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COMMERCIAL MOTOR CARRIERS

DOT Is Shifting to Performance-Based Standards to Assess Whether Carriers Operate Safely





**United States
General Accounting Office
Washington, D.C. 20548**

**Resources, Community, and
Economic Development Division**

B-277481

November 3, 1997

The Honorable Ray LaHood
House of Representatives

Dear Mr. LaHood:

About 5,000 people die annually in the United States in accidents involving commercial motor vehicles (large trucks, commercial buses, and hazardous materials vehicles). To reduce serious accidents involving these vehicles, the Office of Motor Carriers, within the Department of Transportation's (DOT) Federal Highway Administration, is responsible for implementing commercial motor vehicle safety programs. The Office of Motor Carriers' investigators conduct on-site reviews of motor carriers' compliance with federal safety regulations, known as compliance reviews, that are used to determine whether each carrier is fit to operate safely on the nation's highways, known as a safety fitness rating. The Office of Motor Carriers also provides matching grants under the Motor Carrier Safety Assistance Program for states to perform roadside inspections of commercial vehicles and drivers, compliance reviews, and other commercial vehicle safety programs. The reauthorization of the Motor Carrier Safety Assistance Program is currently under consideration by the Congress as part of the deliberations over reauthorizing the Intermodal Surface Transportation Efficiency Act of 1991.

You requested that we examine the efficiency and effectiveness of the Office of Motor Carriers' commercial motor vehicle safety programs. Specifically, you asked us to report on the efforts by the Office of Motor Carriers and the states to (1) reduce serious accidents by conducting roadside inspections and compliance reviews, (2) better target motor carriers for compliance reviews, and (3) improve the compliance review criteria for assessing and rating a carrier's safety fitness. To obtain this information, we interviewed the Motor Carrier Safety Assistance Program's coordinators for 16 states that we selected to provide geographical diversity and a range of compliance reviews performed. We also contacted participants in the five-state pilot program of the Office of Motor Carriers' new Safety Status Measurement System, which uses accident data and the results of roadside inspections and compliance reviews to identify motor carriers with poor on-the-road performance for compliance reviews.

Results in Brief

Federal, state, and industry officials told us that federal and state initiatives to improve the safety of commercial vehicles and actions taken by trucking firms to improve the safety of their trucks and drivers were the most important factors behind the 42-percent reduction in the fatal accident rate for large trucks from 1983 to 1995.¹ In particular, the number of roadside inspections increased from 25,000 performed by federal inspectors in fiscal year 1983 to 2.1 million performed predominantly by state inspectors in fiscal 1996. Compliance reviews also increased from 6,211 in fiscal year 1989 to 8,952 in fiscal 1996, in part because the Office of Motor Carriers encouraged the states to develop comprehensive safety programs for commercial vehicles, including compliance reviews. Effective in fiscal year 1998, the Office of Motor Carriers revised the criteria for awarding funding from the Motor Carrier Safety Assistance Program to provide each state with more flexibility in choosing the combination of programs—including roadside inspections and compliance reviews—that would best reduce accidents involving commercial vehicles.

The Office of Motor Carriers has sought to target motor carriers that pose the greatest potential risk to highway safety for compliance reviews. To do this, the Office of Motor Carriers often targeted passenger carriers and hazardous materials carriers—because of the potential serious consequences if their vehicles were involved in accidents—rather than carriers with the worst highway safety records. As a result, 63 percent of the carriers that received a compliance review in fiscal year 1996 had not had a recordable accident² during the previous 12 months. In April 1997, consistent with the Government Performance and Results Act of 1993, the Office of Motor Carriers began using performance-based data through its Safety Status Measurement System to identify carriers with the worst highway safety records. Complete and timely data on accidents, roadside inspections, and compliance reviews that the states submit to the Office of Motor Carriers are key to implementing performance-based criteria. While many states have improved the completeness and timeliness of their data submissions in recent years, the Office of Motor Carriers found that (1) the states, overall, reported only about 74 percent of the recordable accidents in 1995 and (2) during fiscal year 1997, five states submitted accident data more than 6 months, on average, after the accidents occurred. Without these data, the Office of Motor Carriers and the states cannot effectively

¹Large trucks accounted for 99 percent of the fatal accidents involving commercial motor vehicles in 1995.

²A recordable accident is defined as one involving a commercial vehicle operating on a public road that resulted in a fatality, bodily injury that required medical treatment, or the towing of a vehicle from the accident scene.

target their limited compliance review resources on the motor carriers with safety problems.

The Office of Motor Carriers is in the early stages of revising its criteria for assessing and rating a commercial motor carrier's safety fitness. Currently, the Office of Motor Carriers rates carriers on the basis of compliance reviews that examine a carrier's (1) compliance with federal motor carrier safety regulations (primarily those related to financial responsibility; drivers' qualifications and operations, including hours-of-service; vehicle inspection and maintenance; and any hazardous materials handling) and (2) recordable, preventable accident rate. Trucking industry representatives favor revising the existing criteria for a safety fitness rating because, in their opinion, these criteria give too much weight to such record-keeping requirements as drivers' hours-of-service records instead of on-the-road safety performance. While compliance reviews will continue to be an important element of the federal motor carrier safety program, the Office of Motor Carriers plans to publish an advance notice of proposed rule making later this year to solicit public comments on alternatives for rating motor carriers' safety fitness. One option under consideration is to rely on accident data, roadside inspections, and other performance-based data for safety fitness ratings. This approach depends on the successful implementation of the Safety Status Measurement System and improved reporting of safety data.

Background

Established in 1983, the Motor Carrier Safety Assistance Program (MCSAP) provides grants to states to support commercial motor vehicle safety programs aimed at (1) large trucks that have a gross vehicle weight rating of at least 10,000 pounds, (2) vehicles used to transport more than 10 passengers, and (3) vehicles used to transport hazardous materials. Under MCSAP, the federal government funds up to 80 percent of the costs of each state's motor carrier safety program. Federal funding for MCSAP has increased from \$8 million in fiscal year 1984 to \$78.2 million in fiscal 1997. The Intermodal Surface Transportation Efficiency Act of 1991 required that by January 1994, each of the 48 contiguous states participate in Safetynet, the Office of Motor Carrier's (OMC) automated database system used to monitor the safety performance of commercial motor carriers. The act also directed OMC to provide grants for states to develop a Commercial Vehicle Information System³ that would link OMC's motor carrier safety information with states' motor vehicle registration systems. The

³OMC recently changed the name of this program to Performance Registration Information System Management.

Commercial Vehicle Information System project led to the development of OMC's Safety Status Measurement System (SafeStat) program.

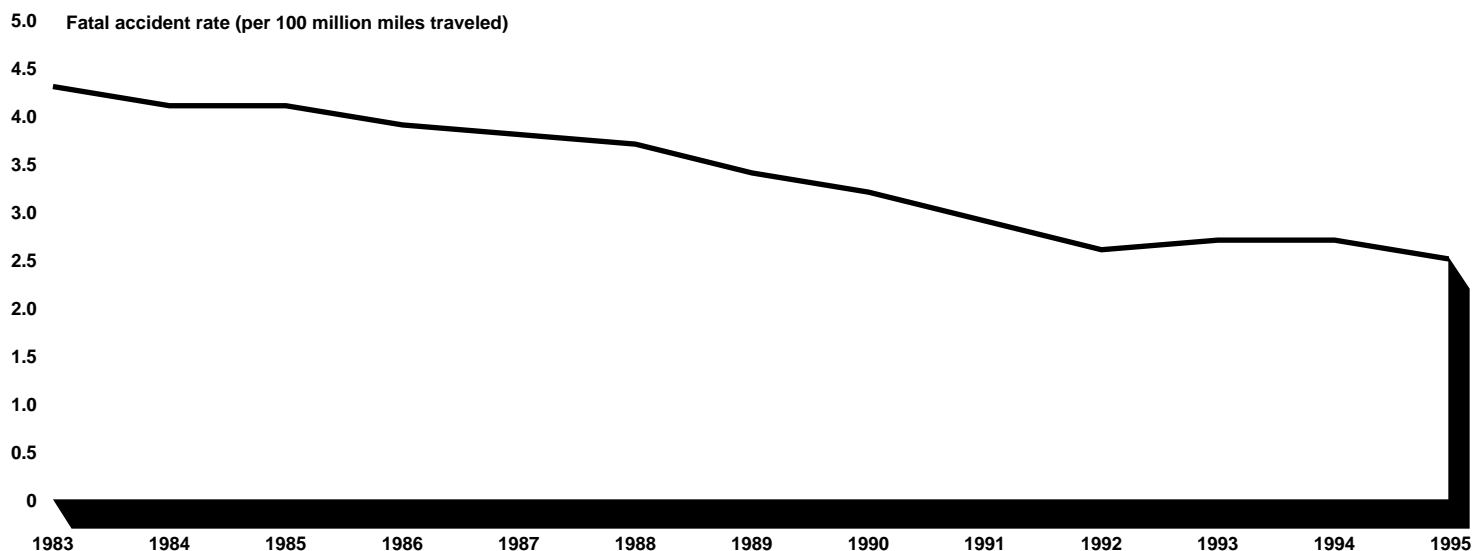
The Motor Carrier Safety Act of 1984 directed the Secretary of Transportation to establish a procedure to determine the safety fitness of owners and operators of commercial vehicles. In response, OMC modified its existing safety management audit program to institute safety reviews⁴ with follow-up compliance reviews. During a compliance review, OMC and/or state investigators perform an on-site review of a motor carrier's compliance with federal safety regulations by assessing its policies, management controls, and operations. Typically, investigators examine a sample of the carrier's records, including drivers' hours-of-service logs, commercial drivers' license requirements, alcohol- and drug-testing records, vehicle maintenance and inspection records, and accident records. Investigators also may perform full vehicle inspections of several of the carrier's vehicles. The investigators give the carrier a satisfactory, conditional, or unsatisfactory rating on the basis of this review.

From 1983 through 1995, the rate of fatal accidents involving large trucks dropped by 42 percent—from 4.3 to 2.5 fatal accidents per 100 million vehicle miles traveled.⁵ (See fig. 1.) The lower fatal accident rate reflects a (1) 57-percent growth in total vehicle miles driven by large trucks and (2) 9-percent drop in the number of large trucks involved in fatal accidents. However, almost all of this decline occurred during MCSAP's first 10 years; since 1992, the fatal accident rate has been relatively stable. In contrast, the total number of large trucks involved in fatal accidents increased from 4,035 in 1992 to 4,740 in 1996; 4,035 and 5,126 people died from these accidents, respectively. (See table I.1 in app. I.)

⁴Safety reviews were designed to teach motor carriers about safety regulations and determine whether the carriers' safety management controls complied with these regulations. In 1994, OMC replaced safety reviews with educational contacts performed only by states that do not rate a carrier's operations.

⁵DOT's traffic safety data track large trucks more carefully than other commercial vehicles because the former are involved in substantially more fatal accidents. For example, only 23 intercity buses were involved in fatal accidents in 1995.

Figure 1: Rate of Fatal Accidents Involving Large Trucks, 1983 Through 1995



Source: National Highway Traffic Safety Administration.

The interstate trucking industry has grown rapidly in recent years from about 213,000 firms in 1990 to about 379,000 in 1996.

MCSAP and Other Initiatives Have Contributed to Improved Commercial Motor Vehicle Safety

OMC and state officials and industry representatives told us that the most important factors in reducing the rate of fatal accidents involving commercial vehicles were federal and state initiatives to improve safety for commercial vehicles and actions that trucking firms have taken to improve the safety of their trucks and drivers. In particular, the states assumed the responsibility for conducting roadside inspections of commercial vehicles under MCSAP, and OMC expanded its compliance review program under the 1984 safety fitness requirement. OMC and the states also established drug- and alcohol-testing requirements and a commercial driver's license program designed to eliminate the opportunity for drivers to evade law enforcement penalties by using commercial licenses from more than one state. As OMC and the states expanded their safety programs, many trucking firms implemented safety programs and

improved their vehicles' maintenance. OMC recently announced that it will work with the states to develop performance-based Commercial Vehicle Safety Plans that give each state more flexibility to decide the best combination of programs for reducing truck accidents while maintaining the current levels of roadside inspections.

States Conduct Almost All Roadside Inspections

With the establishment of MCSAP, the responsibility for conducting roadside inspections of commercial vehicles shifted from OMC to the states. As a result, total inspections increased from 25,000 performed by OMC inspectors in 1983 to 2.1 million performed predominantly by state inspectors in 1996. (See table I.2 in app. I.) The use of state inspectors also expanded the program's coverage because federal personnel are authorized to inspect only commercial vehicles engaged in interstate and foreign commerce, while state personnel can inspect vehicles operating in both intrastate and interstate commerce. In fiscal year 1996, 16 percent of the vehicles inspected were engaged in intrastate commerce.

State inspectors and enforcement officers can conduct any of five levels of inspection that focus on the vehicle and/or the driver. Level 1 inspections,⁶ the most rigorous, accounted for 46 percent of the fiscal year 1996 inspections, ranging from 91 percent of the inspections in California to 4 percent of the inspections in South Dakota. (See table I.3 in app. I.) In comparison, level 2 inspections, which check the driver and readily observable vehicle items—such as tires and lights but not the brakes—accounted for 30 percent of the inspections; level 3 inspections, which focus on such driver-related items as hours of service and the commercial driver's license, accounted for 22 percent of the inspections; and level 4 and level 5 inspections (special purpose inspections) accounted for the remaining 2 percent of the inspections in fiscal year 1996.

An important measure of safety is the percentage of vehicles and drivers that inspectors put out of service until violations are corrected. Out-of-service rates for vehicles have dropped from a high of 39 percent, on average, in fiscal year 1986 to 21 percent, on average, in fiscal 1996.⁷ The out-of-service rate for drivers generally has remained steady, ranging

⁶A level 1 inspection involves a complete examination of the vehicle, including (1) an examination of brakes, tires, lights, and the load, to determine if it is properly secured, and (2) a review of the driver, including hours-of-service logs.

⁷The out-of-service rate for vehicles in fiscal year 1996 was 26.3 percent if level 3 and level 4 inspections, which primarily focus on the driver, are excluded.

from 6 to 8 percent during this period. State police officials responsible for roadside inspection programs in several states told us that the condition of trucks on the road today is substantially better than that of trucks at the beginning of MCSAP.

States Are Performing More Compliance Reviews

While OMC has had the primary responsibility for conducting compliance reviews since the inception of the safety fitness program, many states have substantially increased their involvement in an effort to develop comprehensive commercial vehicle safety programs. OMC performed 6,211 compliance reviews and the states performed 5 in fiscal year 1989, the first year for which data are available. In fiscal year 1996, OMC performed 5,241 compliance reviews, and states performed 3,711.⁸ (See table I.4 in app. I.) Figure 2 shows that 26 states performed at least 25 compliance reviews in fiscal year 1996; 11 states performed fewer than 25 compliance reviews; and 13 states, the District of Columbia, and Puerto Rico did not perform any compliance reviews.

⁸In addition, the California Highway Patrol performed 14,785 terminal inspections pursuant to California state law. These terminal inspections do not meet OMC's compliance review standards because they do not include, for example, a review of a carrier's policies and drivers' hours-of-service logs.

Figure 2: Compliance Reviews Performed by Each State, Fiscal Year 1996



Note: Totals exclude California's terminal inspections as well as any compliance reviews of shippers, intrastate carriers, 16-passenger vans, and school buses.

Source: OMC.

The 16 MCSAP state coordinators we contacted generally believe that compliance reviews are an essential element of a comprehensive commercial vehicle safety program. Greater state involvement in conducting compliance reviews would extend the program's coverage to include intrastate motor carriers, which OMC has no authority to audit. During the past 3 years, about 26 percent of the commercial vehicle accidents reported to Safetynet involved vehicles operated by intrastate carriers, including dump trucks and garbage trucks. Maryland State Police

officials noted that these trucks may rarely be inspected because they operate within a metropolitan area and can more readily bypass state weigh stations by using other routes. In fiscal year 1996, 24 states conducted compliance reviews of one or more intrastate commercial motor carriers.

OMC officials told us that their policy is to encourage, but not require, states to develop compliance review programs. While the OMC officials support a greater state role in conducting compliance reviews, they noted that OMC wants to give each state more flexibility to decide the combination of programs that would best reduce commercial vehicle accidents. OMC also has offered states the option to issue "U.S. DOT numbers" to intrastate carriers and enter them into OMC's motor carrier management information system to provide a single set of identification numbers for tracking accidents and the results of roadside inspections and compliance reviews.⁹ OMC requires, however, that states conduct a census of their intrastate carriers to provide a complete and accurate list of carriers. Connecticut, Kentucky, Indiana, Utah, and Wyoming have completed their census, and other states have expressed an interest in using U.S. DOT numbers.

MCSAP coordinators for several states we contacted believe that their state could assume lead responsibility for conducting compliance reviews. However, MCSAP coordinators in several other states expressed concern about further expanding their state's role in the compliance review program because of funding and personnel constraints. For example, one coordinator stated that, without additional MCSAP funding, his state may have to reduce the number of roadside inspections to conduct more compliance reviews. Some MCSAP coordinators also told us that their state laws do not provide them with adequate legal authority to conduct compliance reviews of intrastate carriers or to impose civil fines for the violations found during a review.

**OMC Requires
Performance-Based State
Safety Plans**

Effective in fiscal year 1998, OMC initiated performance-based Commercial Vehicle Safety Plans to replace the State Enforcement Plan that each state submits annually as a basis for receiving MCSAP funds. The new plan is intended to give each state more flexibility in choosing the combination of programs that would best achieve the goal of reducing motor carrier

⁹OMC requires that each interstate motor carrier obtain either a U.S. DOT number or an Interstate Commerce Commission number and display it on each of its interstate vehicles. DOT has initiated a rule making to consolidate the two sets of carrier numbers in response to the termination of the Interstate Commerce Commission in 1995.

accidents in the state while retaining minimum levels of effort for roadside inspections. In contrast, the State Enforcement Plan had established safety activity goals for the forthcoming year, including the number of roadside inspections and law enforcement activities.

In fiscal year 1996, OMC provided the states with \$54 million for MCSAP's basic grant program and \$22.6 million for designated program activities, such as hazardous materials training and covert operations.¹⁰ (See table I.5 in app. I.) Several MCSAP coordinators suggested moving some of MCSAP's designated program funding to MCSAP's basic grant funding because, in accordance with the new Commercial Vehicle Safety Plans, the states should be given more flexibility to determine the best use of funds for reducing motor carrier accidents. Some MCSAP coordinators said that using funds for designated activities sometimes is not an efficient use of their state's limited resources, adding that their state could use these funds more productively in other motor carrier safety programs.

SafeStat Is Designed to Better Target Compliance Reviews

OMC and the states have rated the safety fitness of about 34 percent of the 379,000 commercial motor carriers currently engaged in interstate and foreign commerce. In 1989, OMC had announced its intention to assess the safety fitness of each commercial motor carrier. However, because the number of interstate carriers has grown rapidly in recent years and resources for conducting compliance reviews are limited, OMC subsequently targeted compliance reviews on carriers that pose the greatest potential risk to highway safety. In fiscal year 1996, OMC and the states conducted 8,952 compliance reviews of commercial motor carriers, including about 4,324 first-time reviews and 4,628 follow-up reviews.

In fiscal year 1996, OMC identified motor carriers for compliance reviews primarily through its Selective Compliance and Enforcement (SCE) list, which prioritized motor carriers on such factors as the commodity being transported and the carrier's out-of-service rate for vehicles, prior compliance reviews, and the written complaints that it had received. In April 1997, consistent with the Government Performance and Results Act of 1993,¹¹ OMC began using SafeStat, a computer program that uses performance-based data on accidents, roadside inspections, and

¹⁰The covert operations program is designed to catch out-of-service vehicles that leave a roadside inspection area before repairs have been made.

¹¹The act required federal agencies to develop, by the end of fiscal year 1997, 5-year strategic plans that are the starting point for agencies to set annual goals for programs and measure their performance in achieving these goals. (See 5 U.S.C. 306.)

compliance reviews to identify problem carriers. OMC also is working with the states to improve the completeness and timeliness of their safety data reporting to the Safetynet database.

OMC's SCE List Used Descriptive and Performance Data

As shown in table 1, OMC used the SCE list to select 46 percent of the motor carriers for a compliance review in fiscal year 1996. The SCE list prioritized motor carriers on the basis of (1) the commodity transported; (2) their annual mileage; (3) the months since the last safety fitness rating; (4) their vehicles' out-of-service rate; (5) their drivers' out-of-service rate; (6) their preventable, recordable accident rate; and (7) their overall safety fitness rating. (See app. II for a more detailed description of each factor.) Of the remaining compliance reviews conducted, 14 percent were to follow up prior enforcement cases, 14 percent were in response to complaints,¹² 9 percent were initial reviews of carriers' operations; 4 percent were in response to carriers' requests for a compliance review; and 12 percent were for other reasons. Among the other reasons for a compliance review is if a motor carrier's vehicle was involved in a major accident that resulted in multiple fatalities or closed down an interstate highway for several hours.

Table 1: Source of Compliance Reviews in Fiscal Year 1996

Category	Number of compliance reviews	Percent
SCE rating	4,406	46
Enforcement follow-up ^a	1,387	14
Complaint ^a	1,356	14
Initial review ^b	910	9
Carrier request	369	4
Other reasons	1,159	12

^aIn February 1997, OMC issued guidance that no longer requires that a compliance review be conducted in response to an enforcement case or a complaint about a carrier if its on-the-road performance meets OMC's criteria.

^bOMC has stopped citing this reason because it no longer seeks to provide a safety fitness rating for each motor carrier.

Source: OMC.

Compliance review investigators found that 63 percent of the carriers examined in fiscal year 1996 did not have a recordable accident during the

¹²The Motor Carrier Safety Act of 1984 requires OMC to investigate any nonfrivolous written complaint alleging a substantial violation of federal motor carrier safety regulations.

previous 12 months. OMC also calculated that the national average accident rate for all carriers that had a compliance review in fiscal year 1996 was 0.5 recordable, preventable accidents per million miles driven. About 77 percent of these carriers had an accident rate below the average rate.

In a March 1997 report,¹³ the DOT Office of Inspector General found that OMC's SCE list did not ensure that carriers with the worst safety records were targeted for compliance reviews. In particular, the report stated that the SCE list did not define problem carriers and used factors that did not sufficiently emphasize on-the-road performance to prioritize carriers. For example, a carrier that transported passengers or hazardous materials was given more points and, therefore, was more likely to be reviewed than one that transported general freight, regardless of each carrier's actual accident record. The report also stated that a carrier's annual mileage, the number of months since its last safety fitness rating, and its overall safety fitness rating were descriptive factors not directly related to the carrier's on-the-road performance. The Inspector General recommended that OMC replace its existing system for prioritizing carriers for compliance reviews with one that uses on-the-road performance and stated that the implementation of SafeStat satisfied the recommendation's intent.

SafeStat Uses Safety Data to Improve Targeting

To address the limitations associated with the SCE list in identifying commercial motor carriers with poor on-the-road performance, OMC has worked with the Volpe National Transportation Systems Center, a DOT research laboratory, to develop the SafeStat computer program. SafeStat ranks motor carriers on the basis of performance-based data in four safety evaluation areas (SEA): (1) accident rates; (2) driver factors, including out-of-service violations from roadside inspections; (3) vehicle factors, including out-of-service violations from roadside inspections; and (4) safety management practices and policy, including the results of prior compliance reviews and enforcement actions. SafeStat also weights these data on the basis of the severity and age of an event. For example, SafeStat gives more weight to a fatal or serious injury accident than to a tow-away accident and to an accident that occurred within 6 months than one that occurred more than 6 months previously. (See app. III for a more detailed description of SafeStat.)

Table 2 shows the SafeStat categories for carriers ranked among the worst 25 percent of all carriers in at least one SEA. OMC will conduct a compliance

¹³Motor Carrier Safety Program: Federal Highway Administration, DOT Office of Inspector General (AS-FH-7-006, Mar. 26, 1997).

review of each carrier included in category A or category B. OMC also considers those carriers in category C to be poor performers. Each category A, B, and C motor carrier remains in OMC’s Motor Carrier Safety Improvement Process until its on-the-road performance improves sufficiently for SafeStat not to subsequently identify them.

Table 2: SafeStat Categories for Carriers Ranked Among the Worst 25 Percent of All Carriers in at Least One SEA

Category	SEA ranking
A	Carrier among the worst 25 percent of all carriers in either all four SEAs or the accident SEA plus two other SEAs.
B	Carrier among the worst 25 percent of all carriers in either three SEAs, excluding the accident SEA, or the accident SEA plus one other SEA.
C	Carrier among the worst 25 percent of all carriers in two SEAs, excluding the accident SEA.
D	Carrier among the worst 25 percent of all carriers in the accident SEA.
E	Carrier among the worst 25 percent of all carriers in the driver SEA.
F	Carrier among the worst 25 percent of all carriers in the vehicle SEA.
G	Carrier among the worst 25 percent of all carriers in the safety management SEA.

The Volpe National Transportation Systems Center tested SafeStat’s effectiveness in identifying problem carriers by using prior year information and then comparing the subsequent accident rates of carriers that SafeStat identified as being poor performers with those for all other carriers. The Volpe Center found, in particular, that the subsequent accident rate for poor performers in the (1) accident SEA was 259 percent higher than that for motor carriers not identified and (2) driver SEA was 81 percent higher than that for motor carriers not identified. Many of the MCSAP coordinators we interviewed believe that SafeStat will considerably improve the targeting of problem carriers for compliance reviews as compared with the SCE list’s criteria. OMC officials noted that if SafeStat targets problem carriers better than the SCE list does, OMC and state investigators could improve the program’s effectiveness while performing about the same number of compliance reviews. However, OMC officials noted that better targeting could reduce the total number of compliance reviews performed because investigators may become involved with more complex enforcement cases, increasing the staff days spent per case.

In April 1997, OMC used SafeStat to generate its first nationwide list of problem carriers, which included 1,700 category A and B carriers and 3,300 category C carriers. OMC will generate a new list of problem carriers every 6 months. Beginning in October 1997, OMC is sending letters to category C motor carriers notifying them of their poor safety performance. Each letter will identify the carrier's accidents, out-of-service orders from roadside inspections, and violations and enforcement actions from compliance reviews that provide the basis for the SafeStat score. The letters will give a carrier the opportunity to correct any database mistakes, especially if an accident or inspection was wrongly assigned to the carrier. The letters will advise category C carriers that they will be subject to a compliance review unless their SafeStat score subsequently improves.

OMC's policy that a compliance review be performed of each category A and B carrier includes a revisit to any carrier that remains in either category A or B when a new SafeStat list is generated. OMC also plans to conduct a compliance review of any carrier listed in category C after the carrier has been listed in category C for a third time. In addition to these motor carriers, OMC's regional offices can target other motor carriers from (1) category D carriers that were among the worst 25 percent of the carriers in the accident category only and/or (2) hazardous materials carriers and bus companies that the SCE list prioritized because of the potential severity of an accident involving these carriers. Roadside inspection data may not be sufficient for a SafeStat ranking for bus companies because buses often are allowed to bypass weigh stations so that passengers are not inconvenienced.

SafeStat is part of the larger Commercial Vehicle Information System demonstration program. The program links OMC's databases with states' motor vehicle registration systems, which provide current information on each vehicle that a carrier operates. An OMC official told us that the extension of the Commercial Vehicle Information System demonstration program to all 50 states is essential to enable SafeStat to effectively compare accident rates among carriers.

Many States Have Improved the Completeness and Timeliness of Their Safetynet Data

A key element in implementing performance-based criteria for selecting motor carriers is ensuring that the Safetynet database contains complete, accurate, and timely data about each motor carrier's safety performance. The Intermodal Surface Transportation Efficiency Act of 1991 took a first step toward developing a comprehensive database by requiring that the 48 contiguous states submit data to Safetynet on commercial vehicles'

recordable accidents and the results of roadside inspections and compliance reviews. The states have substantially improved the quantity and quality of the safety data on commercial vehicles reported to Safetynet since 1991. (See app. IV for three examples of innovative ways that the states are collecting, analyzing, and using these data to improve traffic enforcement.) OMC and the states increased the percentage of reported accidents from about 14 percent in fiscal year 1992 to an estimated 74 percent in fiscal 1995.

To improve the completeness, accuracy, and timeliness of roadside inspection data, OMC has provided funding through MCSAP grants for states to purchase laptop computers and special software, known as ASPEN, that enable inspectors to upload inspection results directly into Safetynet's electronic database. Using ASPEN, instead of paper forms, improves accuracy because the software alerts inspectors to inconsistent information, particularly if the carrier's name and the entered U.S. DOT number do not match. (Without the correct U.S. DOT number, SafeStat cannot attribute the inspection results to the motor carrier.) The electronic entry of the inspection results also substantially reduces the time needed to transmit data to Safetynet because it eliminates the step of mailing paper forms to a central office for entry into the computer's database.

In addition, to better ensure that adequate inspection data are collected on the drivers and vehicles of individual motor carriers, OMC introduced the Inspection Selection System (ISS) software in 1995. As of March 1997, 36 states were using ISS to help inspectors select vehicles for inspection and focus the inspection on problems identified in a carrier's previous inspections. As a vehicle pulls into an inspection station, its U.S. DOT number is entered into ISS. The program assigns the vehicle a score on the basis of the number and the results of the motor carrier's previous inspections and compliance reviews. Specifically, ISS recommends an inspection for a motor carrier that has a poor safety record or has had very few roadside inspections relative to its size in the prior 2 years. Alternatively, state inspectors may select vehicles for inspections on the basis of either random sampling or judgmental factors, including the type of commodity transported or observed safety violations.

Improving the completeness, accuracy, and timeliness of accident data is more difficult than improving roadside inspection data primarily because (1) accident reporting is decentralized, involving many more state and local law enforcement officers, and (2) the officer at an accident scene

often has other more urgent concerns and gives low priority to obtaining all of the necessary information and filing the accident report with the state. Several states told us that they are taking actions to encourage their law enforcement officers to improve the reporting of accidents involving commercial vehicles. For example, some states we contacted are providing officers with more training in completing the 22-item supplemental form developed by the National Governors' Association for reporting commercial vehicle accidents. Similarly, some states are incorporating the supplemental form's items into their basic accident-reporting form to further streamline the needed information. An OMC official noted that accident reporting is likely to improve as law enforcement officers become aware that SafeStat is using their reports to identify poor performers in their states.

In December 1996, OMC provided the states with guidance that tightened the time frames for uploading (1) roadside inspection and compliance review data to within 7 days if the data are collected electronically or within 21 days if paper forms are used and (2) accident data to within 90 days from the date of the accident. Previously, the standards for uploading the information were 90 days for inspections, 30 days for compliance reviews, and 180 days for accidents. OMC's data showed that the states, on average, had reduced the time for uploading roadside inspection data to Safetynet from 49 days in fiscal year 1996 to 42 days in fiscal 1997. However, 42 states did not meet OMC's 21-day standard for paper forms, and only Connecticut met OMC's 7-day standard for electronically uploading inspection data. OMC's data show that the states, on average, reduced the time for uploading accident data to Safetynet from 159 days in fiscal year 1996 to 98 days in fiscal 1997. (This improvement is somewhat overstated because no accident data for Maryland were uploaded during fiscal year 1997.) Five states did not meet OMC's former 180-day standard for uploading accident data during fiscal year 1997.

Eight of the 16 MCSAP coordinators we contacted do not believe that their state will meet the tighter time frames for uploading inspection and compliance review data. Eight MCSAP coordinators also do not believe that their state will meet the new accident-reporting time frames. For example, Ohio's MCSAP coordinator told us that Ohio relies on the voluntary cooperation of local police departments to report commercial vehicle accidents, unlike many states that require state and local police to file traffic accident reports with a state highway agency. Ohio's MCSAP coordinator also noted that uploading accident data into Safetynet has been delayed by a backlog in electronically entering the data from paper

forms in the state's central office. OMC officials acknowledged that if commercial motor carriers' accidents were unreported, their SafeStat rankings would be reduced for the accident SEA, possibly allowing some carriers to avoid being listed among the worst 25 percent of the performers and subsequently not receive a compliance review.

OMC Has Used Compliance Reviews to Rate a Carrier's Safety Fitness

OMC uses a compliance review to assess a commercial motor carrier's management controls that results in a safety fitness rating. Trucking industry representatives have opposed using compliance reviews to rate a carrier's safety fitness, stating that too much weight is given to record-keeping requirements that may not correlate with a firm's on-the-road safety performance. While OMC will continue to perform compliance reviews, especially to upgrade the safety management of problem carriers, OMC plans to publish an advance notice of proposed rule making later this year to solicit public comments on alternatives for rating a carrier's safety fitness, including the possible use of performance-based criteria.

Drivers' Hours-Of-Service Regulations Result in the Most Safety Violations

In a compliance review, trained investigators assess a motor carrier's compliance with federal motor carrier safety regulations that are divided into general, driver-related, operations-related, vehicle-related, and hazardous materials-related rating factors.¹⁴ The investigators also examine the carrier's recordable accidents. OMC distinguishes among its motor carrier safety regulations by designating certain regulations as (1) acute, because violating one of these regulations would create an immediate risk to persons or property, or (2) critical, because violations, if occurring in patterns,¹⁵ would indicate a breakdown in the effective control over essential safety functions. Examples of acute regulations are several related to controlled substances and alcohol use and testing. Examples of critical regulations are several driver's hours-of-service regulations that specify the maximum working hours and minimum hours off duty for drivers at selected times during an 8-day period.

Each compliance rating factor is evaluated to determine whether the carrier violated any of the acute and critical regulations. A carrier's rating

¹⁴OMC's national training center provides a 6-week training course for instructing investigators on how to conduct a compliance review, including interpersonal skills and role playing for interviewing a motor carrier's personnel and conducting a closeout with the carrier's management.

¹⁵A pattern is defined as at least two violations that also constitute at least 10 percent of the occasions where like violations could have occurred.

factor is (1) satisfactory if no violations of acute or critical regulations exist, (2) conditional if one violation of an acute or critical regulation exists, and (3) unsatisfactory if two or more violations of acute or critical regulations exist. In addition, each carrier is rated on the number of recordable, preventable accidents per million miles that its vehicles traveled during the past year. (See table V.1 in app. V.)

Of the motor carriers that received a compliance review in fiscal year 1996, 35 percent were rated unsatisfactory for the operational rating factor, which includes hours-of-service regulations, while 13 percent were rated unsatisfactory for the driver rating factor—the second highest unsatisfactory category. (See table V.2 in app. V.) A substantial number of carriers violated at least one critical driver's hours-of-service regulation. (See table V.3 in app. V.) OMC gives double weight to the violation of these regulations because of the link between hours-of-service violations and driver fatigue.

OMC does not track the time that investigators spend evaluating each rating factor. Compliance review investigators told us that they spend between 30 and 40 percent of their time examining the driver's hours-of-service records during a typical compliance review, but they added that this percentage could vary, depending on known problems, available records, and whether it was a first visit or a follow-up. We did not identify any studies that specifically analyzed the relationship between the accuracy of the driver's hours-of-service logs and accidents; however, we found two studies that generally examined these issues. A 1995 study by the National Transportation Safety Board on single-vehicle heavy truck crashes found that drivers were more likely to have exceeded OMC's maximum allowable hours of service in fatigue-related accidents.¹⁶ A 1996 study by the Northwestern University Traffic Institute examined the relationship between a carrier's hours-of-service logs and accident rates, but the study primarily relied on interviews with representatives of 26 motor carriers that had received a compliance review.¹⁷ The study stated that the most frequent suggestion for modifying OMC's safety fitness rating system was to give more weight to performance-based measures, including accidents and roadside inspection results, and eliminate the stringent emphasis on record keeping. In November 1996, OMC published an advance notice of

¹⁶Factors That Affect Fatigue in Heavy Truck Accidents, National Transportation Safety Board, NTSB/SS-95/01 (Jan. 1995).

¹⁷"Evaluation of the US DOT Federal Highway Administration Motor Carrier Safety Rating System," Northwestern University Traffic Institute (July 1996). The study was conducted for the American Trucking Associations.

proposed rule making in the Federal Register to request comments on its hours-of-service regulation (49 C.F.R. part 395), as required by the Interstate Commerce Commission Termination Act of 1995 (P.L. 104-88).

Few Motor Carriers Appealed Their Safety Fitness Ratings in Fiscal Year 1996

Of the 8,952 carriers that received a compliance review in fiscal year 1996, 54 percent were rated satisfactory, 32 percent were rated conditional, and 12 percent were rated unsatisfactory. (See table V.4 in app. V.) A carrier's overall safety fitness rating is satisfactory if none of the six rating factors are unsatisfactory and at most two rating factors are conditional. A carrier's rating is conditional if either no rating factor is unsatisfactory and more than two rating factors are conditional or one rating factor is unsatisfactory and at most two rating factors are conditional. A carrier's rating is unsatisfactory if one rating factor is unsatisfactory and more than two rating factors are conditional or if at least two rating factors are unsatisfactory.

A motor carrier that receives an unsatisfactory or conditional rating may appeal its rating on either factual or procedural grounds within 90 days after the rating is received. Of about 3,940 motor carriers that received either a conditional or unsatisfactory rating in fiscal year 1996, only 17 appealed their rating within 90 days. After reviewing each case, OMC (1) upgraded the ratings of eight carriers, primarily on the basis of actions taken by the carrier; (2) denied the appeal of eight carriers; and (3) did not act on one appeal because a state had conducted the compliance review and had not entered the results into OMC's Safetynet database.

Alternatively, a carrier may request a new safety fitness rating on the basis of operational improvements made. This request usually results in a new compliance review. Officials in two OMC regional offices told us that a request for a change of a carrier's rating is relatively rare and that their regional offices typically try to schedule a follow-up visit within 3 months. Another OMC official added that a follow-up compliance review usually results in an upgraded rating because a carrier would not request one unless previously cited violations had been addressed.

OMC Plans to Reexamine Its Criteria for Rating Safety Fitness

In March 1997, the U.S. Court of Appeals for the District of Columbia ruled that OMC had failed to carry out its statutory obligation to promulgate a regulation that establishes criteria for determining whether a carrier has complied with the safety fitness requirements of the Motor Carrier Safety

Act of 1984.¹⁸ While this decision applied only to the safety fitness rating of a single carrier, OMC has temporarily stopped issuing ratings. To address the court's concerns, OMC published a notice of proposed rule making in the May 1997 Federal Register that would establish a safety fitness rating methodology, including six rating factors, substantially similar to the methodology that OMC had used to rate motor carriers. (OMC also published an interim final rule that applies only to hazardous materials and passenger carriers.) The notice of proposed rule making would revise the accident rating factor by (1) eliminating the determination of whether each recordable accident was preventable by the motor carrier or the driver, (2) increasing the threshold for an unsatisfactory rating from 1 accident to 1.6 accidents per million miles driven, and (3) eliminating the satisfactory and conditional ratings.

The notice of proposed rule making states that the safety fitness rating methodology is a short-term approach needed to address the court of appeals' decision. The notice further states that, in the longer term, OMC plans to shift from using compliance reviews to performance-based criteria for determining whether motor carriers are fit to conduct commercial vehicle operations safely in interstate commerce. OMC believes that SafeStat can be successfully employed to identify the worst performing carriers within the next 2 years. As a first step in this transition, OMC plans to publish an advance notice of proposed rule making later this year to solicit public comments on alternative approaches for rating the safety fitness of commercial motor carriers.

Conclusions

OMC's SCE list and other criteria for selecting motor carriers for compliance reviews did not effectively target commercial motor carriers with poor safety performance. While OMC's new SafeStat system is designed to better identify problem carriers by using on-the-road performance data, it depends upon the states to submit complete, accurate, and timely data on recordable accidents and the results of roadside inspections and compliance reviews. However, some states currently lack adequate data, particularly for accidents. Substantial gaps in the reported data can change a carrier's score, thus affecting SafeStat's reliability. In addition, 14 states do not use the Inspection Selection System for selecting vehicles for roadside inspections, and small motor carriers may get no ranking or a biased ranking by SafeStat if few roadside inspections are performed on their vehicles and drivers.

¹⁸MST Express v. Department of Transportation, 108 F.3d 401 (D.C. Cir. 1997).

We agree in concept with OMC's announced plan to use performance-based data for rating the safety fitness of commercial motor carriers. However, for this approach to succeed, the states must provide substantially complete, accurate, and timely data to Safetynet. While OMC has taken steps to improve states' data reporting by, for example, introducing the Inspection Selection System and providing funding for the states to purchase laptop computers to directly upload roadside inspection results, many states have not provided complete and timely data that meet OMC's reporting requirements.

Recommendations

To better ensure that the safety fitness ratings of commercial motor carriers accurately reflect their on-the-road performance, we recommend that the Secretary of Transportation (1) identify the barriers that prevent the states from providing complete and timely data and work with the states to develop a strategy for addressing each barrier and (2) develop alternative approaches to SafeStat, such as consulting with state and local law enforcement officials to identify problem motor carriers, in the states that have inadequate data.

Agency Comments and Our Evaluation

We provided the Department of Transportation with a draft of this report for review and comment. We met with officials in the Office of Motor Carriers, including the Chief, Safety and Hazardous Materials Division; the Chief, Information Division; and OMC's National Field Coordinator, as well as with a senior analyst in the Office of the Secretary. DOT agreed with the overall message of the report, stating that it was fair and accurate, and agreed with our recommendation that it work with the states to develop a strategy for addressing barriers that prevent the states from providing complete and timely data. However, DOT disagreed with our recommendation that it develop alternative approaches to SafeStat in the states that have inadequate data, stating that (1) its resources would be better spent by working with the states to improve their data and (2) developing separate processes for different states or individual populations of carriers would not be practical or an effective use of resources because an interstate carrier's performance is influenced by multiple states.

We continue to believe that DOT needs to develop alternative approaches for the states that have inadequate data, especially on recordable accidents, because of the importance of improving the safety fitness of motor carriers with poor safety records. An alternative approach need not

be labor intensive; for example, it could involve asking a state to identify for compliance reviews any motor carrier whose drivers or vehicles have multiple out-of-service violations. Alternatively, OMC could modify SafeStat for the states that have inadequate accident data to rank carriers only on the basis of the other three SEAS that use roadside inspection, compliance review, and enforcement case results. DOT also provided clarifying information to improve the report's technical accuracy, which we incorporated as appropriate.

Scope and Methodology

To obtain the information in this report, we interviewed officials from OMC, the Volpe National Transportation Systems Center, the Commercial Vehicle Safety Alliance, and the American Trucking Associations and the MCSAP coordinators for Arizona, California, Connecticut, Georgia, Illinois, Iowa, Maryland, Massachusetts, Mississippi, Missouri, Ohio, Oregon, Pennsylvania, Texas, Utah, and Wisconsin. We selected these 16 states to provide geographical diversity, a mix of large and small states, and a mix in the number of compliance reviews that each state performed in fiscal year 1996. We also (1) made site visits to three of these states that have strong programs for collecting and using commercial vehicle accident, inspection, and enforcement data; (2) interviewed officials in each of the five states that participated in the SafeStat pilot program; and (3) accompanied OMC investigators as they performed a compliance review.

While we did not verify the accuracy of the data that the states submitted to OMC's Safetynet database, OMC reviews these data for accuracy and completeness before they are entered into its motor carrier management information system, which OMC has used to generate its SCE and SafeStat rankings. We also did not examine the safety performance of longer-combination vehicles, which are limited by federal law to designated highways in 20 states. DOT does not plan to propose any revisions to the current federal restrictions until it completes an ongoing major study on these trucks. We conducted our review from April through September 1997 in accordance with generally accepted government auditing standards.

As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days after the date of this letter. At that time, we will send copies of the report to congressional committees and subcommittees responsible for commercial

motor vehicle safety issues; the Secretary of Transportation; the Director, Office of Management and Budget; and other interested parties. We will make copies available to others upon request.

If you or your staff have any questions about this report, please contact me at (202) 512-3650. Major contributors to this report are Jason Bromberg, Richard Cheston, and James Ratzenberger.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis F. Scheinberg". The signature is written in a cursive style with a large, sweeping initial 'P' and a long, horizontal flourish at the end.

Phyllis F. Scheinberg
Associate Director,
Transportation Issues

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Abbreviations

DOT	Department of Transportation
GAO	General Accounting Office
ISS	Inspection Selection System
MCSAP	Motor Carrier Safety Assistance Program
OMC	Office of Motor Carriers
SCE	Selective Compliance and Enforcement
SEA	Safety Evaluation Area

Commercial Vehicle Safety Data

Table I.1: Fatal Accidents Involving Large Trucks, 1983 Through 1996

Vehicle miles traveled per 100 million miles				
Year	Fatalities	Large trucks involved in fatal accidents	Vehicle miles traveled	Fatal accident rate ^a
1983	5,491	4,877	1,131.6	4.3
1984	5,640	5,124	1,239.3	4.1
1985	5,734	5,153	1,265.8	4.1
1986	5,579	5,097	1,301.4	3.9
1987	5,598	5,108	1,356.0	3.8
1988	5,679	5,241	1,414.0	3.7
1989	5,490	4,984	1,483.2	3.4
1990	5,272	4,776	1,498.1	3.2
1991	4,821	4,347	1,507.3	2.9
1992	4,462	4,035	1,528.0	2.6
1993	4,856	4,328	1,599.0	2.7
1994	5,144	4,644	1,704.2	2.7
1995	4,918	4,472	1,781.6	2.5
1996	5,126	4,740	^b	^b

Note: Large trucks accounted for 99 percent of the fatal accidents involving commercial motor vehicles in 1995.

^aFatal accidents per 100 million vehicle miles traveled.

^bData are not available.

Source: National Highway Traffic Safety Administration.

**Appendix I
Commercial Vehicle Safety Data**

Table I.2: Roadside Inspections of Commercial Motor Vehicles Performed by Federal and State Inspectors, Fiscal Years 1983 Through 1996

Fiscal year	Federal inspections	State inspections^a	Total inspections
1983	24,721	0	24,721
1984	18,966	159,294	178,260
1985	16,046	374,885	390,931
1986	10,027	559,300	569,327
1987	910	1,003,794	1,004,704
1988	238	1,254,076	1,254,314
1989	2,357	1,302,453	1,304,810
1990	4,376	1,601,230	1,605,606
1991	2,321	1,574,188	1,576,509
1992	1,066	1,615,668	1,616,734
1993	2,864	1,946,833	1,949,697
1994	2,965	1,974,232	1,977,197
1995	726	1,840,266	1,840,992
1996	10,987 ^b	2,073,666	2,084,653

^aState totals may exclude inspections of intrastate carriers or inspections not funded by the Motor Carrier Safety Assistance Program (MCSAP) and not centrally reported. For example, Missouri did not report inspections of intrastate carriers to Safetynet before March 1997. Similarly, California reported only 32,000 of 400,000 roadside inspections in fiscal year 1989.

^bFederal inspections increased in fiscal year 1996 because the Office of Motor Carriers (OMC) temporarily assigned personnel to help states inspect commercial vehicles entering the United States from Mexico as a result of the North American Free Trade Agreement.

Source: OMC.

Table I.3: Roadside Inspections of Commercial Motor Vehicles Performed by Each State, Fiscal Year 1996

State	Level 1 inspections	Total inspections	Out-of-service rate for vehicles	Out-of-service rate for drivers
Alabama	2,359	19,713	17.0	6.4
Alaska	640	1,636	30.1	4.5
Arizona	6,623	34,365	19.8	9.2
Arkansas	12,306	38,037	14.5	16.3
California	325,345	356,423	25.0	3.6
Colorado	23,065	46,616	18.5	6.4
Connecticut	5,407	15,546	27.8	13.1
Delaware	1,435	3,109	26.1	11.4
Florida	27,618	67,602	25.8	8.8
Georgia	10,174	32,870	23.0	8.0
Hawaii	6,404	7,815	16.1	1.8

(continued)

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Commercial Vehicle Safety Data**

State	Level 1 inspections	Total inspections	Out-of-service rate for vehicles	Out-of-service rate for drivers
Idaho	3,089	6,449	23.3	13.5
Illinois	13,878	97,791	11.9	4.6
Indiana	25,559	80,410	16.5	6.8
Iowa	15,656	51,071	17.7	11.1
Kansas	3,634	23,338	18.7	12.7
Kentucky	62,985	77,159	20.5	8.6
Louisiana	16,595	39,413	20.3	11.9
Maine	4,245	5,043	31.3	13.9
Maryland	25,496	91,760	14.4	6.2
Massachusetts	13,923	25,562	25.4	5.0
Michigan	10,001	49,486	11.9	3.3
Minnesota	13,268	27,250	23.1	9.8
Mississippi	14,449	19,747	24.9	8.9
Missouri	26,885	63,504	27.9	10.0
Montana	7,470	26,916	8.6	8.3
Nebraska	5,942	22,454	11.3	13.4
Nevada	3,184	15,249	20.3	7.1
New Hampshire	1,475	11,065	12.4	6.4
New Jersey	20,098	55,536	21.6	2.7
New Mexico	7,610	24,685	21.0	15.5
New York	30,823	37,839	32.2	11.4
North Carolina	16,831	39,527	19.8	6.0
North Dakota	2,721	15,231	7.3	9.0
Ohio	21,721	59,981	29.1	11.0
Oklahoma	3,165	10,461	25.1	5.7
Oregon	15,167	26,170	34.9	10.7
Pennsylvania	15,807	39,718	25.8	7.7
Rhode Island	2,274	5,443	14.7	7.5
South Carolina	8,192	32,697	20.9	6.8
South Dakota	633	14,373	3.3	11.2
Tennessee	17,676	63,402	17.8	9.2
Texas	19,872	82,056	29.4	13.7
Utah	8,251	15,065	24.7	8.5
Vermont	1,737	4,367	19.0	12.4
Virginia	15,438	30,717	22.7	7.3
Washington	27,963	81,250	17.5	8.8
West Virginia	8,227	14,511	23.1	8.5

(continued)

Appendix I
Commercial Vehicle Safety Data

State	Level 1 inspections	Total inspections	Out-of-service rate for vehicles	Out-of-service rate for drivers
Wisconsin	10,791	29,806	23.0	10.4
Wyoming	2,542	13,650	9.5	18.1
American Samoa	2,396	2,899	26.5	2.7
District of Columbia	964	3,505	11.7	0.9
Guam	7,258	9,908	24.1	0
Northern Mariana Islands	372	457	0	0
Puerto Rico	535	3,013	29.0	3.4
Total	958,174	2,073,666	21.0	7.8

Source: OMC's MCSAP Quarterly Report.

Table I.4: Compliance Reviews of Commercial Motor Carriers Performed by Federal and State Investigators, Fiscal Years 1989 Through 1996

Fiscal year	Federal compliance reviews	State compliance reviews	Total compliance reviews
1989	6,211	5	6,216
1990	6,764	87	6,851
1991	8,958	142	9,100
1992	7,733	225	7,958
1993	7,342	431	7,773
1994	6,924	1,258	8,182
1995	5,396	3,857	9,253
1996	5,241	3,711	8,952

Note: Excludes safety reviews, which OMC eliminated at the end of fiscal year 1994.

Source: OMC.

Appendix I
Commercial Vehicle Safety Data

Table I.5: Federal MCSAP Grants to the States by Category, Fiscal Year 1996

Dollars in thousands	
Activity	Funding
Basic MCSAP grant	\$53,968
Traffic enforcement	6,900
Hazardous materials training	1,500
Secondary grants ^a	1,701
50 percent holding ^b	(1,499)
National Governors' Association data elements for accident reporting	1,403
Drug interdiction assistance program	464
Research and development	1,042
Covert activities	1,062
Public education	850
Uniformity grants ^c	3,097
North American Free Trade Agreement implementation assistance	1,067
Incentive grants ^d	1,036
Reallocation	1,517
Special grants	2,483
Total	\$76,592

^aSupplementary funding designed to encourage states with mature safety programs to further enlarge their programs. Funding was phased out in fiscal year 1997.

^bStates whose intrastate regulations are incompatible with federal regulations are eligible to receive only 50 percent of their basic formula allocation.

^cFunding for participation in the international registration plan and the international fuel tax agreement.

^dSupplemental funding derived from the 50-percent holding account for states with comprehensive motor carrier safety programs.

Source: OMC.

Selective Compliance and Enforcement Criteria for Selecting Motor Carriers for a Compliance Review

Commodity transported (1 to 8 points):

- 8 points for a passenger carrier
- 5 points for hazardous materials in a tank
- 2 points for hazardous materials in a package
- 1 point for everything else

Annual carrier mileage (1 to 4 points):

- 4 points for at least 5 million miles
- 3 points for from 1 million to 4,999,999 miles
- 2 points for from 150,000 to 999,999 miles
- 1 point for less than 150,000 miles

If mileage is unavailable, then a driver census would be used

- 4 points for at least 72 drivers
- 3 points for from 16 to 71 drivers
- 2 points for from 6 to 15 drivers
- 1 point for from 1 to 5 drivers

If mileage and a driver census are unavailable, then the number of power units (for semi-trailer trucks, the tractor unit that includes the engine) would be used

- 4 points for at least 72 power units
- 3 points for from 16 to 71 power units
- 2 points for from 6 to 15 power units
- 1 point for from 1 to 5 power units
- Neutral value if 0, blank, or unknown

Months since last safety fitness rating (0 to 4 points):

- 4 points for more than 36 months
- 3 points for from 25 to 36 months
- 2 points for from 13 to 24 months
- 1 point for from 7 to 12 months
- 0 points for from 0 to 6 months
- 2 points for an unrated carrier

Appendix II
Selective Compliance and Enforcement
Criteria for Selecting Motor Carriers for a
Compliance Review

Vehicle out-of-service rate (1 to 5 points):

- 5 points for an out-of-service rate of at least 40 percent
- 4 points for an out-of-service rate from 33.34 to 39.99 percent
- 3 points for an out-of-service rate from 25 to 33.33 percent
- 2 points for an out-of-service rate from 16.67 to 24.99 percent
- 1 point for an out-of-service rate of from 0 to 16.66 percent

Driver out-of-service rate (2 to 10 points):

- 10 points for an out-of-service rate of at least 15 percent
- 8 points for an out-of-service rate from 10 to 14.99 percent
- 6 points for an out-of-service rate from 7 to 9.99 percent
- 4 points for an out-of-service rate from 3.25 to 6.99 percent
- 2 points for an out-of-service rate of from 0 to 3.24 percent

Preventable, recordable accident rate (1 to 5 points):

- 5 points for an accident rate of at least 1.0
- 4 points for an accident rate from 0.67 to 0.99
- 3 points for an accident rate from 0.34 to 0.66
- 2 points for an accident rate from 0.01 to 0.33
- 1 point for an accident rate of 0
- Neutral value for a blank or missing accident rate

Overall safety fitness rating (1 to 5 points):

- 5 points for an unsatisfactory rating
- 3 points for a conditional rating
- 1 point for a satisfactory rating
- Neutral value for an unrated carrier

The Selective Compliance and Enforcement (SCE) selection formula removes a neutral value for a factor from consideration because of a lack of data. To adjust for neutral values, the selection formula multiplies the carrier's SCE score by seven (the total number of factors) and divides by the number of factors for which data are available. A carrier's final SCE score is the total of its scores for the seven factors.

The SCE list used (1) inspections conducted within the previous 18 months and (2) accident rates calculated during a compliance review within the previous 2 years. OMC required that the out-of-service rates for the vehicle

**Appendix II
Selective Compliance and Enforcement
Criteria for Selecting Motor Carriers for a
Compliance Review**

and driver be calculated on the basis of at least 10 valid inspections for trucks and 5 valid inspections for passenger vehicles.

SafeStat Criteria for Selecting Motor Carriers for a Compliance Review

Accident Safety Evaluation Area (SEA)

1. Motor carriers' accidents that states report to OMC's Safetynet database. (The accident must involve a fatality, an injury, or a vehicle that was towed away from the scene.)
2. Recordable, preventable accident rate from compliance reviews.

Driver SEA

1. Out-of-service violations for drivers from roadside inspections.
2. Violations of driver-related critical and acute regulations from compliance reviews.

Vehicle SEA

1. Out-of-service violations for vehicles from roadside inspections.
2. Violations of vehicle-related critical and acute regulations from compliance reviews.

Safety management SEA

1. Closed enforcement cases. (An enforcement case is the result of one or more major violations discovered by a safety investigator during a compliance review.)
2. Out-of-service violations for hazardous materials from roadside inspections.
3. Violations of safety management-related critical and acute regulations from compliance reviews.

SafeStat time weights data by (1) giving more weight to events that occurred during the past year than to events that are older and (2) using only data that are less than 30 months old. SafeStat also weights accident data and compliance review violations by the severity of the event. For example, a fatal accident is given more weight than an accident involving a vehicle that was towed from the scene.

Selected State Initiatives to Improve the Collection and Use of Safety Data

States vary widely in the quality and completeness of their commercial vehicle safety data and in the ways they make use of these data in their commercial vehicle safety programs. Several states have initiated programs to improve their collection and use of safety data for commercial vehicles. Below are three state initiatives to develop comprehensive data on accidents involving commercial motor vehicles, targeting high-accident corridors for increased enforcement, and using real-time wireless communications to provide state police with electronic access to Safetynet data.

Oregon: Accident Reporting

The Motor Carrier Transportation Branch, within Oregon's Department of Transportation (DOT) has a system for gathering data on commercial vehicle accidents that differs from that of many other states. In particular, the branch employs an experienced accident analyst whose sole job is to collect and check accident information, look for inconsistencies in the data, and follow up with the police or the carrier to make the accident report as accurate and complete as possible. The accident analyst also provides information that helps decide whether the branch should get involved in the investigation of a particular accident.

Oregon uses several sources to acquire information on accidents involving commercial vehicles, the most important of which is the police accident report. But unlike many states, Oregon also requires motor carriers to file a report within 30 days if one of their vehicles is involved in a serious accident. The carrier's report provides more information than the police report about the driver and such things as the configuration of the vehicle and its load. In about one in six cases, the carrier's report is the only source of information about an accident because local police departments do not always file an accident report.

Unlike many states, Oregon makes an effort to determine the cause of a commercial vehicle accident and who was at fault. Oregon's DOT uses a list of about 50 different reasons (lane change, brake failure, etc.) that can be identified as the primary or secondary cause of an accident. While Safetynet does not include data on cause and fault, Oregon uses this information to develop its performance-based standards and strategies. For example, the information allows Oregon's DOT to map out the location of accidents, on the basis of their cause, showing problem spots for accidents believed to be caused by such things as excessive speed or fatigue. Oregon's DOT can then respond to patterns by, for example, focusing its resources on traffic enforcement efforts on speed-problem

corridors or targeting hours-of-service violations where fatigue is a problem.

Utah: Reducing Fatigue-Related Accidents

Utah, like other states, is adopting performance-based standards to implement its truck safety programs. In 1996, Utah's DOT used its basic MCSAP grant to participate in a pilot project to address a 78-percent increase in truck accidents on a stretch of Interstate Route 80 west of Salt Lake City that is very straight, flat, and monotonous. Utah's DOT conducted an analysis of these accidents in relation to the time of day, location, number of vehicles involved, and other elements that found that a disproportionate number of the accidents were single-vehicle events, such as a truck's running off the road, suggesting that the accidents were related to driver fatigue.

Through the pilot, Utah has targeted resources on the driver-fatigue problem on this corridor. The truck unit of the state police has increased level 3 (driver) inspections at targeted locations, focusing on hours-of-service violations. Where problems were found, Utah's DOT focused on the carrier's operations by looking at the carrier's collective driver records and conducting a full compliance review, if warranted. In addition, Utah's DOT initiated educational activities to reduce the number of sleep-related crashes, such as disseminating brochures outlining the warning signs of fatigue and informational packets for drivers and carriers at ports of entry, during compliance reviews, and at various driver-related events.

Connecticut: Real-Time Wireless Communication

The Commercial Vehicle Safety Division, within the Connecticut Department of Motor Vehicles, has begun to implement a real-time wireless communication system that links an inspector performing a truck inspection at a roadside stop with state and national motor carrier information systems. The system, known as the cellular digital package data system, provides inspectors with the ability to send and receive real-time data from the ASPEN vehicle inspection system, OMC's commercial driver license information system, and other related commercial vehicle and enforcement databases. The system substantially increases both the quantity and currency of the data available to an inspector at a roadside stop about a vehicle, its driver, and the motor carrier.

Several police departments in Connecticut and nationwide already use this basic technology, but Connecticut is using a special MCSAP research and

Appendix IV
Selected State Initiatives to Improve the
Collection and Use of Safety Data

development grant to piggyback onto this existing technology to incorporate ASPEN. The communications are double-encrypted before going over the airwaves, since they contain sensitive information. The operating costs are much less than those for a cellular telephone, since the system sends out its data in short bursts, rather than through a continuously open telephone line.

By entering a truck's U.S. DOT number at a roadside stop, an inspector will be able to obtain a motor carrier's complete inspection history and the results of compliance reviews. Having more up-to-date information will allow the inspector to make a better determination about whether to inspect the truck. In addition, having more complete information allows the inspector to focus the inspection more effectively; if the database shows a history of brake violations, for example, the inspection may focus more on the vehicle's brakes. The inspector also can use the cellular system to input the data collected during an inspection into the system immediately, rather than have it entered at some future date, which facilitates data processing and makes the databases more current.

Compliance Review Rating Factors

Table V.1: Recordable, Preventable Accident-Rating Scale

Rating	Accidents per million miles traveled	Accidents per million miles traveled for urban carriers ^a
Satisfactory	Less than 0.3	Less than 0.3
Conditional	Between 0.3 and 1.0	Between 0.3 and 2.0
Unsatisfactory	Greater than 1.0	Greater than 2.0

Note: A recordable accident is one involving a commercial vehicle operating on a public road that results in a fatality, bodily injury that requires medical treatment, or a vehicle being towed from the accident scene. A preventable accident is one that could have been averted but for an act, or failure to act, by the motor carrier or driver.

^aAn urban carrier is defined as one operating entirely within a radius of less than 100 air miles (normally in urban areas).

Table V.2: Compliance Review Ratings by Factor, Fiscal Year 1996

Rating factor	Satisfactory	Conditional	Unsatisfactory	Percentage unsatisfactory
General ^a	8,569	272	13	0.1
Driver ^b	5,522	2,154	1,178	13.3
Operational ^c	5,731	45	3,078	34.8
Vehicle ^d	5,879	2,390	584	6.6
Hazardous materials ^e	2,518	245	33	1.2
Accident ^f	7,578	1,041	234	2.6

^aAssesses compliance with regulations for financial responsibility and general safety (49 C.F.R. parts 387 and 390).

^bAssesses compliance with regulations for the use and testing of controlled substances and alcohol, the commercial driver's license, and drivers' qualifications (49 C.F.R. parts 382, 383, and 391).

^cAssesses compliance with regulations for motor vehicle driving and hours of service (49 C.F.R. parts 392 and 395).

^dAssesses compliance with regulations for vehicle parts and accessories and vehicles' inspection, repair, and maintenance (49 C.F.R. parts 393 and 396).

^eAssesses compliance with regulations for transporting hazardous materials (49 C.F.R. parts 397, 171, 177, and 180).

^fAssesses a motor carrier's recordable, preventable accident rate.

Source: OMC.

**Appendix V
Compliance Review Rating Factors**

Table V.3: Violations of Critical Hours-Of-Service Regulations Cited in Compliance Reviews, Fiscal Year 1996

Critical regulation	Total violations
Requiring or permitting driver to drive more than 10 hours.	3,322
Requiring or permitting driver to drive after having been on duty 15 hours.	1,955
Requiring or permitting driver to drive after having been on duty more than (1) 60 hours in 7 consecutive days or (2) 70 hours in 8 consecutive days.	3,311
Failing to require driver to make a record of duty status.	3,042
False reports of records of duty status.	4,332
Failing to require driver to forward, within 13 days of completion, the original of the record of duty status.	501
Failing to preserve driver's records of duty status and supporting documents for 6 months.	984

Note: Excludes four critical hours-of-service regulations that apply only to Alaska.

Source: OMC.

Table V.4: Federal and State Compliance Review Ratings of Commercial Motor Carriers' Operations by State, Fiscal Year 1996

State	Total	Percentage rated satisfactory	Percentage rated conditional	Percentage rated unsatisfactory	Percentage not rated
Alabama	133	46	37	17	1
Alaska	11	36	55	0	9
Arizona	88	57	33	10	0
Arkansas	124	48	40	10	2
California ^a	185	48	29	15	8
Colorado	193	49	38	11	3
Connecticut	111	38	26	21	15
Delaware	43	44	44	12	0
Florida	73	40	40	19	1
Georgia	246	36	36	28	0
Hawaii	1	100	0	0	0
Idaho	72	63	18	19	0
Illinois	414	55	38	7	0
Indiana	291	58	35	7	0
Iowa	58	22	41	36	0
Kansas	40	40	28	33	0
Kentucky	408	39	36	22	4
Louisiana	126	51	46	3	0
Maine	24	29	42	29	0
Maryland	161	49	30	20	0

(continued)

Appendix V
Compliance Review Rating Factors

State	Total	Percentage rated satisfactory	Percentage rated conditional	Percentage rated unsatisfactory	Percentage not rated
Massachusetts	197	59	31	8	2
Michigan	426	62	27	7	4
Minnesota	658	65	27	6	3
Mississippi	107	23	51	25	0
Missouri	416	49	36	14	0
Montana	43	44	44	12	0
Nebraska	68	41	43	16	0
Nevada	78	54	32	6	8
New Hampshire	3	0	33	67	0
New Jersey	256	56	33	10	1
New Mexico	112	64	22	11	3
New York	230	50	33	16	1
North Carolina	139	40	45	14	1
North Dakota	49	18	57	24	0
Ohio	979	71	22	4	3
Oklahoma	92	39	50	11	0
Oregon	206	46	31	20	3
Pennsylvania	294	70	21	10	0
Rhode Island	50	62	22	14	2
South Carolina	60	52	33	15	0
South Dakota	14	43	29	29	0
Tennessee	171	77	22	1	0
Texas	307	50	36	10	4
Utah	74	62	27	8	3
Vermont	12	58	25	17	0
Virginia	120	41	41	18	0
Washington	276	34	42	20	4
West Virginia	84	65	25	10	0
Wisconsin	464	67	24	5	5
Wyoming	60	45	48	7	0
District of Columbia	9	56	33	11	0

(continued)

Appendix V
Compliance Review Rating Factors

State	Total	Percentage rated satisfactory	Percentage rated conditional	Percentage rated unsatisfactory	Percentage not rated
Puerto Rico	3	0	0	0	100
Total	8,952	54	32	12	2

Note: Totals exclude any compliance reviews of shippers, shippers' terminals, and intrastate carriers, as well as 16-passenger vans and school buses.

^aCalifornia performed 14,785 terminal inspections during 1996.

Source: OMC.

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