

September 2006

# TRUCK SAFETY

## Share the Road Safely Pilot Initiative Showed Promise, but the Program's Future Success Is Uncertain





**GAO**  
Accountability Integrity Reliability

# Highlights

Highlights of [GAO-06-916](#), a report to congressional committees

## Why GAO Did This Study

In 2004, over 5,000 people died on our nation's roads in crashes involving large trucks. The Department of Transportation's (DOT) Federal Motor Carrier Safety Administration (FMCSA) operates truck safety programs, including Share the Road Safely (STRS), which has a goal to improve driving behavior around large trucks. At congressional direction, the National Highway Traffic Safety Administration (NHTSA) assumed responsibility for funding STRS in 2004, but returned STRS to FMCSA in 2006. The current transportation authorization bill requested GAO to update its 2003 evaluation of STRS. This report (1) describes the STRS initiatives DOT has implemented since 2003 and their design, (2) reviews evaluations of STRS initiatives, and (3) assesses DOT's plans for the future of STRS. GAO interviewed DOT and state officials, and reviewed program plans and evaluations.

## What GAO Recommends

GAO recommends that the Secretary of Transportation develop a strategy for expanding TACT-like initiatives, and determine the best method for using DOT's resources and expertise to modify driver behavior. DOT officials clarified and updated information in a draft of this report and generally agreed with the recommendations.

[www.gao.gov/cgi-bin/getrpt?GAO-06-916](http://www.gao.gov/cgi-bin/getrpt?GAO-06-916).

To view the full product, including the scope and methodology, click on the link above. For more information, contact Katherine Siggerud at (202) 512-2834 or [siggerudk@gao.gov](mailto:siggerudk@gao.gov).

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# Share the Road Safely Pilot Initiative Showed Promise, but the Program's Future Success Is Uncertain

## What GAO Found

During 2004 and 2005, Share the Road Safely funding was used to implement one initiative, a pilot in Washington State that focused on aggressive driving behaviors near or by large trucks. Known as Ticketing Aggressive Cars and Trucks (TACT), it combined education, such as highway message signs, and high-visibility law enforcement to reduce aggressive driving. TACT received about \$892,000 in federal and state funds. TACT was generally modeled on successful behavior modification programs, including Click It or Ticket (a program to encourage safety belt use), but was more complex to implement than past initiatives since many behaviors constitute aggressive driving and Washington State lacked a single aggressive driving law. In addition, NHTSA sought to demonstrate to FMCSA staff how to operate similar initiatives in the future. To this end, FMCSA sent a liaison to NHTSA as requested by Congress. Lastly, initiatives that were a part of STRS in 2003 were still pursued by FMCSA, but were not funded.

DOT and Washington State officials conducted an evaluation of TACT that demonstrated that the initiative was successful and well-designed. The evaluation found that TACT significantly reduced the number and severity of unsafe driving acts near or by trucks. While the evaluation did not assess changes in crashes, improved driver behavior should logically lead to fewer crashes, injuries, and fatalities. GAO found that TACT's design of combining education with law enforcement better lent itself to reaching agency goals of fatality reduction than previous STRS initiatives that were purely educational.

FMCSA plans to expand development of new TACT-like initiatives, but lacks resources and experience to do so. In addition, FMCSA plans to spend most of its 2006 STRS funds on educational initiatives, which lack information showing whether they improve driver behavior. In terms of TACT expansion, FMCSA is currently developing a TACT-like pilot in Pennsylvania and plans to roll out initiatives similar to TACT nationally by 2009. FMCSA, however, has few people dedicated to education and outreach and lacks NHTSA's experience with behavior modification initiatives. While FMCSA designated a liaison to learn about TACT-like initiatives, GAO continues to have concerns about FMCSA's limited experience with these initiatives. NHTSA has considerable experience with such initiatives, but its role in STRS is still evolving. Finally, FMCSA plans to spend the majority of its fiscal year 2006 STRS funds on initiatives that do not have evaluations showing their impacts.

### Highway Message Sign and Law Enforcement Used in the Washington State Pilot Initiative



Sources: Washington Traffic Safety Commission and the KOMO television station.



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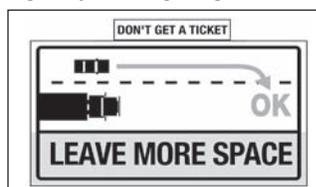
## What GAO Found

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DOT and Washington State officials conducted an evaluation of TACT that demonstrated that the initiative was successful and well-designed. The evaluation found that TACT significantly reduced the number and severity of unsafe driving acts near or by trucks. While the evaluation did not assess changes in crashes, improved driver behavior should logically lead to fewer crashes, injuries, and fatalities. GAO found that TACT's design of combining education with law enforcement better lent itself to reaching agency goals of fatality reduction than previous STRS initiatives that were purely educational.

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### Highway Message Sign and Law Enforcement Used in the Washington State Pilot Initiative



Sources: Washington Traffic Safety Commission and the KOMO television station.

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**Abbreviations**

DOT	Department of Transportation
FMCSA	Federal Motor Carrier Safety Administration
MCSAP	Motor Carrier Safety Assistance Program
NHTSA	National Highway Traffic Safety Administration
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
STEP	Selective Traffic Enforcement Program
STRS	Share the Road Safely
TACT	Ticketing Aggressive Cars and Trucks

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United States Government Accountability Office  
Washington, D.C. 20548

September 8, 2006

The Honorable Ted Stevens  
Chairman  
The Honorable Daniel K. Inouye  
Co-Chairman  
Committee on Commerce, Science, and Transportation  
United States Senate

The Honorable Don Young  
Chairman  
The Honorable James L. Oberstar  
Ranking Democratic Member  
Committee on Transportation and Infrastructure  
House of Representatives

In 2004, over 42,000 people died on our nation's roads. About 12 percent (5,190) of these fatalities occurred in collisions involving large commercial trucks, in which many more occupants were killed in the other vehicles than in the trucks. Furthermore, large-truck traffic has increased significantly (33 percent) from 1994 through 2004. This trend seems likely to continue as the Transportation Research Board estimates that truck traffic will increase by 3.5 percent annually.<sup>1</sup> However, according to the Department of Transportation's (DOT) *Large Truck Crash Causation Study*,<sup>2</sup> passenger-vehicle drivers were responsible for the majority of these large commercial truck crashes. The study found that specific passenger-vehicle driver behaviors, such as driving too fast for road conditions and making illegal maneuvers, contributed significantly to crashes involving large commercial trucks.

Within DOT, the Federal Motor Carrier Safety Administration (FMCSA) is responsible for improving the safety of commercial-vehicle operations, which include interstate truck and motor coach (bus) companies, while the National Highway Traffic Safety Administration (NHTSA) has a mission to reduce deaths, injuries, and economic losses resulting from motor vehicle crashes. FMCSA has set a safety goal to reduce the rate of fatalities from an

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<sup>1</sup>The Transportation Research Board did not establish a timeline for how long this increase will last.

<sup>2</sup>U.S. Department of Transportation, *Report to Congress on the Large Truck Crash Causation Study* (Washington, D.C.: March 2006).

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estimated 2.81 per 100 million truck-miles traveled in 1996 to no more than 1.65 by the end of 2008. In 2004, the fatality rate for truck-related crashes was 2.3 per 100 million truck-miles traveled. To work toward its 2008 goal, FMCSA leads enforcement efforts such as working with and providing grants to states to enforce Federal Motor Carrier Safety Regulations. In addition, FMCSA operates several education and outreach programs. Share the Road Safely (STRS) is one such program that aims to support FMCSA's goal by educating and changing the driving behavior of both passenger-vehicle and truck drivers so that they may interact safely with one another on the road.<sup>3</sup> NHTSA sets and enforces safety standards for motor vehicles and motor vehicle equipment and provides grants to states to improve passenger-vehicle driver safety.

In recent years, we raised concerns about FMCSA's education and outreach efforts. In 2003, we reported that STRS lacked a clear program strategy and included activities that were only tenuously linked to program goals.<sup>4</sup> We also reported that FMCSA had not recently evaluated the program's effectiveness. Consequently, we recommended that DOT ensure that STRS initiatives are directly linked to the program's goals, and that DOT establish a systematic process for evaluating the program's effectiveness. We also suggested that FMCSA apply strategies used by other parts of DOT, such as NHTSA, to its evaluations of STRS. In fiscal year 2004, Congress transferred funding for the program to NHTSA, an agency that sets and enforces safety standards for motor vehicles and motor vehicle equipment and provides grants to states to improve passenger-vehicle driver safety. Additionally, the Conference Report accompanying the DOT appropriations act for fiscal year 2004 indicates the conferees wanted NHTSA and FMCSA to apply lessons learned from NHTSA's experience with high-visibility law enforcement campaigns to STRS to educate drivers on how to drive safely around large trucks. The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)—which authorized the federal surface transportation programs for highways, highway safety, and transit between 2005 and 2009—annually provided \$3 million to NHTSA and \$1 million to FMCSA for administering education and outreach activities associated with commercial-vehicle safety, such as

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<sup>3</sup>Other education and outreach activities include a safety belt program aimed at increasing safety belt use among commercial drivers, and a new entrant program designed to inform newly registered motor carriers about motor carrier safety standards and regulations.

<sup>4</sup>GAO, *Truck Safety: Share the Road Safely Program Needs Better Evaluation of Its Initiatives*, [GAO-03-680](#) (Washington, D.C.: May 30, 2003).

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STRS. The Conference Report accompanying the DOT appropriations act for fiscal year 2006, however, indicates that the conferees allocated the entire \$4 million for education and outreach activities associated with commercial-vehicle safety to FMCSA, including \$500,000 for STRS initiatives.

SAFETEA-LU also asked us to update our 2003 evaluation of STRS to determine if the program has achieved reductions in the number and severity of commercial motor vehicle crashes, including reductions in the number of deaths and the severity of injuries sustained in these crashes. To update our 2003 STRS report and assess the impact of the program on the interaction between large commercial trucks and passenger vehicles, we (1) describe what STRS initiatives DOT has implemented since 2003 and assess whether its initiatives are reasonably designed; (2) review the results of DOT evaluations of STRS initiatives and assess the evaluation methods; and (3) assess DOT's plans for the future of STRS initiatives.

To determine how STRS has changed since 2003 and whether the design of its initiatives is reasonable, we interviewed DOT officials and reviewed agency documents. Additionally, we interviewed FMCSA, NHTSA, and local officials involved in the operation of the STRS pilot initiative in Washington State and reviewed related program documents. We examined the design of the Washington State pilot to determine how it compares with other initiatives intended to modify driver behavior, and whether the pilot's activities links to agency goals. We did not assess the design of other STRS initiatives because they were not funded in 2004 and 2005, and we reported on these initiatives in our 2003 report. To determine what the evaluation of STRS pilot initiative showed, we reviewed evaluation plans and evaluation results and spoke with DOT and state officials responsible for conducting the evaluation. We also compared DOT's evaluation approach with accepted evaluation methods. Although SAFETEA-LU asked us to determine if STRS achieved reductions in the number of deaths and the severity of injuries sustained in commercial-vehicle crashes, DOT's evaluation did not assess these outcomes because the number of fatalities and injuries on DOT's study corridors were too low to reliably measure any appreciable change. Therefore, we did not discuss in this report STRS's impact on specific numbers of fatalities and injuries. To assess DOT's future plans for STRS, we interviewed program administrators at DOT and reviewed provided budget and planning documents. We also compared the planned initiatives (1) with high-visibility law enforcement campaign models, shown to change behavior by prior research, to assess their implementation and (2) with the initiatives described in our prior report to

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see how they have evolved. We conducted our review from October 2005 through July 2006 in accordance with generally accepted government auditing standards. Appendix I provides additional details of our scope and methodology.

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## Results in Brief

During fiscal years 2004 and 2005, the Share the Road Safely program funded one initiative that focused primarily on trying to reduce aggressive driving<sup>5</sup> behavior associated with car and truck crashes in Washington State. We found that this initiative was reasonably designed, and that it for the most part followed a model that combines education with enforcement activities. The Washington Traffic Safety Commission was the lead agency on this pilot initiative, known as Ticketing Aggressive Cars and Trucks (TACT), with NHTSA providing significant implementation assistance and approximately \$565,000 in funding. FMCSA developed initial plans for a multistate education and enforcement project, and after Congress provided STRS funds to NHTSA, FMCSA worked with NHTSA and Washington State. FMCSA also provided assistance for TACT that included initial crash analyses, reviews of project plans, and \$100,000 in grants for enforcement. TACT centered on two, 2-week high-visibility law enforcement waves in July and September, 2005, along with outreach efforts, such as television news coverage and radio advertisements, to inform motorists of the dangers of aggressive driving and of the program's initiatives. TACT planning documents state that the pilot was a high-visibility law enforcement campaign patterned on the Selective Traffic Enforcement Program (STEP) model, which combines educational and enforcement activities and has been shown by prior research to be more effective at changing driver behavior than education alone. NHTSA's Click It or Ticket safety belt campaign<sup>6</sup> is an example of a successful high-visibility law enforcement campaign that is based on the STEP model. Our analysis of TACT's implementation shows that it conformed to the high-visibility law enforcement campaign used in NHTSA's Click It or Ticket campaign, with a couple of exceptions. For instance, the Click It or Ticket model calls for television advertising, which TACT did not use because of its limited

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<sup>5</sup>In this report, "aggressive driving" refers specifically to unsafe driving acts involving cars and trucks, such as making unsafe lane changes, following another vehicle too closely, and speeding.

<sup>6</sup>"Click It or Ticket" is a highway safety campaign that uses increased enforcement along with a media campaign to encourage safety belt use.

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funding. Furthermore, although TACT was similar to other high-visibility law enforcement campaigns, it dealt with more complex issues. For example, Washington has no one specific law against aggressive driving, so officials had to ensure that the courts would cooperate with TACT's enforcement efforts. By contrast, Washington's laws specifically require safety belt use; therefore, enforcement during Click It or Ticket campaigns is more straightforward. To support the transfer of knowledge about implementing high-visibility law enforcement campaigns from NHTSA to FMCSA, the Conference Report accompanying the DOT appropriations act for fiscal year 2005 expressed the conferees' expectation that FMCSA would detail one staff member to serve as a liaison to NHTSA. In response, FMCSA hired a liaison who came aboard after the completion of TACT's last enforcement wave. Finally, other initiatives, such as educational brochures, that were a part of STRS in our 2003 review were not funded in 2004 and 2005, but FMCSA continued to disseminate available education and outreach materials.

DOT and Washington State officials conducted an evaluation of TACT that demonstrated the pilot's success in reducing aggressive driver behavior and found that the initiative had an acceptable experimental design for making this determination. Officials found reductions in the rates and seriousness of unsafe driving acts when they analyzed video footage of driver behavior before and after the pilot. Specifically, the rate of unsafe driving acts per hour was cut almost in half. Additionally, surveys of motorists demonstrated that TACT's message of leaving more space around trucks successfully reached its target audience. Furthermore, we found that the evaluation was well-designed. It compared intervention groups that received educational and enforcement efforts with comparison groups that did not. This comparison enabled program administrators to attribute any positive changes in driver behavior to TACT initiatives. TACT's evaluation design represents a positive step toward meeting our 2003 recommendation that DOT establish a systematic process for evaluating the effectiveness of STRS. Although the TACT evaluation did not provide data regarding the impact of the pilot on the number of crashes in the corridors because those numbers were too low to assess, the evaluation relied on intermediate measures such as improved driver behavior, which should logically result in decreased crashes, injuries, and fatalities. In addition, by combining education and enforcement, the pilot was better designed to reach agency goals of improving driver behavior to reduce fatalities than past STRS initiatives that were focused solely on educating motorists on how trucks and cars should drive around each other, thereby

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making progress toward meeting our 2003 recommendation that STRS initiatives link to STRS goals.

Given the success of the TACT initiative in improving driver behavior, FMCSA is encouraging states to adopt TACT-like initiatives; however, the extent to which FMCSA will be able to successfully develop and implement these initiatives is uncertain. Furthermore, FMCSA's STRS plans for fiscal year 2006 focus on initiatives that are strictly educational, which research has shown are more limited in their ability to improve driver behavior than educational initiatives linked with enforcement. However, FMCSA plans to evaluate the impact of these educational activities. FMCSA officials stated that by fiscal year 2009, they plan a nationwide rollout of initiatives, like TACT, that rely on education and enforcement to address poor driver behavior around commercial trucks. In the interim, FMCSA is contracting with Pennsylvania to conduct another TACT pilot, using primarily Motor Carrier Safety Assistance Program (MCSAP) grants and state funding. FMCSA has recently set up a transition team of FMCSA and NHTSA staff to help develop a plan for achieving its 2009 goal and to resolve issues such as identifying a funding source for a nationwide program. In addition, FMCSA's limited experience in implementing such initiatives raises concerns about its ability to develop and implement a nationwide program. For example, FMCSA has few people dedicated to education and outreach programs, and some officials commented that the agency lacks NHTSA's experience overseeing the implementation of behavior modification initiatives. Also, one of these officials, the FMCSA liaison to NHTSA, missed opportunities for learning about the operation of TACT and other high-visibility law enforcement campaigns because of the time it took to fill the position. Furthermore, although FMCSA announced that states could apply for MCSAP funds to use for TACT-like initiatives, it did not provide guidance on how to proceed, and applications for these funds in 2006 were due before the evaluation of TACT was completed. Finally, FMCSA plans to spend the majority of its \$500,000 fiscal year 2006 STRS funds on enhancing its Web site and sending brochures and other informational materials to commercial- and passenger-vehicle drivers—initiatives that are strictly educational. However, research has shown that the ability of educational initiatives such as these to improve driver behavior is more limited than when education is linked with enforcement. After we discussed our findings with FMCSA, officials decided to ask its contractor to evaluate these initiatives in fiscal year 2006, a year earlier than planned, with an expected evaluation report completed by fiscal year 2007. However, FMCSA has yet to identify specific performance goals and measures.

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We have concerns about the ability of the STRS initiatives to continue to improve driver behavior, given FMCSA's limited staff, experience, and systematic plans for expanding high-visibility law enforcement campaigns and its focus on educational initiatives. Therefore, we are recommending that DOT continue to develop a comprehensive strategy to describe how it will achieve its goal of implementing TACT nationwide, and how STRS initiatives will contribute to this goal. We also recommend that the agency complete and execute plans to evaluate STRS outreach activities that are purely educational and discontinue activities where no impact can be demonstrated. Lastly, we recommend that DOT monitor whether FMCSA has sufficient staff and institutional experience to successfully develop and implement future high-visibility law enforcement campaigns, and, if it does not, determine how to use existing expertise within DOT to focus on and support STRS initiatives that combine education and enforcement. In commenting on a draft of this report, DOT officials generally agreed with our recommendations. The officials also clarified and updated information, such as the status of their evaluations, and provided technical comments, which we incorporated as appropriate.

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## Background

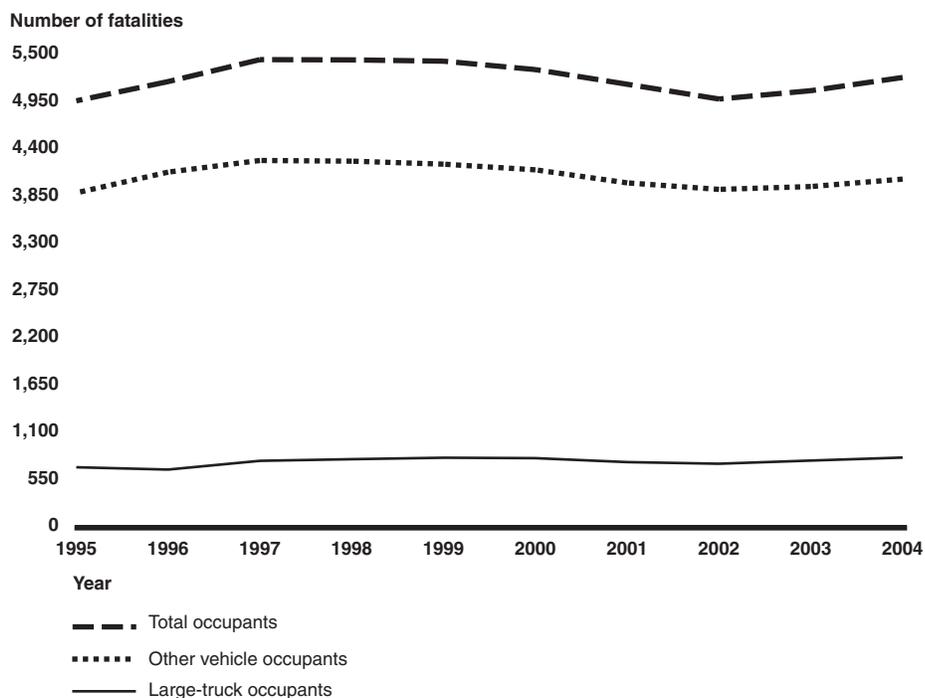
The occupants of other vehicles are several times more likely to die in crashes involving large commercial trucks than the occupants of the trucks.<sup>7</sup> From 1995 through 2004, there were 51,791 people killed in large-truck crashes. Of this total, 40,438 were occupants of other vehicles, while 7,131 were the occupants of large trucks and 4,222 were nonmotorists, such as pedestrians. Figure 1 shows the number of passenger-vehicle and large-truck occupants killed in collisions involving large trucks from 1995 through 2004, according to NHTSA's Fatality Analysis Reporting System.<sup>8</sup>

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<sup>7</sup>In presenting information on traffic fatalities, we used the most recent available data contained in NHTSA's Fatality Analysis Reporting System database. This database contains state-reported data on all traffic-related fatalities in the United States.

<sup>8</sup>In 2004, we presented information on traffic fatalities using data contained in NHTSA's Fatality Analysis Reporting System database. We determined that these data were sufficiently reliable for reporting purposes. See GAO, *Highway Safety: Federal and State Efforts to Address Rural Road Safety Challenges*, [GAO-04-663](#) (Washington, D.C.: May 28, 2004).

**Figure 1: Number of Vehicle Occupants Killed in Large-Truck Crashes, by Vehicle Type (1995-2004)**



Source: NHTSA's Fatality Analysis Reporting System (<http://www-fars.nhtsa.dot.gov>).

The *Large Truck Crash Causation Study* found behavior by drivers of passenger vehicles and trucks responsible for the majority of these large-truck crashes. In a large majority of crashes involving a single truck and a single passenger vehicle, driver behavior was deemed a critical reason for the crash—about 88 percent when the critical reason was assigned to the truck and about 89 percent when assigned to the passenger vehicle. The remaining critical reasons are primarily related to the vehicle and environment. The *Large Truck Crash Causation Study* lists driving too fast for road conditions, making illegal maneuvers, and driving under work pressure as factors contributing to crashes between large trucks and passenger vehicles, but the study does not list a specific factor for aggressive driving.

FMCSA's education and outreach activities represent a small portion of its total efforts to reduce fatalities caused by collisions involving large commercial vehicles. FMCSA, established in 2000 as a separate

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administration under DOT by the Motor Carrier Safety Improvement Act of 1999, is responsible for improving the safety of commercial-vehicle operations on the nation's highways. The agency's overall goal is to reduce the rate of fatalities resulting from collisions involving large commercial trucks from the 1996 rate of 2.8 fatalities per 100 million truck miles traveled to 1.65 by 2008. FMCSA carries out its mission primarily through regulatory and enforcement programs, including developing and enforcing Federal Motor Carrier Safety Regulations, administering MCSAP grants to states, and leading enforcement actions against operators who violate regulations. FMCSA also undertakes education and outreach activities, such as posting on its Web site regulations pertaining to the licensing of commercial drivers or the transporting of hazardous materials, and is also allocated funding for specific education and outreach programs. In fiscal year 2006, education and outreach funding accounted for about \$4 million of FMCSA's over \$490 million budget. Also in fiscal year 2006, FMCSA plans to use education and outreach funding for activities supporting its Safety Belt program, which targeted commercial-vehicle drivers; public outreach on hiring motor coach services; and consumer outreach on using household goods movers, among other programs.

STRS is one education and outreach program intended to help reduce the number of crashes involving large commercial vehicles. FMCSA assumed responsibility for the program in 2000, when Congress established FMCSA. STRS targeted all highway users and sought to modify driver behavior by increasing their awareness of the inherent dangers of driving in and around large commercial vehicles. STRS attempted to increase drivers' awareness of these dangers through a variety of channels, such as publishing informational literature, developing material for driver's education courses, and issuing public service announcements. Additionally, FMCSA partnered with public and private organizations nationwide to promote the STRS mission. One of these partners, the American Trucking Association, now operates its own independent Share the Road program that seeks to educate the public through outreach and media events held in cities across the nation.

In 2003, the House Report accompanying the DOT appropriations act asked GAO to evaluate the effectiveness of the STRS initiatives. Our report found that some STRS initiatives did not clearly link to the program's goals, and that evaluations of the program did not fully measure its outcomes. Our review also noted that research shows that attempts to modify driver behavior are more effective when educational activities are combined with enforcement efforts. Subsequently, we recommended that DOT ensure that

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STRS initiatives directly link with the program's goals, and that DOT establish a systematic process for evaluating the effectiveness of the program. We also suggested that FMCSA could apply strategies used by other parts of DOT, such as NHTSA, to its evaluations of STRS. Such strategies include measuring targeted knowledge, attitude, and behavior changes before and after program exposure to assess change.

For fiscal years 2004 and 2005, Congress transferred funding for STRS from FMCSA to NHTSA, with FMCSA retaining a supporting role. In the Conference Report accompanying the DOT appropriations act for fiscal year 2004, the conferees asked NHTSA to work with FMCSA to educate the motoring public on how to share the road safely with commercial motor vehicles. The appropriation asked NHTSA and FMCSA to apply lessons learned from NHTSA's experience in high-visibility law enforcement campaigns to STRS initiatives to educate drivers on how to drive safety around large trucks. NHTSA operates a number of programs intended to promote safe behavior by passenger-vehicle drivers. One such program is Click It or Ticket, which evaluations have shown to be effective at increasing safety belt use by combining extensive paid and earned media<sup>9</sup> coverage and high-visibility law enforcement waves. Furthermore, the Conference Report accompanying the DOT appropriations act for fiscal year 2005 expressed the conferees' view that FMCSA should assign a staff member to NHTSA to act as a liaison for STRS. FMCSA officials told us that the rationale for establishing this liaison position was to transfer knowledge to FMCSA on the operation of education and enforcement campaigns.

NHTSA's Click It or Ticket program is a high-visibility law enforcement campaign that is based on the STEP model. According to NHTSA officials, STEP is a model that the enforcement community uses to announce, usually through press releases, some increase in enforcement of some violation or identified problem area, such as not wearing a safety belt. Over time, this model has become more sophisticated to include more and better targeted media campaigns to announce enforcement. These media campaigns should include both extensive (1) earned media that include news coverage and (2) paid media, such as radio and television advertising, to explain the problem the program is trying to address and the stepped up enforcement. NHTSA officials refer to this more sophisticated version of a STEP model as a high-visibility law enforcement campaign.

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<sup>9</sup>"Earned media" is positive news coverage that is used to reach a large audience.

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## **During 2004 and 2005, the Share the Road Safely Program Funded a Reasonably Designed Education and Enforcement Pilot in Washington State**

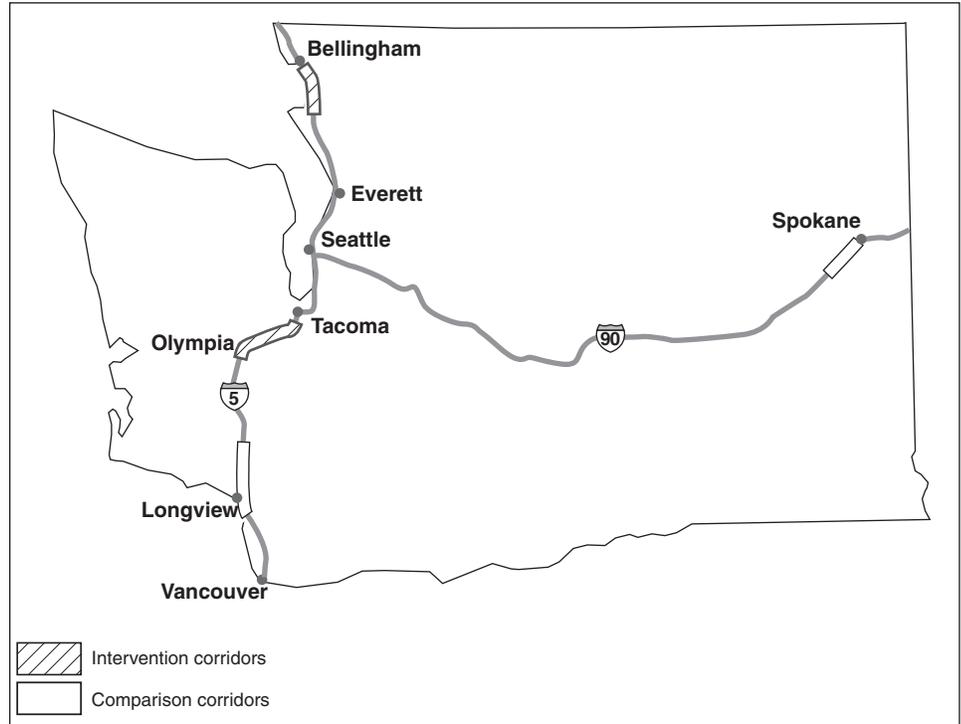
During 2004 and 2005, NHTSA funded the Share the Road Safely program and implemented an aggressive driving pilot initiative in Washington State. Known as Ticketing Aggressive Cars and Trucks (TACT), it combined education and law enforcement activities in an effort to reduce aggressive driving between passenger vehicles and trucks. Another objective of the pilot was for NHTSA to show FMCSA staff how to operate similar initiatives in the future. TACT generally conformed to the proven high-visibility law enforcement model, although it dealt with more complex issues than previous high-visibility law enforcement campaigns. TACT's design and implementation linked to the STRS goal of changing driver behavior, whereas past STRS initiatives sometimes did not link to goals or were not designed to maximize the potential for success. In addition, Congress requested FMCSA to use a liaison to facilitate the transfer of knowledge about high-visibility law enforcement campaigns from NHTSA to FMCSA. Lastly, educational initiatives that were a part of STRS in 2003 were pursued by FMCSA, although not funded under NHTSA in 2004 and 2005.

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## **DOT Helped Establish and Operate an Aggressive Driving Pilot Initiative in Washington State**

According to DOT officials, Share the Road Safely program funding has supported an aggressive driving pilot initiative in Washington State starting in 2004. In 2004, DOT selected Washington State for the pilot initiative and signed a cooperative agreement with the Washington Traffic Safety Commission. The pilot, known as TACT, combined high-visibility law enforcement waves with education and outreach activities in an effort to reduce aggressive driving between passenger-vehicle and large-truck drivers. TACT focused on four interstate highway corridors, each covering a distance of approximately 25 miles. (See fig. 2.) Two intervention corridors in the western part of the state received media messages and 2 weeks of increased, high-visibility law enforcement waves in July and September, 2005, while two comparison corridors did not. During these waves, law enforcement officers patrolled the intervention corridors in marked and unmarked patrol cars, in state patrol aerial units when weather permitted, and from the cabs of semitrucks to target unsafe driving around large trucks.

**Figure 2: TACT Intervention and Comparison Corridors in Washington State**



Source: GAO depiction of NHTSA graphic.

The TACT pilot initiative used paid radio advertising and earned media, such as local news coverage, to inform the targeted audience of the dangers of aggressive driving related to trucks and to announce that law enforcement officers would issue tickets for such behavior. TACT's radio advertisement was aired over 6,000 times during the course of the enforcement waves, and eight local television stations dedicated coverage to the pilot. Figure 3 shows an example of the earned media coverage.

Figure 3: Television News Coverage Used for TACT



Sources: Washington Traffic Safety Commission and the KOMO television station.

DOT officials said they selected Washington State to participate in this pilot because of the state's experience with other related safety initiatives, its accurate fatality and crash database, and its strong relationships with key stakeholders. TACT built upon a previous STEP model campaign, Step Up and R.I.D.E.,<sup>10</sup> which operated in Washington for several years. In the Step Up and R.I.D.E. program, Washington partnered with the local trucking industry to periodically place police officers in commercial vehicles to identify and issue citations to drivers observed committing offenses. DOT officials also stated that Washington has shown itself capable of successfully implementing and evaluating a high-visibility law enforcement campaign—specifically its Click It or Ticket campaign, which in 2002 increased safety belt use from about 80 percent to 95 percent. Additionally, DOT cited Washington as having good data on crashes and fatalities. In a 2005 report, we also recognized that Washington has very good cooperation among state agencies involved in crash data collection and reporting, and a strong relationship with its FMCSA division office.<sup>11</sup> Finally, according to DOT officials, a particular strength of Washington is that the Washington Traffic Safety Commission, the lead organization in implementing the TACT initiative, comprises multiple state agencies, including all of the agencies that are participating in TACT, thus setting the stage for easy coordination and cooperation among participating agencies.

<sup>10</sup>“R.I.D.E.” stands for Reduce Injuries through Driver Education.

<sup>11</sup>GAO, *Highway Safety: Further Opportunities Exist to Improve Data on Crashes Involving Commercial Motor Vehicles*, GAO-06-102 (Washington, D.C.: Nov. 18, 2005).

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Federal, state, and local organizations participated in and contributed about \$892,000 for the planning and operation of TACT. A steering committee led by the Washington Traffic Safety Commission planned and administered the pilot project. Other partners on the steering committee included the Washington DOT, the Washington State Patrol, the Association of Sheriffs and Police Chiefs, and the Washington Trucking Association. Officials on the steering committee believed having all of these groups involved in developing the pilot was important to the successful implementation of the pilot. The Washington Traffic Safety Commission also contributed \$118,000 to the pilot for project management and communications. Local and state police made officers available for the enforcement waves, and the Washington Trucking Association worked with trucking companies to provide decoy trucks and drivers. NHTSA provided considerable assistance in developing and implementing the initiative and supplied the majority of TACT's funding, awarding \$497,000 in fiscal year 2004 and an additional \$68,000 for evaluation activities in fiscal year 2005. Congress also provided NHTSA with an additional \$99,000 for the TACT initiative in fiscal year 2005. FMCSA did TACT's initial planning and provided ongoing assistance, including reviewing plans. It also provided \$100,000 in fiscal year 2005 for TACT's enforcement efforts through MCSAP.<sup>12</sup>

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## FMCSA Sought to Learn How to Operate a High-Visibility Law Enforcement Campaign

DOT officials told us that a goal for FMCSA in the TACT initiative was to gain institutional knowledge on the operation of high-visibility law enforcement campaigns, such as Click It or Ticket. These campaigns combine education and outreach activities with high-visibility law enforcement to bring about a change in driver behavior. Our 2003 report stated that highway safety experts agree that attempts to modify behavior are more effective when educational and enforcement efforts are used together. However, the STRS initiatives we identified in our 2003 report were purely educational.<sup>13</sup> The report added that FMCSA could improve STRS by drawing from NHTSA's considerable experience with high-visibility law enforcement campaigns like Click It or Ticket, which has been

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<sup>12</sup>MCSAP is a federal grant program that provides financial assistance to states to reduce the number and severity of accidents and hazardous materials incidents involving commercial motor vehicles. The goal of this program is to reduce commercial-vehicle accidents, fatalities, and injuries by investing grant monies in appropriate commercial-vehicle safety programs.

<sup>13</sup>[GAO-03-680](#).

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widely considered effective in increasing the rate of safety belt use. Furthermore, a NHTSA evaluation report found that 10 states that used the Click It or Ticket model had significantly greater increases in safety belt use compared with states that attempted to increase safety belt use through other initiatives. TACT offered FMCSA an opportunity to learn from NHTSA's experience with high-visibility law enforcement campaigns and learn how to develop similar aggressive driving initiatives in other states. To further ensure this transfer of knowledge as requested by conferees in the Conference Report accompanying its 2005 appropriations act, FMCSA hired and detailed a staff member to NHTSA to act as a communications liaison for STRS. The liaison was involved in some facets of TACT, including meeting with its steering committee and preparing briefings on the pilot. According to DOT officials, however, the liaison came aboard after the completion of the last enforcement wave—later in this report, we discuss this matter further in relation to the future of STRS initiatives.

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### **Pilot Generally Conformed to the Proven High-Visibility Law Enforcement Campaign Model with Some Variation, but Dealt with More Complex Issues**

Our analysis of TACT's design and implementation shows that it generally conformed to the high-visibility law enforcement campaign model as intended, but varied in a few aspects. Specifically, TACT was modeled after NHTSA's Click It or Ticket campaign. In modeling Click It or Ticket's approach, officials in the TACT program collected data before and after its enforcement waves to identify behavior changes; it had highly visible enforcement on each day of its enforcement waves; and it had used both paid and earned media to publicize its enforcement.

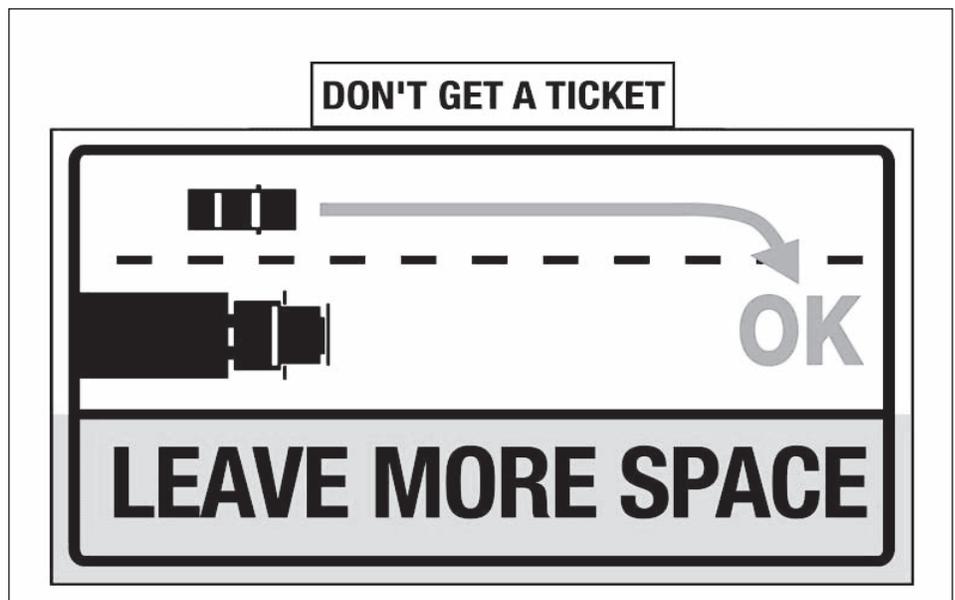
TACT did deviate from the Click It or Ticket model in two ways. First, the pilot did not use paid television advertising. Washington State officials explained that this was because of the program's limited budget. While evaluations of Click It or Ticket show that radio advertisements were effective in reaching the motoring public, radio is not as effective a medium as television. Second, the media for the TACT pilot described the enforcement campaign as zero tolerance as prescribed by the Click It or Ticket model, and enforcement was stepped up; however, law enforcement officers participating in TACT issued warnings instead of citations in 28 percent of the traffic stops. NHTSA officials explained that law enforcement officers always have discretion on whether to issue citations, and what is more important is that the public perceive an increase in law enforcement. Furthermore, they explained there is no research about the most effective level of citation tickets. See appendix II for a detailed comparison of TACT's implementation of the Click It or Ticket model.

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Although TACT is based on the high-visibility law enforcement campaign model, it deals with more complex issues than previous initiatives. In the case of Click It or Ticket, law enforcement is simply checking for safety belt use. With TACT, there are a number of behaviors that may constitute aggressive driving, including tailgating, speeding, and unsafe merging. These multiple factors also made it more difficult to develop a primary message for TACT to communicate to the public. TACT administrators, for example, determined that they had to choose a primary behavioral theme—leaving more space around trucks—to communicate to motorists, although obeying the speed limit and staying out of a truck’s blind spots also are important and were secondary themes. See figure 4 for a depiction of TACT’s selected message. This message was posted on 16 highway signs in the intervention corridors. Additionally, TACT was more difficult to institute from a legal standpoint. Washington has a primary safety belt law, meaning that officers can pull over drivers solely for not wearing their safety belts. In the case of TACT, however, Washington has no single aggressive driving law. Washington State officials told us they had to ensure that courts would be willing to enforce the tickets because police officers issued citations for violations under a number of laws.

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**Figure 4: TACT Highway Sign**



Source: Washington Traffic Safety Commission.

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## Previous STRS Initiatives Were Not Funded under NHTSA

In fiscal years 2004 and 2005, STRS did not fund initiatives that were a part of the program in 2003. All STRS funds in fiscal years 2004 and 2005 were directed to the TACT pilot. According to FMCSA officials, however, they continued to disseminate education and outreach materials. For instance, the No-Zone campaign—a major initiative of STRS—was not funded during this period.<sup>14</sup> FMCSA did, however, keep No-Zone information available on its Web site and responded to requests for educational material. For example, according to FMCSA officials, during this period they distributed over 200,000 copies of the No-Zone brochure through venues such as conferences and industry events. Also prior to TACT, FMCSA developed a curriculum for teaching students about sharing the road with trucks. FMCSA completed work on the curriculum and produced a video for the course, and it distributed the materials during fiscal years 2004 and 2005, including 1,500 copies of the video.

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## Evaluation of TACT Demonstrated Positive Results and Was Generally Well-Designed

DOT and Washington State officials conducted an evaluation of TACT that demonstrated the initiative's success and was generally well-designed. Specifically, analysis of videotaped driver behavior showed reductions in aggressive driving, and targeted motorists reported significant exposure to the initiative's message. Additionally, the evaluation followed accepted experimental design principles by comparing changes on two intervention highway corridors, which were exposed to the initiative's message and enforcement, with changes on two comparison highway corridors, which were not exposed to the message. This experimental setup enabled program administrators to attribute positive changes in driver behavior to TACT initiatives. The evaluation did not assess changes in crashes, but increased driver awareness and improved driver behavior should logically lead to reduced crashes, injuries, and fatalities. Also, TACT's design of combining education outreach with law enforcement better lent itself to reaching STRS goals than previous initiatives that were purely educational.

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## TACT Improved Driver Behavior and Public Awareness

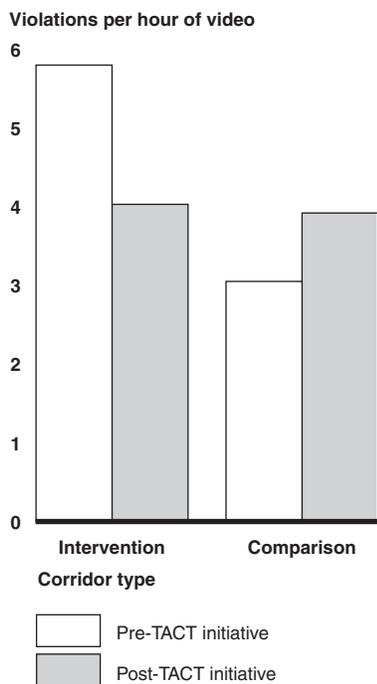
The TACT evaluation demonstrated that the initiative was able to produce improvements in driver behavior. TACT evaluated changes in driver behavior by recording video footage of drivers in the four corridors and using three groups of reviewers—police officers, truck drivers, and

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<sup>14</sup>The No-Zone campaign was intended to educate passenger car drivers to keep out of trucks' blind spots.

Washington Traffic Safety Commission staff—to rate the seriousness of any unsafe driving acts. (See app. III for a more detailed explanation of how this video footage was analyzed.) This analysis found that the rate of unsafe driving acts per observation hour was nearly cut in half, from 5.80 to 3.05, for the intervention corridors, as compared with a slight decrease, from 4.03 to 3.92, for the comparison corridor. When controlled for the preenforcement rates, these data represent a 46 percent decrease in unsafe driving in the intervention corridors. The comparison corridors also had 1.85 times as many violations per hour than the intervention corridors when the data are controlled for the corridors’ respective violation rates prior to enforcement. (Fig. 5 shows the rate of violations per observation hour.) Also, analysis of driver behavior in the intervention corridors found that crash risk decreased and driver behavior was less illegal and less intimidating, among other things.

**Figure 5: Rate of Violations per Observation Hour**

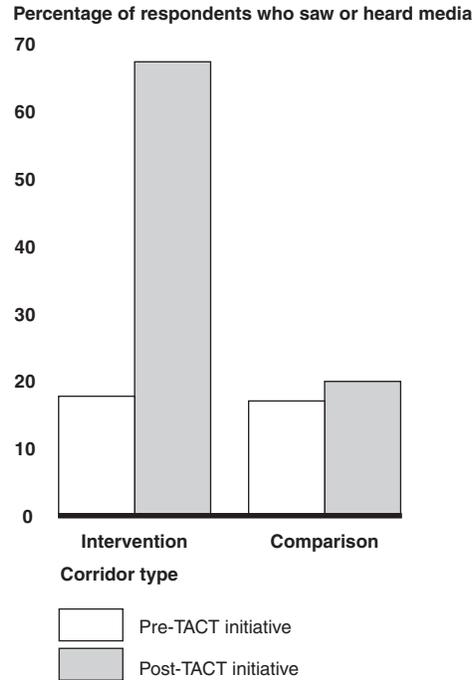


Sources: Washington Traffic Safety Commission and NHTSA.

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The TACT initiative improved driver behavior by successfully reaching its intended audience. TACT evaluators demonstrated this by using a survey to measure the extent to which the initiative changed the awareness of the target audience. In each of the four communities selected for the project, TACT administrators distributed surveys to the public at driver licensing offices both before and after the enforcement waves. For example, the percentage of respondents on the intervention corridors that reported general exposure to media about giving trucks more space nearly quadrupled, from about 18 to 67 percent. These data contrast with data for the comparison corridors, where the percentage only increased from about 17 to 20 percent. (Fig. 6 shows the percentages of respondents that reported hearing or seeing TACT-related media outreach.) Additionally, the evaluation found significant increases in the percentages of respondents on the intervention corridors that specifically reported hearing the radio message and seeing the TACT road sign, television, and newspaper messages. Furthermore, surveys of drivers also showed a significant increase in drivers reporting that they leave more space when passing trucks (the intended behavioral change theme of the project) from about 16 to 24 percent for the intervention corridors as compared with a slight increase from about 15 to 16 percent for the comparison corridors.

**Figure 6: Percentages of Survey Respondents That Saw or Heard Media about Giving Trucks More Space**



Sources: Washington Traffic Safety Commission and NHTSA.

## The Evaluation of TACT Was Generally Well-Designed and Links Results to Its Intended Goal of Crash Reduction

We found that the evaluation of TACT was generally well-designed, since it appropriately used an experimental design to attribute outcomes to TACT's initiatives. An experimental design permits researchers to attribute outcomes to the effects of the program and rule out other influences. Often with this kind of evaluation design, the participants in the intervention group are exposed to the initiative, while similar participants in the comparison group are unexposed. Aside from the initiative, participants experience the same influences. That is, they face conditions that are alike during the same period. More specifically, the evaluation of the TACT initiative exposed drivers in the intervention corridors to paid and earned media and high-visibility law enforcement waves, while simultaneously leaving unexposed comparable drivers in similar comparison corridors. Then the evaluation compared outcomes in the two groups. This procedure was repeated in two additional corridors to make sure that any detected differences in outcomes were not unique to the first two corridors. Our

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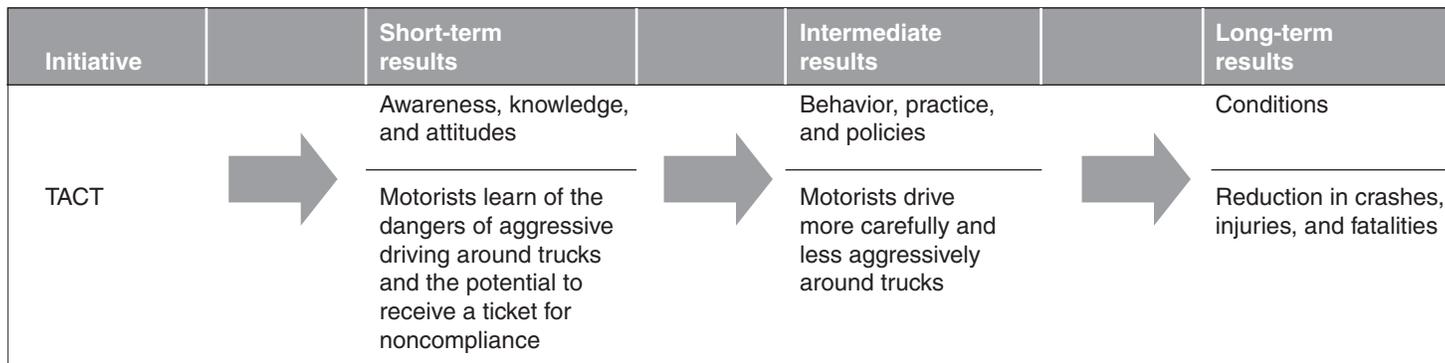
2003 review of STRS recommended that DOT establish a systematic process for evaluating the effectiveness of the program. Therefore, the evaluation of TACT's methodology represents a positive step toward meeting our 2003 recommendation.

The evaluation report concludes that the initiative was a success, but it did not report on TACT's effect on the long-term results of the initiative, such as the impact on the number of crashes, despite earlier plans to do so. Both TACT implementation plans and a NHTSA official stated that the evaluation would assess the impact of the initiative on the number of crashes in the intervention corridors. However, as the evaluation report states, it is difficult to determine changes in crashes given the low number of crashes in Washington State; therefore, intermediate measures for evaluating the initiative had to be relied upon. NHTSA officials stated that although the evaluation was unable to report on long-term results, the program's finding of improved driver behavior around trucks would logically indicate an expected decrease in truck-related crashes, injuries, and fatalities. Furthermore, NHTSA does not evaluate individual Click It or Ticket campaigns, which are considered to successfully modify behavior, for their effect on long-term results such as fatality reduction.<sup>15</sup> Figure 7 shows how TACT linked short-term results (such as awareness and knowledge of the dangers of driving around trucks) and intermediate results (such as changed driver behavior around trucks) to the long-term results of fewer truck-related crashes, injuries, and fatalities.

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<sup>15</sup>NHTSA has conducted research illustrating that manual, 3-point safety belts reduce the fatality risk of front-seat occupants of passenger vehicles by 45 percent, relative to an unrestrained occupant.

**Figure 7: Expected Program Model Logic Results of TACT Initiative**



Source: GAO analysis of Program Logic Model and TACT design and evaluation plans. Model adapted from Ellen Taylor-Powell, *The Logic Model: A Program Performance Framework* (University of Wisconsin Cooperative Extension: Madison, WI).

### TACT Is Better Designed to Successfully Reach Agency Goals Than Past STRS Initiatives

The design of TACT provided a better opportunity for successfully reaching desired results and goals than past STRS initiatives. Our 2003 report on STRS found that some of FMCSA's education and outreach initiatives were not directly connected to agency goals and recommended that future initiatives be so connected. While program initiatives that exclusively rely on education and outreach, such as distributing informational pamphlets or advertising, can increase awareness and encourage the intended behaviors, thereby linking to a program's goals, attempts to modify the behaviors of drivers are more effective when educational initiatives are combined with enforcement. This conclusion is supported by the evaluation of past initiatives to change driver behavior, particularly of efforts to increase safety belt use.<sup>16</sup> For example, a 2002 study by NHTSA included data from Texas, which showed that while the baseline percentage of individuals wearing safety belts (80 percent) increased slightly with advertising alone, the combination of advertising and enforcement caused the number to increase another 6 percent. TACT's use of media, road signs, and other

<sup>16</sup>GAO, *Highway Safety: Effectiveness of State .08 Blood Alcohol Laws*, [GAO/RCED-99-179](#) (Washington, D.C.: June 23, 1999); and *Motor Vehicle Safety: Comprehensive State Programs Offer Best Opportunity for Increasing Use of Safety Belts*, [GAO/RCED-96-24](#) (Washington, D.C.: Jan. 3, 1996). See also Lund, Adrian K. and Allan F. Williams, *A Review of the Literature Evaluating the Defensive Driving Course*, *Accident Analysis and Prevention* 17:6 (1985); Carolyn B. Liban et al., *The Canadian Drinking-Driving Countermeasure Experience*, *Accident Analysis and Prevention* 19:3 (1987); and James B. Jacobs, *Drunk Driving, An American Dilemma* (Chicago, Ill.: University of Chicago Press, 1989).

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educational outreach tools therefore directly linked to the STRS goal of decreasing unsafe driver behavior around commercial vehicles by truck drivers and passenger-vehicle drivers, and incorporating high-visibility law enforcement increased the initiative's potential for successfully reaching that goal. In effect, TACT represents a positive step toward meeting our 2003 recommendation that STRS initiatives clearly link to STRS goals.

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### **FMCSA Plans Expanded Development of High-Visibility Law Enforcement Campaigns Similar to TACT, but Lacks a Clear Strategy and Expertise**

Following the success of TACT in Washington State, FMCSA is developing plans encouraging states to adopt similar initiatives in other states; however, its strategy for expanding TACT and its ability to manage these initiatives remain unknown. FMCSA officials stated that they plan a nationwide rollout of initiatives similar to TACT by 2009, and that in the interim, they are currently developing another TACT pilot in Pennsylvania. FMCSA, however, has yet to articulate a strategy for expanding TACT into a nationwide program or to identify funding. Additionally, FMCSA's ability to administer future TACT initiatives is uncertain, since FMCSA has limited experience with high-visibility law enforcement campaigns. Finally, FMCSA plans to spend the majority of its STRS funds on initiatives that are purely educational, even though little information is available to show that these activities will improve driver behavior and contribute to reducing fatalities.

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### **FMCSA Plans to Implement More TACT-Like Initiatives but Has Yet to Articulate Its Strategy**

FMCSA plans to expand initiatives similar to TACT to new states and, eventually, nationwide. FMCSA officials stated that they plan to issue a *Federal Register* notice in fiscal year 2008 before rolling out TACT on a nationwide basis in 2009. In the interim, FMCSA is currently developing plans to implement another TACT pilot in Pennsylvania, using primarily MCSAP grants and state funds. There, FMCSA will contract with the Pennsylvania State Police to develop and operate a high-visibility law enforcement campaign in at least two intervention corridors and two comparison corridors in an area with a high concentration of commercial-vehicle fatalities and crashes. Pennsylvania will also be responsible for evaluating its pilot. Agency officials anticipate this pilot taking 18 months to complete. FMCSA also plans to conduct two additional pilots in fiscal

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year 2007, but has not yet identified states.<sup>17</sup> Additionally, FMCSA issued a *Federal Register* notice in March 2006 stating that states could use MCSAP High Priority grants<sup>18</sup> to comply with provisions of SAFETEA-LU that require states to conduct comprehensive and highly visible traffic enforcement and commercial-vehicle safety inspection programs in high-risk locations and areas. FMCSA added that these initiatives could be similar to TACT.

FMCSA officials stated that they will develop guidance for states to follow, but gaps remain in their strategy for expanding TACT nationwide. Agency documents state that the Washington State TACT pilot and the future Pennsylvania initiative will form the foundation of a best practices guide to share with states. However, FMCSA has yet to articulate how it will expand TACT from several planned pilot initiatives in 2007 to a nationwide program 2 years later, or how this expansion will be funded. Additionally, although FMCSA enabled states to apply for MCSAP High Priority grants to develop initiatives similar to TACT, FMCSA did not provide states with the guidance to do so. Applications for these funds were due before the Washington TACT evaluation report was published; therefore, states seeking to begin similar initiatives needed to design their own initiatives without the benefit of Washington's experience. Finally, FMCSA officials stated that no state applied for a fiscal year 2006 grant before the application deadline in the *Federal Register*; however, FMCSA will accept applications until the end of fiscal year 2006 or until the available funds are awarded.

Although FMCSA has plans for a nationwide expansion of TACT, the majority of FMCSA's STRS funds will be spent on other activities. Program planning documents state that FMCSA has decided to transition STRS to focus on developing initiatives similar to TACT in other states, but FMCSA

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<sup>17</sup>FMCSA has since informed us that Kentucky and Florida have expressed interest in conducting additional pilots similar to TACT. FMCSA officials told us that they have contacted these states, but the officials did not indicate if these states will conduct TACT-like initiatives.

<sup>18</sup>FMCSA generally provides MCSAP High Priority grants to support, enrich, or evaluate state commercial motor vehicle safety programs and to accomplish the following five objectives: (1) implement, promote, and maintain national programs to improve commercial motor vehicle safety, (2) increase compliance with commercial motor vehicle safety regulations, (3) increase public awareness concerning commercial motor vehicle safety, (4) provide education on commercial motor vehicle safety and related issues, and (5) demonstrate new safety-related technologies.

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plans to invest just \$150,000 of its \$500,000 fiscal year 2006 STRS budget to do this.<sup>19</sup> FMCSA officials told us that STRS funds would pay for the evaluation component of this initiative, and FMCSA will supplement activities with MCSAP funds. The \$150,000 fiscal year 2006 STRS investment in these future initiatives is significantly less than the approximately \$664,000 in STRS funds provided solely to TACT in fiscal years 2004 and 2005.

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### FMCSA's Ability to Manage Future Initiatives Is Unclear and NHTSA's Role Is Still Evolving

FMCSA's ability to administer future high-visibility law enforcement campaigns and NHTSA's role in future STRS initiatives are unclear. As we previously mentioned, a goal of the TACT pilot was for FMCSA to learn about the operation of high-visibility enforcement programs from NHTSA, and to support this goal, FMCSA detailed a liaison to NHTSA following congressional direction. FMCSA, however, missed valuable opportunities for learning because of the time it took to fill the position, since the liaison came aboard late in the TACT program and returned to FMCSA before NHTSA conducted its annual Click It or Ticket enforcement campaign.<sup>20</sup> After discussing our findings with FMCSA officials, they clarified that other FMCSA staff participated in TACT and knowledge transfer was not limited to the liaison.

Furthermore, NHTSA's participation in future STRS activities is still evolving. As we previously mentioned, SAFETEA-LU authorized \$3 million to NHTSA and \$1 million annually to FMCSA for administering education and outreach activities associated with commercial-vehicle safety for the 4-year period from 2006 through 2009. However, the Conference Report accompanying the DOT appropriations act for fiscal year 2006 indicates that the conferees did not fund the amounts authorized. Instead, they funded \$4 million to FMCSA alone for these purposes. Given its limited experiences with programs designed to modify driver behavior, however, FMCSA's plans call for continuing cooperation with NHTSA in future

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<sup>19</sup>Consistent with language in the Conference Report accompanying the DOT appropriations act for fiscal year 2006, FMCSA plans to spend \$500,000 on STRS. Conferees expected that at least \$500,000 would be spent on the Share the Road Safely program.

<sup>20</sup>Initially, a NHTSA official working with this liaison stated that the liaison did not spend sufficient time at NHTSA and should have stayed longer to gain more exposure to Click It or Ticket. Later, however, FMCSA officials told us that the liaison would be attending NHTSA's planning meetings leading up to the annual Click It or Ticket campaign.

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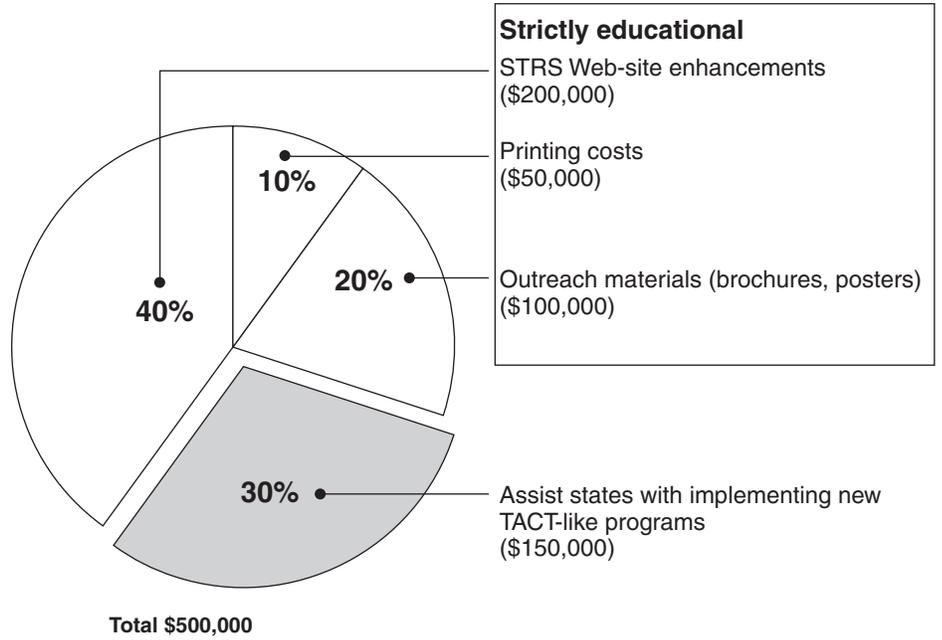
aggressive driving programs. For example, staff in FMCSA's Washington Divisional Office told us that their agency lacks NHTSA's experience with initiatives that change driver behavior and does not have staff with a background in the area, especially at the division office level. This is important because TACT's evaluation report states that having an experienced evaluation team that can develop and implement a comprehensive evaluation design was critical to the success of the project. As we previously mentioned, NHTSA has experience in operating successful campaigns to increase safe behavior by motorists. Additionally, FMCSA has only a small number of staff dedicated to its education and outreach programs. NHTSA staff with whom we spoke initially stated that the agency's involvement will end with the issuance of the TACT program evaluation report. Currently, however, NHTSA staff said they will provide FMCSA with general assistance, and FMCSA has formed a transition team to help ensure that the necessary expertise will be available to future initiatives. NHTSA officials added that specific experience with behavioral issues is not required to replicate the TACT initiative. They said that a program plan, a media plan, an enforcement plan, and an evaluation plan are required.

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### **FMCSA's Short-term Plans Focus on Initiatives That Do Not Include Enforcement and That Have Not Been Shown to Be Effective**

FMCSA plans to spend the majority of its 2006 STRS funds on updating the STRS Web site and producing outreach materials. These funds will be spent on initiatives that have limited potential for reducing fatalities and provide limited opportunities for evaluation, representing a return to an earlier era of STRS. FMCSA will spend \$200,000 in updating its Web site, \$100,000 on education and outreach materials promoting sharing the road, and \$50,000 on printing. FMCSA plans to update its Web site with information on preventing aggressive driving, which will include Spanish-language content. The Web site also will include a user survey to gauge satisfaction and will be able to ask up to five questions about a user's knowledge of STRS initiatives. Currently, FMCSA can only collect information on the number of visits to the Web site. In addition, FMCSA plans to distribute education and outreach materials promoting sharing the road. These initiatives were not financially supported during fiscal years 2004 and 2005, when NHTSA had responsibility for STRS. As we previously stated, purely educational initiatives may conceptually link to FMCSA's goal of reducing accidents and fatalities, but initiatives such as TACT have a better potential to improve driver behavior by incorporating local enforcement efforts with educational outreach. Figure 8 shows four categories of FMCSA's planned STRS spending in fiscal year 2006. Table 1 lists FMCSA's planned outreach activities within two of these categories.

**Figure 8: Planned STRS Funding for Fiscal Year 2006**



Source: GAO analysis of FMCSA documents.

**Table 1: Planned STRS Outreach Activities for Fiscal Year 2006**

STRS initiatives	Activities
Web site enhancements	<p>Incorporate information on Washington State TACT into the Web site, including radio advertisements.</p> <p>Develop and post press releases, radio scripts, and radio public service announcements that states can use to raise awareness about driving safely near trucks.</p> <p>Implement a customer satisfaction survey on the STRS Web site.</p> <p>Update the No-Zone Web page.</p>
Outreach materials	<p>Revise and distribute the brochures entitled the <i>Professional Driver</i> (for truck drivers) and the <i>Smart Driver</i> (for car drivers). Place Spanish versions on the STRS Web site.</p> <p>Develop a script for a public service announcement that states can use to support TACT communication efforts.</p> <p>Distribute STRS radio spots to be aired in the 10 states with the highest truck crash, injury, and fatality rates.</p> <p>Update and disseminate model training curriculum for teaching students about sharing the road with commercial motor vehicles.</p> <p>Update No-Zone campaign materials.</p>

Source: GAO analysis of FMCSA documents.

It is unclear if evaluations of these planned STRS education and outreach activities will provide meaningful insight into their effectiveness. FMCSA officials told us that they hired a contractor to develop evaluations of STRS education and outreach activities, but plans to evaluate the impact of these activities on fatality and injury rates have yet to be developed. This contractor will be required to (1) develop an evaluation study that gathers baseline data and (2) assess whether the education and outreach materials and activities reached the intended audience, changed attitudes and behaviors, and helped the program meet its safety goals. However, in discussing these plans, a NHTSA official told us that it will be difficult to measure the impact of educational materials on driver behavior. Furthermore, in our 2003 report, we stated that previous evaluations of STRS activities shed little light on their short-term, intermediate, and long-term outcomes. This was due, in part, to FMCSA's heavy reliance on self-reported data and to FMCSA's not establishing a baseline of driver behavior

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and knowledge before the program started. By contrast, TACT's evaluation visually assessed driver behavior before and after motorists received education and enforcement. If FMCSA cannot evaluate the effect of these activities on driver behavior, then the planned activities may represent a return to the practices that we questioned in our 2003 report.

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## Conclusions

The TACT initiative represented a significant departure from previous STRS initiatives and, by following the high-visibility law enforcement campaign model, incorporated program elements that experts believe are most effective in changing driver behavior. Its systematic evaluation and clear link to agency goals were important steps toward addressing concerns with STRS that we raised in the past. Furthermore, the positive results shown by the TACT evaluation and the ongoing problem of crashes between trucks and passenger vehicles demonstrate that there is merit in further developing and implementing high-visibility law enforcement campaigns similar to TACT. FMCSA's plans for future aggressive driving initiatives are still evolving, but the agency is currently developing a second pilot in Pennsylvania and has a goal of rolling out TACT-like initiatives nationwide in 2009. However, FMCSA has yet to develop a clear strategy describing how it will expand initiatives similar to TACT from a series of pilots into a nationwide program or to describe how these programs will be funded.

Furthermore, some of FMCSA's plans for addressing unsafe driving do not focus on expanding education and enforcement initiatives such as TACT. Instead, FMCSA has chosen to spend the majority of its fiscal year 2006 STRS funds on initiatives that are purely educational, which safety experts agree are less effective than when educational outreach is combined with enforcement. Because FMCSA has not identified a cohesive strategy to expand TACT and not focused on proven approaches such as high-visibility law enforcement campaigns, it is unclear how FMCSA's STRS initiatives will contribute to FMCSA's goal of expanding TACT and reducing crashes and fatalities.

Finally, there are doubts about FMCSA's ability to ensure the success of STRS in the future. Although funding responsibility for STRS returned to FMCSA in 2006 and FMCSA participated in the initial planning for TACT, NHTSA and the Washington Traffic Safety Commission significantly supported TACT's implementation and evaluation. Additionally, FMCSA may have missed valuable opportunities to learn about the operation of TACT and other similar programs because its involvement was limited by

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not being able to use its legislatively mandated liaison to the fullest extent possible. DOT, through staff from both NHTSA and FMCSA, demonstrated that it has the ability to develop state initiatives that change driver behavior around trucks by successfully implementing TACT. Even so, it is uncertain that DOT will effectively use these resources in the future, given that the relationship between NHTSA and FMCSA is still evolving and that FMCSA has limited staff and experience in administering high-visibility law enforcement campaigns.

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## Recommendations for Executive Action

To ensure that the Share the Road Safely program continues to improve driver behavior around commercial vehicles, thereby potentially reducing fatalities, we recommend that the Secretary of Transportation direct the Administrators of the appropriate agencies to take the following three steps:

- develop a comprehensive strategy describing how FMCSA will implement and fund an expansion of TACT-like initiatives from several pilots into a nationwide program and detail how STRS initiatives contribute to this goal;
- complete and execute plans to evaluate STRS outreach activities that are purely educational and discontinue activities with no demonstrable impact on behavior; and
- monitor whether FMCSA has sufficient staff and expertise to successfully develop and administer future high-visibility law enforcement campaigns, and, if it does not, determine the best methods for DOT to use its resources and expertise to modify driver behavior and address the problem of aggressive driving around trucks.

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## Agency Comments

We provided DOT with a draft of this report for review and comment. DOT officials, including FMCSA's Outreach Division Chief and NHTSA's Behavioral Technology Research Chief, provided oral and written comments and generally agreed with our recommendations. These FMCSA and NHTSA officials clarified FMCSA's role in developing initial plans for an education and enforcement project after we issued our 2003 report and before Congress provided NHTSA with Share the Road Safely funding. FMCSA officials also provided additional information on, and documentation of, a contract to develop an evaluation of FMCSA's

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education and outreach programs, including Share the Road Safely educational initiatives. Finally, the officials provided information on a team of FMCSA and NHTSA staff established in May 2006 to assist FMCSA with the expansion of TACT as fiscal responsibility for STRS transitions from NHTSA to FMCSA. We incorporated this information as well as technical comments throughout the report as appropriate.

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We will send copies of this report to interested congressional committees, the Secretary of Transportation, and other interested parties. We will also make copies available to others upon request. In addition, the report will be available at no charge on GAO's Web site at <http://www.gao.gov>.

If you or your staffs have any questions about this report, please contact me at (202) 512-2834 or [siggerudk@gao.gov](mailto:siggerudk@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix IV.

A handwritten signature in black ink that reads "Katherine Siggerud". The signature is written in a cursive, flowing style.

Katherine Siggerud  
Director, Physical Infrastructure

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# Scope And Methodology

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To address our first objective and describe what the Department of Transportation (DOT) has done with the Share the Road Safely (STRS) program since 2003, we interviewed DOT officials to determine the changes made in the program since May 2003. Additionally, we interviewed officials from the Federal Motor Carrier Safety Administration (FMCSA), the National Highway Traffic Safety Administration (NHTSA), and the Washington State Traffic Safety Commission to report on the implementation and administration of Washington State's Ticketing Aggressive Cars and Trucks (TACT) pilot project. To determine whether the design of TACT was reasonable, we reviewed TACT programming documentation to determine if the design of the program links program initiatives to goals and if the design follows the high-visibility law enforcement campaign model for behavior change. We did not assess the design of other STRS initiatives because they were not actively funded in fiscal years 2004 and 2005, and because we reported on these activities in our 2003 report.<sup>1</sup>

To address our second objective—to determine what DOT evaluations have shown and whether the methods were acceptable—we reviewed evaluation results and analyzed evaluation plans to determine if short-term, intermediate, and long-term outcomes were measured and if external factors were considered and controlled for in the assessment. We reviewed and summarized the results of the Washington State pilot evaluation and determined if program initiatives linked to agency goals. In addition, we reviewed the evaluation results to determine if the evaluation illustrates that the pilot met its criteria for success. Due to the nature of the TACT program, we could not determine in this report whether the Share the Road Safely program achieved reductions in the number of deaths and severity of injuries as requested by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). Specifically, SAFETEA-LU asked us to update our prior evaluation of STRS to determine if the program has achieved reductions in the number and severity of commercial-vehicle crashes, including reductions in the number of deaths and the severity of injuries sustained in these crashes. NHTSA officials, however, told us that the evaluation did not assess these long-term results because the numbers of injuries and fatalities on the pilot's intervention corridors were too low to reliably measure any appreciable change.

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<sup>1</sup>GAO, *Truck Safety: Share the Road Safely Program Needs Better Evaluation of Its Initiatives*, [GAO-03-680](#) (Washington, D.C.: May 30, 2003).

Therefore, we did not discuss in this report the program's impact on specific numbers of fatalities and injuries.

To assess DOT's plans for the future of STRS, we interviewed program administrators at DOT and reviewed relevant budget and planning documents to determine DOT's direction for STRS. We interviewed the FMCSA staff member assigned to transfer knowledge about administering high-visibility law enforcement campaigns from NHTSA to FMCSA to assess the staff member's ability to accomplish this task. We also compared the design of future FMCSA initiatives with findings we listed in previous reports on programs designed to modify driver behavior and increase a program's effectiveness at reducing crashes, injuries, and fatalities associated with commercial vehicles.

We conducted our review from October 2005 through July 2006 in accordance with generally accepted government auditing standards.

# TACT's Implementation of the Click It or Ticket Model

Category	Click It or Ticket criteria	TACT implementation
Overall	Data collection, before, during, and immediately after media and enforcement phases.	✓
	Earned and paid publicity announcing strict enforcement.	✓
	Highly visible enforcement each day of enforcement period.	✓
Planning	Analysis of crash locations in determining the need for improvement and for targeting efforts.	✓
	Areas should be defined so that residents have a sense of belonging to a community.	✓
	Enforcement agencies should partner with local government, public service organizations, the media, and businesses to generate overwhelming program intensity.	✓
	Maximum involvement among the state, county, and local enforcement agencies serving the community.	✓
	Areas should try to include as large a percentage of the population as resources permit.	✓
	Up-front commitment to the program is needed from top management in each participating enforcement agency.	✓
	Officer training should be conducted.	✓
	A high-level enforcement official should take the lead in carrying the message to the public.	✓
	Organizers must have the full support of elected officials.	✓
	The program should be coordinated with the courts, since their caseloads will be affected directly by the number of citations issued.	✓
Publicity	Enforcement messages repeated over and over during the publicity period.	✓
	Continual use of earned media.	✓
	Paid advertisement campaigns.	✓
	Radio advertisements timed to run during drive times. Television advertisements are run at times when most viewers are present. <sup>a</sup>	X
Enforcement	Enforcement campaigns usually last 2 weeks. During this period, zero-tolerance enforcement is carried out. <sup>b</sup>	X
	Enforcement visible for entire enforcement period.	✓

Source: GAO analysis of DOT documents.

Legend:

✓ = Followed Click It or Ticket criteria

X = Did not follow Click It or Ticket criteria

<sup>a</sup>Advertisements coincided with rush-hour, but television advertisement was not used.

<sup>b</sup>Warnings were issued to about 28 percent of all violators.

# Description of TACT Methodology for Analyzing Video Footage of Driver Behavior

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To determine whether driver behavior changed, TACT administrators measured the incidence and rates of unsafe driver behavior in the vicinity of commercial vehicles. Washington State Police troopers collected these data by videotaping traffic from unmarked cars. Troopers drove behind commercial vehicles and provided narration indicating the type of behavior observed each time an unsafe act was seen. Unsafe behaviors included making unsafe lane changes, cutting in front of a truck, following another vehicle too closely, engaging in unsafe merging, and speeding. Troopers also provided narration detailing whether they would issue citations for driving violations. Later, 99 video clips were randomly selected and shown to three sets of reviewers consisting of police officers, truck drivers, and Washington Traffic Safety Commission employees. Reviewers filled out a score sheet for each video clip indicating how dangerous they believed the driver behavior was and whether it deserved a citation. Evaluators quantified these responses to generate a score indicating the seriousness of the unsafe driving act.

# Staff Acknowledgments

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## GAO Contact

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## Staff Acknowledgments

Catherine Colwell, Assistant Director, and Samer Abbas, Analyst-in-Charge, managed this assignment and made significant contributions to all aspects of the work. Daniel Concepcion also made significant contributions to all aspects of this report. In addition, Joel Grossman assisted in our assessment of the TACT initiative's design and evaluation. Tamera Dorland provided writing assistance, Bert Japikse provided legal support, and Joshua Ormond and Theresa Perkins assisted with graphics.

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