



Testimony

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Committee on Transportation and Infrastructure,
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TRUCK SAFETY

Effectiveness of Motor Carriers Office Hampered by Data Problems and Slow Progress on Implementing Safety Initiatives

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Mr. Chairman and Members of the Subcommittee:

I am here today to discuss the safety of large commercial trucks on our nation's highways. My testimony presents preliminary information based on our ongoing work to assess the effectiveness of the Federal Highway Administration's Office of Motor Carrier and Highway Safety (OMCHS) in improving the safety of large trucks (those trucks with a gross vehicle weight of 10,000 pounds or more). Specifically, I will discuss (1) recent increases in the number of crashes involving large trucks, (2) OMCHS' need to better understand the factors that contribute to such crashes, and (3) OMCHS' need for better data and quicker action on implementing improvements to truck safety in order to be more effective.

In summary, of the nearly 42,000 people who died on our nation's highways in 1997 (the latest year for which data are available), about 5,400 died in crashes involving large trucks. This represents a 20-percent increase from 1992. At the same time, the annual number of miles traveled by large trucks increased by 25 percent. If this trend of increasing truck travel continues, the number of fatalities could increase to 5,800 in 1999. This figure is substantially more than the goal that the Federal Highway Administration established for 1999 of reducing fatalities from truck crashes to below the 1996 level of 5,126. While trucks are involved in fewer crashes per mile traveled than are cars, crashes involving trucks are more likely to result in a fatality. In 1997, 98 percent of the fatalities from crashes between trucks and cars were occupants of the car.

While no reliable nationwide information exists on the causes of crashes involving large trucks, one existing data base does provide some indication of the extent to which factors such as driver behavior, vehicle mechanical condition, the roadway, and the environment contribute to these crashes. However, the existing data base includes data from only fatal truck crashes, and does not rely on a thorough investigation of the crash scene. To better tailor its activities to address the factors that are most likely to contribute to truck crashes, OMCHS plans to design and fund the development of a data base that contains more detailed information on these factors. In addition, several states plan to collect their own data on contributing factors based on in-depth crash investigations.

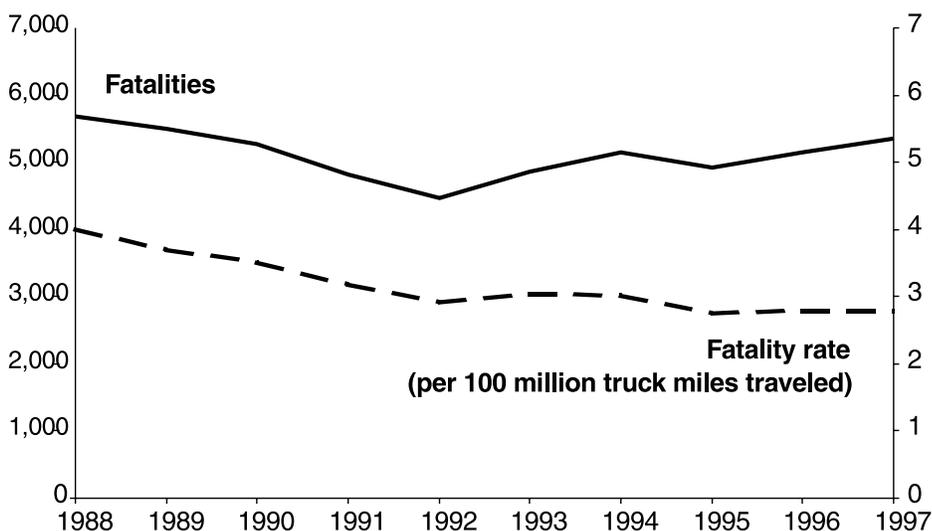
While many actions outside OMCHS' authority influence truck safety, OMCHS has undertaken a number of activities to improve truck safety, such as identifying high-risk carriers for safety improvements and educating car drivers about how to share the road with large trucks. However, the

effectiveness of these activities is limited by (1) data that are incomplete, inaccurate, or untimely; (2) the length of time it will take to complete several activities; and (3) the unknown effect of OMCHS' campaign to educate car drivers about the limitations of large trucks. For example, OMCHS' effort to identify high-risk carriers for safety improvements depends in part on having complete data on the number of crashes experienced by carriers. However, OMCHS estimated that about 38 percent of all crashes and 30 percent of the fatal crashes involving large trucks were not reported to OMCHS in 1997.

Fatalities From Large Truck Crashes Are Increasing, While Fatalities Per Mile Traveled Have Levelled Off

The annual number of fatalities from crashes involving large trucks increased by 20 percent from 4,462 in 1992 to 5,355 in 1997 (see fig. 1).¹ This result reversed a trend of decreasing truck fatalities in the previous 5-year period, 1988 through 1992. Also from 1992 through 1997, the fatality rate—the number of fatalities per 100 million miles traveled by large trucks—has remained fairly constant at about 2.9 deaths per 100 million miles traveled after decreasing by 27 percent between 1988 and 1992.

Figure 1: Fatalities From Large Truck Crashes and Fatality Rate, 1988-1997

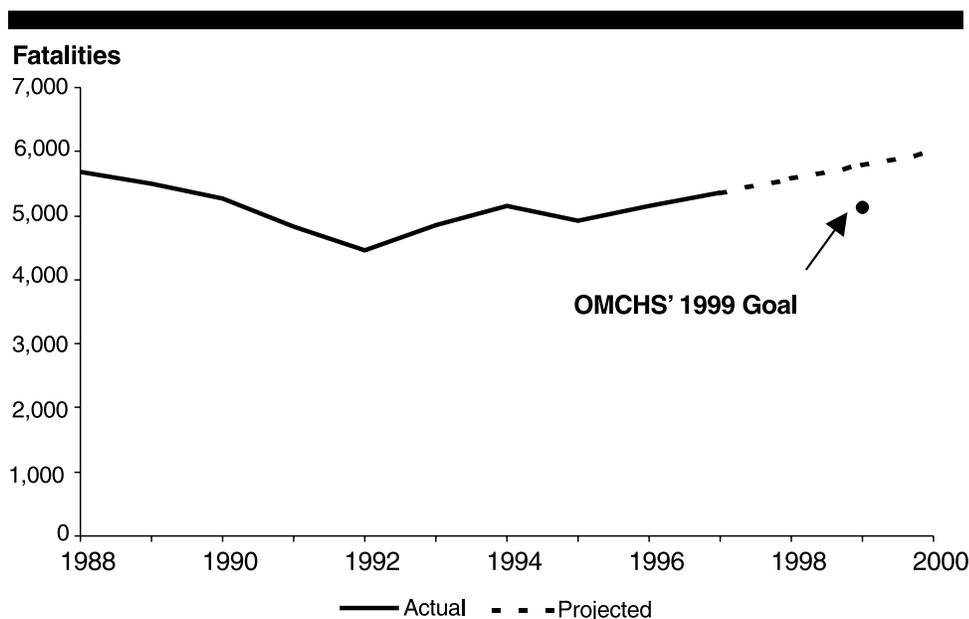


Source: National Highway Traffic Safety Administration and Federal Highway Administration.

¹The number of fatalities is from the Fatality Analysis Reporting System, which is considered a reliable data source for all fatal crashes, including fatal truck crashes. The reporting system is maintained by the National Highway Traffic Safety Administration.

The recent increases in annual fatalities reflect, in part, increases in truck travel: the number of miles traveled increased by 25 percent from 1992 through 1997. If truck travel continues to increase at this rate, and nothing is done to reduce the fatality rate, the annual number of fatalities could increase to 5,800 in 1999 and to more than 6,000 in 2000 (see fig. 2). The Federal Highway Administration has established a goal for OMCHS for 1999 to reduce the number of fatalities from truck crashes to fewer than 5,126—the number of fatalities in 1996. This goal is substantially below our projected figure of 5,800 for 1999.

Figure 2: Actual and Projected Fatalities From Large Truck Crashes, 1988-2000



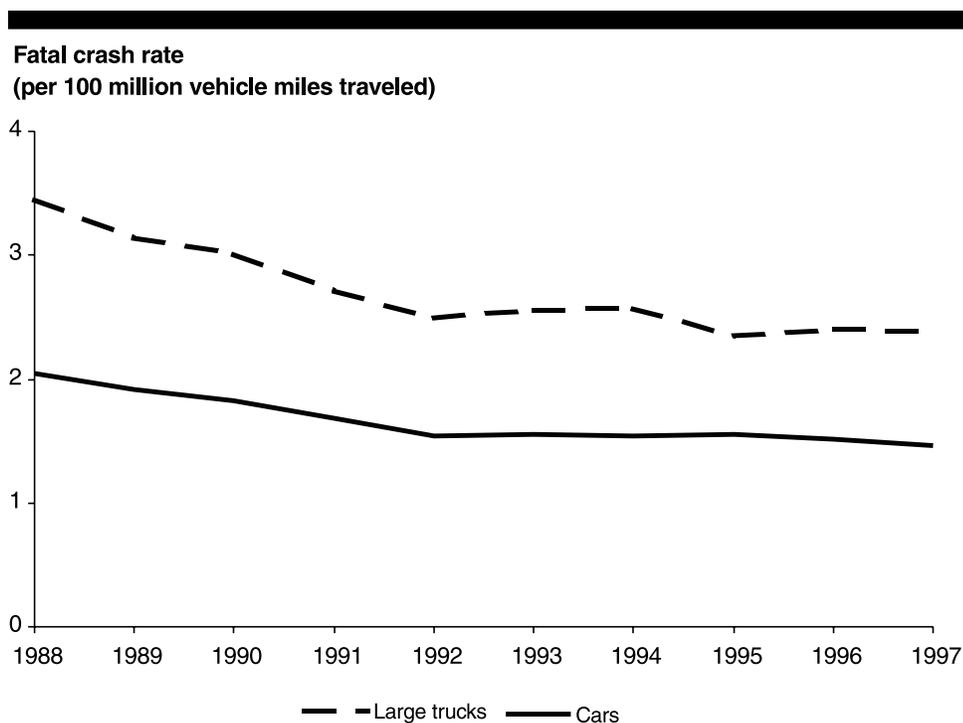
Source: National Highway Traffic Safety Administration and Federal Highway Administration for 1988 through 1997; GAO's estimate for 1998 through 2000.

While we are concerned that the number of fatalities from crashes involving large trucks could increase in the next few years, only about 1 percent of all truck crashes reported to police in 1997 resulted in a fatality. About 99 percent resulted in injuries or property-damage-only. From 1988 through 1997, the number of people injured each year increased overall from 130,000 to 133,000. During the same period, the number of injuries per 100 million miles traveled fell from 92 to 69. In addition, the annual

number of crashes involving large trucks that resulted in property-damage-only increased from 291,000 to 329,000 while the number of these crashes per 100 million miles traveled decreased from 206 to 172.

For each mile that they traveled from 1988 through 1997, large trucks were involved in fewer total crashes than cars were.² However, large trucks were involved in a greater number of fatal crashes per mile traveled (see fig. 3). The higher fatal crash rate for large trucks is not surprising, considering the difference in weight between cars and large trucks. When there is such a mismatch in weight between the vehicles involved in a crash, the lighter one and its occupants tend to suffer more damage. In fatal crashes between cars and large trucks in 1997, 98 percent of the fatalities were occupants of the car.

Figure 3: Comparison of Fatal Crash Rates for Large Trucks and for Cars, 1988-1997



Note: Rates for both categories include crashes between trucks and cars. Source: National Highway Traffic Safety Administration and Federal Highway Administration.

²For this testimony, car is defined as all passenger vehicles—including cars, pickup trucks, sport utility vehicles, and vans—under 10,001 pounds gross vehicle weight rating.

OMCHS Needs Better Information on Factors That Contribute to Large Truck Crashes

While no reliable information exists on the causes of crashes involving large trucks nationwide, some information exists on factors that may contribute to these crashes.³ These factors include (1) driver-related factors such as excessive speed, fatigue, inattentiveness, and reckless driving; (2) vehicle-related factors such as worn brakes, bald tires, and improperly secured loads; (3) road-related factors such as the type of road and how it is designed; and (4) environmental factors, such as bad weather and darkness. However, OMCHS does not know how many crashes are related to each of these factors because existing data bases do not contain sufficiently complete information on contributing factors. Without this information, OMCHS cannot effectively tailor its activities to address the factors that are most likely to contribute to truck crashes.

One national data base contains information on factors that contribute to truck crashes. This data base is the Fatality Analysis Reporting System (FARS), maintained by the National Highway Traffic Safety Administration (NHTSA). However, FARS includes only fatal crashes, which represent only 1 percent of all truck crashes. Furthermore, it does not include a comprehensive list of factors nor does it rely on a thorough investigation of the crash scene to pinpoint factors that contributed most heavily to the crash.

Despite its limitations, FARS has been used to estimate the number of crashes related to certain factors. Data from FARS indicate that car driver errors contribute to more fatal crashes between cars and trucks than do truck driver errors. In 1997, errors by car drivers were reported in 80 percent of the crashes, while errors by truck drivers were reported in 28 percent of the crashes. Safety groups have questioned the validity of these data because truck drivers, who are more likely to survive the crash than car drivers, have more opportunities to tell the officer at the crash scene their version of how the crash occurred. However, a recent study found that in fatal crashes in 1994 and 1995 in which both the truck driver and the car driver survived, car driver errors were cited in 74 percent of the crashes compared with 35 percent for truck driver errors.⁴ This finding provides some support for the hypothesis that, compared with truck drivers, car drivers contribute more to fatal crashes between large trucks and cars.

³A contributing factor does not necessarily identify fault or the cause of a crash; rather, the presence of a contributing factor increases the likelihood of a crash.

⁴Daniel Blower, The Relative Contribution of Truck Drivers and Passenger Vehicle Drivers to Truck-Passenger Vehicle Traffic Crashes, The University of Michigan Transportation Research Institute, Ann Arbor, Mich. (1998).

On the basis of data from FARS and several studies involving in-depth crash investigations, OMCHS estimates that truck driver fatigue contributes to 15 to 33 percent of crashes that are fatal to the truck occupant(s) only. OMCHS estimates that truck driver fatigue contributes to a much lower percentage—from 1 to 2 percent—of crashes that are fatal to people other than truck occupants, such as car occupants or pedestrians. The imprecision of these estimates partly reflects the difficulty of detecting driver fatigue after crashes occur. Nevertheless, these data indicate that when truck driver fatigue contributes to crashes, truck drivers are killed more often than someone outside the truck.

Because of the lack of complete and precise information on factors that contribute to crashes, OMCHS recently began to design a data base that contains more detailed information on these factors. OMCHS will provide funding to NHTSA to collect data on a national sample of large truck crashes, including fatal, injury, and serious property-damage-only crashes. OMCHS estimates that the data base would take 2 to 3 years to complete, at a cost of \$2 million to \$3 million. The American Automobile Association (AAA) recently proposed a similar study, except that AAA's proposal calls for the Transportation Research Board to design the study. AAA believes that this approach allows the widest possible input from the traffic safety and trucking communities, while providing scientific objectivity and technical expertise. An OMCHS official agreed that the study would have more credibility if it were designed by the Transportation Research Board. As in OMCHS' study, AAA's proposal calls for NHTSA to conduct the crash investigations and data collection. AAA estimates that the study would take from 3 to 5 years, at a cost of about \$5 million.

Beginning in fiscal year 1998, all states submitted annual commercial vehicle safety plans to OMCHS that included the state's goals for improving truck safety and the activities the state will use to meet those goals. Following OMCHS' encouragement, several states will attempt to identify roadways with a greater incidence of crashes or fatalities and design activities targeted at those roadways. Several states' plans also include in-depth crash investigations to determine the prevalence of different contributing factors. OMCHS is encouraging the states to use a common format when conducting their crash investigations so that the data collected by various states will be compatible. Michigan is currently implementing this format.

OMCHS' Effectiveness Is Hampered by Data Problems and Slow Action

OMCHS has undertaken a number of activities that are intended to improve truck safety. While these activities could have a positive effect on truck safety issues over the long term, their effectiveness is limited because (1) OMCHS' initiative to target high-risk carriers for safety improvements depends on data that are not complete, accurate, or timely; (2) major components of several of its activities will not be completed within the next several years; and (3) OMCHS cannot tell whether its campaign to educate car drivers about the limitations of large trucks is working. In addition, representatives from trucking associations and safety groups agree that the effectiveness of OMCHS' activities is hampered by its slowness in implementing measures to improve truck safety.

OMCHS' activities are just one of many factors that affect the level of truck safety. OMCHS' activities—either directly or through grants provided to states—are intended to improve truck safety largely by influencing the safety practices of trucking companies and the behavior of truck drivers. There are other factors that affect truck safety that OMCHS does not directly influence, such as the use of safety belts by car occupants, highway design standards, trucks' and cars' handling and crashworthiness characteristics, traffic congestion, local traffic laws and enforcement, and state initiatives.

Insufficient Data Limit OMCHS' Ability to Target High-Risk Carriers and States' Ability to Develop and Implement Safety Plans

Each year, OMCHS and state inspectors conduct thousands of on-site reviews of motor carriers' compliance with federal safety regulations, known as compliance reviews. To identify high-risk carriers for these reviews, OMCHS uses a safety status measurement system known as SafeStat. SafeStat relies heavily on data from OMCHS' motor carrier management information system (MCMIS) to rank motor carriers on the basis of four factors: (1) crashes, (2) driver performance, (3) vehicle mechanical condition, and (4) safety management. The crash factor is given twice the weight of the other factors because carriers that have been in crashes are considered more likely to be involved in crashes in the future. Carriers that are ranked in the worst 25 percent of all carriers for three or more factors or for the accident factor plus one other factor are targeted for a compliance review.

However, SafeStat's ability to accurately target high-risk carriers is limited because state officials do not report a large percentage of crashes involving large trucks to MCMIS. For 1997, OMCHS estimated that about 38 percent of all reportable crashes and 30 percent of the fatal crashes

involving large trucks were not reported to MCMIS.⁵ Furthermore, 10 states reported fewer than 50 percent of the fatal crashes occurring within their borders, including 4 states that reported fewer than 10 percent. Because MCMIS does not contain a record of a large percentage of crashes, a carrier that has been involved in a substantial number of crashes might go undetected by SafeStat. According to OMCHS officials, states do not report all crashes for several reasons. In particular, (1) states do not understand that complete reporting would enable OMCHS to more accurately target high-risk carriers, (2) state employees who submit crash data to MCMIS may not have sufficient training or incentives, or (3) there may be errors in some states' data bases that are preventing the transmittal of the data. According to OMCHS officials, an initiative to encourage states to report data for all crashes in a consistent manner is being developed; however, no implementation date has been set.

SafeStat's ability to target high-risk carriers is also limited by out-of-date data in MCMIS. SafeStat uses the census data—such as the number of trucks operated by each carrier—to normalize safety data. For example, SafeStat checks the number of crashes reported for a carrier against the number of trucks operated by the carrier to determine if the number of crashes is disproportionate. However, interstate carriers are required to file census data with OMCHS only once—when they initially go into business. After that, the census data are updated generally only when OMCHS or states conduct compliance reviews at the carriers' facilities. Each year from 1993 through 1997, these reviews were conducted for fewer than 4 percent of the carriers listed in MCMIS, whose number increased from 275,000 to more than 415,000 over the period.

As we reported in 1997, states have improved the timeliness of reporting the results of the roadside inspections, compliance reviews, and crashes that are used by SafeStat.⁶ However, the states are still not meeting OMCHS' reporting deadlines. OMCHS' December 1996 guidance to states requires that states report the results of roadside inspections and compliance reviews within 21 days and crashes within 90 days. As shown in table 1, states improved the timeliness of reporting data to MCMIS from fiscal year 1997 to 1998 but were missing OMCHS' deadlines by an average of 8 to 16 days.

⁵For OMCHS' purposes, a reportable crash must result in a fatality, an injury where the person injured is taken to a medical facility, or one vehicle having been towed from the scene.

⁶Commercial Motor Carriers: DOT Is Shifting to Performance-Based Standards to Assess Whether Carriers Operate Safely (GAO/RCED-98-8, Nov. 3, 1997).

Table 1: Average Number of Days to Report Results of Roadside Inspections, Compliance Reviews, and Crashes to MCMIS, Fiscal Years 1996-98

	Average number of days to report to MCMIS			Reporting deadline	Difference in 1998 and reporting deadline
	1996	1997	1998		
Roadside inspections	49	47	37	21	16
Compliance reviews	35	41	29	21	8
Crashes	195	120	102	90	12

Note: The reporting deadline was established during fiscal year 1997.

Source: GAO's analysis of OMCHS' data.

Data problems also exist at the state level. In fiscal year 1998, all states submitted performance-based safety plans to OMCHS for the first time. Under these plans, states must identify areas that need improvement, such as sections of highways where a disproportionate number of crashes involving large trucks have occurred, and develop a plan for improving those areas. In a pilot program to implement performance-based plans, 5 of 13 pilot states reported that they lacked sufficient or timely data to accurately identify areas that need improvement. OMCHS officials said that insufficient data—such as information on the number of trucks a carrier operates to help states focus their safety education programs for carriers—have also been a problem for some states once they have identified problem areas and are developing improvement plans.

Several OMCHS Activities to Improve Large Truck Safety Are Years From Completion

Several of OMCHS' activities that have the potential to improve large truck safety—including revising the rule governing the number of hours that truck drivers can drive and targeting high-risk carriers through the number of citations drivers receive—will not be completed for several years. The ICC Termination Act of 1995 directed the Federal Highway Administration to modify the existing hours of service rule for commercial motor vehicles to incorporate countermeasures for reducing fatigue-related incidents, such as crashes. The act required the Federal Highway Administration to issue an advance notice of proposed rulemaking by March 1, 1996; this notice was issued on November 5, 1996. The act also required a proposed rule within 1 year after the advance notice, and a final rule within 2 years after that 1-year deadline. The Federal Highway Administration has not issued a proposed rule. OMCHS officials explained that revising the rule is a difficult and very contentious issue and the final rule will not be issued until 2000 or later.

In addition, OMCHS has concluded that high-risk carriers can be more accurately targeted by tracking the number of citations issued to each carrier's drivers. A 1997 report prepared for the Federal Highway Administration found that trucking companies with higher rates of citations—for such things as overweight vehicles or moving violations—are also more likely to have higher accident rates.⁷ OMCHS officials have said that they plan to develop software that will track the number of citations drivers for each carrier receive. However, states must first agree on a standard format for collecting and reporting citations, and OMCHS does not yet have an estimated date for implementing its plan to use driver citations as a targeting mechanism.

Representatives from both trucking associations and safety groups agree that OMCHS is too slow in implementing measures to improve truck safety. For example, following a rulemaking by NHTSA requiring that trailers be manufactured with reflective markings to make them more visible to drivers of other vehicles, OMCHS decided to consider requiring that older trailers without such marking be retrofitted. OMCHS issued an advance notice of proposed rulemaking in January 1994 and, in August 1996, announced that it would propose a rule establishing requirements for these markings. OMCHS issued a notice of proposed rulemaking in June 1998 and expects to issue a final rule within the next 2 months—almost 3 years after it decided to issue a rule in this area and more than 5 years after the advance notice of proposed rulemaking. According to an OMCHS official, this rule was delayed in part because of a difference of opinion within the Department of Transportation over which trailers the rulemaking should apply to and whether the rulemaking would be too costly to the trucking industry.

In addition, the ICC Termination Act of 1995 required the Secretary of Transportation to create an information system to consolidate motor carrier information, such as census data and insurance and tax information. Carriers will be required to update this information every year. The act required the Secretary to issue a final rule on this information system by January 1, 1998. OMCHS issued an advance notice of proposed rulemaking in August 1996 and expects to issue a notice of proposed rulemaking within the next 6 months, about 3 years after the advance notice was issued. According to an OMCHS official, the rule has been delayed because of insufficient resources and the act's provision that states not lose revenue compared to 1995 as a result of the new system.

⁷Driver/Carrier Data Relationship Project, Phase II Report, Prepared by AAMVAnet, Inc., and Keane Federal Systems for the Federal Highway Administration, (Feb. 1997).

Effectiveness of OMCHS' Campaign to Educate Car Drivers About the Limitations of Large Trucks

Because of the large contribution of car driver errors to fatal crashes between large trucks and cars, OMCHS launched the "No-Zone" campaign in 1994. (No-Zone is a term used to describe the areas around a truck where the truck driver's visibility is limited.) This campaign is intended to reduce crashes between large trucks and cars by educating car drivers about how to safely share the road with large trucks and about trucks' limitations, such as reduced maneuverability, longer stopping distances, and blind spots. The campaign's public education efforts include public service announcements via radio, television, and print; brochures; posters; and decals on large trucks. Because car drivers between 15 and 20 years old were found to be involved in a relatively high percentage of fatal crashes, the No-Zone campaign focused a large part of its public outreach on this age group.

The campaign has a goal of reducing fatal crashes involving large trucks and cars by 10 percent over a 5-year period. However, as evidenced by the overall increase in the number of fatalities since 1994, the campaign apparently did not make any progress toward achieving its goal of reducing fatalities overall through 1997, the last year for which data are available. OMCHS has not determined to what extent, if any, the No-Zone campaign has contributed to changing car drivers' behavior and reducing crashes between large trucks and cars. While OMCHS plans to conduct a national telephone survey within the next year to determine the level of public recognition of the No-Zone campaign, the survey will not measure whether car drivers' behavior has changed.

Mr. Chairman, this concludes my statement. I will be pleased to answer any questions that you or Members of the Subcommittee may have.

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