoach underrode the rear of the semitrailer and the motorcoach sustained damage extending about 100 to 125 inches rearward (see figure 3), while the tractor-semi-trailer sustained crush damage to the semitrailer (see figure 4). The tractor was not damaged.

² After being released by the Texas Department of Public Safety, the truckdriver returned to Mexico and has refused interviews with National Transportation Safety Board investigators.



Figure 3. Postaccident left side of motorcoach and semitrailer.



Figure 4. Postaccident right side of motorcoach and semitrailer.

Injuries

Table 1. Injury codes.³

Injuries	Truckdriver	Truck passenger	Busdriver	Bus passengers	Total
Fatal	0	0	0	3	3
Serious	0	0	1	5	6
Minor	1	0	0	24	25
None	0	1	0	5	6
Total	1	1	1	37	40

Medical and Pathological Information

Three motorcoach passengers sustained fatal injuries. The fatally injured passengers in row 1 (see figure 5) sustained severe impact injuries to the head, upper torso, and arms, as well as internal injuries. The passenger in row 2 by the left window sustained a fracture of the left temporal head area and fractures of the left scapula, arm, pelvis, and leg.

Five motorcoach passengers and the busdriver sustained serious injuries. The passenger in row 1, right window seat, sustained a diffused fracture of the left hip and lacerations and contusions (bruises) to the left leg, ankle, femur, forearm, and wrist. The passenger seated in row 2, right aisle seat, sustained a fractured right femur, a contusion to the right upper chest, and multiple contusions and abrasions to the head and upper torso. The passenger in row 3, left aisle seat, incurred multiple facial and head contusions and abrasions, a fractured left shoulder, and lacerations of the left leg. The passenger in row 3, left window seat, sustained several lacerations to the face, closed head injuries, neck injuries, a fractured vertebra, and a dislocated left hip. The passenger in row 10, left aisle seat, sustained a fractured left mid tibia, fractured left hand, left forearm fracture, and contusions of the left arm. The busdriver sustained traumatic injuries to both legs, the abdomen, and internal organs; his right leg was amputated during extrication from the wreckage.

³ Title 49 *Code of Federal Regulations* (CFR) 830.2 defines a fatal injury as any injury that results in death within 30 days of the accident. It defines a serious injury as: an injury that requires hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received; results in a fracture of any bone (except simple fractures of the fingers, toes, or nose); causes severe hemorrhages, nerve, muscle, or tendon damage; involves any internal organ; or involves second or third degree burns, or any burns affecting more than 5 percent of the body surface.

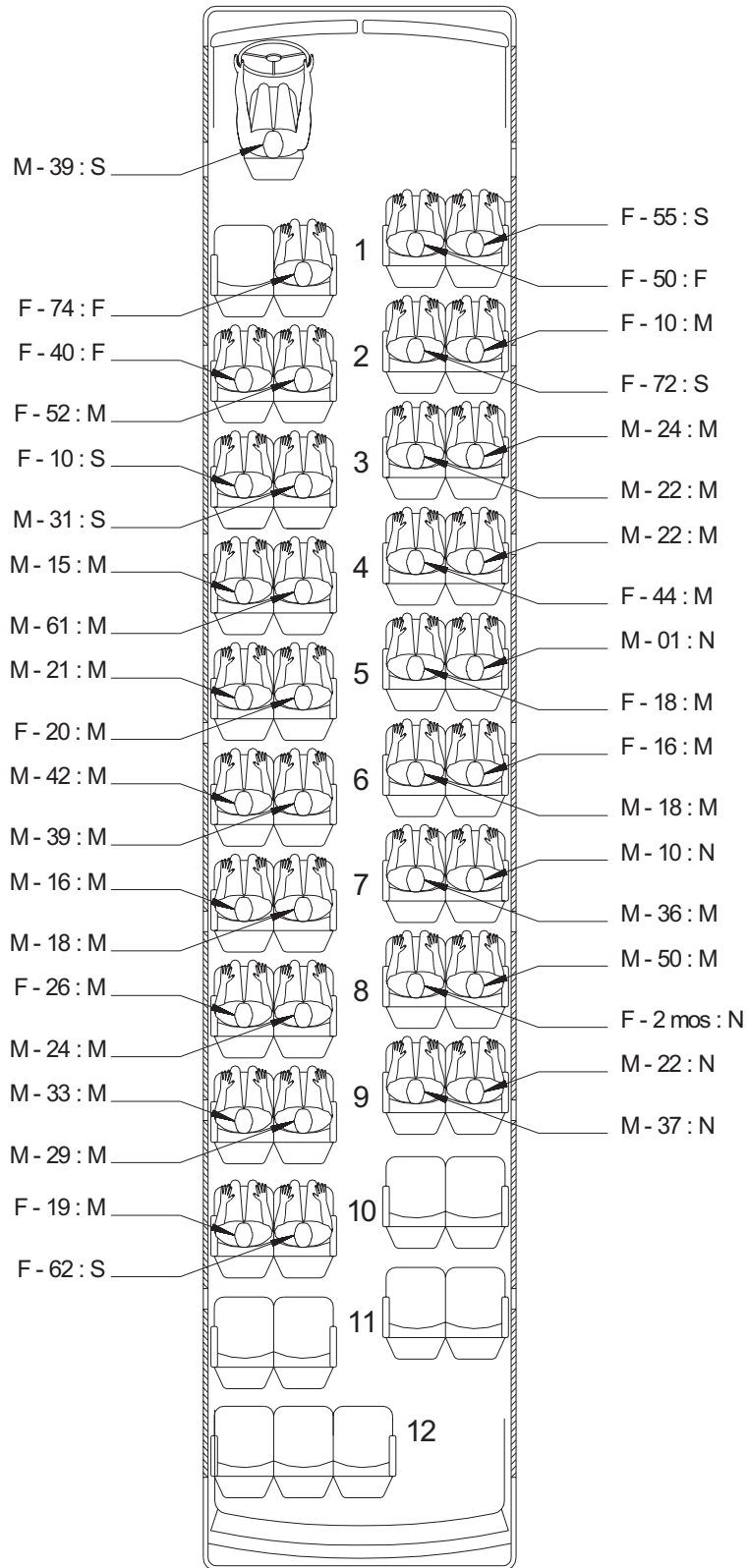


Figure 5. Motorcoach seating chart. (Probable seating locations based on passenger interviews.) *Definition of passenger labels: Gender – Age : Injury Severity.*

Survival Aspects

The front of the bus struck the rear of the semitrailer; intrusion damage was found about 100 inches rearward on the left (driver) side of the bus and about 125 inches rearward on the right (passenger) side. The occupant compartment from the windshield rearward to row 1 was destroyed. The instrument panel, left sidewall, and steering column were collapsed to the rear and to the left. The busdriver was trapped in the wreckage following the collision. The fatally injured passengers in row 1 were seated in the area of impact. The seriously injured passengers in rows 2 and 3 collided with collapsed portions of the front of the bus. The seriously injured passenger in row 10 was thrown into the aisle during the collision. Only the busdriver's seating position was equipped with a lap/shoulder belt; the remaining seats had no restraints.

After the impact, several passengers exited the bus via the side emergency window exits; impact damage prevented use of the front boarding door of the bus. Seven occupants, including the busdriver, were unable to exit the bus because of injuries and had to be extricated by emergency personnel.

Emergency Response

A citizen called 911 about 5:11 a.m. and reported that the accident was at milepost 242, which is in Nolan County, Texas. The call was initially routed to the Abilene Emergency Communications Center, but was immediately rerouted to the Sweetwater, Texas, dispatch because of the location reported by the caller. At 5:12 a.m., the Sweetwater Fire Department was dispatched. At 5:15 a.m., based on other calls received providing the accident's true location, the Nolan County dispatch contacted the Mitchell County Sheriff's Office. The first person to arrive on scene, at 5:18 a.m., was a Nolan County Deputy Sheriff, who notified dispatch that the accident scene was at milepost 228, in Mitchell County, Texas. At 5:20 a.m., one City of Loraine and three Mitchell County emergency medical service (EMS) units were dispatched.

The Loraine Fire Department and EMS units established traffic control, shutting down the eastbound lanes of I-20 until 3:00 p.m. The Sweetwater Fire Chief was the incident commander for the extrication process, and the Mitchell County EMS Supervisor was responsible for triage and transportation of the injured. Area fire and EMS agencies provided a total of 12 firefighters and emergency medical technicians, as well as the battalion chief.

Driver Information

Truckdriver

The 36-year-old truckdriver possessed a Texas Class A commercial driver's license (CDL) learner's permit, issued on May 26, 2000, with an expiration date of January 28, 2005. Federal regulations at 49 CFR 383.23 required that the truckdriver be supervised by a licensed CDL holder when operating commercial vehicles and that the licensed CDL holder be positioned in the front seat of the vehicle. Another employee of the motor carrier was assigned as a codriver/supervisor but stated that he was in the truck's sleeper berth at the time of the accident. Federal regulations at 49 CFR 391.41(a) require that drivers possess a valid medical certificate prior to operating a commercial vehicle; the truckdriver was not medically certified at the time of the accident nor did records indicate that he had ever been certified. Texas DPS cited the driver for not having a licensed CDL holder supervising him from the front passenger seat and for not having a medical certificate in his possession.

The motor carrier reported that the truckdriver had been working for the company about 2 weeks and had worked for another motor carrier prior to his employment at DelCar (the owner of DelCar had no records indicating how long the driver had been driving or working for another motor carrier). The truckdriver was on his second trip and in his 4th day of supervised driving for the motor carrier at the time of the accident. (For the truckdriver's logbook entries, see table 2.) The truckdriver's logbook was not completed for June 8 or June 9.

Table 2. Truckdriver logbook entries.

Date	Times	Logbook entry	Hours
June 6, 2002	0000 – 0600	Driving	6.0
—	0600 – 1715	Off duty/sleeper berth	11.25
June 6-7, 2002	1715 – 0315	Driving	10.0
June 7, 2002	0315 – 1900	Off duty/sleeper berth	15.75
—	1900 - ????	Driving	—

After the accident, the truckdriver was released by Texas DPS to return to El Paso. According to the owner of DelCar, the truckdriver traveled to Juarez, Mexico, where he had relatives,⁴ and refused Safety Board requests to return to El Paso. Safety Board investigators were unable to contact the truckdriver.

⁴ Though born in Mexico, the driver was a U.S. citizen.

A postcrash urine specimen was collected from the truckdriver about 10:00 a.m. on the day of the accident and analyzed by laboratory staff at the Mitchell County Hospital in Colorado City, Texas. The specimen tested positive for benzoylecgonine, a cocaine metabolite, at a level of 2,890 nanograms/milliliter. A blood specimen, collected at 8:35 a.m., was analyzed by the Texas DPS toxicology laboratory and found to contain 0.37 milligrams of benzoylecgonine per liter.

Busdriver

The 39-year-old busdriver possessed a Texas Class A CDL with a passenger endorsement and corrective lens restriction having an expiration date of August 28, 2008. He also possessed a valid medical examiner's certificate issued May 4, 2001, with an expiration date of May 4, 2003. The busdriver reported that he was wearing glasses at the time of the accident.

The busdriver had been employed with Greyhound since June 13, 1998. The busdriver was a full-time extra-board driver⁵ with Greyhound. His home terminal was Abilene, and in the 4 months prior to the accident, he had driven roundtrips between Abilene and Dallas and Abilene and El Paso.

According to the busdriver's logbooks, he had begun driving at 8:30 p.m., the night before the accident. Table 3 lists the driver's logbook entries for the 3 days prior to the accident. No records were completed for the day of the accident.

The driver stated he was not using any prescriptions or over-the-counter medications, drugs, or alcohol prior to the accident. Specimens of blood and urine for the busdriver were collected at Hendricks Medical Center in Abilene following the accident. Both specimens were negative for alcohol and other drugs. The driver had received a preemployment drug test on March 11, 1998, and a random drug test on April 28, 1999, both with negative results.

⁵ Extra-board drivers are on-call drivers used as needed to provide extra capacity or substitute for regular drivers. They are not scheduled on the same route or at the same time every day of the work cycle.

Table 3. Busdriver logbook entries.

Date	Times	Logbook entry	Hours
June 6, 2002	0000 – 0600	Driving	6.00
—	0600 – 0615	On duty	0.25
—	0615 – 1930	Off duty	13.25
—	1930 – 2000	On duty	0.50
—	2000 – 2230	Driving	2.50
—	2230 – 2245	On duty	0.25
June 6 – 7, 2002	2245 – 0015	Off duty	1.50
June 7, 2002	0015 – 0030	On duty	0.25
—	0030 – 0300	Driving	2.50
—	0300 – 0315	On duty	0.25
June 7 – 8, 2002	0315 – 0115	Off duty	22.00
June 8, 2002	0115 – 0200	On duty	0.75
—	0200 – 0730	Driving	5.50
—	0730 – 0745	On duty	0.25
—	0745 – 0945	Driving	2.00
—	0945 – 1000	On duty	0.25
—	1000 – 2030	Off duty	10.50

Vehicle and Wreckage Information

Truck

The 2000 Peterbilt tractor was towing a 1991 Stoughton 53-foot van semitrailer. The total weight of the tractor-semitrailer and load⁶ was 40,710 pounds; the gross vehicle weight rating of the semitrailer was 68,080 pounds. The tractor, inspected by the Texas DPS on June 9, 2002, and released prior to the arrival of Safety Board investigators, was

⁶ The load, consisting of automotive seat cushions, weighed about 6,000 pounds.

found to have no mechanical defects. The Texas DPS commercial vehicle inspector stated that a 15-amp fuse found in a 30-amp receptacle for the clearance and identification lights⁷ was burned out.

Texas DPS and Safety Board investigators inspected the semitrailer; no mechanical defects, other than the poorly maintained lighting system wiring and the burned-out fuse, were found. During a postaccident interview with the Texas DPS, the truckdriver stated that when the turn signal was used, the semitrailer's lights sometimes shorted out.⁸ An examination of the wires supplying current to the clearance and identification lights showed that they were melted due to an electrical short. According to Texas DPS and Safety Board investigators, the general appearance of the wiring in the back of the semitrailer was poor; several splices covered with black electrical tape connected the wires. The wiring harness for the taillights on the right rear of the truck had an exposed wire where the insulation was cracked. The taillights and the license plate lights were on the same circuit. Testing of the lighting system could not be performed due to accident damage, but several of the lamps (bulbs) were analyzed by the Safety Board's material's lab (see *Tests and Research*).

The semitrailer had not been retrofitted with retroreflective sheeting as required by Federal regulations.⁹

DelCar leased both the tractor and semitrailer but did not maintain maintenance records for either, even though the carrier was responsible for doing so.

Motorcoach

Safety Board investigators inspected the 1993 MCI MC-12 motorcoach after the accident. The defects noted were a leaking wheel oil seal on the second axle on the left and an excessive engine oil leak. Greyhound's maintenance records did not reveal any recurring maintenance problems, and the busdriver stated the bus had no defects.

The busdriver stated he had the low-beam headlights on, as was his normal practice. The headlights could not be tested because of accident damage. According to the Texas Transportation Code (TRC) 547.333, low-beam lights must reveal a person or vehicle at a distance of at least 150 feet.

⁷ Clearance lights are located along the sides of the trailer to allow the driver to see the edges of the trailer during maneuvers.

⁸ The driver did not specify which lights he was referring to.

⁹ Title 49 CFR 393.13 requires that all trailers manufactured before December 1, 1993, be retrofitted with retroreflective sheeting or reflex reflectors by June 1, 2001.

Highway Information

Highway Design

The accident occurred on eastbound I-20 approximately 1,200 feet east of milepost 228 in Mitchell County. I-20 is classified as a principal arterial and is a divided, two-way, four-lane, paved asphalt, controlled access highway. The posted speed limit was 70 mph during the day and 65 mph at night. A picnic area was along the south side of the interstate; the gore area¹⁰ for the entrance ramp from the picnic area was about 935 feet west of the accident site (see figure 6).

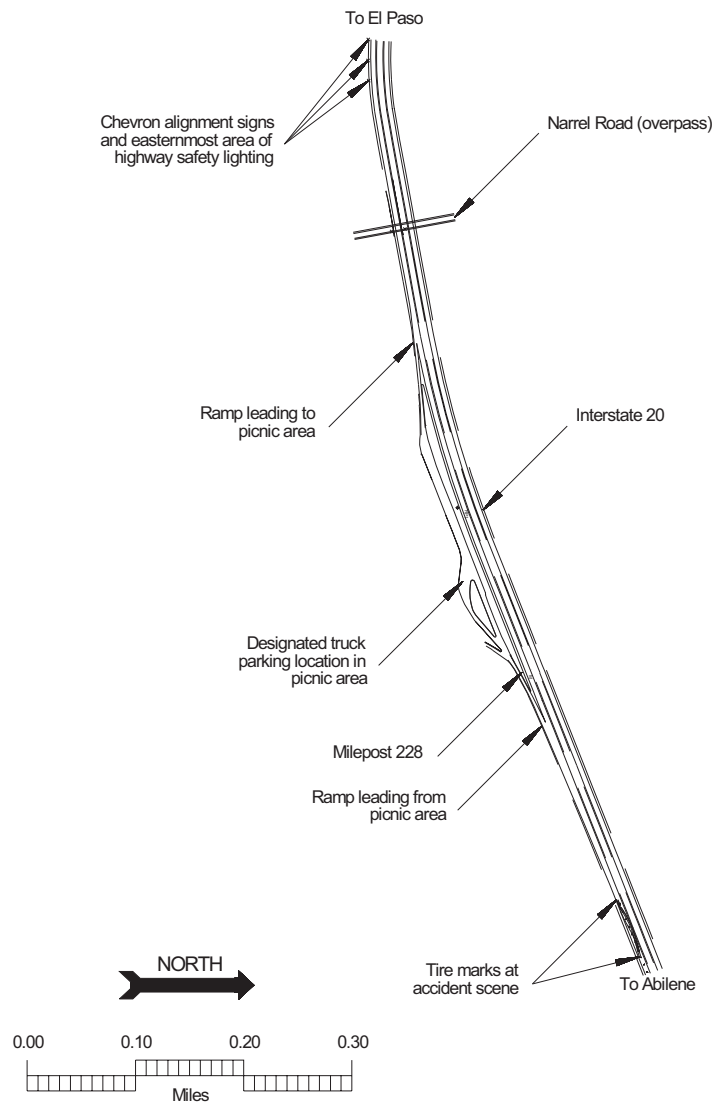


Figure 6. Interstate 20 diagram.

¹⁰ Triangular piece of land between the interstate and the ramp as the ramp transitions away from the interstate.

Each eastbound lane measured approximately 12 feet across and was divided by painted stripes approximately 10 feet long and spaced every 30 feet. The left paved shoulder was about 4 feet wide and delineated by a 4-inch-wide retroreflective yellow painted edge line; the right paved shoulder was about 10 feet wide and delineated by a 4-inch-wide retroreflective white painted edge line. Rolled rumble strips¹¹ measuring 26 inches long were on the shoulder, approximately 4 inches from the right lane edge line. The westbound lanes were similarly configured and separated from the eastbound lanes by a 39-foot depressed earthen median.

Records provided by the Texas Department of Transportation (TXDOT) revealed that in a 5-mile section of I-20 centered on milepost 228, one accident had occurred in the previous 5 years: a single-vehicle run-off-the-road accident with possible injury. According to TXDOT, the annual average daily traffic count for 1996 to 2000 ranged from 9,200 to 12,100 cars (see table 4), with trucks accounting for 35.7 percent of the total traffic in 2000.

Table 4. Annual average daily traffic count.

Year	Vehicles per day
1996	9,200
1997	9,800
1998	11,200
1999	12,100
2000	11,700

Picnic Area Acceleration Ramp

The picnic area had a 975-foot acceleration ramp from the truck parking area to the interstate (see figure 7). The acceleration ramp from the picnic area was defined by the design plans as a single-lane, free-flow entrance terminal with a taper-type design. The interstate had a 4-percent upgrade beginning 375 feet east of the gore created by the picnic area's acceleration ramp. No visual obstructions existed between the acceleration ramp and the interstate.

According to current American Association of State Highway and Transportation Officials (AASHTO) guidelines, an acceleration ramp should be long enough for a driver to make the transition from the speed on the entering roadway to the operational speed of the highway. The design of the ramp should be such that motorists can attain a speed

¹¹ Rolled rumble strips are installed into shoulders to assist in preventing drift-off accidents and are formed by a roller that leaves grooves during the compaction of asphalt during the pavement resurfacing process.



Figure 7. Picnic area acceleration ramp (looking west from accident site).

approximately equal to the average running speed of the highway, less 6.21 mph, by the time the left edge of the ramp joins the traveled portion of the highway.

Under current AASHTO guidelines, a vehicle leaving the picnic area from a parked position and entering onto a highway with a design speed of 70 mph requires an acceleration ramp of 1,410 feet at a maximum grade of 2 percent. When the picnic area was built in 1965, no guidance existed for the lengths of acceleration ramps. According to TXDOT, a roadway's design features are brought up to the current standards when a major rehabilitation project takes place. According to a TXDOT engineer, the agency plans to investigate the feasibility of revising the rehabilitation contract¹² to include changes to the eastbound picnic area acceleration ramp in spring 2003.

Lighting

In the immediate area of the accident site, the highway did not have overhead safety lighting. The picnic area west of the accident site did not incorporate lighting along the ramps or within the picnic area. Approximately 1,500 feet west of the picnic area, a series of eight dual-mast-arm light poles were in the center median, and two single-mast light poles were along the right-side right of way in each direction. These 12 lights were used to illuminate the interchange between I-20 and Ranch Road 644, as well as the 3-degree left curve preceding the picnic area. The easternmost lights can be seen in figure 6.

¹² Currently underway in the westbound lanes of I-20 near the accident site.

Title 43, Texas Administrative Code, section 25.11, defines roadway lighting systems, as well as the rules specifying highways eligible for State funds, for each type of lighting. According to the code, TXDOT can only install and/or maintain lighting systems on eligible roadways where conditions warrant such installations. According to the TXDOT Operations Division Highway Illumination Manual, under rural conditions, safety lighting may be warranted for a partial interchange/intersection with a current average daily traffic count exceeding 10,000 on the through traffic lanes.

Picnic Area

A guidance sign on I-20 identified the rest area as a picnic area. The facility, constructed in 1965, incorporated covered shelters with picnic tables and several trash containers. The traffic lanes within the picnic area consisted of (1) a ramp from the interstate to the picnic area; (2) a main through lane running parallel to the interstate; (3) a paved area designed for pull-through truck parking with a lane back to the main through lane; (4) a ramp allowing access for traffic from the south side frontage road; and (5) an acceleration ramp from the picnic area back to the interstate.

According to AASHTO,¹³ rest areas operating complete facilities, including a comfort station and a picnic area, should “generate a feeling of safety and security by ensuring the facility is adequately lighted for nighttime use.” The warrants for lighting developed by AASHTO only apply to complete facilities; the picnic area near the accident location was not a complete facility.

Physical Evidence

The motorcoach’s tandem wheel tire marks began in the right traffic lane about 1,202 feet east of milepost 228, continued in the right lane for about 48 feet, then transitioned into the left traffic lane in a right-hand arc for about 187 feet before crossing back into the right traffic lane and continuing an additional 64 feet to where the Texas DPS marked the final resting point of the motorcoach’s drive (rear) axle (see figure 8). A single tire mark was observed in the right traffic lane and followed the same general path as the tandem tire marks with an overall length of 242 feet. The single tire mark terminated in the right traffic lane, where the Texas DPS marked the final rest of the right side steer (front) axle of the motorcoach. Another single tire mark was observed in the left traffic lane running in a southeast direction with an overall length of 56 feet and terminating in the right traffic lane, where the Texas DPS marked the final rest of the motorcoach’s left-side steering axle.

¹³ American Association of State Highway and Transportation Officials, *An Informational Guide for Roadway Lighting* (Washington, DC: AASHTO, 1984).

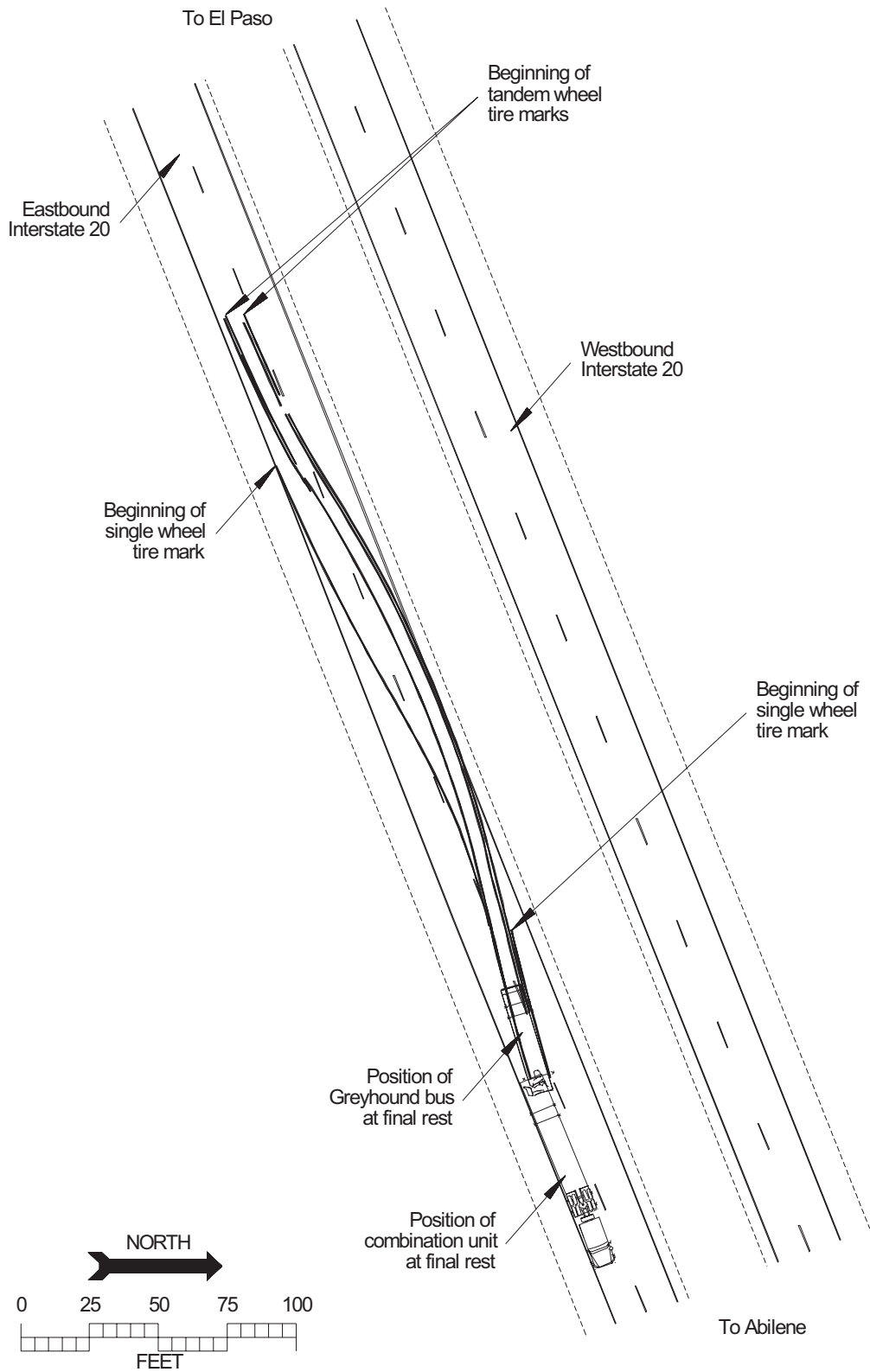


Figure 8. Postaccident diagram.

Operational Information

DelCar Trucking

DelCar was an authorized for-hire motor carrier of general freight, household goods, metal sheets, coils, and rolls based in El Paso. The motor carrier's facility was a mobile trailer on a gravel lot. There was no maintenance garage or storage facility on the property, although the owner reported light maintenance work was conducted on the lot. Investigators found no maintenance contract.

DelCar had been a registered motor carrier since August 17, 2000. The owner and his brother, who helped manage the company, had both been truckdrivers previously. The owner started driving trucks in 1984 and became an owner/operator in 1991. He had no previous experience running a motor carrier operation, nor did his brother; their only experience was driving commercial vehicles. A Texas DPS review of the owner's criminal record revealed that he was found guilty of possession of marijuana over 50 pounds but less than 2,000 pounds in March 1999. He received 10 years' probation. A review of the owner's driving record revealed two accidents (in 1999 and 2000), two speeding convictions (in 1998 and 2000), and three speeding-in-a-commercial vehicle convictions (two in 1995 and one in 1999 for driving 15 mph over the speed limit).

During interviews, the owner displayed some knowledge of driving rules, but little knowledge of motor carrier operator regulations, despite submitting Federal Motor Carrier Safety Administration (FMCSA) forms MCS-150 and OP-1¹⁴ certifying that he was familiar with the *Federal Motor Carrier Safety Regulations* (FMCSRs). In addition, the owner was required to maintain a current version (2002) of the FMCSRs, but investigators found only a copy of the 2001 FMCSRs. Further, the owner signed Form OP-1 certifying he had not been convicted of distribution or possession of a controlled substance.

When DelCar registered as a motor carrier, it had a fleet of two tractors and three trailers. At the time of the accident, DelCar had a fleet of 13 tractors and 25 semitrailers. When DelCar registered, it reported 4 interstate drivers; at the time of the accident, the owner reported having 2 full-time local drivers and 17 full-time long-distance drivers. Drivers were generally owner/operators and were hired through locally run advertisements.

The owner did not conduct background checks on drivers nor conduct preemployment or random drug screening (the driver tested positive for drugs at the time of the accident). In addition, the owner did not require drivers to turn in their logbooks¹⁵ or prepare vehicle inspection reports, nor did he keep maintenance records for the vehicles. The FMCSRs require the owner to follow all of these procedures. In addition, DelCar drivers were cited seven times for moving violations from November 2000 to January 2002.

¹⁴ These forms must be submitted to the FMCSA to request authority to operate as a motor carrier.

¹⁵ The owner stated that he required drivers to maintain their logbooks but did not require them to turn them in.

According to the FMCSA inspector, the owner stated that he knowingly dispatched the accident driver to drive to Michigan as part of a team, even though the driver had only a learner's permit and no medical certificate. The codriver, also the driver's uncle, stated that he was aware of the driver's non-CDL status and agreed to take the trip in the role of codriver, not as supervisor.

At the time of the accident, DelCar did not have the minimum level of insurance, \$750,000, required by the FMCSA. The FMCSA received notice of the cancellation of DelCar's insurance for nonpayment of premiums on May 12, 2002. The FMCSA sent a notice of revocation of authority to DelCar on June 7, 2002 (2 days before the accident), giving the carrier 30 days to obtain insurance or cease operation. DelCar obtained the necessary insurance coverage on June 11, 2002 (2 days after the accident), and the revocation proceedings were discontinued on June 18, 2002. This was the second time that the FMCSA had sent notice of revocation to DelCar for a lack of insurance due to nonpayment of premiums. On September 20, 2001, notice of revocation was sent because DelCar's insurance was cancelled on August 24, 2001. DelCar obtained insurance, and the revocation process was discontinued on October 9, 2001.

FMCSA records indicate that, at the time of the accident, roadside inspections of DelCar vehicles and drivers resulted in a 35-percent out-of-service rate for vehicles¹⁶ (the national average is 23 percent) as a result of poor maintenance and 17-percent out-of-service rate for drivers¹⁷ (the national average is 8 percent) as a result of logbook, hours-of-service, and medical certification violations. Safety Board investigators have learned that the brother of DelCar Trucking's owner applied for and received operating authority just prior to the accident. The brother also has a felony drug conviction. He is currently operating in DelCar's former location and employs DelCar's owner.

Motor carrier safety rating. To measure the relative safety performance and compliance of individual motor carriers, the Safety Status Measurement System (SafeStat), developed for the FMCSA, uses data from State and Federal sources, including roadside inspections. Four safety evaluation areas (Accident History, Driver, Vehicle, and Safety Management) are measured and rated. SafeStat is currently used by the FMCSA to identify and prioritize motor carriers for on-site compliance reviews and roadside inspections. SafeStat identifies as deficient any carrier that is in the worst 25th percentile, as indicated by a score greater than 75 (out of 100) in a safety evaluation area. Using these SafeStat scores,¹⁸ the FMCSA assigns carriers to categories A through G; category A represents carriers with the highest range of SafeStat scores (a score of 350 to 550) and thus those carriers with the greatest deficiencies. According to FMCSA inspectors, only those carriers in categories A and B (a score greater than 225) receive a compliance review; category C carriers most likely do not receive a compliance review. Carriers that

¹⁶ Sixty-six vehicles were inspected, and 23 were placed out of service.

¹⁷ One hundred-two drivers were inspected, and 17 were placed out of service.

¹⁸ The overall SafeStat score is the sum of two times the Accident History safety evaluation area value plus 1.5 times the Driver safety evaluation area, plus the Vehicle safety evaluation area, plus the Safety Management safety evaluation area values.

are only deficient in one safety evaluation area are placed in categories D through G, which are used to prioritize carriers for roadside inspections.

DelCar's SafeStat score (as of March 23, 2002, the most recent data available) was based on 79.23 for the Vehicle safety evaluation area and 92.69 for the Driver safety evaluation area; both scores are considered deficient. SafeStat did not rate DelCar in the Accident History or Safety Management safety evaluation areas because, prior to the accident, DelCar did not have an accident record and had not received a compliance review from the FMCSA since beginning operation. The composite SafeStat score of 218.26 resulted in DelCar being placed in category C.¹⁹

The FMCSA also uses SafeStat to identify carriers for roadside inspections through the Inspection Selection System. The Inspection Selection System is a decision-making aid for determining whether to conduct commercial vehicle roadside safety inspections. A safety algorithm that uses a carrier's SafeStat safety evaluation area scores calculates the value assigned by the Inspection Selection System. DelCar's Inspection Selection System score was "96—Inspect."²⁰ The Inspection Selection System showed that the violation rates were higher than average for DelCar in the following areas: wheels or tires, steering or frame, medical certification, drivers' logbooks, and drivers' hours.

Postaccident compliance review. Following the accident, the FMCSA conducted a compliance review of the motor carrier's operations. Violations cited by the FMCSA included:

- failing to conduct preemployment drug testing, postaccident drug testing, and random drug and alcohol testing (the accident driver was cited as support for this violation);
- operating without having required minimum level of financial responsibility (lack of insurance);
- failing to maintain an accident register;
- failing to maintain driver qualification files;
- using a driver not medically examined or certified (the accident driver was cited as support for this violation);
- operating with drivers' hours-of-service violations;
- failing to maintain inspection and maintenance records; and
- failing to require drivers to prepare vehicle inspection reports.

¹⁹ DelCar had received sufficient vehicle and driver inspections by September 2001 to be rated in the Driver and Vehicle areas.

²⁰ Carriers are rated in the Inspection Selection System on a 100-point system, which is divided into three tiers: (a) Pass (no inspection required), for a score of 1 to 49; (b) Optional (may be worth a look), for a score of 50 to 74; and (c) Inspect (inspection warranted), for a score of 75 to 100. Since DelCar was in category C and had Driver and Vehicle safety evaluation area values greater than 75, the carrier automatically received an Inspection Selection System rating of 96-99.

The FMCSA inspectors did not look for or find information about the owner's previous conviction for drug possession or for the misleading information contained on DelCar's new entrant motor carrier application. As a result of the violations cited by the FMCSA, DelCar received an unsatisfactory rating on June 18, 2002. The operator had 60 days to improve the rating or cease operations; on August 18, 2002, the FMCSA placed DelCar out of service for not improving the safety of its operations.

Greyhound Lines, Inc.

Greyhound is an authorized, for-hire interstate carrier of passengers providing scheduled bus service, special destination service, charters, and package service throughout North America. Greyhound operates from 11 driver operation and customer service districts, and all schedules are monitored from a central location in Dallas, Texas. Drivers are assigned to and report for duty at 89 terminals, and passengers are picked up and discharged at 1,530 bus stop locations, which vary throughout the year. Greyhound's most recent compliance review prior to the accident was September 14, 2001; the company received a satisfactory rating. In the 24 months prior to October 20, 2002, Greyhound had an 8.9 percent out-of-service rate for vehicles (national average is 23 percent) and a 1.8 percent out-of-service rate for drivers (national average is 8 percent).

Meteorological Information

At 4:52 a.m. on the day of the accident at the Abilene Regional Airport, about 3 miles southeast of Abilene,²¹ the weather was clear with an air temperature of 72 degrees Fahrenheit and a wind speed of 7 mph. The roadway was dry. In Loraine, on June 9, 2002, the beginning of nautical twilight²² was at 5:28 a.m., the beginning of civil twilight²³ was at 6:07 a.m., and sunrise was at 6:36 a.m. Moonrise was at 5:37 a.m., and the phase was a waning crescent with 2 percent of the moon's visible disk illuminated. The new moon occurred on June 10, 2002, at 6:47 p.m.

²¹ Abilene is about 54 miles east of the accident location.

²² At the beginning or end of nautical twilight, under good atmospheric conditions and in the absence of other illumination, general outlines of ground objects may be distinguishable, but detailed outdoor operations are not possible, and the horizon is indistinct.

²³ Civil twilight is the limit at which twilight illumination is sufficient, under good weather conditions, for terrestrial objects to be clearly distinguished; at the beginning of morning civil twilight, the horizon is clearly defined and the brightest stars are visible under good atmospheric conditions in the absence of moonlight or other illumination. In the morning before the beginning of civil twilight, artificial illumination is normally required to carry on ordinary outdoor activities.

Tests and Research

Acceleration Tests

On June 18 and 19, 2002, Safety Board investigators recorded the acceleration rates of 16 commercial vehicles departing the picnic area near the accident scene. The average speed while the vehicles were still within the picnic area was about 17 mph. The vehicles accelerated for about 35 seconds to the general area of the accident scene and reached a speed at that location of about 34 mph. Both the highway and oncoming traffic can be seen from the acceleration ramp.

Semitrailer Lights Examination

Four taillights, an identification lamp, and a license plate lamp on the semitrailer (see figure 9) were examined to determine the condition of the lamp filaments. Each of the four rear semitrailer taillight lamps had two filaments, a smaller one connected to the taillights and a larger one connected to the stop lights. The filaments for all four of the semitrailer's taillight lamps were intact and connected to their respective posts. The smaller filaments for the two center taillight lamps displayed age sagging. The support and electrical posts on the identification lamp were bent and distorted, but the single filament was intact with some deformation in the area of the support hangers. No indications of filament oxidation were found on the identification lamp, even though the glass envelope was broken. None of the filaments exhibited stretching.

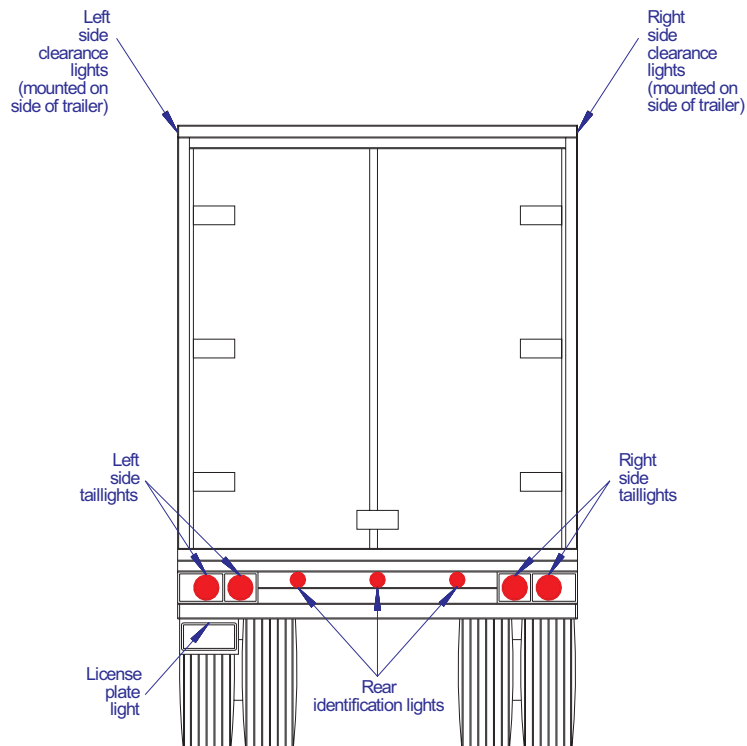


Figure 9. Rear semitrailer lighting.

Examination of the license plate lamp revealed significant filament stretching between one electrical post and its nearest support post, sufficient to produce a visible loop. The filament showed faceting consistent with long-term use, and the portion opposite the stretched length showed age sagging.

Federal Regulations

U.S. Department of Transportation

Prior to January 1, 2003, new entrant motor carriers had only to demonstrate their financial ability to operate and show proof of insurance. Once the appropriate forms²⁴ were completed (see appendix B) and the application fee paid (currently \$300), a motor carrier could be granted authority to operate. According to the FMCSA, applicants were rejected only if they did not pay the application fee or did not show proof of insurance.

The forms required of new entrant motor carriers prior to January 1, 2003, when DelCar's owner applied for motor carrier operating authority, FMCSA forms MCS-150 and OP-1, contained sections in which motor carrier applicants had to certify that they were familiar with the FMCSRs and that they would comply with these regulations. The applicant was only presented with the option of answering "yes" for these areas and had to certify that the answer given was true and that he or she had not been convicted for possession or distribution of controlled substances. The owner of DelCar signed and submitted both forms and was granted operating authority.

Enacted on December 9, 1999, the Motor Carrier Safety Improvement Act of 1999 (the act) required the Secretary of Transportation to establish regulations specifying minimum requirements for applicant motor carriers seeking operating authority. The act states that the secretary shall require all new carriers to undergo a safety review within the first 18 months of operation. It also states that the secretary is to establish minimum requirements for applicants seeking interstate operating authority to ensure that carriers are knowledgeable about Federal motor carrier safety standards. The act specified that the secretary consider a proficiency examination and other requirements to ensure applicants understand applicable safety regulations.

On May 13, 2002, the FMCSA issued an interim final rule on the New Entrant Safety Assurance Process, effective January 1, 2003. The deadline for comments on this rulemaking was July 12, 2002. The purpose of the rulemaking was to establish minimum requirements for new entrant motor carriers to ensure that they are knowledgeable about applicable Federal motor carrier safety standards. Motor carriers must pass a safety audit to obtain permanent U.S. Department of Transportation (DOT) registration during their first 18 months of operation.

²⁴ The MCS-150 form must be used to register with the U.S. Department of Transportation as an interstate carrier and the OP-1 form (or its comparable form, depending on the type of business) requests authority to operate as a for-hire carrier; private carriers are only required to complete MCS-150.

In the rulemaking, the FMCSA stated that it did not require a proficiency exam prior to granting operating authority because it believes the educational and technical assistance materials provided to new entrants and the new entrant certification should suffice in demonstrating that new entrants understand the safety regulations. The MCS-150A (see appendix B) form that all motor carriers must now submit, in addition to MCS-150 and OP-1, requires new entrants to certify that they have a system in place to ensure compliance with applicable FMCSRs. The certification reminds a new entrant of its statutory and regulatory responsibilities, which, if neglected or violated, may lead to penalties or revocation of registration.

According to the rulemaking, the safety audit, occurring within the first 18 months of operation, will assess the adequacy of the new entrant's basic safety management controls. It will consist of a review of the new entrant's safety data and motor carrier documents and an interview session with the motor carrier to educate the carrier on compliance with the FMCSRs and to determine areas in which the carrier may be deficient. In the rulemaking, the FMCSA states that it will monitor a new entrant's roadside inspection performance and, if the percentage of drivers or vehicles placed out of service is above the national average, the FMCSA will expedite the safety audit.

If, after the safety audit, the FMCSA determines that safety management controls are adequate, then, at the end of 18 months, the FMCSA will notify the new entrant of permanent registration. If, after the safety audit, the FMCSA notes deficiencies in the new entrant's management controls, it will notify the new entrants within 45 days that the new entrant registration will be revoked unless the new entrant takes actions specified to remedy the safety management practices within 45 days for passenger and hazardous materials carriers and within 60 days for other entrants. If the corrective actions are not taken, the FMCSA will notify the new entrant that registration has been revoked.

U.S. Department of Defense

Since 1992, motor carriers providing transportation for the U.S. Department of Defense have been required to meet the Military Traffic Management Command's (MTMC's)²⁵ prequalification inspection for safety. Prior to 1992, carriers were only required to demonstrate they had a DOT rating of "satisfactory" and had been in operation at least 12 months to qualify as a MTMC motor carrier. MTMC implemented the prequalification inspection in 1992 due to the high failure rates being experienced during inspections by motor carriers who had previously been considered qualified. Once prequalification requirements were implemented, the number of carriers applying dropped from an average of 25 per month to 2.8 per month, probably due to the enforcement of compliance with the FMCSRs, according to the contractor administering MTMC's program. MTMC's prequalification inspection is a full, on-site compliance review and performance evaluation. Prior to the prequalification inspection, MTMC's contractor prescreens all passenger motor carriers seeking MTMC approval by testing the carrier's knowledge and understanding of specific regulatory requirements. According to the

²⁵ MTMC is the traffic manager for the U.S. Department of Defense.

contractor,²⁶ not once has any motor carrier correctly answered all the compliance questions, even though the applicants are established motor carriers.

Currently, about 25 percent of motor carriers who apply to MTMC fail the initial screening process, and about 40 percent of those carriers who pass the screening process fail the prequalification inspection by MTMC contractors. All of these carriers have “satisfactory” ratings from the FMCSA and have been in operation over 12 months. Since the implementation of the prequalification inspection, no fatalities have occurred to persons while being transported by a MTMC-approved carrier.

New Entrant Safety Data

In 1998, the Volpe National Transportation Systems Center (Volpe Center) issued a report on *New Entrant Safety Research*²⁷ under a project agreement with the Federal Highway Administration’s Office of Motor Carriers (now the FMCSA). The study found that carriers with less than 1 year of experience had significantly more acute violations and patterns of critical violations²⁸ of safety management regulations than carriers with more than 1 year of experience (see table 5). The number of violations drops dramatically after the first year and, as carriers gain more experience, continues to decrease.

Table 5. Violations of safety management regulations per 1,000 drivers.

Carriers	Acute violations	Critical violations
New entrants	128.8	206.3
Experienced	34.1	11.8

The study recommended that the FMCSA provide education and training programs at the time a motor carrier begins operation to shorten the compliance learning curve and increase the speed at which new carriers come into compliance with the FMCSRs.

²⁶ FMCSA Docket No. FMCSA-2001-11061.

²⁷ National Transportation Safety Center, *New Entrant Safety Research* (Cambridge, MA: John A. Volpe National Transportation Systems Center, April 1998).

²⁸ An acute violation demands immediate corrective action regardless of the overall safety posture of the motor carrier, whereas critical violations are regulatory violations that indicate breakdowns in a carrier’s management controls. A pattern of critical violations is necessary to downgrade a carrier’s safety rating, whereas a single acute violation can result in a lower safety rating.

Another study by the Volpe Center in conjunction with a project for the FMCSA²⁹ found that over half (55.2 percent) of new entrants (carriers who registered in the previous 2 years) were deficient in the Driver safety evaluation area in SafeStat. Among experienced carriers, about 26.9 percent were deficient in the Driver safety evaluation area. In the Vehicle safety evaluation area, 34.1 percent of new entrants were deficient, whereas 27.1 percent of experienced carriers were deficient. Researchers also found that a comparison of the Safety Management Review Indicator, which is based on compliance reviews and is part of the Safety Management safety evaluation area, showed that new entrants had significantly worse safety management compliance compared with experienced carriers (41.4 percent versus 23.8 percent).

In the 2002 Volpe Center study, researchers assessed the compliance review data, which revealed that about 3.4 percent of experienced carriers received reviews in the 2-year period prior to September 1999, whereas only 1.3 percent of new entrants received compliance reviews. According to the authors of the study, since SafeStat is being used to identify and prioritize carriers based on safety performance and compliance data over a 30-month period, recent registrants are unlikely to have accumulated sufficient data to be scored by SafeStat. The report also found that although 18 percent of carriers are new entrants, they received fewer than 12 percent of driver inspections and vehicle inspections. Overall, the report concluded that new entrants receive disproportionately less FMCSA oversight than experienced carriers.

As part of the rulemaking docket process, the FMCSA prepared a cost evaluation of interim final rulemaking on the New Entrant Safety Assurance Process.³⁰ In the document, the FMCSA presented data on the motor carrier crash rates that show that crash rates fall as the carrier becomes more experienced. Carriers with less than 1 year of experience have a crash rate of 0.505 per million vehicle miles traveled;³¹ those with 1 to 6 years of experience, 0.469; those with 7 to 10 years of experience, 0.438; and those with more than 11 years of experience, 0.411. According to the FMCSA's evaluation, cost savings realized from the New Entrant Safety Assurance Process were estimated to exceed the cost of implementing and administering the program.

The evaluation also estimated that it would take new entrants 1 hour to read the educational and technical assistance package provided to applicants and to complete the application forms.

²⁹ National Transportation Safety Center, *Analysis of New Entrant Motor Carrier Safety Performance and Compliance Using SafeStat* (Cambridge, MA: John A. Volpe National Transportation Systems Center, March 2002).

³⁰ Federal Motor Carrier Safety Administration, *New Entrant Safety Assurance Process Regulatory Evaluation*, FMCSA-2001-11061-3 (Washington, DC: FMCSA, January 2002).

³¹ For instance, a new carrier with 100 vehicles, each traveling 100,000 miles per year, would have about five accidents in a year. The same size carrier with more than 11 years' experience would have about four accidents in a year.

Requirements for New Entrants in Other Countries

In Canada, the provincial governments are responsible for establishing new entrant requirements. In British Columbia, for example, new motor carrier operators must complete an application that includes a detailed self-assessment of their management controls. The questions go beyond yes or no answers to request specific information on who is responsible for each area and how the requirements will be managed. For instance, the self-assessment asks who is responsible for hiring, who is responsible for maintenance, how the carrier will ensure daily logs are accurate, and, if applicable, what the carrier's plans for managing dangerous goods are. British Columbia implemented this system in April 1999; since then, the number of new applicants has decreased by about half. The *National Safety Code* (which administers the new motor carrier system) is exploring the possibility of requiring new applicants to pass a test prior to being granted operating authority.

In Europe, the European Union requires that member countries ensure that all new motor carriers have a minimum level of knowledge that is certified through a professional competence exam in the area of goods transport. The minimum level of knowledge must include knowledge of civil law, commercial law, social law, fiscal law, business and financial management, regulations and procedures governing access to market, technical standards, and aspects of operation and road safety.³² The exam must include two tests: one with multiple choice or direct-answer questions and one with case studies. Each test must last at least 2 hours.

In the United Kingdom, in addition to passing the professional competence exam, new motor carriers must show proof of adequate financial resources to maintain their vehicles and show that they have a maintenance contract in place or, if they undertake the inspection and repair of vehicles themselves, the facilities they have available. Once a motor carrier has been in operation for 9 months, the operator's facilities and vehicles are inspected.

³² Council Directive 98/76/EC.

Analysis

Exclusions

The weather was clear and dry at the time of the accident. Neither maintenance records nor postaccident inspection of the motorcoach indicated mechanical problems that may have hampered operation of the vehicle. The busdriver was familiar with the roadway and had received adequate rest and time off prior to driving; data recorded in his logbook complied with hours-of-service regulations. Toxicological tests performed on the blood and urine specimens taken from the busdriver were negative for alcohol and other drugs. The first 911 caller misidentified the location of the accident by a few miles; however, the misidentification did not hamper the emergency response and did not prevent responders from providing adequate and appropriate treatment to the motorcoach occupants. The Safety Board concludes that there was no evidence of drug or alcohol use by the busdriver or of busdriver fatigue. The Safety Board further concludes that the weather and the mechanical condition of the motorcoach did not contribute to the accident and that the emergency response was adequate.

Accident Discussion

According to the truckdriver, he had stopped at the picnic area on I-20 to go to the bathroom. As the tractor-semitrailer was pulling back onto the interstate, it was struck in the rear by the motorcoach. The busdriver stated he did not see the semitrailer because none of its lights were illuminated. Speed calculations based on physical evidence found at the scene indicate that the motorcoach was traveling about 65 to 70 mph and that the tractor-semitrailer was traveling about 15 to 18 mph at the time of collision.

Lighting Conditions

Semitrailer lighting. Witnesses on the motorcoach stated that they did not see any illuminated lights on the rear of the semitrailer. The busdriver also told several people at the accident scene that he could not see the semitrailer until it was too late to avoid hitting it.

Prior to departing the picnic area, the truckdriver stated he checked the lights and that they were operational. However, investigators found shorted electrical wires for the clearance and identification lights. The Texas DPS inspector stated that he found a burned-out 15-amp fuse in a 30-amp receptacle for the clearance and identification lights. The general condition of the wiring to the back of the semitrailer was poor and there was an exposed wire in the wiring harness for the taillights and license plate light. The Texas DPS inspector also said that the truckdriver stated that the semitrailer's lights went out when

the turn signal was on. The semitrailer had not been retrofitted with retroreflective sheeting as required by the FMCSA.

The filaments of the four taillight lamps showed no indications of hot stretching, which would be a sign of impact while they were illuminated. The filament of the identification lamp did show some stretching, but because it was near the posts, it may have been due to deformation of the posts during the collision sequence and thus not indicative of illumination at impact. Additionally, no tungsten oxide was present as would be expected if the glass envelope had been fractured while the bulb was illuminated. Also, since the fuse for the identification lamp circuit was burned out, the lamp could not have been illuminated. The filament of the license plate light did display hot stretching indicative of being hot (illuminated) during an impact. Investigators could not determine whether the impact that caused the hot stretching occurred during this accident or whether it occurred prior to this accident during a high-energy bump. Because DelCar had not maintained service records, investigators could not determine whether the semitrailer had been in a previous accident. However, if the license plate light was illuminated, the taillights should have been illuminated also because they are on the same circuit. However, based on the defective wiring on that circuit, suggesting an electrical short, no evidence of hot stretching of the taillight filament, and statements by several witnesses, the taillights were quite likely not illuminated prior to the crash and, therefore, the license plate light was probably not illuminated, either. The Safety Board concludes that the rear lighting on the semitrailer was inoperable at the time of the accident.

Highway lighting. No highway lighting was present near the accident scene. TXDOT only installs or maintains lighting systems on roadways meeting specific criteria such as traffic volume and type of roadway; based on the average daily traffic count, this roadway would have become eligible for lighting in 1998. However, according to TXDOT, just because an area meets a warrant and becomes eligible for highway safety lighting does not necessarily mean that lighting will be installed; a warrant only implies that lighting will be installed should funding be authorized. Moreover, other factors, such as accident rates and their contributory factors, are typically taken into account as well. At the accident location, only one accident had occurred in the previous 5 years,³³ and TXDOT did not consider it the type of collision likely to have been prevented by highway lighting.

The circumstances of this collision suggest that safety lighting at this location could be beneficial in preventing similar accidents. Typically, on high-speed limited access roadways, commercial vehicles enter the interstate from entrance ramps at a speed significantly less than the through traffic. At the ramp near the accident site, the average speed measured by investigators was 34 mph. In this accident, the tractor-semi-trailer was traveling about 47 to 50 mph less than the posted nighttime speed limit. Because the semitrailer did not have any operational lighting, overhead highway lighting would have afforded the busdriver greater opportunity to detect the slow-moving tractor-semi-trailer ahead and possibly avoid the collision. Based on the information gathered during this

³³ A single-vehicle rollover crash.

investigation, TXDOT is evaluating the safety lighting associated with the picnic area near the accident scene and performing assessments of similar rest areas within the Abilene District. Following these evaluations, TXDOT will determine how to proceed with lighting modifications.

Effects of lighting on the accident. The semitrailer had not been retrofitted with retroreflective sheeting, as required by Federal law, and the semitrailer's rear lights were most likely nonoperational. Additionally, no ambient light was available in the area of the collision. The moon was not bright (it was a thin crescent, one day from being a new moon), the sun had not begun to rise at the time of collision, and no artificial lighting was present.

At nighttime, differences in illumination levels occur where there are natural or artificial sources of illumination. However, when no other sources of illumination are present, little, if any, luminance contrast occurs between the objects—in this case, the semitrailer and the background or the night sky. For an object to be seen at night, it must be sufficiently brighter than the background.³⁴ In this case, the only source of brightness was the motorcoach's headlights, which probably only provided enough illumination to distinguish the dark semitrailer from the background at a distance of about 150 feet. Had the semitrailer been equipped with retroreflective sheeting or had its lighting illuminated, the busdriver probably would have been able to distinguish it earlier.

At a closing speed of about 48 to 55 mph, as calculated based on physical evidence, the busdriver would have had about 1.8 to 2.1 seconds to perceive the unexpected slow moving semitrailer ahead and react to it. Typical driver perception and reaction time is about 1.5 seconds in noncomplex conditions³⁵ but can be greater based on a variety of factors, including nighttime and surprise. Additionally, drivers tend to react and respond more slowly to a slow-moving vehicle ahead when they expect it to be moving at normal highway speed.³⁶ Therefore, the Safety Board concludes that the lack of luminance contrast between the truck and the background due to the absence of both natural light and artificial highway lighting, in combination with the semitrailer's inoperative lighting equipment, the lack of retroreflective material on the semitrailer, and the high closure rate between the vehicles, afforded the busdriver little opportunity to detect and identify the slow-moving tractor-semitrailer.

Tractor-Semitrailer Speed

The motorcoach driver stated to the Texas DPS that he was traveling between 65 and 67 mph, and on-scene evidence indicates that the bus was traveling between about 65

³⁴ Robert E. Dewar and Paul L. Olsen, "Environmental Factors," eds. Robert E. Dewar and Paul L. Olsen, *Human Factors in Traffic Safety* (Tucson, AZ: Lawyers and Judges Publishing Company, Inc., 2002) 494-495.

³⁵ Paul L. Olsen, "Driver Perception Reaction Time," eds. Robert E. Dewar and Paul L. Olsen, *Human Factors in Traffic Safety* (Tucson, AZ: Lawyers and Judges Publishing Company, Inc., 2002) 60.

³⁶ Robert E. Dewar, Paul L. Olsen, and Gerson J. Alexander, "Perception and Information Processing," eds. Robert E. Dewar and Paul L. Olsen, *Human Factors in Traffic Safety* (Tucson, AZ: Lawyers and Judges Publishing Company, Inc., 2002) 26.

and 70 mph. Based on the postcollision tire marks at the scene, the tractor-semitrailer was probably traveling about 15 to 18 mph at the time of collision. Although the truckdriver stated that he was traveling approximately 40 mph prior to the collision, the on-scene evidence and the postcollision distance traveled by both vehicles contradicts the truckdriver's statement. After the accident, investigators measured the average speed of vehicles entering the interstate from the picnic area and found that the average speed of commercial vehicles when they reached the point of impact was about 34 mph, significantly higher than the calculated speed reached by the accident truckdriver.

The accident semitrailer was not fully loaded and an inspection of the tractor revealed no mechanical problems that would have prevented the tractor-semitrailer from accelerating at a normal rate of speed. Had the tractor-semitrailer accelerated at a normal rate, the busdriver would have had nearly 4 seconds to detect the tractor-semitrailer and react. The Safety Board concludes that the tractor-semitrailer should have been able to attain a speed of approximately 34 mph as it reached the accident location, instead of the estimated speed of 15 to 18 mph, thus potentially reducing the closure rate between the tractor-semitrailer and the motorcoach and providing the busdriver with additional time to identify the semitrailer ahead and take evasive action.

Because the truckdriver refused to be interviewed by the Safety Board, staff investigators were unable to ask him why the tractor-semitrailer was traveling at such a slow speed as it entered the interstate; however, several possible reasons exist. Postaccident toxicological tests indicate that the driver had recently used cocaine. Based on the levels of benzoylecgonine in the blood and urine, amounts of cocaine typically used, and the rate at which cocaine and benzoylecgonine are typically processed and excreted by the body, the driver is likely to have used cocaine within approximately 6 hours prior to the time that the blood was drawn (or about 2.5 hours prior to the accident). Given the truckdriver's route and his statement that he had been driving since 9:30 p.m. and had just stopped at a picnic area, the driver most likely used cocaine while he was stopped in the picnic area just before the accident. The indication of recent cocaine use suggests the truckdriver was impaired by the effects of the drug, including overconfidence, hyperactivity, and irritability. The driver may have thought he could merge into traffic no matter what speed he was traveling or he may have misjudged his speed. On the other hand, had the driver used cocaine earlier than when he was stopped at the picnic area, he may have been suffering from acute withdrawal from the drug, primarily resulting in depression and fatigue. Thus, the driver may have been affected by fatigue, which may have impaired his motor skills. The circumstances of this accident suggest that the driver's impairment due to cocaine use played a role in the accident.

The driver was also a new employee and a trainee. He possibly had little experience in the operation of tractor-semitrailers and was only in the 4th day of supervised driver training with the motor carrier. However, the instructor stated that he was resting in the sleeper berth of the tractor and was not available to assist the driver. The driver's inexperience may have affected his ability to operate the clutch and shift the transmission as he accelerated onto the interstate. The driver's view was not an issue; the investigation found no visual obstructions that would have prevented the driver from

seeing the approaching motorcoach as the semitrailer entered the interstate, had he looked over his shoulder or in the sideview mirror. The Safety Board concludes that the truckdriver's performance was impaired due to the recent use of cocaine and his inexperience in the operation of a tractor-semitrailer, resulting in a slower acceleration of the truck onto the highway than was prudent or appropriate.

Survival Factors

The fatally injured occupants were seated within the area of impact. In its investigations of other motorcoach accidents,³⁷ the Safety Board has found that most motorcoach passengers who are seriously or fatally injured are seated within the area of impact and sustain their injuries due to impact with the deformed areas within the vehicle or with the intruding vehicle. Those seriously injured passengers seated immediately behind the area of impact were probably thrown into the area of impact during the collision sequence. The seriously injured passengers further to the rear of the area of impact (rows 3 and 10) were most likely thrown out of their seating compartment during the collision events, thus sustaining their injuries. The Safety Board concludes that the lack of a restraint system for the passengers contributed to the injuries of those seated outside of the area of impact.

In its 1999 bus crashworthiness study,³⁸ the Safety Board found that one of the primary causes of preventable injury in motorcoach accidents is occupant motion out of the seat during a collision and recommended that the National Highway Traffic Safety Administration (NHTSA):

H-99-74

Develop performance standards for motorcoach occupant protection systems that account for frontal impact collisions, side impact collisions, rear impact collisions, and rollovers.

On October 27, 2000, NHTSA responded that it had initiated a research plan with motorcoach manufacturers to support bus crashworthiness recommendations. On March 6, 2002, NHTSA responded that it had assisted in the formation of the Bus Manufacturers Council, which will work to facilitate industry-wide standards development to enhance motorcoach passenger safety. NHTSA also sponsored a public meeting in spring 2002 on motorcoach safety. Safety Recommendation H-99-74 was classified "Open—Acceptable Action" on June 28, 2002, pending development of industry-wide standards in the area of occupant protection.

³⁷ National Transportation Safety Board, *Bus Crashworthiness Issues*, Special Investigation Report NTSB/SIR-99/04 (Washington, DC: NTSB, 1999).

³⁸ NTSB/SIR-99/04.

Highway Design

The picnic area was constructed in October 1965 in accordance with the design guidelines in use at the time. The length of the acceleration ramp from the picnic area to the interstate is 975 feet, but under current AASHTO design guidelines, an acceleration ramp of at least 1,410 feet would be required. AASHTO also recommends that the speed of merging vehicles under these conditions be at least 50 mph. When investigators measured the speeds of commercial vehicles entering the interstate from the picnic area, they found that the vehicles reached an average speed of about 34 mph over a distance of 1,351 feet.

Typically, when the local transportation authority performs a major rehabilitation of a roadway, its geometric design features are brought up to current standards. At the time of the accident, TXDOT was performing a major rehabilitation project in the westbound lanes of I-20. As a result of this investigation, TXDOT is exploring the feasibility of revising the rehabilitation project to include changes to the eastbound picnic area that would lengthen the entrance ramp from the picnic area to the interstate. These changes will be considered during the spring 2003 highway rehabilitation.

New Entrant Motor Carriers

The FMCSA granted DelCar Trucking the authority to operate on August 17, 2000. At the time, DelCar had sufficient insurance to operate. However, during postaccident interviews, the owner displayed very limited knowledge of the FMCSRs. He did not need to demonstrate that he understood them when he submitted his application; he only had to sign a form (OP-1) certifying that he was familiar with the Federal regulations and had a system in place to comply with them. While the owner did sign the application form signifying that he had such a system in place, investigators found that he did not. The carrier did not maintain any records on drivers or vehicles, did not have a drug and alcohol program in place, did not conduct background checks, and operated out of a trailer on an empty lot. While he did have an outdated copy of the FMCSRs, he did not display any evidence during the postaccident compliance review or subsequent interviews that he understood them. The owner also knowingly dispatched the accident driver, who had only a learner's permit and no medical certificate, to drive to Michigan as part of a team. The codriver was also aware of the driver's non-CDL status and agreed to take the trip, even though he could not have supervised the accident driver and driven the truck while still getting the required hours of rest and making the trip on schedule.

Twice, after receiving authority to operate, DelCar had its insurance canceled for nonpayment, and the FMCSA sent notices of revocation of authority to operate. After receiving these letters, DelCar obtained insurance and the revocation process was discontinued. The FMCSA conducted no further reviews of the carrier to ensure DelCar was operating safely and within the law.

Some of the same problems that were found during the postaccident compliance review, such as hours-of-service violations, driving a commercial vehicle while disqualified, operating without a medical certificate, and maintenance violations, had been identified previously during roadside vehicle and driver inspections. Yet the motor carrier addressed none of these problems after the roadside inspections.

DelCar's owner had been found guilty of possession of large amounts of marijuana in 1999, yet he certified, under penalty of perjury on his application to the FMCSA (Form OP-1), that he had not been previously convicted of possession of a controlled substance. No system was in place at the FMCSA to verify whether the owner had a criminal record, even though this information was readily available to investigators after the accident. The owner was granted permission to operate as a motor carrier even though he had a recent drug conviction and insufficient knowledge of the FMCSRs.

Education

New motor carriers receive fewer compliance reviews than experienced carriers, yet they are more likely to be unfamiliar with the FMCSRs, as is evidenced in their higher SafeStat scores and higher accident rates. Motor carriers appear to have a learning curve; their safety improves over time, probably as they become more familiar with the safety regulations and learn how to implement them.

One way to improve the operations of new entrants is to reduce the learning curve time by educating new carriers before they begin operations. The FMCSA's new motor carrier entrant requirements attempt to do that. However, as written now, the requirements do not ensure that a motor carrier will comply with the regulations, nor even that the carrier understands the regulations until a safety audit is performed up to 18 months later. However, as the data indicate, new motor carriers have more pronounced patterns of critical violations of safety regulations (206.3 per 1,000 drivers for new entrants versus 11.8 for experienced carriers), far more acute violations (128.8 per 1,000 drivers for new entrants versus 34.1 for experienced carriers), and higher accident rates in the 1st year of operation (0.505 per million vehicle miles traveled versus 0.411 for those with more than 11 years of experience); consequently, the safety audit may come too late.

Under the New Entrant Safety Assurance Process that began on January 1, 2003, the FMCSA plans to make available to new applicants educational and technical assistance materials. Although the FMCSA estimates that it will take a motor carrier operator about 1 hour to read and understand the regulations, a new motor carrier would probably need significantly more than 1 hour to attain a comprehensive understanding of them, since such an undertaking would require reading in numerous areas, including:

- Organization and delegation of powers and duties of the Federal Highway Administration
- Compliance with interstate motor carrier noise emission standards
- Commercial motor carrier safety assistance program

- Compatibility of State laws and regulations affecting interstate motor carrier operations
- Waivers, exemptions, and pilot programs
- Controlled substances and alcohol use and testing
- Commercial driver's license standards
- Requirements and penalties
- State compliance with commercial driver's license program
- Safety fitness procedures
- Rules of practice for motor carrier safety and hazardous materials proceedings
- Minimum levels of financial responsibility for motor carriers
- Qualifications of drivers
- Driving of commercial motor vehicles
- Parts and accessories necessary for safe operation
- Hours of service of drivers
- Inspection, repair, and maintenance
- Transportation of hazardous materials
- Driving and parking rules
- Employee safety and health standards

Because of the regulations' complexity, the DOT has issued numerous interpretations to assist the public's understanding of them. The regulations, as originally printed, are 383 pages long. A guide containing all the FMCSRs and their interpretations is 520 pages long.³⁹ One hour is inadequate for a new motor carrier entrant to fully understand the regulations and determine how they apply to the carrier's operation. DelCar's owner maintained a copy of the FMCSRs, yet he neither understood nor complied with a majority of the regulations.

Forms and Verification

Once an applicant reads the material, he or she completes forms MC-150, OP-1, and a new form, MCS-150A, which asks only whether the applicant will have procedures and systems in place to comply with each part of the FMCSRs, including driver qualifications, hours of service, drug and alcohol testing, vehicle condition, accident monitoring, production of records, and hazardous materials (as applicable). Apparently, the only difference between the MCS-150A and the OP-1 forms initially completed by new entrants prior to January 1, 2003, is that OP-1 combined the compliance areas into

³⁹ *Code of Federal Regulations, Title 49 – Department of Transportation* (Chicago, Illinois: LabelMaster, 2002).

one response, whereas MCS-150A requires the applicant to respond affirmatively to each area individually.

Once a carrier checks all of the answers, certifies he or she understands the regulations (similar to what is required on the OP-1 form), and submits the applications, fees, and proof of insurance, the carrier is granted new entrant operating authority for 18 months. The FMCSA has no mechanism to determine whether a carrier reads the material, understands the regulations, and has developed a safety management system to ensure compliance, a situation similar to the one that existed prior to the new interim rulemaking, when DelCar applied to be a motor carrier.

Nor does the FMCSA have a process in place to verify that the information submitted is correct. The owner of DelCar stated in his application that he had safety systems in place, understood the FMCSRs, and had no controlled substance convictions, but upon investigation, these statements were obviously not true. The MCS-150A form does little more than the previous new entrant form requirements did. The Safety Board concludes that the FMCSA's Form MCS-150A, *Safety Certification for Application for U.S. DOT Number*, does not allow the FMCSA to determine a motor carrier's level of safety fitness prior to operation because it does not require applicants to provide detailed information on operations. Further, no mechanism is in place to verify the validity of an applicant's statements.

The current application process relies on the motor carrier to read the material and do what is required. The FMCSA has no way of determining whether a motor carrier is complying with the FMCSRs until the safety audit occurs, up to 18 months after the motor carrier begins operations. In other countries and territories, the new applicant process is more stringent. In British Columbia, a new motor carrier must describe the types of systems that are in place and the records that will be kept. In all member countries of the European Union, a new motor carrier must take an examination to ensure that he knows the rules and regulations. In the United Kingdom, the new motor carrier must inform the licensing agency of its maintenance program and capabilities and is inspected within 9 months.

In the U.S. motor carrier certification process, no such checks are in place. The FMCSA does not verify that the motor carrier understands or has complied with the regulations. While some new motor carriers will probably put safety management systems in place to comply with the FMCSRs, the Safety Board is concerned that some carriers, such as DelCar, will fail to do so. The new form that must be filled out only requires the carrier to check "yes" or "no" boxes; even the previous form required the motor carrier to verify that he understood the rules and regulations and had no possession or distribution of a controlled substance convictions. The Safety Board therefore concludes that the FMCSA's New Entrant Safety Assurance Process lacks meaningful safeguards to ensure that a motor carrier is aware of, understands, and has a safety management system in place to comply with the FMCSRs.

SafeStat

DelCar obtained interstate operating authority from the FMCSA and operated for 22 months, apparently violating many Federal regulations, with no oversight other than roadside inspections, which do not examine a carrier's overall operating posture. This lack of oversight appears to be typical for new motor carriers: only 1.3 percent of new carriers (those operating less than 2 years) receive compliance reviews, while 3.4 percent of older motor carriers do. One reason for this discrepancy is the practice of conducting compliance reviews based on a motor carrier's SafeStat score, which consists of four safety evaluation areas: Accident History, Vehicle, Driver, and Safety Management. Many new motor carriers, because they have yet to be audited, do not have a score in the Safety Management safety evaluation area nor do they have an accident history. Even if the motor carrier has high scores in the Driver and Vehicle safety evaluation areas, the composite SafeStat score places the new motor carrier in category C, which does not warrant a compliance review.

For instance, DelCar had a score of 79.23 for the Vehicle safety evaluation area and 92.69 for the Driver safety evaluation area, but was not rated in the Accident History or Safety Management safety evaluation areas; therefore DelCar was placed in category C. The FMCSA probably would not have conducted a compliance review had the accident not occurred, despite DelCar's high scores in the Vehicle and Driver Safety evaluation areas. The Safety Board concludes that the current SafeStat system does not accurately reflect a new motor carrier's safety posture because the composite score is based on areas in which a new motor carrier may not be rated and therefore is unlikely to provide FMCSA inspectors enough data to determine whether a safety audit should be performed sooner rather than later. The Safety Board believes that the FMCSA should revise SafeStat to base scores on the Driver and Vehicle safety evaluation areas for new motor carriers, so that new motor carriers with high scores in either of these areas can be identified and will receive an immediate safety audit or compliance review.

Safety Audit

Once a motor carrier is granted new entrant operational authority, it can operate for up to 18 months without review of its operations. The rulemaking states that the safety audit is primarily for educational purposes, that is, to ensure that the new entrant understands the FMCSRs and has the systems and procedures in place to comply with them. The FMCSA's regulatory evaluation states that the safety benefits of this New Entrant Safety Assurance Process will result from the safety audits, which will deter more than 14,000 crashes over 10 years. But, if every new entrant carrier is to receive a safety audit before being granted full operating authority, it would be more advantageous for the FMCSA to conduct the safety audit before the motor carrier begins operation. The motor carrier can then comply with the regulations from the beginning of operation, and the FMCSA can ensure the motor carrier understands all of the regulations. This approach is likely to further reduce both the number of accidents involving new entrant motor carriers and the learning curve time that has been cited as a reason for the poorer performance of new entrant motor carriers. It may also discourage unsafe operators from seeking authority to operate in the first place.

The experience of MTMC has been that those carriers that have satisfactory ratings from the FMCSA still do not understand all of the regulations and do not comply with them. In fact, 25 percent do not pass a written test of the regulations and 40 percent of those that do pass do not qualify to be a motor carrier for the military because of safety deficiencies found during a prequalification review similar to a compliance review. When MTMC began its testing and prequalification requirement, the number of motor carriers applying decreased significantly because of the more stringent criteria for carriers seeking to operate under contract to the military. British Columbia also experienced a decrease in the number of applicants when it instituted more stringent new applicant requirements.

Similarly, new motor carrier entrants applying to operate under the FMCSA's authority may not apply if they are held to more stringent requirements than filling out three forms and obtaining insurance. Although studies have shown that motor carriers have more safety violations and accidents within the 1st year of operation, the FMCSA's New Entrant Safety Assurance Process does not require new motor carriers to undergo a safety audit for 18 months. The Safety Board concludes that by conducting safety audits up to 18 months after carriers begin operation, the FMCSA potentially allows unsafe carriers to operate without oversight and without the benefit of the educational and technical assistance that the FMCSA provides during the safety audit.

The FMCSA could have performed a safety audit of DelCar before granting the carrier operating authority. Had it done so, the FMCSA may have detected the lack of a safety management system; deficiencies in hiring practices, maintenance, and drug and alcohol testing; and the owner's previous drug conviction. Had a safety audit taken place before DelCar began operating, the FMCSA could have used the opportunity to educate DelCar on the FMCSR requirements and assist the carrier in implementing the necessary management systems. The FMCSA could have withheld operating authority unless DelCar complied with the FMCSRs. For instance, had the FMCSA required DelCar to demonstrate that it had a drug and alcohol testing program in place, the accident driver's cocaine use may have been detected or the driver may have been deterred from obtaining a job with DelCar. He might not have been permitted to drive, and the accident may not have occurred. Further, the FMCSA may have noticed deficiencies in DelCar's maintenance and driver inspection programs, and, if the carrier had upgraded its maintenance to comply with Federal requirements, the semitrailer's lighting deficiencies may have been noted and corrected, the lights may have been operational, and the semitrailer may have had retroreflective sheeting, as required, providing the busdriver with the opportunity to see the slow-moving vehicle earlier.

DelCar's owner may have believed that by virtue of being able to drive a truck, he could operate as a motor carrier. He neither understood nor complied with many of the FMCSRs that are in place to ensure safety. In fact, DelCar's owner made a false representation on his applications without detection because the FMCSA lacked a process to evaluate the validity of his statements. After the initial application, DelCar grew from 2 to 13 tractors, from 3 to 24 trailers, and from 4 to 17 drivers, none of which were under safety management oversight, further compounding the danger to the motoring public. Yet, the New Entrant Safety Assurance Process does not give the FMCSA an opportunity

to evaluate the validity of applicants' statements until a safety audit occurs 18 months later. DelCar's situation was probably not unique, and no process is in place to ensure that the 40,000 new motor carrier applicants each year understand the safety regulations and have programs in place to comply with them. For at least 18 months or until a safety audit has been performed, the New Entrant Safety Assurance Process does nothing to prevent motor carriers such as DelCar from obtaining operating authority. In fact, DelCar, which successfully registered as a motor carrier in 2000, could do so again today under the New Entrant Safety Assurance Process without changing its qualifications or operational posture in any way.

The New Entrant Safety Assurance Process, as currently designed, does little more than make information on the requirements for operating a motor carrier more readily available to new entrants by telling new applicants how to obtain such information. While it requires that new motor carriers have a safety audit within 18 months rather than possibly wait many years for a compliance review, it does not require a preoperation evaluation. As the U.S. Department of Defense found, many carriers⁴⁰ with even satisfactory ratings from the FMCSA fail a prequalification compliance review and performance evaluation.

To have a greater impact on new carriers' out-of-service and accident rates and on improving their safety management, the new entrant application process needs to require that new motor carriers understand the regulations and put into place systems and processes that ensure compliance with these regulations before beginning operations. Therefore, the Safety Board believes that the FMCSA should require all new motor carriers seeking operating authority to demonstrate their safety fitness *prior* to obtaining new entrant operating authority by, at a minimum: (1) passing an examination demonstrating their knowledge of the FMCSRs; (2) submitting a comprehensive plan documenting that the motor carrier has management systems in place to ensure compliance with the FMCSRs; and (3) passing an FMCSA safety audit, including vehicle inspections.

⁴⁰ Twenty-five percent of applicants fail the initial application process, which includes regulatory questions, and 40 percent of the remaining applicants fail the prequalification review.

Conclusions

Findings

1. There was no evidence of drug or alcohol use by the busdriver or of busdriver fatigue. Further, the weather and the mechanical condition of the motorcoach did not contribute to the accident and the emergency response was adequate.
2. The rear lighting on the semitrailer was inoperable at the time of the accident.
3. The lack of luminance contrast between the truck and the background due to the absence of natural light and artificial highway lighting, in combination with the semitrailer's inoperative lighting equipment, the lack of retroreflective material on the semitrailer, and the high closure rate between the vehicles, afforded the busdriver little opportunity to detect and identify the slow-moving tractor-semi-trailer.
4. The tractor-semi-trailer should have been able to attain a speed of approximately 34 mph as it reached the accident location, instead of the estimated speed of 15 to 18 mph, thus potentially reducing the closure rate between the tractor-semi-trailer and the motorcoach and providing the busdriver with additional time to identify the semi-trailer ahead and take evasive action.
5. The truckdriver's performance was impaired due to the recent use of cocaine and his inexperience in the operation of a tractor-semi-trailer, resulting in a slower acceleration of the truck onto the highway than was prudent or appropriate.
6. The lack of a restraint system for the passengers contributed to the injuries of those seated outside the area of impact.
7. The Federal Motor Carrier Safety Administration's Form MCS-150A, *Safety Certification for Application for U.S. DOT Number*, does not allow the Federal Motor Carrier Safety Administration to determine a motor carrier's level of safety fitness prior to operation because it does not require applicants to provide detailed information on operations. Further, no mechanism is in place to verify the validity of an applicant's statements.
8. The Federal Motor Carrier Safety Administration's New Entrant Safety Assurance Process lacks meaningful safeguards to ensure that a motor carrier is aware of, understands, and has a safety management system in place to comply with the *Federal Motor Carrier Safety Regulations*.

9. The current Safety Status Measurement System (SafeStat) does not accurately reflect a new motor carrier's safety posture because the composite score is based on areas in which a new motor carrier may not be rated and therefore is unlikely to provide Federal Motor Carrier Safety Administration inspectors enough data to determine whether a safety audit should be performed sooner rather than later.
10. By conducting safety audits up to 18 months after carriers begin operation, the Federal Motor Carrier Safety Administration potentially allows unsafe carriers to operate without oversight and without the benefit of the educational and technical assistance that the Federal Motor Carrier Safety Administration provides during the safety audit.

Probable Cause

The National Transportation Safety Board determines that the probable cause of this accident was the unnecessarily slow acceleration of the unlighted semitrailer onto a high-speed interstate by an inexperienced and unsupervised driver who was impaired by cocaine. Contributing to the accident was DelCar Trucking's failure to exercise adequate operational oversight and the Federal Motor Carrier Safety Administration's failure to ensure the safety of and provide adequate management oversight for new entrant motor carriers.

Recommendations

To the Federal Motor Carrier Safety Administration:

Revise the Safety Status Measurement System (SafeStat) to base scores on the Driver and Vehicle safety evaluation areas for new motor carriers, so that new motor carriers with high scores in either of these areas can be identified and will receive an immediate compliance review. (H-03-01)

Require all new motor carriers seeking operating authority to demonstrate their safety fitness *prior* to obtaining new entrant operating authority by, at a minimum: (1) passing an examination demonstrating their knowledge of the *Federal Motor Carrier Safety Regulations*; (2) submitting a comprehensive plan documenting that the motor carrier has management systems in place to ensure compliance with the *Federal Motor Carrier Safety Regulations*; and (3) passing a Federal Motor Carrier Safety Administration safety audit, including vehicle inspections. (H-03-02)

BY THE NATIONAL TRANSPORTATION SAFETY BOARD

JOHN A. HAMMERSCHMIDT
Acting Chairman

CAROL J. CARMODY
Member

JOHN J. GOGLIA
Member

Adopted: February 26, 2003

Appendix A

Investigation and Public Hearing

The National Transportation Safety Board was notified of the Loraine, Texas, accident on June 9, 2002. Investigative team members were dispatched from the Washington, D.C., and Fort Worth, Texas, offices. Groups were established to investigate human performance; motor carrier operations; and highway, vehicle, and survival factors.

Participating in the investigation were representatives of the Federal Motor Carrier Safety Administration, the Texas Department of Transportation, the Texas Department of Public Safety, Greyhound Lines, Inc., and Consolidated Safety Services.

No public hearing was held; no depositions were taken.

Appendix B

**Federal Motor Carrier Safety Administration Forms MCS-150,
MCS-150A, and OP-1**



MOTOR CARRIER IDENTIFICATION REPORT

(Application for U.S. DOT Number)

IF THE SPACE ABOVE IS BLANK OR THE INFORMATION THEREIN IS INCORRECT, PLEASE IDENTIFY YOUR COMPANY'S PRINCIPAL OFFICE IN THE SPACES BELOW.

1. NAME OF MOTOR CARRIER/HM SHIPPER			2. TRADE OR D.B.A. (DOING BUSINESS AS) NAME		
3. PRINCIPAL STREET ADDRESS/ROUTE NUMBER			4. MAILING ADDRESS (P O BOX)		
5. CITY	6. STATE/PROVINCE	7. ZIP CODE+4	8. MAILING CITY	9. STATE/PROVINCE	10. ZIP CODE+4
11. COLONIA (MEXICO ONLY)		12. PRINCIPAL PHONE NUMBER		13. COLONIA (MEXICO ONLY)	
				14. PRINCIPAL FAX NUMBER	

15. USDOT NO.	16. MC OR MX NO.	17. DUN & BRADSTREET NO.	18. IRS/TAX ID NO. EIN # SSN #	19. INTERNET E-MAIL ADDRESS
20. CARRIER OPERATION <i>(Circle One)</i>				
A. Interstate		B. Intrastate Only (Hazardous Materials)		C. Intrastate Only (Non-Hazardous Materials)

21. SHIPPER OF HAZARDOUS MATERIALS OPERATION <i>(Circle One)</i>	22. CARRIER MILEAGE (to nearest 10,000 miles for Last Calendar Year) YEAR
A. Interstate B. Intrastate	

23. OPERATION CLASSIFICATION *(Circle All that Apply)*

A. Authorized For-Hire	D. Private Passengers (Business)	G. U.S. Mail	J. Local Government
B. Exempt For-Hire	E. Private Passengers (Non-Business)	H. Federal Government	K. Indian Tribe
C. Private (Property)	F. Migrant	I. State Government	L. Other _____

24. CARGO CLASSIFICATIONS *(Circle All that Apply)*

A. GENERAL FREIGHT	F. LOGS, POLES	J. FRESH PRODUCE	P. GRAIN, FEED, HAY	V. COMMODITIES DRY BULK
B. HOUSEHOLD GOODS	BEAMS, LUMBER	K. LIQUIDS/GASES	Q. COAL/COKE	W. REFRIGERATED FOOD
C. METAL: SHEETS, COILS, ROLLS	G. BUILDING MATERIALS	L. INTERMODAL CONT.	R. MEAT	X. BEVERAGES BB. CONSTRUCTION
D. MOTOR VEHICLES	H. MOBILE HOMES	M. PASSENGERS	S. GARBAGE, REFUSE, TRASH	Y. PAPER PRODUCTS CC. WATER WELL
E. DRIVE AWAY/TOWAWAY	I. MACHINERY, LARGE OBJECTS	N. OIL FIELD EQUIPMENT	T. U.S. MAIL	Z. UTILITY DD. OTHER _____
	O. LIVESTOCK	U. CHEMICALS	AA. FARM SUPPLIES	

25. HAZARDOUS MATERIALS CARRIED OR SHIPPED *(Circle All that Apply.)* C - CARRIED S - SHIPPED B(BULK) - IN CARGO TANKS NB(NON-BULK) - IN PACKAGES

C S A. DIV 1.1	B NB	C S K. DIV 2.2A (AMMONIA)	B NB	C S U. DIV 4.2	B NB	C S EE. HRCQ	B NB
C S B. DIV 1.2	B NB	C S L. DIV 2.3A	B NB	C S V. DIV 4.3	B NB	C S FF. CLASS 8	B NB
C S C. DIV 1.3	B NB	C S M. DIV 2.3B	B NB	C S W. DIV 5.1	B NB	C S GG. CLASS 8A	B NB
C S D. DIV 1.4	B NB	C S N. DIV 2.3C	B NB	C S X. DIV 5.2	B NB	C S HH. CLASS 8B	B NB
C S E. DIV 1.5	B NB	C S O. DIV 2.3D	B NB	C S Y. DIV 6.2	B NB	C S II. CLASS 9	B NB
C S F. DIV 1.6	B NB	C S P. CLASS 3	B NB	C S Z. DIV 6.1A	B NB	C S JJ. ELEVATED TEMP MAT	B NB
C S G. DIV 2.1	B NB	C S Q. CLASS 3A	B NB	C S AA. DIV 6.1B	B NB	C S KK. INFECTIOUS WASTE	B NB
C S H. DIV 2.1LPG	B NB	C S R. CLASS 3B	B NB	C S BB. DIV 6.1POISON	B NB	C S LL. MARINE POLLUTANTS	B NB
C S I. DIV 2.1(METHANE)	B NB	C S S. COMB LIQ	B NB	C S CC. DIV 6.1SOLID	B NB	C S MM. HAZARDOUS SUB(RQ)	B NB
C S J. DIV 2.2	B NB	C S T. DIV 4.1	B NB	C S DD. CLASS 7	B NB	C S NN. HAZARDOUS WASTE	B NB
						C S OO. ORM	B NB

26. EQUIPMENT	P A S S E N G E R S								
	Straight Trucks	Truck Tractors	Trailers	HazMat Cargo Tank Trailers	HazMat Cargo Tank Trucks	Motor coach	School bus	Mini-bus/Van	Limousine
OWNED									
TERM LEASED									
TRIP LEASED									

27. DRIVER INFORMATION

INTERSTATE	INTRASTATE
100-Mile Radius _____	100-Mile Radius _____
Beyond 100-Mile Radius _____	Beyond 100-Mile Radius _____
TOTAL DRIVERS _____	
TOTAL CDL DRIVERS _____	

28. CERTIFICATION STATEMENT (to be completed by an authorized official)

I, _____, certify that I am familiar with the Federal Motor Carrier Safety Regulations and/or the Federal Hazardous Materials Regulations. Under penalties of perjury, I declare that the information entered on this report is, to the best of my knowledge and belief, true, correct, and complete.

(Please print Name)

Signature _____ Date _____ Title _____



U.S. Department of Transportation
Federal Motor Carrier Safety Administration

Safety Certification for Application

(Safety Certification for Application for U.S. DOT Number)

1. NAME OF MOTOR CARRIER				2. TRADE OR D.B.A. (DOING BUSINESS AS) NAME			
3. PRINCIPAL STREET ADDRESS/ROUTE NUMBER				4. MAILING ADDRESS (P O BOX)			
5. CITY	6. STATE/PROVINCE	7. ZIP CODE+4	8. MAILING CITY	9. STATE/PROVINCE	10. ZIP CODE+4		
11. PRINCIPAL PHONE NUMBER				12. PRINCIPAL FAX NUMBER			
13. USDOT NO.	14. MC OR MX NO.	15. DUN & BRADSTREET NO.	16. IRS/TAX ID NO. EIN#	SSN#	17. INTERNET E-MAIL ADDRESS		
18. SAFETY CERTIFICATIONS (Applicants subject to FMCSRs must complete certification item(s) 18A through 18C).							
A. Applicant maintains current copies of all U.S. DOT Federal Motor Carrier Safety Regulations, Federal Motor Vehicle Safety Standards, and the Hazardous Materials Regulations (if a property carrier transporting hazardous materials), understands and will comply with such regulations, and has ensured that all company personnel are aware of the current requirements.						Yes <input type="checkbox"/>	No <input type="checkbox"/>
B. Applicant certifies that the following tasks and measures will be fully accomplished and procedures fully implemented before it commences operations in the United States.							
1. Driver qualifications:							
a) The carrier has in place a system and procedures for ensuring the continued qualification of drivers to operate safely, including a safety record for each driver, procedures for verification of proper licensing of each driver and procedures for identifying drivers who are not complying with the safety regulations.						Yes <input type="checkbox"/>	No <input type="checkbox"/>
b) The carrier has procedures in place to review drivers' employment and driving histories for at least the last 3 years to determine whether or not the individual is qualified and competent to drive safely.						Yes <input type="checkbox"/>	No <input type="checkbox"/>
c) The carrier has established a program to review the records of each driver at least once every 12 months and will maintain a record of the review.						Yes <input type="checkbox"/>	No <input type="checkbox"/>
d) The carrier will ensure that all of its drivers are at least 21 years of age and if applicable possess a valid Commercial Drivers License (CDL).						Yes <input type="checkbox"/>	No <input type="checkbox"/>
2. Hours of Service:							
a) The carrier has in place a recordkeeping system and procedures to monitor the hours-of-service performed by drivers, including procedures for continuing review of drivers' log books, and for ensuring compliance with all operations requirements.						Yes <input type="checkbox"/>	No <input type="checkbox"/>
b) The carrier has ensured that all drivers are knowledgeable of the hours-of-service requirements, and has clearly and specifically instructed the drivers concerning the application to them of the 10-hour, 15-hour, and 60 and 70-hour rules as well as the requirement for preparing daily log entries in their own handwriting for each 24-hour period.						Yes <input type="checkbox"/>	No <input type="checkbox"/>
3. Drug and alcohol testing:							
a) The carrier is familiar with the alcohol and controlled substance testing requirements of 49 CFR part 382 and 49 CFR part 40 and has in place a program for systematic testing of drivers.						Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
4. Vehicle condition:							
a) The carrier has established a system and procedures for inspection, repair and maintenance of its vehicles in a safe condition, and for preparation and maintenance of records of inspection, repair and maintenance in accordance with the Federal Motor Carrier Safety Regulations and the Hazardous Materials Regulations.						Yes <input type="checkbox"/>	No <input type="checkbox"/>
b) The carrier will ensure that all violations and defects noted on inspection reports are corrected before vehicles and drivers are permitted to continue operation.						Yes <input type="checkbox"/>	No <input type="checkbox"/>
5. Accident monitoring program:							

a) The carrier has in place a program for monitoring vehicle accidents and maintains an accident register in accordance with 49 CFR 390.15.	Yes <input type="checkbox"/> No <input type="checkbox"/>
b) The carrier has established an accident countermeasures program and driver training program to reduce accidents.	Yes <input type="checkbox"/> No <input type="checkbox"/>
6. Production of records:	
a) The carrier can and will produce records demonstrating compliance with the safety requirements within 48 hours of receipt of a request from a representative of the USDOT/FMCSA or other authorized Federal or State official.	Yes <input type="checkbox"/> No <input type="checkbox"/>
7. Hazardous Materials (to be completed by carriers of hazardous materials only).	
a) The HM carrier has full knowledge of the U.S. DOT Hazardous Materials Regulations and has established programs for the thorough training of its personnel as required under 49 CFR part 172, Subpart H, and 49 CFR 177.816.	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
b) The carrier has established a system and procedures for inspection, repair and maintenance of its reusable hazardous materials packages (cargo tanks, portable tanks, cylinders, intermediate bulk containers, etc.) in a safe condition, and for preparation and maintenance of records of inspection, repair and maintenance in accordance with the U.S. DOT Hazardous Materials Regulations.	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
c) The HM carrier has established a system and procedures for filing and maintaining HM shipping documents.	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
d) The HM carrier has a system in place to ensure that all HM trucks are marked and placarded as required by 49 CFR part 172, Subparts D and F.	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
e) The carrier will register under 49 CFR part 107, Subpart G, if transporting any quantity of hazardous materials requiring the vehicle to be placarded.	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
8. For Cargo Tank (CT) Carriers of HM	
a) The carrier has a system in place to ensure that its cargo tanks are inspected and tested as required by 49 CFR 180 by a facility registered with the U.S. DOT under part 107, Subpart F.	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
By signing these certifications, the carrier official is on notice that the representations made herein are subject to verification through inspections in the United States and through the request for and examination of records and documents. Failure to support the representations contained in this application could form the basis of a proceeding to assess civil penalties and/or lead to the revocation of the authority granted.	
C. All applicants must certify as follows:	
1. Applicant is willing and able to provide the proposed operations or service and to comply with all pertinent statutory and regulatory requirements and regulations issued or administered by the U.S. Department of Transportation, including operational regulations, safety fitness requirements, motor vehicle safety standards, and minimum financial responsibility requirements.	Yes <input type="checkbox"/> No <input type="checkbox"/>
2. Applicant is willing and able to produce for review or inspection documents which are requested for the purpose of determining compliance with applicable statutes and regulations administered by the U.S. Department of Transportation, including the Federal Motor Carrier Safety Regulations, Federal Motor Vehicle Safety Standards and Hazardous Materials Regulations, within 48 hours of any written request.	Yes <input type="checkbox"/> No <input type="checkbox"/>
3. Applicant is not presently disqualified from operating commercial vehicles in the United States pursuant to the Motor Carrier Improvement Act of 1999 or any other law.	Yes <input type="checkbox"/> No <input type="checkbox"/>
NOTE: All motor carriers must comply with all pertinent Federal, State, local and tribal statutory and regulatory requirements when operating within the United States. Such requirements include, but are not limited to, all applicable statutory and regulatory requirements administered by the U.S. Department of Labor, or by a State agency operating a plan pursuant to Section 18 of the Occupational Safety and Health Act of 1970 ("OSHA State plan agency"). Such requirements also include all applicable statutory and regulatory environmental standards and requirements administered by the U.S. Environmental Protection Agency or a State, local or tribal environmental protection agency. Compliance with these statutory and regulatory requirements may require motor carriers and/or individual operators to produce documents for review and inspection for the purpose of determining compliance with such statutes and regulations.	
19. Certification Statement (to be completed by an authorized official)	
I, _____, certify that I am familiar with the Federal Motor Carrier Safety Regulations and/or the Federal Hazardous Materials Regulations. Under penalties of perjury, I declare that the information entered on this report is, to the best of my knowledge and belief, true, correct, and complete. <small>(Please print Name)</small>	
Signature _____	Date _____ Title _____

FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION

Approved by OMB

FORM OP-1

2125-0568

APPLICATION FOR MOTOR PROPERTY CARRIER AND BROKER AUTHORITY

Expires 04/30/01

This application is for all individuals and businesses requesting authority to operate as motor property common or contract carriers or property brokers.

FOR FMCSA USE ONLY
Docket No. MC-_____
Filed _____
Fee No. _____
CC Approval No. _____

SECTION I	Do you now have authority from or an application being processed by the former ICC, FHWA, OMCS or FMCSA? G NO G YES If yes, identify the lead docket number(s)
Applicant Information	LEGAL BUSINESS NAME
	DOING BUSINESS AS NAME
	BUSINESS ADDRESS _____ Street Name and Number City State Zip Code Telephone Number
	MAILING ADDRESS (If different from above) Street Name and Number City State Zip Code
	REPRESENTATIVE (Person who can respond to inquiries) _____ title, position, or relationship to applicant _____ Name and Number Street City State Zip Code Telephone Number (_____) FAX Number (_____)
	U.S. DOT Number (If available; if not, see Instructions.)
	FORM OF BUSINESS (Check only one.) G Corporation State of Incorporation G Sole Proprietorship Name of Individual G Partnership Identify Partners

FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION

Approved by OMB

FORM OP-1

2125-0568

APPLICATION FOR MOTOR PROPERTY CARRIER AND BROKER AUTHORITY

Expires 04/30/01

<p align="center">SECTION II</p> <p>Type of Authority</p>	<p>You must submit a filing fee of \$300.00 for each type of authority requested (for each box checked).</p> <p>G MOTOR COMMON CARRIER OF PROPERTY (except HOUSEHOLD GOODS)</p> <p>G MOTOR CONTRACT CARRIER OF PROPERTY (except HOUSEHOLD GOODS)</p> <p>G MOTOR COMMON CARRIER OF HOUSEHOLD GOODS</p> <p>G MOTOR CONTRACT CARRIER OF HOUSEHOLD GOODS</p> <p>G BROKER OF PROPERTY (except HOUSEHOLD GOODS)</p> <p>G BROKER OF HOUSEHOLD GOODS</p> <p>G UNITED STATES BASED ENTERPRISE OWNED OR CONTROLLED BY PERSONS OF MEXICO PROVIDING TRUCK SERVICES FOR THE TRANSPORTATION OF INTERNATIONAL CARGO (except HOUSEHOLD GOODS)</p> <p>G UNITED STATES BASED ENTERPRISE OWNED OR CONTROLLED BY PERSONS OF MEXICO PROVIDING TRUCK SERVICES FOR THE TRANSPORTATION OF INTERNATIONAL HOUSEHOLD GOODS</p>
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<p align="center">SECTION III</p> <p>Insurance Information</p>	<p>This section must be completed by ALL motor property carrier applicants. The dollar amounts in parentheses represent the minimum amount of bodily injury and property damage (liability) insurance coverage you must maintain and have on file with the FMCSA.</p> <p>NOTE: Refer to the instructions for information on cargo insurance filing requirements for motor common carriers and surety bond/trust fund agreement filings for property brokers.</p> <p>G Will operate vehicles having Gross Vehicle Weight Ratings (GVWR) of 10,000 pounds or more to transport:</p> <p style="padding-left: 20px;">G Non-hazardous commodities (\$750,000).</p> <p>G Hazardous materials referenced in the FMCSA's insurance regulations at 49 CFR 1043.2(b)(2)(c) (\$1,000,000).</p> <p>G Hazardous materials referenced in the FMCSA's insurance regulations at 49 CFR 1043.2(b)(2)(b) (\$5,000,000).</p> <p>G Will operate only vehicles having Gross Vehicle Weight Ratings (GVWR) under 10,000 pounds to transport:</p> <p>G Any quantity of Class A or B explosives, any quantity of poison gas (Poison A), or highway route controlled quantity of radioactive materials (\$5,000,000).</p> <p>G Commodities other than those listed above (\$300,000).</p>
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APPLICATION FOR MOTOR PROPERTY CARRIER AND BROKER AUTHORITY - OP-1 (cont.)

<p>SECTION IV</p> <p>Safety Certification (Motor Carrier Applicants Only)</p>	<p>APPLICANTS SUBJECT TO FEDERAL MOTOR CARRIER SAFETY REGULATIONS - If you will operate vehicles of more than 10,000 pounds GVWR and are, thus, subject to pertinent portions of the U.S. DOT's Federal Motor Carrier Safety Regulations at 49 CFR, Chapter 3, Subchapter B (Parts 350-399), you must certify as follows:</p> <p>Applicant has access to and is familiar with all applicable U.S. DOT regulations relating to the safe operation of commercial vehicles and the safe transportation of hazardous materials and it will comply with these regulations. In so certifying, applicant is verifying that, at a minimum, it:</p> <ol style="list-style-type: none"> (1) Has in place a system and an individual responsible for ensuring overall compliance with Federal Motor Carrier Safety Regulations; (2) Can produce a copy of the Federal Motor Carrier Safety Regulations and the Hazardous Materials Transportation Regulations; (3) Has in place a driver safety training/orientation program; (4) Has prepared and maintains an accident register (49 CFR 390.15); (5) Is familiar with DOT regulations governing driver qualifications and has in place a system for overseeing driver qualification requirements (49 CFR Part 391); (6) Has in place policies and procedures consistent with DOT regulations governing driving and operational safety of motor vehicles, including drivers' hours of service and vehicle inspection, repair, and maintenance (49 CFR Parts 392, 395 and 396); (7) Is familiar with and will have in place on the appropriate effective date, a system for complying with U.S. DOT regulations governing alcohol and controlled substances testing requirements (49 CFR 382 and 49 CFR Part 40). <p>G YES</p> <p>EXEMPT APPLICANTS - If you will operate only small vehicles (GVWR under 10,000 pounds) and will not transport hazardous materials, you are exempt from Federal Motor Carrier Safety Regulations, and must certify as follows:</p> <p>Applicant is familiar with and will observe general operational safety guidelines, as well as any applicable State and local laws and requirements relating to the safe operation of commercial motor vehicles and the safe transportation of hazardous materials.</p> <p>G YES</p>
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<p>SECTION V</p> <p>Affiliations</p>	<p>AFFILIATION WITH OTHER FORMER ICC, FHWA OR OMCS, NOW FMCSA-LICENSED ENTITIES. Disclose any relationship you have or have had with any other FMCSA-regulated entity within the past 3 years. For example, this could be through a percentage of stock ownership, a loan, or a management position. If this requirement applies to you, provide the name of the company, MC-number, DOT number, and that company's latest U.S. DOT safety rating. (If you require more space, attach the information to this application form.)</p> <hr/> <p>—</p> <hr/> <p>—</p> <hr/> <p>—</p> <hr/> <p>—</p>
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SECTION VI

**Household Goods
Certifications**

HOUSEHOLD GOODS MOTOR COMMON CARRIER APPLICANTS including United States-based enterprises owned or controlled by persons of Mexico providing truck services for the transportation of international household goods shipments must certify as follows:

Applicant is fit, willing, and able to provide the specialized services necessary to transport household goods. This assessment of fitness includes applicant's general familiarity with former ICC, FHWA, or OMCS now FMCSA regulations for household goods movements and also requires an assurance that applicant has or is willing to acquire the protective equipment and trained operators necessary to perform household goods movements and that applicant will offer arbitration as a means of settling loss and damage disputes on collect-on-delivery shipments. The proposed operations will serve a useful public purpose responsive to a public demand or need.

G YES

HOUSEHOLD GOODS MOTOR CONTRACT CARRIER APPLICANTS must certify as follows: Applicant is fit, willing, and able to provide the specialized services including United States-based enterprises owned or controlled by persons of Mexico providing truck services for the transportation of international household goods shipments necessary to transport household goods. This assessment of fitness includes applicant's general familiarity with former ICC, FHWA, or OMCS, now FMCSA regulations for household goods movements and also requires an assurance that applicant has or is willing to acquire the protective equipment and trained operators necessary to perform household goods movements and that applicant will offer arbitration as a means of settling loss and damage disputes on collect-on-delivery shipments. The proposed service will be consistent with the public interest and the transportation policy of 49 U.S.C. 10101.

G YES

HOUSEHOLD GOODS BROKER APPLICANTS must certify as follows: Applicant is fit, willing, and able to provide household goods brokerage operations and to comply with all pertinent statutory and regulatory requirements. The involved services will be consistent with the public interest and the transportation policy of 49 U.S.C. 10101.

G YES

NOTE: Applicant may attach a supporting statement to this application to provide additional information about any of the above certifications. This evidence is optional.

APPLICATION FOR MOTOR PROPERTY CARRIER AND BROKER AUTHORITY - OP-1 (cont.)

<p>SECTION VII</p> <p>Applicants for Contract Carriage of Household Goods</p>	<p>SCOPE OF OPERATING AUTHORITY. Complete one or both box(es) below, as applicable.</p> <p>G Contracting shippers have one or more of the distinct needs delineated in <i>Interstate Van Lines, Inc., Extension - Household Goods</i>, 5 I.C.C.2d 168 (1988). Describe briefly the distinct need(s):</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>G Contracts provide for assignment of one or more vehicles for the exclusive use of each shipper in the manner specified in <i>Interstate Van Lines, Inc., Extension - Household Goods</i>, 5 I.C.C.2d 168 (1988).</p>
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<p>SECTION VIII</p> <p>Applicant's Oath</p>	<p>This oath applies to all supplemental filings to this application. <u>The signature must be that of applicant, not legal representative.</u></p> <p>I, _____, verify under penalty of <i>Name and title</i></p> <p>perjury, under the laws of the United States of America, that all information supplied on this form or relating to this application is true and correct. Further, I certify that I am qualified and authorized to file this application. I know that willful misstatements or omissions of material facts constitute Federal criminal violations punishable under 18 U.S.C. 1001 by imprisonment up to 5 years and fines up to \$10,000 for each offense. Additionally, these misstatements are punishable as perjury under 18 U.S.C. 1621, which provides for fines up to \$2,000 or imprisonment up to 5 years for each offense.</p> <p>I further certify under penalty of perjury, under the laws of the United States, that I have not been convicted, after September 1, 1989, of any Federal or State offense involving the distribution or possession of a controlled substance, or that if I have been so convicted, I am not ineligible to receive Federal benefits, either by court order or operation of law, pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988 (21 U.S.C. 862)</p> <p>Finally, I certify that applicant is not domiciled in Mexico or owned or controlled by persons of that country. (Note: This portion of Applicant's does not pertain to applicants that are U.S.-based enterprises owned or controlled by persons of Mexico seeking to provide truck services for the transportation of international cargo.)</p> <p>Signature _____ Date _____</p>
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FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION

Approved by OMB

FORM OP-1

2125-0568

APPLICATION FOR MOTOR PROPERTY CARRIER AND BROKER AUTHORITY

Expires 04/30/01

Filing Fee Information	<p>All applicants must submit a filing fee for each type of authority requested. The enclosed fee schedule will show the appropriate filing fee. The total amount due is equal to the fee times the number of boxes checked in Section II. Fees for multiple authorities may be combined in a single payment.</p> <p>Total number of boxes checked in Section II: _____ x filing fee \$ _____ = \$ _____</p> <p>INDICATE AMOUNT \$ _____ AND METHOD OF PAYMENT</p> <p><input type="checkbox"/> CHECK or <input type="checkbox"/> MONEY ORDER, payable to: FMCSA</p> <p><input type="checkbox"/> VISA <input type="checkbox"/> MASTERCARD</p> <p>Credit Card Number _____ Expiration Date _____</p> <p>Signature _____ Date _____</p>
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Fee Policy	<ul style="list-style-type: none"> ! Filing fees must be payable to the Federal Motor Carrier Safety Administration, by check drawn upon funds deposited in a bank in the United States or money order payable in U.S. currency or by approved credit card. ! Separate fees are required for each type of authority requested. If applicant requests multiple types of permanent authority on one application form (for example, common and contract carrier authority) or if applicant submits more than one form in the OP-1 Series in a single filing, multiple fees are required. The applicant may submit a single payment for the <u>sum of the applicable fees</u>. ! Filing fees must be sent, along with the original and one copy of the application, to FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION, P. O. Box 100147, Atlanta, GA, 30384-0147. For express mail only: Nationsbank Wholesale Lockbox 100147, 6000 Feldwood Road, 3rd Floor East, College Park, GA 30349. For credit card only: FMCSA, Suite 600, 400 Virginia Avenue, S.W., Washington, D.C., 20024. ! After an application is received, the filing fee is not refundable. ! The FMCSA reserves the right to discontinue processing any application for which a check is returned because of insufficient funds. The application will not be processed until the fee is paid in full.
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PAPERWORK BURDEN. It is estimated that an average of 2 burden hours per response are required to complete this collection of information. This estimate includes time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Comments concerning the accuracy of this burden estimate or suggestions for reducing this burden should be directed to the FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION, Licensing Division, Suite 600, 400 Virginia Avenue, SW, Washington, DC 20024. This collection of information is required in order for the FMCSA to obtain data and register for-hire motor carriers of regulated commodities, property brokers, and certain U.S.-based Mexican-owned enterprise property carriers. Please note that an agency may not conduct or sponsor, a person is not required to respond to a collection of information unless it displays a currently-valid OMB control number. The OMB control number for this collection is 2121-0016.

