United States Government Accountability Office

GAO

Report to the Ranking Member, Committee on Environment and Public Works, U.S. Senate

November 2008

HIGHWAY SAFETY IMPROVEMENT PROGRAM

Further Efforts Needed to Address Data Limitations and Better Align Funding with States' Top Safety Priorities

GAO-09-35

November 2008

HIGHWAY SAFETY IMPROVEMENT PROGRAM

Further Efforts Needed to Address Data Limitations and Better Align Funding with States' Top Safety Priorities

GAO Accountability · Integrity · Reliability

Highlights

Highlights of GAO-09-35, a report to the Ranking Member, Committee on Environment and Public Works, U.S. Senate

Why GAO Did This Study

About 43,000 people died and another 290,000 were seriously injured on the nation's roads in 2006. To reduce these numbers, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) nearly doubled funding for the Federal Highway Administration's (FHWA) Highway Safety Improvement Program (HSIP). SAFETEA-LU added requirements for states to develop strategic highway safety plans that include four key elements and to publicly report on at least the top 5 percent of hazardous locations on all of their public roads. The act also set aside funds for a legacy rail-highway crossing program and a new high-risk rural road program. As requested, GAO examined (1) states' implementation of HSIP following SAFETEA-LU, (2) HSIP results to date, and (3) FHWA's guidance and assistance to states. GAO analyzed plans from 25 states, including 19 randomly selected states and 6 states that GAO visited. GAO also interviewed FHWA and state safety officials.

What GAO Recommends

Congress should consider (1) revising HSIP's flexible funding and rail-highway crossing provisions to better align HSIP funding with states' top safety priorities and (2) eliminating the 5 percent reporting requirement. GAO also recommends that FHWA set a deadline for states to obtain the roadway inventory data. DOT generally agreed with the findings and recommendations.

To view the full product, including the scope and methodology, click on GAO-09-35. For more information, contact Katherine A. Siggerud, 202-512-2834 or siggerudk@gao.gov.

What GAO Found

All states adopted strategic highway safety plans, and the 25 state plans that GAO analyzed addressed the 4 key elements added by SAFETEA-LU, although states lacked some of the crash data and analysis capabilities described in the law. GAO's analysis showed that the 25 states (1) involved multidisciplinary safety stakeholders; (2) defined areas of safety emphasis through analyses of state fatality data using crash data analysis systems; (3) identified strategies and projects to address these emphasis areas through infrastructure improvements, behavioral approaches, and emergency medical services; and (4) provided for overall and individual project evaluations. However, many of the 25 states lacked components of the prescribed crash data analysis systems, such as a system for locating crashes and roadway data for local roads. FHWA is developing such a system for the states, but many states lack necessary data for local roads because they do not maintain or operate them. Without the prescribed components, states cannot conduct some of the safety analysis defined by SAFETEA-LU or report to FHWA on their most hazardous locations on all public roads, determine appropriate remedies, and estimate costs—all requirements added by SAFETEA-LU. While FHWA has set a deadline for states to develop the capability to locate crashes on all public roads, it has not done so for roadway data.

Because states were not required to submit their strategic highway safety plans to FHWA until October 2007, they have not had sufficient time to implement and evaluate their HSIP strategies and projects; hence, it is too soon to evaluate HSIP results carried out after SAFETEA-LU. However, two of HSIP's statutory funding provisions may not be aligned with some states' safety priorities contained in their strategic plans. First, FHWA data show that most states have not used a new flexible funding provision that allows states to allocate some HSIP funds for behavioral approaches or emergency medical services. Some states may be reluctant to use this provision, according to state officials we interviewed, partly due to an HSIP certification requirement that all state highway safety infrastructure needs have been met. Second, the rail-highway crossing set-aside program does not target a key safety priority of some states and provides significant funding to some crossing areas that have relatively few fatalities. Better alignment of federal funding with state priorities in their strategic plans could help ensure that HSIP funding best addresses those priorities. Lastly, as states implement the high-risk rural roads program, they are hindered by limited data on rural roads and crashes, which are needed to identify qualifying roadways and appropriate remedies.

FHWA provided comprehensive guidance and training to assist states in preparing their strategic highway safety plans, and participated in states' strategic safety planning processes. FHWA's guidance to states on reporting their most hazardous locations took states' data limitations into account and gave states latitude in defining the methodology and scope of their 5 percent reports. Consequently, these reports vary in content and format and may not increase public awareness of highway safety as intended.

Contents

Tables

Figures

Abbreviations

AASHTO	American Association of State Highway and Transportation Officials
DOT	Department of Transportation
DUI	driving under the influence
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
FRA	Federal Railroad Administration
GIS	geographic information system
GPS	global positioning system
HSIP	Highway Safety Improvement Program
MADD	Mothers Against Drunk Driving
MMIRE	Model Minimum Inventory of Roadway Elements
NHTSA	National Highway Traffic Safety Administration
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SHSP	strategic highway safety plan
VMT	vehicle miles traveled

GAO
Accountability * Integrity * Reliability

United States Government Accountability Office
Washington, DC 20548

November 21, 2008

The Honorable James M. Inhofe
Ranking Member
Committee on Environment and Public Works
United States Senate

Dear Mr. Inhofe:

In 2006, about 43,000 people were killed and another 290,000 were seriously injured on public roadways in the United States. Over half of these fatalities in 2006—23,339, or 55 percent—occurred on rural roads and 324 fatalities, or less than 1 percent, occurred at public rail-highway crossings. Motor vehicle crashes were the leading cause of death for people of every age from 4 through 34 in 2005. Moreover, according to a study by the American Automobile Association, traffic crashes in urban areas cost an estimated $164 billion in 2005, including the costs of property damage, lost earnings, medical treatment, emergency services, pain and lost quality of life, and other costs.[1]

To reduce the number of crashes, traffic fatalities, and serious injuries on public roads, Congress passed the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), August 2005, nearly doubling the federal funding for the Highway Safety Improvement Program (HSIP) by authorizing $5.1 billion from 2006 through 2009.[2] SAFETEA-LU identified three programs as part of HSIP—a safety construction program for all public roads and a set-aside program for rail-highway crossings,[3] both of which predate SAFETEA-LU, and a new set-aside program for high-risk rural roads. SAFETEA-LU authorized about $1.3 billion per year for HSIP, including $220 million per year for rail-highway grade crossings and $90 million per year for high-risk rural roads. HSIP funds are distributed to the states according to a formula that

[1]Cambridge Systematics, Inc., prepared for American Automobile Association, *Crashes vs. Congestion: What's the Cost to Society* (Bethesda, Md.: March 2008).

[2]Pub. L. No. 109-59 § 1401. SAFETEA-LU amended provisions of Title 23 of the United States Code (U.S. Code). For the purposes of this report, we refer generally to SAFETEA-LU instead of the U.S. Code when describing various requirements.

[3]The Highway Safety Improvement Program is codified at 23 U.S.C. § 148. The rail-highway grade crossing program is codified at 23 U.S.C. § 130.

includes, among other things, the numbers of highway lane miles, vehicle miles traveled, and fatalities—all on federal-aid highways—in each state.[4] In addition, SAFETEA-LU authorized funding increases for several programs administered by the National Highway Traffic Safety Administration (NHTSA) and the Federal Motor Carrier Safety Administration (FMCSA). These programs provide states with grants to address traffic safety issues involving passenger and commercial vehicles, respectively, and to improve safety data.

Besides authorizing additional funding to improve highway safety, SAFETEA-LU added a requirement that each state department of transportation develop and submit new strategic highway safety plans, approved by the state's Governor or responsible state agency, to the Federal Highway Administration (FHWA), which administers HSIP, by October 1, 2007, to avoid incurring a financial penalty in HSIP funds for the state.[5] For states to receive full HSIP funding after this date, their plans had to address four key elements specified in SAFETEA-LU. Specifically, the plans, first, had to be developed with the participation of a wide range of stakeholders in the strategic planning process and, second, had to define areas of safety emphasis through an analysis of state fatality data performed by a crash data analysis system capable of identifying the state's greatest highway safety hazards. Third, to address these safety emphasis areas, the plans had to include strategies and projects covering all aspects of highway safety for all public roads. The term "all aspects of highway safety" includes strategies and projects to improve highway infrastructure; address behavioral challenges such as drunk driving and seat belt use; and improve emergency medical services, although HSIP funds are primarily to be used for infrastructure improvements. Fourth, the plans had to provide for evaluating both the strategic plans themselves, including the overall progress made under the plans in reducing crashes and fatalities, and the results of the states' specific safety projects and strategies. In addition, to advance public awareness of highway safety hazards and needs, SAFETEA-LU added a requirement that states publicly report on at least 5 percent of their most severe hazardous locations. The states' "5 percent reports" must include potential remedies for the hazards;

[4]Federal-aid highways include the National Highway System, a 160,000-mile network that carries over 40 percent of the nation's traffic.

[5]SAFETEA-LU added a requirement that states without a strategic plan in place by this October 2007, deadline would still receive funds for highway safety improvement, but the amount would be capped at the fiscal year 2007 level.

the estimated costs of those remedies; and impediments to implementing the remedies, other than cost. FHWA must post the states' 5 percent reports on its Web site.

This report responds to your request that we assess the progress made toward accomplishing the HSIP goals set forth in SAFETEA-LU. In particular, we address the following questions: (1) What steps have states taken to implement HSIP since SAFETEA-LU? (2) What have been the results, to date, of states' efforts in carrying out HSIP, including the results of their set-aside programs for rail-highway crossings and for high-risk rural roads? (3) What types of guidance and assistance has FHWA provided to states to support their planning, implementation, monitoring, and evaluation of HSIP?

To respond to all three questions, we adopted an overall approach that included reviewing pertinent legislation; analyzing the strategic highway safety plans and related documentation that 25 states submitted to FHWA in 2007, including 19 randomly selected states and 6 judgmentally selected states that we visited; reviewing FHWA guidance to states and division offices; and interviewing FHWA Office of Safety and division officials, state transportation and safety officials, and a wide range of stakeholders and interest groups. To select the 6 states we visited—California, Florida, Illinois, Iowa, Mississippi, and Pennsylvania—we considered the number of fatalities reported for 2005 and other factors, including the numbers of fatalities that occurred on rural roads, the number of fatalities at rail-highway crossings, the miles of urban and rural roads in the state, and geographic distribution. Our findings are not necessarily representative of all 50 states and the District of Columbia because we did not review a sufficient number of randomly selected states to generalize our results and we selected 6 states judgmentally. We conducted this performance audit from May 2007 through November 2008 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. See appendix I for details of our scope and methodology.

Results in Brief

In implementing HSIP, states developed strategic highway safety plans that addressed the key elements identified in SAFETEA-LU, but generally lacked some prescribed data and analysis capabilities. All 50 states and the District of Columbia submitted their strategic highway safety plans to

FHWA before October 2007, as required to avoid incurring the financial penalty to their HSIP funds. In our review of 25 of these plans, we found that the plans generally addressed the four key elements identified in SAFETEA-LU. Specifically, the plans (1) showed evidence of participation by a wide range of stakeholders in the development of the strategic highway safety plan; (2) defined areas of safety emphasis through an analysis of fatality and serious injury data; (3) included strategies and projects covering all aspects of highway safety (infrastructure improvements, behavioral approaches, and emergency medical services); and (4) provided for overall performance measurement. The inclusion of multidisciplinary stakeholders in the planning process helped break down the historical separation between engineering and behavioral programs that occurred before SAFETEA-LU, when FHWA focused exclusively on infrastructure improvements while NHTSA and FMCSA funded education and enforcement activities designed to change drivers' behavior. In defining safety emphasis areas, states built on prior safety planning efforts, although in the 25 state plans we reviewed, these areas often did not include the two focuses of HSIP's set-aside programs—rail-highway crossings and high-risk rural roads—possibly because of concerns about these two programs which we discuss later in this report.

Regarding the lack of some data and analysis capability, although the states had fatality and serious injury data that were useful for developing their strategic highway safety plans, states generally did not have complete crash data analysis systems as described in SAFETEA-LU. These systems must include the capability to locate crashes on all public roads (e.g., crash location data and a mapping system to identify clusters of crashes); roadway inventory data describing roadway characteristics for all publicly owned roads; and the analytical capability to identify hazardous locations on all public roads, rank them according to their severity, identify potential remedies, and estimate the costs of these remedies. States we reviewed varied in their ability to meet these standards. FHWA expects states to have crash location capabilities by August 2009, thereby meeting a deadline set by the agency. FHWA is also developing an analytical system to support the hazard analysis added by SAFETEA-LU. However, FHWA has not established a deadline for states to develop roadway inventory data for all public roads, nor has it required states to submit schedules for achieving compliance with this requirement, in part because FHWA has not yet defined the specific roadway data elements needed to meet federal requirements for HSIP. FHWA has taken a first step in defining these data elements by developing a proposal for a set of 180 roadway inventory and traffic data elements—called the Model Minimum Inventory of Roadway Elements (MMIRE)—that can be used to

address HSIP's roadway inventory requirements as well as other safety analysis needs. FHWA officials told us that they anticipate testing a set of the MMIRE elements by states in 2009. However, FHWA has not yet defined which of the specific roadway data elements contained in MMIRE are needed to meet HSIP's requirements. These data are particularly important for identifying remedies and estimating costs, but many states lack these data, especially for locally owned roads, which typically account for the majority of all public roads in a state. Most states have not developed roadway inventory data for locally owned roads because they do not operate and maintain those roads, and they are concerned about the possible costs and time frames involved in obtaining these data. As a result, states may have difficulty applying the data-driven, strategic approach to highway safety identified by SAFETEA-LU. In particular, this lack of roadway data has limited the ability of many states to prepare 5 percent reports that contain the required information on states' most hazardous locations, remedies, and costs.

Because states were not required to submit their strategic highway safety plans to FHWA until October 2007, they have not yet had time to implement and evaluate their HSIP strategies and projects; hence, it is too soon to evaluate the results, particularly the impact on safety, of states' efforts to carry out HSIP under SAFETEA-LU. Nevertheless, our analysis suggests that two HSIP funding provisions may not be aligned with some states' safety priorities—which were developed under HSIP's federally defined strategic planning process and identified in those states' strategic highway safety plans—and therefore may not allow states to focus federal safety dollars on their highest-priority safety improvements. First, most states nationwide have not taken advantage of the flexible spending provision in HSIP that allows states to use up to 10 percent of their program funds for behavioral programs or emergency medical services enhancements—even though states' strategic highway safety plans indicate substantial interest in implementing these strategies, and these strategies are routinely funded by NHTSA and FMCSA grants—because program restrictions may make it difficult for interested states to do so by requiring states to first certify that all of their highway safety infrastructure needs are met. In all six states we visited, officials agreed that making this certification was difficult. In two of those states, officials told us that they were interested in using some of their HSIP funds for behavioral or emergency medical services projects, but they could not meet the certification requirement because of ongoing infrastructure needs and concerns about the potential legal liability that a state could incur by certifying that all of its infrastructure needs had been met. Second, the HSIP set-aside that provides funding for rail-highway

crossings is targeting an area that is a low priority in the strategic highway safety plans of some states, and it may provide safety funds for some projects with relatively low safety benefits. Finally, since states are in the early stages of implementing the high-risk rural road program, it is too soon to evaluate the program's results. However, based on our analysis of the 25 state strategic plans and our interviews with officials in 6 states, many states lack the roadway data needed to effectively implement the program. Additionally, the program's implementation is hindered by the inexperience of local governments—which are responsible for building projects—with federal requirements.

FHWA provided states with comprehensive guidance and assistance to support their planning, implementation, monitoring, and evaluation of HSIP, but the agency gave states latitude in preparing the 5 percent reports on states' most severe hazardous locations. FHWA issued eight guidance memorandums covering HSIP activities; provided training on strategic highway safety planning for state officials; and participated in states' strategic highway safety planning processes, often facilitating state safety planning summits. The guidance memorandums introduced new HSIP features, gave direction on annual reporting requirements for HSIP and the two set-aside programs, described requirements for the 5 percent report, and explained how states could use HSIP funds to address needs in their strategic highway safety plans. FHWA's guidance for the 5 percent reports took states' data limitations into account and gave states latitude in defining the methodology and scope of their reports. Consequently, states' 5 percent reports varied widely in their content and completeness, and their formats for identifying the most severe hazardous locations did not always appear easy for the public to understand, raising questions about the quality of the reports and their usefulness in advancing public awareness of highway safety hazards and needs, as intended. FHWA officials also raised concerns about the usefulness of the 5 percent reports, and the Secretary of Transportation has recommended eliminating the 5 percent reporting requirement in a proposal for reforming surface transportation programs, which was delivered to Congress in July 2008.[6] To support states' monitoring of HSIP projects, FHWA provided guidance, under a broader oversight program that pre-dates SAFETEA-LU, on how to determine whether local agencies have the controls needed to comply with requirements for managing federal-aid highway funds. FHWA's

[6]Department of Transportation, *Refocus. Reform. Renew. A New Transportation Approach for America* (Washington, D.C.: July 29, 2008).

guidance for evaluating HSIP projects directed states to evaluate all safety projects and strategies, coordinating with stakeholders who developed the strategic plan. Furthermore, the guidance directed states to use performance-based goals, established as part of the strategic highway safety plan, to evaluate the effectiveness of their safety strategies in reducing the number of fatalities and serious injuries.

To improve HSIP's effectiveness, we suggest in this report that Congress consider taking two actions, including (1) restructuring HSIP statutory provisions related to the flexible funding for behavioral and emergency medical services projects and the rail-highway crossing set-aside program to better align HSIP funding with states' top safety priorities and (2) eliminating the 5 percent reporting requirement, given states' current data limitations that hinder their complete and consistent reporting. To help states fully implement the data-driven project selection process prescribed for HSIP, we also recommend that FHWA take three actions, including (1) defining which roadway inventory data elements a state needs to meet federal requirements for HSIP, (2) setting a deadline for the states to finalize development of the required roadway inventory data, and (3) requiring states to submit schedules to FHWA for achieving compliance with this requirement. In commenting on a draft of this report, The Department of Transportation (DOT) generally agreed with the findings and recommendations and provided technical comments, which we incorporated as appropriate. Federal Railroad Administration (FRA) officials also provided their additional perspective on HSIP's rail-highway crossing set-aside program—which is administered by FHWA—emphasizing that such crossings have the potential for serious or even catastrophic accidents and, as we noted in our report, that crossing safety is particularly important for states and communities with a greater proportion of crossings and train traffic.

Background

During 2006, about 43,000 traffic fatalities occurred on the nation's roads and 290,000 people were seriously injured. Overall, the number of fatalities has remained fairly constant over the last decade, although the fatality rate declined by about 17 percent, from 1.69 fatalities per 100 million vehicle miles traveled in 1996 to 1.41 in 2006. DOT has a goal of lowering the fatality rate to 1.0 per 100 million vehicle miles traveled by 2011.

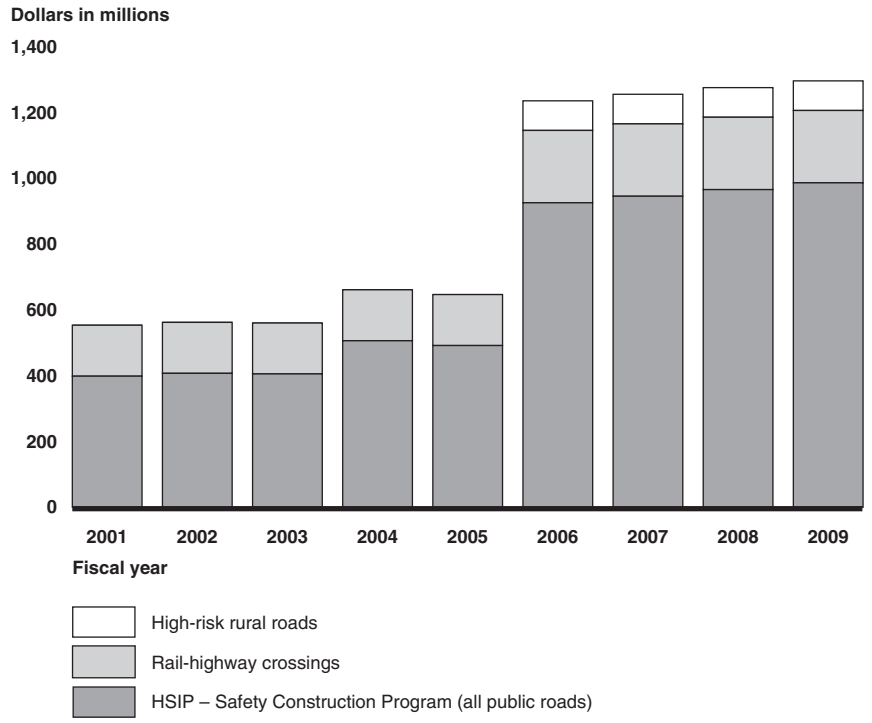
Through SAFETEA-LU, Congress increased funding for HSIP with the goal of significantly reducing traffic fatalities and serious injuries on all public roads. HSIP's funding authorizations, which totaled $5.1 billion for fiscal years 2006 through 2009, nearly doubled from pre-SAFETEA-LU levels.[7] SAFETEA-LU authorized funding for three major highway safety programs, as follows (see fig. 1):

- Over $950 million per year, on average, for the long-standing HSIP safety construction program, which funds safety infrastructure projects—such as intersection improvements and other safety enhancements—on any public road.
- $220 million per year to continue the rail-highway crossing set-aside program within HSIP, reserving one-half of the funding for hazard elimination projects—such as grade separations, reconstruction of crossing structures, and crossing closures—and the other half for the installation of protective devices, such as warning signs and gates.[8]
- $90 million per year for a new, high-risk rural road set-aside program to address hazards on rural roads that have above-average crash rates involving fatalities or serious injuries.

[7]The Transportation Equity Act for the 21st Century, and related extensions, authorized highway safety program funding for fiscal years 1998 through 2005. Prior to SAFETEA-LU, HSIP was funded as part of the Surface Transportation Program. SAFETEA-LU established HSIP as a "core" FHWA program with its own separate funding.

[8]On June 6, 2008, President Bush signed Pub. L. No. 110-244, the SAFETEA-LU Technical Corrections Act of 2008, which amended the U.S. Code to allow states to direct, or flex, rail-highway crossing funds to highway safety improvement purposes if the state demonstrates that it has met its needs for installation of protective devices. Prior to this technical correction, states were able to flex funds designated for protective devices at rail-highway crossings to hazard elimination at rail-highway crossings, if they could demonstrate to FHWA that they had met their needs for protective devices.

Figure 1: HSIP Funding Authorizations, Fiscal Years 2001 through 2009



Source: GAO analysis of FHWA data.

Besides authorizing increased funding, SAFETEA-LU added several other requirements for HSIP:

- State transportation departments must now prepare a strategic highway safety plan that addresses four key elements added by SAFETEA-LU. First, eight types of stakeholders must participate in preparing the plan. Second, the plan must define areas of safety emphasis through an analysis of state fatality and serious injury data. Third, the plan must identify strategies and projects that cover all aspects of highway safety, which include (1) infrastructure improvements; (2) behavioral approaches, such as education and enforcement efforts meant to change drivers' behavior; and (3) emergency medical services.[9] Fourth, the plan must provide for overall performance measurement. SAFETEA-LU added a requirement that states

[9]Emergency medical services approaches to improving highway safety include, for example, projects to reduce response time to crash locations and to improve medical care in the aftermath of a crash.

submit the plans to FHWA by October 1, 2007. States without a strategic plan in place by this deadline would still receive funds for highway safety improvement, but the amount would be capped at the fiscal year 2007 level.

- To conduct their analyses of fatality and serious injury data, states must now develop crash data analysis systems that they can use to identify hazardous locations, potential remedies, and the costs of those remedies.

- To advance public awareness of highway safety hazards and needs, states must now analyze safety hazards on all of their public roads and report on at least 5 percent of their most severe hazardous locations—in what is known as the "5 percent report"—to FHWA for posting on its public Web site. The report must be based on an analysis of crash data and, for the identified hazardous locations, must include potential remedies and the estimated costs of those remedies. Acknowledging that states have differing levels of data available, FHWA set an August 31, 2009, deadline for states to address all public roads in this report.

- Under a new provision, states may now direct, or flex, up to 10 percent of their HSIP funds to behavioral and emergency medical services projects if they have adopted a strategic highway safety plan and certified that they have met all of their safety infrastructure needs.

FHWA administers HSIP, and its Office of Safety provides overall programmatic direction and guidance. FHWA division offices located in each state manage program implementation, review states' annual highway improvement program reports, and provide oversight of program funding. For each of the programs within HSIP—the safety infrastructure construction program, the rail-highway crossing set-aside, and the high-risk rural road set-aside—states must provide FHWA with an annual report on the projects they have implemented and on their results.

Other DOT agencies are also involved in state highway safety programs:

- NHTSA funds state traffic safety grant programs focused on behavioral safety issues. For example, the State and Community Highway Safety Grant program, commonly known as the Section 402 program, funds state projects that address issues such as impaired driving and seat belt use. Safety Belt Use grants, which reward states for passing and enforcing safety belt use laws, can be used for activities ranging from public education to roadway safety improvements. The State Traffic Safety Information Systems Improvement grant program, also known as the Section 408 program, provides funds to states to improve data collection

and analysis and requires that states conduct a highway traffic safety data assessment and develop a plan to address any findings of this assessment. Other NHTSA grant programs include Occupant Protection, Alcohol-Impaired Driving Countermeasures, and Child Safety and Booster Seat Use.

- FMCSA provides states with federal funds to address safety issues associated with commercial trucks and buses. For example, the Motor Carrier Safety Assistance Program provides grants to support state compliance reviews and roadside inspections of commercial trucks. Other FMCSA grants support border enforcement and safety data improvement projects.

- FRA maintains an inventory of rail-highway crossings and a crossing crash reporting system that states use to manage safety at crossings. FRA also provides states with computer software that assesses safety risks at crossings by measuring traffic volumes, train speeds, and other factors. However, FHWA, rather than FRA, administers HSIP's set-aside program for rail-highway crossing safety.

Federal highway safety programs award safety grants to state agencies, but safety programs and projects are often implemented through local government agencies and private organizations. For example, FHWA administers HSIP primarily through state departments of transportation, which may award subgrants to local government agencies to build safety improvement projects on locally owned roads. Similarly, NHTSA grants to state governors' highway safety offices are often implemented through subgrants to law enforcement agencies or private organizations involved in areas such as preventing injuries or drunk driving. FMCSA also awards grants to state agencies responsible for the Motor Carrier Safety Assistance Program, and those state agencies may then engage local agencies, like law enforcement agencies, to carry out the programs as subgrantees.

Collectively, SAFETEA-LU authorized $9.5 billion over 4 years for state safety programs administered by FHWA, NHTSA, and FMCSA. FHWA's HSIP received about 53 percent of the authorized funding. The remaining authorizations were mainly for behavioral programs administered by NHTSA and FMCSA. However, states have the flexibility to use one type of

NHTSA grant—Safety Belt Use—and NHTSA's alcohol penalty transfers[10] for either behavioral projects or infrastructure projects (see fig. 2). Authorizations for NHTSA's and FMCSA's behavioral programs amounted to about 24 percent and 12 percent, respectively, accounting for over 36 percent of all DOT funding for state highway safety programs.[11]

Figure 2: DOT Funding for State Highway Safety Programs Authorized by SAFETEA-LU, Fiscal Years 2006 through 2009

DOT modal program	Authorized funding (in millions of dollars)
Federal Highway Administration (53.2 percent)	$5,063.9
HSIP for all roads	3,823.9
HSIP set-aside for rail-highway crossings	880.0
HSIP set-aside for high-risk rural roads	360.0
National Highway Traffic Safety Administration (24.3 percent)	2,314.0
State and Community Highway Safety (Sec. 402)	897.0
Safety Belt Use	498.0
Alcohol-Impaired Driving Countermeasures	515.0
Traffic Safety Information Systems Improvement (Sec. 408)	138.0
Other programs (Occupant Protection, High-Visibility Enforcement, Motorcyclist Safety, and Child Safety and Child Booster Seat Use)	266.0
Federal Motor Carrier Safety Administration (12.4 percent)	1,183.0
Motor Carrier Safety Assistance Program	796.0
Commercial Driver's License Improvement and Information System Programs	128.0
Border Enforcement	128.0
Safety Data Improvement	11.0
Other programs (Performance and Registration Information System Management, and Commercial Vehicle Information Systems and Networks programs)	120.0
Alcohol Penalty Transfers, fiscal years 2006 to 2008 and 2009 estimates (10.1 percent)[a]	964.9
Combined total (100.0 percent)	**$9,525.8**

Source: GAO analysis of FHWA, NHTSA, and FMCSA data.

[10]NHTSA's alcohol penalty transfer program encourages states to pass alcohol-related safety laws by transferring a portion of a state's federal-aid highway allocation to qualifying safety programs if the state has not enacted federally desired laws to prevent drunk driving.

[11]For the purposes of this report, we describe education and enforcement activities as "behavioral activities" because these activities attempt to change road users' behaviors.

[a]NHTSA's alcohol penalty transfers are shown separately from the FHWA, NHTSA, and FMCSA program authorizations because states can generally use the transferred funds for either behavioral or infrastructure projects.

The funding that states receive for FHWA's HSIP is generally higher than the amount specifically authorized for it, mainly because of the Equity Bonus Program. The Equity Bonus Program, authorized by SAFETEA-LU, provides funding to states on the basis of equity criteria, such as a minimum return on state contributions to the Highway Trust Fund. See appendix II for further information on HSIP funding for states and related adjustments.

In July 2008, DOT began preparing for the upcoming 2009 reauthorization of surface transportation programs, including HSIP, by providing Congress with a proposal for reforming surface transportation programs, including HSIP.[12] The proposed reforms for HSIP—which DOT said were designed to reduce paperwork burdens, better align set-asides to target safety problems, and provide greater flexibility for states—included, among other things:

- eliminating the requirement for the 5 percent report;
- increasing the percentage of HSIP funds potentially available to direct, or flex, to behavioral safety programs from 10 percent to 25 percent of HSIP funds; and
- ending the mandatory rail-highway crossing set-aside, while preserving the eligibility of rail-highway crossing projects consistent with each state's strategic highway safety plan.

[12]*Refocus. Reform. Renew. A New Transportation Approach.*

Strategic Highway Safety Plans Included Key Elements Added by SAFETEA-LU, but States Lacked Prescribed Data and Analysis Capabilities

According to FHWA, all 50 states and the District of Columbia complied with the requirement, added by SAFETEA-LU, that they submit their strategic highway safety plans to FHWA before October 2007. The 25 state plans that we reviewed generally addressed the 4 key elements added by SAFETEA-LU. First, these plans showed evidence of participation in the strategic planning process by many of the stakeholders specified in the legislation, and according to FHWA officials, this participation helped break down the historical separation between planning activities for infrastructure improvement projects and behavioral programs. Second, the plans contained safety emphasis areas, which the states defined by analyzing fatality and serious injury data, as required, and by building on prior safety planning efforts. Third, to address the states' safety emphasis areas, the plans included strategies and projects that covered all aspects of highway safety, including safety construction improvements, behavioral approaches, and emergency medical services. Finally, the plans we reviewed generally provided for evaluating states' progress toward their overall goal of reducing fatalities. Although the states had fatality and serious injury data that were useful for developing their strategic plans, they often did not have all of the components of crash data analysis systems required since SAFETEA-LU. These systems include crash location data, the capability to locate hazardous locations (e.g., a mapping system that can identify clusters of crashes), roadway inventory data, and the capability to identify and rank hazardous locations on all public roads and identify potential remedies. FHWA and the states are taking steps to address these issues, but the lack of data and analytical capability remains the principal impediment to states' implementation of the data-driven project selection process and reporting requirements specified in SAFETEA-LU and could be costly to overcome.

State Safety Planning Improved with the Increased Involvement of Multidisciplinary Stakeholders in the Strategic Planning Process

In developing their strategic highway safety plans, states increased their consultation with a wide range of safety stakeholders, as required since SAFETEA-LU's enactment, and created a broad-based effort to identify and address state highway safety issues. Before SAFETEA-LU's enactment, state transportation officials were not required to develop plans for highway safety improvement projects in collaboration with state officials responsible for behavioral or emergency medical services programs, although some states had multidisciplinary safety planning activities under way. For example, highway safety transportation officials in three of the six states we visited—Florida, Iowa, and Mississippi—said they had broad-based stakeholder involvement in the planning process prior to SAFETEA-LU. FHWA had also endorsed this multidisciplinary

approach in a 2001 FHWA program review of HSIP that found a good multidisciplinary safety management process was a best practice.[13]

SAFETEA-LU directed state transportation departments, when developing strategic plans, to consult with eight types of safety stakeholders, such as metropolitan and regional transportation planning organizations and local traffic enforcement agencies.[14] Our review of 25 state plans showed that 20 states consulted with at least 5 of the 8 required types of stakeholders. Twenty states also consulted with types of stakeholders not specifically identified in SAFETEA-LU, such as local governments and other state agencies. Stakeholders also typically included NHTSA and FMSCA regional and state division officials. Although not every state achieved the participation of every organization listed in the legislation, not all of the organizations invited to participate did so, according to state highway safety officials. For example, in two of the six states we visited, Operation Lifesaver[15] representatives were invited to participate in the planning process but they were unable to attend.

To obtain stakeholder input, states held conferences or summit meetings where participants could express their views. At the six states we visited, consultation meant that an organization participated in a state safety summit meeting and possibly participated afterward in an ongoing committee responsible for implementation in a specific emphasis area. At summit meetings, participants helped each state identify its key emphasis areas and potential strategies for addressing them. For example, in California, the state chapter of Mothers Against Drunk Driving (MADD) participated in a summit meeting that identified impaired driving as an area for the state to emphasize and identified 10 strategies to reduce the

[13]Department of Transportation, Federal Highway Administration, *National Review of the Highway Safety Improvement Program* (Washington, D.C.: November 2001).

[14]The eight types of stakeholders include (1) governors' highway safety representatives; (2) regional and metropolitan planning organizations; (3) stakeholders from the major transportation modes; (4) state and local traffic enforcement officials; (5) federal officials responsible for implementing the rail-highway crossing program (Section 130); (6) representatives of Operation Lifesaver, a nonprofit education organization dedicated to ending collisions, fatalities, and injuries at rail-highway crossings and on railroad rights of way; (7) representatives conducting a motor carrier safety program; and (8) officials from state motor vehicle administration agencies.

[15]Operation Lifesaver is a private, nonprofit organization supported by federal and railroad funds and dedicated to improving rail crossing and track safety through education and improved law enforcement.

number of fatalities due to impaired drivers. MADD officials said the organization also participated on the California committee charged with developing specific action items to implement the strategies shown in the strategic plan. In Illinois, the Operation Lifesaver representatives participated in a summit meeting that identified a strategy to address crashes at rail-highway crossings and also sat on the committee responsible for developing action items to address that strategy.

State highway safety and transportation officials in the states we visited said the strategic planning process presented a challenge in bringing stakeholders from different areas together to collaborate on highway safety. One challenge was to obtain the participation of stakeholders who might not have been involved in highway safety in the past, such as hospital representatives and other emergency services providers. Another challenge was the cost to states of securing conference facilities and conference materials to conduct summit meetings, according to some state officials. In one state, the FHWA division office provided about $20,000 to pay for the conference facilities. Furthermore, officials from three of the six states we visited said that getting broad-based involvement in the planning process was difficult because the cost of travel to a central meeting place was too high for some organizations to participate in the planning process. For example, Florida state highway officials held a safety summit in Orlando because it is in the center of the state and added a second summit in Miami after some potential stakeholders said that travel costs would be too high for them to participate in the Orlando summit.

The integrated approach to safety that brought highway safety stakeholders together in a joint planning process was the most important outcome of the program changes attributable to SAFETEA-LU, according to FHWA officials. Highway safety transportation officials in the six states we visited agreed that safety planning efforts improved because increased multidisciplinary stakeholder involvement led to the development of strategic highway safety plans that encompassed a wide array of safety strategies and included approaches that have not traditionally been associated with HSIP. This new planning process helped break down the separation between engineering and behavioral programs that occurred when FHWA and state highway departments focused exclusively on highway construction projects, while NHTSA and FMCSA and their grantees were responsible for education and enforcement projects that addressed behavioral issues, such as impaired driving or violations of safety regulations for commercial drivers and vehicles. The new planning process also encouraged coordination among the DOT safety agencies

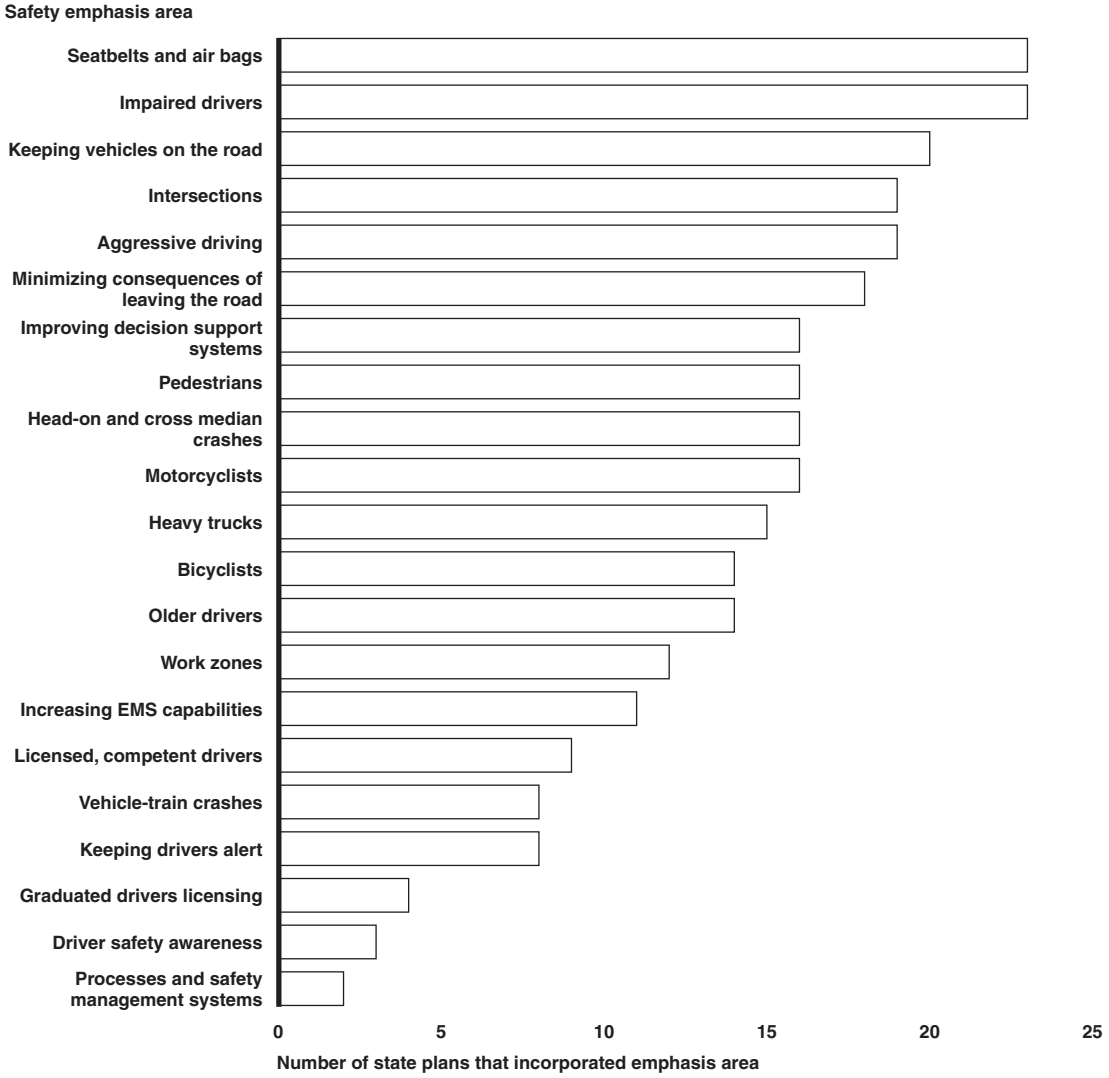
through information sharing and interdisciplinary safety programs. For example, 21 of the 25 state strategic plans we reviewed cited the participation of NHTSA and FMCSA officials. State safety officials in California, Illinois, and Pennsylvania said that the requirements since SAFETEA-LU served as the catalyst for such involvement.

States Defined Safety Emphasis Areas through Crash Data Analysis and Built on Prior Safety Planning Efforts to Develop Their Strategic Highway Safety Plans

In working with stakeholders to develop their strategic highway safety plans, states defined safety emphasis areas by analyzing data on crashes that resulted in fatalities and serious injuries, as required since SAFETEA-LU. According to our reviews of 25 strategic plans, states typically used data on the types and causes of fatal and serious crashes to help stakeholders identify safety areas to emphasize in their state strategic highway safety plans. Previously, states had used data from all crashes to establish highway safety program priorities, but they had not focused on crashes resulting in fatalities and serious injuries.

In analyzing their fatality and serious injury data, states often followed a preexisting comprehensive safety planning approach created by the American Association of State Highway and Transportation Officials (AASHTO). This multidisciplinary approach, built around guidance published by the National Cooperative Highway Research Program, identified "safety emphasis" areas, including seat belt use, heavy trucks, head-on collisions, and rural emergency medical services. In a guide issued in 1997 and updated in 2004, AASHTO described how a state could organize its planning process, and some states had used the guide to develop comprehensive highway safety plans before SAFETEA-LU was enacted in August 2005. Eighteen of the 25 state plans we reviewed used AASHTO's list of safety emphasis areas, but some plans also included areas of unique importance to the state. The 7 states that did not directly use AASHTO's list in their planning picked emphasis areas that were similar. Figure 3 shows the extent to which the 25 plans we reviewed incorporated AASHTO's safety emphasis areas.

Figure 3: Extent to Which 25 State Strategic Highway Safety Plans Incorporated AASHTO's Safety Emphasis Areas



Source: GAO analysis of 25 state strategic highway safety plans.

Note: Eighteen states include "Young drivers" as an emphasis area in their strategic plans. Although not an AASHTO-recommended area, it is closely related to AASHTO's "Graduated drivers licensing" area.

State Plans Included Strategies and Projects to Address Multidisciplinary Safety Emphasis Areas and Goals to Measure Overall Progress, but Generally Did Not Include Set-aside Programs

Since SAFETEA-LU, states have been required in their strategic highway safety plans to develop strategies to reduce roadway hazards and identify programs of projects to address all aspects of highway safety, including (1) infrastructure (engineering, management, and operations); (2) behavior (education and enforcement); and (3) emergency medical services. Almost all of the 25 state strategic highway safety plans we reviewed included strategies to reduce safety hazards and identified programs of projects to address all 3 aspects of highway safety. For example, all 25 of the state plans called for infrastructure improvements, such as installing rumble strips or cable median barriers on roadways to help keep drivers on the roadway and to reduce head-on collisions (see fig. 4). All 25 plans also identified potential behavioral projects, such as projects to enforce seat belt laws or speed limits or provide education to reduce driving under the influence (DUI). Twenty-two of the 25 plans included some emergency medical services projects, either within its own or another emphasis area. These projects ranged from decreasing accident response times to improving medical outcomes data.

Figure 4: Rumble Strips and Cable Median Barriers in Iowa Designed to Keep Drivers on the Road and Reduce Head-on Collisions

Source: GAO.

In the 25 state plans we reviewed, the safety emphasis areas identified by stakeholders frequently did not include rail-highway crossings or high-risk rural roads, and projects that could be funded through the 2 set-aside programs within HSIP were also not typically identified as high priorities. For example, about two-thirds of the state strategic plans we reviewed (17 of 25), did not identify improvements to rail-highway crossings in their strategic highway safety plans as a key safety emphasis area. According to some state department of transportation officials we interviewed, rail-highway crossings were not included as safety emphasis areas because few fatalities were associated with these areas.

Similarly, state strategic highway safety plans did not specifically include high-risk rural roads as a safety emphasis area or high-risk rural road projects within an emphasis area. Many plans identified projects that could be applicable to improving rural road safety, such as DUI programs or efforts to minimize the frequency and consequences of roadway departures. However, only one plan, from Indiana, included high-risk rural roads as an emphasis area. Furthermore, although 18 of the 25 plans we reviewed identified rural roads among the hazardous locations in the state in their 5 percent reports, these locations may not meet SAFETEA-LU's definition of high-risk rural roads—that is, rural major and minor collectors or rural, locally owned roads where the rates of fatalities and incapacitating injuries exceed, or are expected to exceed, the statewide averages.[16] According to state department of transportation officials we interviewed in 5 of the 6 states we visited, it was difficult to identify potential high-risk rural road projects, in part because states often had limited data on locally owned roads. As a result, states did not develop an overall list prioritizing hazardous locations on high-risk rural roads. Some states that lacked crash data for locally owned rural roads had to rely on local governments' road safety audits or anecdotal information to identify hazardous locations and propose projects for their high-risk rural roads.

Since SAFETEA-LU, states have been required to evaluate their HSIP programs and projects by establishing strategic and performance-based goals, such as an overall fatality-reduction goal, and measuring their program or project performance against those goals. All 25 of the state

[16]The purpose of the high-risk rural road program is to achieve a significant reduction in traffic fatalities and incapacitating injuries on rural major or minor collectors, or rural local roads.

plans we reviewed identified an overall state fatality-reduction goal.[17] In addition, 13 of these plans also established goals for the specific emphasis areas described in their plan. For example, California's strategic plan has an emphasis area goal of reducing annual impaired driving fatalities by 15 percent through activities such as driver education and enforcement. This reduction, combined with the goals for the other emphasis areas in the strategic plan, is designed to meet the statewide fatality-reduction goal. Another of the six states we visited also monitored performance in achieving fatality-reduction goals for specific safety emphasis areas, and reported those results periodically to state transportation leaders.

Many States Lack the Full Data and Analysis Capabilities to Rank Hazardous Locations According to Severity and to Report on the State's Most Severe Hazardous Locations

Since SAFETEA-LU, states have been required to have crash data systems that can identify, locate, and rank the severity of safety hazards at crash locations and can analyze crash data and roadway conditions to develop potential remedies. These crash data systems must include three components: (1) the capability to locate crashes on all public roads, including both state-owned and locally owned roads (e.g., crash data in a geographic format[18] that can be used with a system to map clusters of crashes); (2) roadway inventory data that include roadway characteristics, such as the number of lanes, width of shoulders, or types of signaling devices at intersections; and (3) a data analysis system (i.e., software program) to analyze the crash location and roadway inventory data to identify potential remedies for the hazards. States are required to use their crash data systems to report annually on at least 5 percent of their most severe hazardous locations (i.e., 5 percent report).

Many States Lacked Crash Location Data on Locally Owned Roads in a Usable Format for Analysis

All 25 states we reviewed had crash data, and in our review of their 5 percent reports for 2007, only 1 of the 25 states indicated that it was limited in its ability to map crash locations on state-owned roads. However, many of the 25 states whose plans and associated reports we reviewed did not have crash data on locally owned roads in a usable geographic format that could readily be used to locate crashes on all

[17]Typically, these goals are based on reductions in fatalities per 100 million vehicle miles traveled. For example, Illinois' goal was to reach 1.0 fatality per 100 million vehicle miles traveled by 2008. States based their identification of emphasis area hazards, at least in part, on numbers of fatalities.

[18]These include geographic information system (GIS) and global positioning system (GPS) formats.

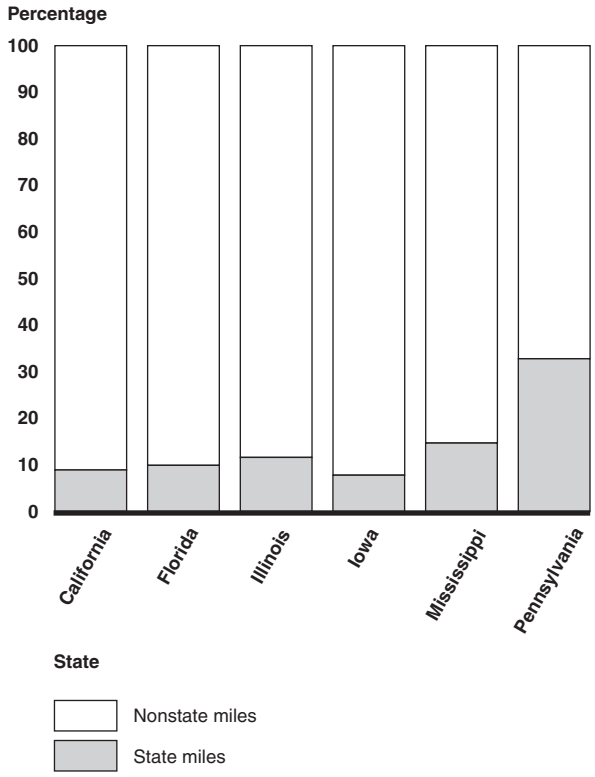
public roads, as required since SAFETEA-LU with, for example, commonly available mapping software. While FHWA does not require states to report on their capability to map crash sites and identify clusters of crashes on all public roads, in our review of the 5 percent reports for the 25 states (2007), about half of the 25 states (14 of 25) indicated that they had significantly limited or no ability to use mapping to locate crashes on locally owned roads in their states.[19] Among these 25 states we reviewed, all 6 of the states we visited had the ability to map crash locations on state-owned roads, and 2 states, California and Iowa, also had the ability to map crash locations on locally owned roads (i.e., their crash data for locally owned roads was in a geographic, readily analyzable format and they had a mapping system) and to use that information to identify the most severe hazardous locations. The other 4 states had information on crash locations on locally owned roads, but this information was not in a format that could be used with standard geographical data systems to map the crash sites and identify clusters of crashes on all public roads.

The inability to locate crashes on locally owned roads is significant because, nationally, locally owned roads account for about 77 percent of all public roads, while state-owned roads represent about 20 percent of the total road mileage.[20] In the six states we visited, the state-owned portion of the public roads ranged from about 8 percent in Iowa to about 33 percent in Pennsylvania (see fig. 5).

[19]Because FHWA does not require states to report on their capability to map crash locations, our analysis of which states have significantly limited or no capability in this area may represent an undercount.

[20]The remaining 3 percent of roads are owned by the federal government (e.g., national park roads) and Indian tribes.

Figure 5: State Ownership of Total Roadway Miles in Six States



Source: GAO analysis of FHWA's 2006 highway statistics.

States with significantly limited or no ability to map crash location data for locally owned roads would be unable to identify and rank all hazardous locations on locally owned roads. Of the six states we visited, two (California and Iowa) were able to locate crashes on all public roads, including locally owned roads, enabling these states to identify hazardous locations. The other four states had recently obtained or were planning to obtain mapping systems that would allow them to identify crash locations on all public roads, including locally owned roads.

FHWA established August 31, 2009, as the deadline for all states to have enough data to locate crashes on all public roads and be able to rank these locations according to their relative severity. FHWA has not required the states to submit schedules detailing when they would have the data, but FHWA officials said all states were on track to meet the deadline. Additionally, all six states we visited indicated that they would have sufficient crash data in a geographic format and a mapping system to

identify crash locations to meet FHWA's requirements by the end of August 2009.

Many States Lacked Roadway Inventory Data, Especially for Locally Owned Roads

With complete roadway inventory data, a state can analyze the safety characteristics of crash locations to identify potential remedies and estimate costs for each location. These data include characteristics of the road related to safety, such as number of lanes, pavement conditions, shoulder width, lighting, signs, and intersections. Although roadway inventory data have been required since SAFETEA-LU, most of the 25 states we reviewed did not have adequate data, especially for their locally owned roads, to generate an analysis of potential remedies. For example, almost all of the states (22 of the 25) lacked complete roadway inventory data for locally owned roads in the state, and over one–third of the states (11 of the 25) lacked complete roadway inventory data for state-owned roads. Of the 6 states we visited, 2 states lacked roadway inventory data for all state-owned roads and 5 states lacked roadway inventory data for locally owned roads.

AASHTO also reported in 2006 that many states struggle with the adequacy, currency, and quality of data, especially for local roads.[21] Most states have not developed roadway inventory data for locally owned roads because they do not operate and maintain those roads, according to state transportation officials we interviewed. FHWA officials told us they do not expect states to obtain roadway inventory data for all of their public roads by August 31, 2009, and officials in 5 of the 6 states we visited said they would not have such data by that date. For example, officials in Illinois estimated that they would not have roadway inventory data for all of their public roads until sometime after 2013. FHWA has not established a deadline for states to have roadway inventory data for all public roads, nor has it required states to submit schedules for achieving compliance with this requirement. According to an FHWA official, before establishing such a deadline, FHWA would need to define the specific roadway data elements needed to meet federal requirements. FHWA has taken a first step in defining these data elements by developing a proposal for a set of 180 roadway inventory and traffic data elements—called the Model Minimum Inventory of Roadway Elements (MMIRE)—that can be used to address HSIP's roadway inventory requirements as well as other safety analysis needs. FHWA officials told us that they anticipate testing a set of

[21]CH2M HILL, prepared for the American Association of State Highway and Transportation Officials, *Surface Transportation Safety and Investment Update on Progress Since 2000* (Chicago, Ill.: September 2006).

the MMIRE elements at selected states in 2009. However, FHWA has not yet defined which of the specific roadway data elements contained in MMIRE are needed to meet HSIP's requirements.

FHWA Is Developing Software to Analyze Data on Hazardous Locations, Remedies, and Costs

The third component needed for the data-driven project selection process is software that can analyze crash location and roadway inventory data to identify potential remedies for hazardous locations. FHWA is developing a software tool, Safety Analyst, that should be able to support the safety hazard analysis adopted by SAFETEA-LU by using the crash data and roadway inventory data to determine the most severe hazardous locations, rank them, identify possible remedies, and estimate the cost of implementing the remedies. FHWA estimates that it will complete the development of Safety Analyst and release it to the states in the summer of 2009. However, the system will not be of use to states that lack complete crash location and roadway inventory data.

Three of the states we visited anticipated using Safety Analyst when it becomes available. In addition, Mississippi has independently developed its own program to analyze hazards and identify remedies. This program is similar to Safety Analyst, but requires fewer types of roadway inventory data. According to a Mississippi state transportation official, Safety Analyst requires too many types of roadway inventory data, some of which are not yet available in most states. For example, Safety Analyst requires data on roadside safety conditions, which no state has included in its database, yet such data are considered essential to a full understanding of highway safety, according to AASHTO's 2006 report.

Lack of Data Limits States' Reporting on Their Most Severe Hazardous Locations

As we have previously mentioned, since SAFETEA-LU was enacted, states have been required to prepare an annual report to FHWA—the 5 percent report—that is intended to raise public awareness of the most severe highway safety hazards and needs, according to FHWA's guidance.[22] The report must describe at least 5 percent of the locations on a state's public roads that exhibit the most severe safety needs and identify these locations in a clearly understandable format. The report is to be based on each state's analysis of crash data for locations on all public roads and ranking of the relative severity of hazards at those locations. In addition, the report is to describe potential remedies for the hazardous locations

[22]In its July 2008 proposal to Congress for reforming surface transportation programs, DOT recommended eliminating the requirement for the 5 percent report and instead requiring states to raise awareness of highway safety by posting their strategic highway safety plans and annual HSIP reports on their Web sites.

shown and the estimated costs of those remedies. FHWA is required to post the states' reports on its Web site. The 5 percent report was not intended to be a list of projects with the highest priority for construction, but inclusion on the list could make these locations candidates for HSIP safety construction projects.

The lack of data and analytical capability to map crash locations and clusters of crashes has limited the abilities of many states to comply with the 5 percent reporting requirement, and the reports we reviewed varied in the information they provided. As we have previously mentioned, about half of the 25 states (14 of 25) indicated that they had significantly limited or no ability to use mapping to locate crashes on locally owned roads in their states. As a result of this limitation, 11 of those 14 states were unable to include hazardous locations on locally owned roads in their 5 percent reports for 2007, because the states either did not have all of the required information in a usable geographic format or lacked a system with capability to map the locations.[23] Four of the 6 states we visited (Florida, Illinois, Mississippi, and Pennsylvania) were unable to report hazardous locations on locally owned roads.

Limited roadway inventory data describing the safety-related characteristics of roads also prevented most states from fully identifying and reporting on potential remedies for hazardous locations and estimating the costs of those remedies, as required for the 5 percent reports. For example, 1 state we visited, California, submitted a 5 percent report for 2007 that identified over 800 hazardous locations on state-owned and locally owned roads but identified no specific remedies, costs, or implementation actions. According to FHWA's review of all 51 of the 5 percent reports submitted by the 50 states and the District of Columbia in 2006:

- 4 of 51 reports contained potential remedies for all identified locations, including the estimated costs of the remedies and the actions needed to implement them, as required;

[23]For the remaining 3 of 14 states that had limited or no mapping capability, 2 states reported some hazardous locations on locally owned roads in their 5 percent reports, using alternative data sources and analytic techniques, and 1 state was unclear about whether its listing of hazardous locations in its 5 percent report included locally owned roads.

- 37 of 51 reports contained limited remedy, cost, or implementation information for the locations they identified; and
- 10 of 51 reports contained no information on potential remedies, estimated costs, or implementation actions.

Improving States' Data and Analysis Capability May Be Costly and Will Take Time

Officials from FHWA headquarters and from the six states we visited said that developing a roadway inventory to meet the data requirements of Safety Analyst could be costly. Also, in a 2002 report, AASHTO estimated a cost of $3 million to $5 million per state to develop the inventory and another $1.5 million per year to operate and maintain the system.[24] Mississippi officials we interviewed estimated it could cost their state $50 million to develop a roadway inventory that would give them the analytical capability described in SAFETEA-LU for all public roads. In addition, a Florida department of transportation official with whom we spoke estimated that developing these data for the state's local roads could cost several hundred million dollars and take several years or more.

While efforts to improve and maintain states' crash data analysis systems may be costly, SAFETEA-LU greatly increased the authorized funding levels made available to states for these purposes. Although no high-risk rural road program funds and no more than 2 percent of rail-highway crossing program funds can be used for data improvements, there is no limit on the use of authorized HSIP safety construction funds for data gathering and maintenance. These authorized HSIP funds nearly doubled under SAFETEA-LU, from about $500 million per year to nearly $1 billion per year.

[24]CH2M HILL, prepared for the American Association of State Highway and Transportation Officials, *Surface Transportation Safety and Investment* (Chicago, Ill.: September 2002).

It Is Too Soon to Evaluate Project Results Since SAFETEA-LU, but Two of the Program's Funding Provisions May Not Be Aligned with States' Safety Priorities Identified in Strategic Highway Safety Plans

Because states were not required to submit their strategic highway safety plans to FHWA until October 2007, they have not yet had time to select and build infrastructure projects under these plans. Consequently, it is too soon to evaluate the results—that is, the impact on safety—of HSIP projects funded under SAFETEA-LU's authorizations. However, in the 3 years since SAFETEA-LU's enactment in 2005, states' experience with HSIP indicates that some funding provisions in HSIP may not always target states' greatest safety needs and priorities as identified in the states' strategic highway safety plans. First, most states have not used the program's flexible spending provision, which allows them to use some HSIP funding for noninfrastructure projects. Second, the set-aside program that funds infrastructure improvements at rail-highway crossings targets a low safety priority in some states, according to those states' strategic highway safety plans, although other states continue to emphasize crossing improvements. Finally, states have just begun to implement the high-risk rural road program, so it is too soon to evaluate the program's results. Obligations of program funds have been limited, however, suggesting that states may be having difficulty implementing the program. Lack of data on targeted roads and administrative challenges may be obstacles to implementation.

More Time Is Needed to Evaluate the Results of HSIP Projects Authorized under SAFETEA-LU

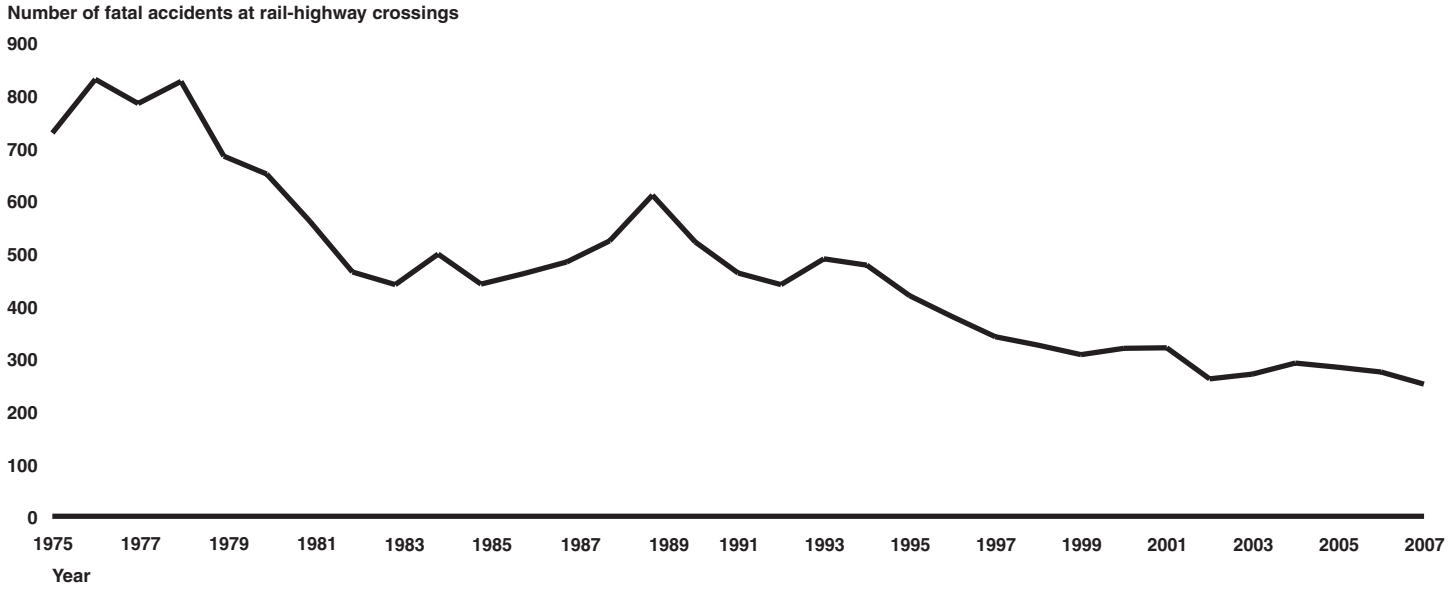
It is too soon to evaluate the results of HSIP infrastructure projects because too little time has passed for projects to be selected and built in accordance with priorities in states' strategic highway safety plans. Given the October 2007 deadline for states to submit their strategic highway safety plans to FHWA, states finalized their plans recently—28 states did so in 2006, and the remaining 22 states, plus the District of Columbia, did so in 2007. Because infrastructure projects can take 1 year or more to select and build, and subsequent project evaluations typically rely on 3 years' worth of crash data after the projects have been implemented, it is too soon to assess the effectiveness of projects undertaken under the new HSIP program. FHWA and state officials we interviewed in all six of our site visits also told us that it is too soon to measure the effectiveness of the strategic planning process and other changes under SAFETEA-LU in reducing fatalities and serious injuries. However, in the 25 state annual reports on HSIP projects for fiscal year 2007 that we reviewed, the states typically reported that the HSIP projects completed prior to SAFETEA-LU were generally effective in reducing crashes and fatalities at the project locations, according to evaluations of crash data at improved locations for the 3-year periods before and after the projects were completed.

It is also too soon to evaluate the results of rail-highway crossing projects selected and built since SAFETEA-LU's passage in 2005, but the overall number of fatalities at rail-highway crossings continues to drop. Since the crossing program was established in 1973, rail crossing safety has improved considerably nationwide.[25] A 2005 study, published in a multidisciplinary journal dealing with risk analysis, attributed some of the decline in fatalities at crossings to the program, while noting that other factors, such as the decline in the number of crossings in recent decades, may have contributed more to improved safety. For example, the study noted that between 1975 and 2001, almost 30 percent of crossings had been closed across the country.[26] Currently, rail crossing deaths amount to less than 1 percent of traffic fatalities, and the number of fatal accidents at crossings has been declining (see fig. 6). In the states we visited, transportation officials said that rail crossing safety had improved substantially and some of the fatalities that occur now—when drivers commit suicide or deliberately avoid warning devices—are difficult to address with infrastructure improvements.

[25]The Highway Safety Act of 1973 established the rail-highway crossing program (commonly known as the "Section 130" program) to eliminate hazards at rail-highway crossings by improving crossing infrastructure. SAFETEA-LU continued this program, which currently distributes $220 million to the states each year. The funds must generally be used for only two types of rail-highway crossing improvements—installation of protective devices and hazard elimination projects. SAFETEA-LU authorizes states to use not more than 2 percent of their rail-highway crossing allocation for data compilation and analysis.

[26]Shannon Mok and Ian Savage, "Why has Safety Improved at Rail-Highway Grade Crossings?," *Risk Analysis: An International Journal*, Vol. 25, no. 4 (McLean, Va.: Society for Risk Analysis, August 2005), 867-881. The authors attribute improved crossing safety to a number of factors in addition to the rail-highway crossing program, including reduced drunk driving, improved automotive braking, and more effective emergency medical services and railroad improvements (e.g., oncoming trains have become more visible with new locomotive lighting, and public awareness of rail crossing hazards has improved through educational campaigns such as Operation Lifesaver). The authors found that these other factors have been more effective than the installation of active warning devices at rail crossings in reducing rail crossing hazards.

Figure 6: National Trend in Fatal Accidents at Rail-Highway Crossings, 1975 through 2007



Source: GAO analysis of FRA data.

Finally, it is too soon to evaluate the results of the high-risk rural road program because more time is needed for high-risk rural road projects, like other HSIP infrastructure projects, to be selected, built, and evaluated. According to state officials we interviewed, it is too soon to identify the impact of the high-risk rural road program on safety because the states have only recently begun to fund projects. Moreover, because the program was newly established in SAFETEA-LU, there are no prior projects to evaluate.

Safety Priorities Identified in States' Strategic Highway Safety Plans Raise Questions about the Use of HSIP Flexible Funding and Rail-Highway Crossing Set-aside Provisions

Following the enactment of SAFETEA-LU, a state may direct, or flex, up to 10 percent of its HSIP funds to behavioral and emergency medical services projects—if it adopts a strategic highway safety plan and certifies that it has met all of its highway safety infrastructure needs. The rail-highway crossing set-aside provision reserves $220 million a year for projects to improve rail-highway crossing safety. Our analysis indicates that, in some states, these provisions may not align federal funding with states' most important safety needs and priorities identified in their strategic highway safety plans.

Few States Used HSIP Flexible Funding Provision for Behavioral and Emergency Medical Services Projects

Although states' strategic highway safety plans include behavioral and emergency medical services projects as well as infrastructure projects, as required since SAFETEA-LU, few states have funded noninfrastructure projects with HSIP funds. The 25 state strategic highway safety plans that we reviewed called for behavioral projects and 22 of these plans called for emergency medical services projects. In our visits to states, state safety engineers particularly emphasized the importance of behavioral approaches to safety, explaining that engineering solutions cannot by themselves address problems such as impaired or aggressive driving, and that the most effective remedies for these hazards would be those addressing driver behaviors, rather than improving infrastructure.

Although the states' strategic highway safety plans indicate substantial interest in implementing behavioral and emergency medical services projects, as of June 2008, FHWA had approved certifications from seven states that their infrastructure needs had been met, enabling those states to flex up to 10 percent of their HSIP funding for behavioral and emergency medical services projects. Collectively, these seven states plan to use approximately $13 million for such projects (see table 1).[27]

[27]Although flexed HSIP funds can be used in conjunction with state efforts funded through other federal programs, such as NHTSA and FMCSA programs, HSIP funds remain under the oversight of FHWA and states must include noninfrastructure projects in their annual HSIP reports.

Table 1: Information on Funding and Projects in Seven States Approved to Flex HSIP Funds for Behavioral and Emergency Medical Services Projects

State	Approved funding	Projects
Alabama	$5,671,268	Education, emergency medical services, and enforcement activities
Colorado	1,867,737	Work zone safety, traffic records, occupant protection, and other activities
Hawaii	579,662	Specific information on projects not available from FHWA
Michigan	380,000	Various projects, such as work zone safety and winter driving safety education
Nebraska	2,100,000	Impaired driving, occupant protection, and young driver safety activities
Utah	983,132	Continuation of the Zero Fatalities Program, which incorporates a number of behavioral approaches
Wisconsin	1,202,000	Various public education programs, such as work zone safety and older and medically impaired driver safety
Total	**$12,783,799**	

Source: FHWA.

Other states are not using HSIP funds to implement behavioral and emergency medical services projects and may be reluctant to do so, in part because of the certification requirement. For example, although none of the six states we visited has requested approval to flex HSIP funds, officials in two of those states did express interest in doing so. However, these officials noted that their states could not meet the certification requirements because of ongoing infrastructure needs and concerns about the potential legal liability a state could incur by certifying that all of its infrastructure safety needs have been met. Officials in the other states we visited agreed that certification would be difficult, but these officials did not express interest in flexing funds because they had enough infrastructure projects to use all of the available HSIP funds.

The 10 percent limit on flexing HSIP funds for behavioral or emergency medical services projects may also be problematic for some states. For example, a California official questioned the 10 percent limit, suggesting that the level of funding a state flexes should be based on the state's determination of program needs. Of the seven states approved to flex HSIP funds, five requested approval to flex 10 percent of their HSIP apportionment, which is the maximum percentage allowed under the program. These states' decisions to flex the maximum allowable percentage may indicate the high value they place on behavioral or

emergency medical services projects in addressing their highway safety priorities. In its July 2008 reform proposal, DOT recommended that states be allowed to flex up to 25 percent of their HSIP apportionment to behavioral and emergency medical services projects, but DOT did not propose to eliminate or modify the certification requirement.[28]

At least in part because of these conditions attached to flexing funds, most HSIP funding remains focused on infrastructure. Moreover, with few exceptions, federal safety programs specify what types of programs and projects states can fund with federal dollars, thus further ensuring that most HSIP funds remain focused on infrastructure improvement projects, and behavioral and emergency medical services projects continue to be funded primarily through NHTSA programs, especially the Section 402 program.[29] As a result, federal safety dollars may not be aligned with the priorities states identified in their strategic highway safety plans and may not target the most effective types of safety projects. According to some state safety engineers, removing the restriction that HSIP funds be used solely for infrastructure improvements would allow states to better address fatalities and serious injuries by directing funds to behavioral problems such as impaired driving, which is the cause of many fatalities.

Rail-Highway Crossing Improvement Funding Set-aside May Target a Low Priority for Some States

After years of improvements in crossing safety since the rail-highway crossing program began in 1973, such improvements are a low priority for some states in their strategic highway safety plans, and the program may provide safety funds for projects that provide comparatively low safety benefits. SAFETEA-LU authorized a set-aside of $220 million per year for this program from HSIP funds and allocates these funds among the states according to a formula that is based, in part, on the number of rail-highway crossings in each state. About two-thirds of the 25 state plans we reviewed (17 of 25) did not identify improvements to rail-highway crossings in their strategic highway safety plans as a key safety emphasis area. Officials in two of the six states we visited said funding for crossing set-asides is unnecessarily large, and they questioned the appropriateness of setting aside such a large amount of HSIP funding for a program that addresses the cause of less than 1 percent of fatalities. For example, state transportation officials in Iowa noted that 20 percent of the nation's HSIP

[28] *Refocus. Reform. Renew. A New Transportation Approach.*

[29] As we have previously mentioned, NHTSA's State and Community Highway Safety grant program, commonly known as the Section 402 program, funds state projects that address issues such as impaired driving and seatbelt use.

funds are directed to crossing safety, but these officials said crossing improvement is a low-priority area for the state in its strategic highway safety plan. FHWA officials also indicated to us that the level of funding for the rail-highway crossing program was disproportionately high, given the number of fatalities and accidents nationally. Additionally, in preparing their 5 percent reports, states generally did not report crossings as top hazards. For example, in our review of the 5 percent reports for 25 states, we found 1 state—Oregon—that included a crossing on its list of top hazardous locations, indicating that these locations are not high priorities for most states.[30]

Rail-highway crossing projects generally produced limited safety benefits, such as reducing crashes and fatalities, according to our analysis of project evaluations from 25 states. In the 25 annual reports we reviewed for 2007, we found 21 included crash data for years before and after rail-highway crossing improvement projects were completed (4 states did not include these data). Almost all of the improved locations in 15 of these 21 states showed zero incidents both before and after the improvement. For example, in its 2007 report, the state of Washington reported no fatalities in the 3 years before and in the 3 years after the completion of the 12 crossing projects completed in 2003. Furthermore, in the few states, such as Delaware, that reported benefit-cost ratios for crossing projects, ratios were consistently less than one, reflecting infrequent incidents and benefits too low to justify costs.

Nevertheless, other states prioritized rail-highway crossing safety in their strategic highway safety plans because they have determined that crossing safety projects are effective in improving overall highway safety. About one-third of the plans we reviewed (8 of 25) identified crossings as a key emphasis area. For example, Indiana, a state with approximately 4,800 miles of railroad track, emphasized rail-highway crossings in its strategic highway safety plan, noting that collisions involving vehicles and trains are more likely to result in fatalities and serious injuries than collisions involving 2 or more motor vehicles. In its fiscal year 2007 rail-highway crossing program report, Indiana noted that at 67 locations where crossing projects were completed during 2002 and 2003, 5 crashes that resulted in fatalities or injuries occurred in the 3 years before the

[30]Locations in 5 percent reports are sometimes described in vague or technical terms, such as by mile markers, making it difficult in those instances to determine whether an included location is a rail-highway crossing.

improvements were made, whereas 2 crashes that resulted in injuries—and no fatalities—occurred in the 3 years after improvements were made. In addition, 2 of the 6 states we visited, Mississippi and Illinois, have used state money to augment federal funds for crossing safety. Specifically, in 2001 and 2003 Mississippi put a total of $8 million of state money into crossing upgrades in addition to federal funding of $3.3 million for such upgrades. Illinois, in recent years, has programmed $27 million per year of state funds to rail safety (including crossings and grade separations), in addition to the $10 million provided by the federal government through the crossing program. Additionally, in our review of state rail-highway crossing reports, we found 1 state, Ohio, that reported crossings were significantly less dangerous following improvement projects, according to the state's assessment of crash risk.[31] Finally, FRA officials noted that crossing safety is particularly important for those states and communities with a large proportion of crossings and train traffic, noting that accidents at crossings can be catastrophic.

While the rail-highway crossing set-aside program, as implemented under SAFETEA-LU, required that all of this program's funding be spent on rail-highway crossing projects, the SAFETEA-LU Technical Corrections Act[32] amended the law to allow states to use rail-highway crossing set-aside funds for other types of HSIP projects if they certify that they have met all of their rail crossing needs. In its July 2008 reform proposal, DOT called for funding rail-highway crossing projects in accordance with each state's strategic highway safety plan, without a specific set-aside, or for reducing the mandatory rail-highway set-aside.[33] While the impact of the recent technical correction in the law remains to be seen, some states may be reluctant to certify that they have met all of their rail-highway crossing needs or they may have legal concerns about the potential liabilities of such a certification, just as some states were reluctant to make use of HSIP's flexible funding provision for those reasons.

[31]Ohio selected crossing improvement projects on the basis of a risk assessment that considers factors, such as traffic volumes and train speeds at crossing locations.

[32]Pub. L. No. 110-244 (2008).

[33]*Refocus. Reform. Renew. A New Transportation Approach.*

High-Risk Rural Road Program Is Too Recent to Evaluate Results, but Data Limitations and Localities' Inexperience Are Hindering Implementation

Most states are in the early stages of implementing the high-risk rural road set-aside program and have yet to obligate significant funds for projects. Data limitations are hindering these states' ability to target program funds to eligible projects, based on our review of the 25 states' strategic highway safety plans and associated reports and interviews with officials in the 6 states.

SAFETEA-LU authorized $90 million per year, or a total of $360 million for fiscal years 2006 through 2009, for states to address hazards on roads designated as high risk.[34] According to reports on the program to FHWA by the 25 states we selected, 23 of these states had begun implementing the program to some extent by the end of fiscal year 2007. Of these 23 states, 16 had already identified projects and approved, funded, or contracted for at least one infrastructure project, and 7 were still identifying potential projects, gathering data, or performing other preliminary activities. Obligations made to date are low because states remain in the early stages of implementing the program. As of the end of June 2008, states had obligated $50.3 million, or about 19 percent of the $270 million authorized by FHWA for the high-risk rural road program through that period.[35] Partly to address this issue, FHWA announced a rural road safety initiative in early 2008 to highlight options for improving rural road safety, thus encouraging states to take full advantage of the funding available through the high-risk rural road program.

Limited data on rural roads—including data on crash locations and local roadway characteristics—is hindering the program's implementation by making it difficult for some states to identify roads that conform to the definition of high-risk rural roads adopted by SAFETEA-LU. For example, according to our review of 25 state strategic highway safety plans and reports on the program, few states reported having roadway inventory data for all public roads (3 of 25) or complete, high-quality crash data for rural roads (5 of 25), leaving a significant number of states without data on rural roads and, therefore, without the means to effectively implement the program. Additionally, officials in 5 of the 6 states we visited noted that

[34]The program defines high-risk roads as rural collectors or local roads that have shown fatality or serious injury accident rates above the state average for similar road types, or, based on projected changes in traffic volume, are likely to show above-average rates in the future.

[35]FHWA distributes HSIP funding to the states, including funding for the high-risk rural road program, through annual apportionments established by statutory formula. HSIP's annual apportionments are "multi-year" funds that are available to the states for 4 years.

limitations in their crash location and roadway characteristics data made it difficult for them to identify qualifying roadways and appropriate remedies.

Even when data are available, the program may be challenging for states to implement because of difficulties in analyzing those data. Some state officials we interviewed said that selecting candidate projects on the basis of data analysis was challenging because specific locations on rural roads tend to have lower traffic volumes and few crashes, fatalities, and incapacitating injuries, even though higher numbers of fatalities happen on rural roads in general. Consequently, it is difficult for safety engineers and planners to determine which specific roadway segments, intersections, or other areas are most in need of improvement. For example, state officials in Iowa noted that many rural road projects would not be selected on the basis of crash frequency data and, consequently, other selection criteria, such as input from local transportation officials, are necessary to pick locations for improvements in rural areas.

Additionally, implementing projects on roads that are not owned by the state may be challenging because administering improvement projects can be difficult for local governments. Because many of the roadways targeted by the high-risk rural road program are locally owned and managed, local agencies need to be involved in implementing projects on those roads. However, according to a recent FHWA study, local agencies may not have much experience in managing federal-aid highway contracts.[36] For example, Iowa officials commented that the federal requirements associated with the high-risk rural road program, like other federal aid highway projects, can be difficult for county governments to handle.

[36]Department of Transportation, Federal Highway Administration, *The Administration of Federal-aid Projects by Local Public Agencies*, *Final Report* (Washington, D.C.: December 2006).

FHWA Provided Comprehensive Guidance, Training, and Technical Assistance to Support States' Planning and Implementation of HSIP, but Its Guidance on the 5 Percent Reports Gave States Latitude

To support states in planning and carrying out their HSIP programs, FHWA officials provided comprehensive written guidance memorandums, training, and technical assistance. FHWA's Office of Safety issued guidance memorandums covering the states' planning, implementation, and evaluation of HSIP programs and held training on strategic highway safety planning for state officials. FHWA's division offices also participated in state planning efforts. In developing guidance on the new 5 percent report adopted by SAFETEA-LU, FHWA gave states latitude in defining the methodology and scope of their reports, and consequently, although these reports generally are consistent with SAFETEA-LU, they may not be as useful to the public as intended. FHWA's guidance on developing and implementing strategic highway safety plans indicated that states should rely on the existing transportation planning processes. In addition, FHWA provided guidance to states on monitoring federal-aid highway projects, including safety projects, to help ensure that local public agencies are administering projects in accordance with federal requirements. FHWA's guidance for evaluating HSIP projects directed states to evaluate all safety projects and strategies and to use performance-based goals, established as part of the strategic highway safety plan.

FHWA Provided Comprehensive Guidance and Technical Assistance, and FHWA Officials Participated in States' Planning Processes

FHWA's Office of Safety provided programmatic guidance to the states through eight memorandums that introduced new HSIP features. These memorandums explained how states should meet the new requirement for a strategic highway safety plan, prepare annual reports on the HSIP safety construction program and the 2 set-aside programs, apply to flex funds between programs if needed to support their strategic plans, and prepare annual 5 percent reports describing their most severe hazardous locations. In addition, FHWA provided training through symposiums and offered technical assistance to state departments of transportation to help them establish a process for developing strategic plans that would meet the requirements added by SAFETEA-LU. Although FHWA did not initially issue regulations to implement SAFETEA-LU's revisions to HSIP, it is now doing so. FHWA issued a Notice of Proposed Rulemaking on SAFETEA-LU's revisions to HSIP in April 2008 and, according to an FHWA official, expects to propose a final rule late in 2008.

FHWA's most extensive guidance memorandum, a 38-page booklet, focused on how states should comply with the new strategic highway safety planning requirements in SAFETEA-LU. The booklet recommended several detailed steps to prepare for developing the plans, including steps designed to encourage coordination, such as the following:

- become familiar with existing safety plans developed for programs funded by NHTSA and FMCSA, plus plans developed by statewide and metropolitan planning agencies;

- establish a working group to guide the development of the strategic plan; and

- bring safety partners together at a safety summit to share safety priorities and discuss critical safety issues.

FHWA division staff worked closely with the states to help them carry out their HSIP planning processes. For example, we found FHWA staff listed among the state planning partners in all 25 of the strategic highway safety plans that we reviewed. In the six states we visited, FHWA division officials helped arrange for planning summits to be held, and, in two of the six states, FHWA staff encouraged highway safety stakeholders to attend. In Pennsylvania, the FHWA division office helped pay for the safety summit. In Illinois, FHWA officials helped the state establish a state safety engineering office. Without that office, compliance with new HSIP requirements would have been difficult, according to FHWA division officials. The FHWA division also helped with a summit and two planning workshops.

In all six states we visited, FHWA division officials were, to varying degrees, involved in states' strategic highway safety planning processes—for example, by attending safety summit meetings, working on planning committees for state strategic planning committees, facilitating meetings, and clarifying FHWA policies and requirements. State officials in every state we visited indicated that FHWA officials were highly instrumental and played an important role in providing guidance and assistance during the development of their strategic highway safety plans. In addition, in all 50 states, FHWA division offices were responsible for reviewing strategic highway safety plans to assess the planning process and the completeness of state plans, including whether the states' data systems covered all public roads.[37]

[37]Each state's road system includes federally designated interstates, other state-owned roads, and locally owned roads

FHWA Gave States Latitude on the Methodology and Scope of Their 5 Percent Reports, Limiting the Reports' Usefulness in Increasing Public Awareness

In its guidance on the 5 percent report, FHWA gave states broad latitude in meeting this new reporting requirement. SAFETEA-LU did not specify criteria or a methodology for states to use in defining the hazardous locations (e.g., the universe of roads that would be used to select the locations and the definition of severe or hazardous safety needs) or determining the exact percentage of hazardous locations states should identify—beyond specifying that the report should include "at least five percent" of the most severe hazardous locations in the state—nor did the legislation include a prescribed format for the 5 percent reports, except to say that the report must be "clearly understandable." FHWA officials told us that, consistent with the changes made by SAFETEA-LU, they did not define a methodology and left it to the states to set criteria for selecting locations. Also, as we previously mentioned, FHWA recognized that states' data varied greatly and that many states lacked data, particularly on local roads. The guidance instructed states to work with the crash location data they had and to submit 5 percent reports with an explanation of the data limitations and a schedule for achieving full coverage of all roads. In May 2007, to identify and share best practices, FHWA distributed information on noteworthy practices and examples, based on its analysis of the 5 percent reports received in 2006. This information contained suggestions for organizing a 5 percent report, but did not specify a methodology for states to use in identifying and reporting on the most severe hazardous locations.

Consequently, the 5 percent reports submitted to FHWA to date vary widely in the criteria and methodologies used for selecting the most severe hazardous locations and, thus, the number of locations reported, the information included, and the format for presenting the information. First, states used markedly different definitions of the universe of roads from which they selected their hazardous locations—some states reported on 5 percent of a large set of roadway locations (e.g., any public road with a crash involving a fatality or serious injury) and other states reported on 5 percent of a much smaller set of roadway locations (e.g., locations the state had defined as the "most hazardous"). As a result of these differing methodologies, states varied widely in the actual number of hazardous locations described in their 5 percent reports. For example, according to FHWA's review of the 5 percent reports submitted by 50 states and the District of Columbia in 2006, the number of locations reported per state ranged from 1 to more than 3,200. Similarly, our review of 25 states' 5 percent reports submitted in 2007 indicates that the variations in reporting have continued, with the number of locations reported per state ranging from 5 to 880.

Second, the information included in 5 percent reports we reviewed also varied. For example, some reports included remedies and costs for each hazardous location, as required, while others showed remedies and costs only for certain locations or for none at all. Third, states also used different formats to identify the hazardous locations they listed in their 5 percent reports, and some formats may not be meaningful or readily understandable to the public. For example, the public may find it difficult to identify a hazardous location when it is identified in the report by the roadway mile marker, as is done in several reports we reviewed. Given these differences in format—as well as the differences in methodology and information included—the 5 percent reports may not be providing consistent information to the public and fully serving their purpose of raising public awareness of highway safety hazards and needs, as specified in SAFETEA-LU and FHWA's guidance.

According to FHWA officials, DOT proposed eliminating the 5 percent report requirement in its July 2008 surface transportation reform proposal because the department believed that sufficient and more useful information would exist through the publication of states' strategic highway safety plans and HSIP annual reports.[38] Those officials told us that HSIP's strategic plans and annual reports provide a more comprehensive and consistent summary of safety challenges facing the states—and, thus, offer more promise in contributing to public awareness of safety issues—than the 5 percent report. We also found that some states were using their 5 percent reports to help identify projects for funding. These states could continue to do this analysis if the report were eliminated.

[38] *Refocus. Reform. Renew. A New Transportation Approach.*

FHWA's Guidance on Implementing Strategic Highway Safety Plans Relied on Existing Planning Processes and Informal Coordination among Key Federal and State Stakeholders

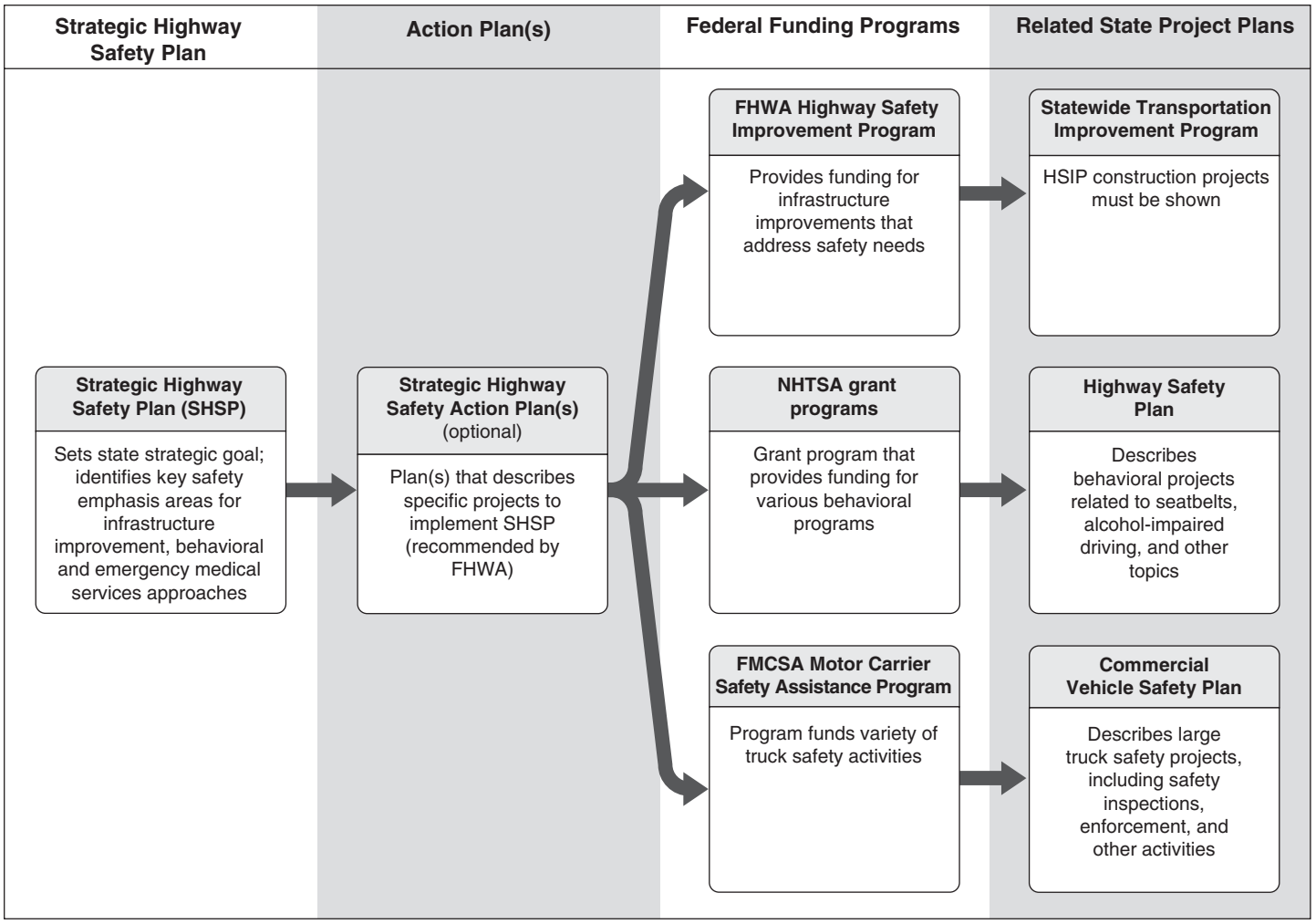
FHWA's guidance recommended that state transportation departments implement their strategic highway safety plans through existing safety programs administered by FHWA, NHTSA, and FMSCA, and through existing federal and state transportation planning processes, as follows:

- FHWA directs states to implement HSIP infrastructure projects through the same planning processes they use for other infrastructure projects—that is, states must include HSIP infrastructure projects in their statewide transportation improvement program.[39]
- NHTSA requires states to list projects funded through its grant programs in annual highway safety plans.
- FMCSA requires states to list activities funded through its grant programs in commercial vehicle safety plans.

To facilitate the coordination and implementation of the strategic highway safety plan across these various federal programs, FHWA recommended, but did not require, that states develop action plans with further information on how they planned to implement projects through their statewide transportation improvement programs, highway safety plans, and commercial vehicle safety plans. The action plan was to provide more detailed information about safety programs and projects than the strategic highway safety plan, describe how programs and projects should be coordinated and implemented, designate leadership responsibilities for implementation, and specify funding sources. Figure 7 illustrates the process for advancing programs and projects from the strategic highway safety plan through an action plan to an FHWA, NHTSA, or FMCSA safety funding program and plan.

[39]States develop statewide transportation improvement programs (which incorporate projects proposed by local governments throughout the state) in which they propose HSIP safety construction projects for funding. States are required to include HSIP-funded behavioral or emergency medical services projects in their statewide transportation improvement program. State and local governments must seek public comments on their proposed projects and meet other requirements of this planning process to receive federal funds.

Figure 7: Strategic Highway Safety Plan Implementation Uses Existing Federal and State Planning Processes



Source: GAO.

According to FHWA's guidance, an action plan could promote coordination at the state level during the development of the HSIP strategic highway safety plan and NHTSA's and FMCSA's program plans, particularly for behavioral and emergency medical services projects that could be funded through more than one program or agency. The action plan could be developed with multiagency involvement and could address the implementation of all related DOT safety projects within a specific emphasis area identified in the strategic highway safety plan, rather than within a specific DOT safety program. Two of the six states we visited were developing or had completed action plans. Mississippi is developing

multiagency action plans for the safety emphasis areas within its strategic highway safety plan. These action plans describe the expected effectiveness of proposed projects and identify project costs, keys to success, any state legislative actions needed, and the lead state agency for implementing the proposed projects. In April 2008, California officials completed a formal strategic highway safety action plan based on collaborative work by seven state safety agencies, including the state department of transportation, the office responsible for NHTSA safety grant programs, and the office responsible for FMCSA programs.

In implementing strategic highway safety plans, FHWA, NHTSA, and FMCSA and their grantees coordinate and collaborate informally when they have no formal implementation agreements, according to officials we interviewed from those three agencies. Even though the strategic highway safety plans must consider a comprehensive set of potential approaches to improve highway safety, only the HSIP funds administered by FHWA must be spent in accordance with this plan. Nevertheless, both NHTSA and FMCSA have encouraged their field office staff and grantees to support the implementation of state strategic highway safety plans through their respective agencies' highway safety plans and commercial vehicle safety plans. For example, although NHTSA has not issued comprehensive guidance to states on the relationship of the strategic highway safety plan to NHTSA programs, a NHTSA official told us that, in some cases, state officials responsible for implementing NHTSA programs use the strategic highway safety plan as a basis for setting their program priorities. Likewise, according to an FMCSA official, in states that included motor carrier safety issues in their strategic highway safety plan, FMCSA program stakeholders also use the state's strategic highway safety plan to further their programmatic goals. This coordination occurs naturally in states, such as Florida and Pennsylvania, where the same officials are responsible both for planning behavioral projects funded by NHTSA programs and for implementing HSIP projects. In other states where these functions are in different offices, such as California and Iowa, officials responsible for behavioral projects held key leadership positions in the development of the state's strategic highway safety plan. However, the nature and extent of this coordination depends on the state, and there is no federal requirement to encourage it. DOT, in its July 2008 surface transportation reform proposal,[40] called for states to submit their NHTSA grant applications in conjunction with their strategic highway safety plans

[40]*Refocus. Reform. Renew. A New Transportation Approach.*

to better ensure coordination. However, the DOT proposal does not require NHTSA grantees to align the activities conducted under their grants with the emphasis areas identified in their states' strategic highway safety plans.

FHWA Monitors HSIP through Reporting and Other Requirements

FHWA division offices monitor states' performance through annual reports for HSIP, including reports on the HSIP set-aside programs for rail-highway crossings and high-risk rural roads. These reports, which are submitted by state transportation departments to FHWA, describe the state's progress in implementing highway safety improvement projects and projects under the two set-aside programs; the effectiveness of these projects; and the extent to which the projects helped reduce roadway fatalities, injuries, and crashes. In addition to these reports, states are required to prepare annually the 5 percent reports that we previously discussed in this report.

As part of its oversight responsibilities, FHWA monitors the use of all federal-aid highway funds, including HSIP funds. Under this oversight program, FHWA has directed its division offices to work with states to ensure that these projects are carried out in accordance with federal requirements. For example, the FHWA division office and the state transportation department enter into an agreement about how the federal-aid highway projects in the state will conform to federal requirements (e.g., the Clean Air Act and the National Environmental Policy Act of 1969, among others). In monitoring the federal-aid highway program, FHWA conducts program reviews of state-administered projects on predetermined schedules, using techniques such as risk assessments.

Additionally, FHWA division offices assess whether and how state departments of transportation monitor locally administered federal-aid projects for compliance with federal requirements. States are responsible for determining that subrecipients of federal-aid highway funds—that is, local agencies—have adequate project delivery systems and sufficient accounting controls to manage those funds. Such systems and controls are important to help ensure that HSIP projects will be built and federal funds will be properly spent to reduce the share of fatalities that occur on roads under local agencies' jurisdiction. FHWA division offices periodically review state transportation departments' processes and procedures for oversight of local agencies to determine if improvements are warranted.

FHWA Guidance Describes Evaluation Requirements for Strategic Highway Safety Plans and HSIP Projects

Since SAFETEA-LU's enactment, states have been required to regularly evaluate their strategic highway safety plans, and FHWA has issued guidance that directs states to evaluate the plans annually after an initial implementation period. FHWA's guidance encourages states to continue coordinating with stakeholders who participated in developing the plan and include in their evaluation all safety projects and strategies, regardless of funding source or responsible agency. FHWA noted that evaluating the strategic plan would help states determine the impact of various strategies and make better decisions about the allocation of resources. According to FHWA's guidance, the strategic plan should be revised periodically—approximately every 4 to 5 years—to update safety goals and strategies for the state.

Both before and after SAFETEA-LU's enactment, states have also been required to evaluate the results achieved through individual projects carried out under HSIP. FHWA's guidance since SAFETEA-LU requires using performance-based goals, established as part of the strategic highway safety plan, to evaluate the effectiveness of the plan's strategies. Task groups, formed during the strategic highway safety planning process, set specific performance-based goals for a state's emphasis areas and strategies to measure progress during the strategic highway safety plan's implementation. For example, a task group might set a strategy goal of reducing cross-median fatalities and serious injuries by 20 percent within 4 years, as part of a larger emphasis area goal to reduce roadway departure fatalities and serious injuries. Since SAFETEA-LU, FHWA's updated guidance for evaluating HSIP projects directs that states revise their performance goals from reducing the "number and severity of accidents and potential accidents" to reducing the "number of fatalities and serious injuries."

Conclusions

The collaboration between safety stakeholders that resulted from the strategic planning process added by SAFETEA-LU has helped states take a more comprehensive approach to highway safety, but the data limitations that many states face prevent them from fully implementing the data-driven project selection process specified in SAFETEA-LU. Although FHWA expects every state to have the crash location data and a system to locate crashes on all public roads by August 2009, many states will likely take longer to obtain the roadway inventory data needed to identify remedies for hazardous locations and to estimate the costs of those remedies, as required. FHWA has not set a deadline for states to obtain these data, nor has it required states to submit schedules to FHWA for achieving compliance with this requirement. To this end, FHWA has taken

a first step by proposing a large set of potential roadway inventory data elements in its MMIRE. However, the agency has yet to specify which of these proposed elements are essential to address HSIP's requirements for analysis of hazardous locations on all public roads. Implementing a data-driven project selection process is critical because it provides a fact-based approach for identifying and ranking safety priorities and demonstrating to the public that states are using public funds effectively to address their highest safety priorities. While states have estimated that the costs of complying fully with the law's data requirements may be high, SAFETEA-LU significantly increased states' authorized HSIP funding and placed no limit on the percentage of HSIP safety construction funds that the states can use to address data deficiencies.

While SAFETEA-LU added requirements for states to develop and implement strategic highway safety plans that consider a wide range of approaches to improving highway safety, states have limited flexibility to match funds to their safety priorities. For example, the restrictions on using HSIP funds for noninfrastructure remedies—including the requirement for certifying that all highway safety infrastructure needs have been met before flexing HSIP funds to noninfrastructure projects—may preclude some states from using these funds for high-priority behavioral or emergency medical services projects that the states' data indicate could save more lives, because of states' ongoing infrastructure needs and concerns about the potential legal liability of making such a certification. Conversely, the requirement to set aside funds for rail-highway crossing improvements may lead states, in some cases, to apply HSIP funds to projects that have a low priority in those states' strategic highway safety plans. Both of these funding restrictions have limited the ability of some states to implement the full complement of approaches described in their strategic highway safety plans and to fully achieve the goal of using data to identify and select projects that best address their highway safety priorities.

Based on our work and FHWA's analysis, the quality and usefulness of the 5 percent reports that states have submitted to FHWA is questionable because of data and other limitations. To date, the reports vary widely in the methodology used for selecting the most severe hazardous locations and, thus, the number of hazardous locations listed, the information included, and the format for identifying those locations. While this variation is consistent with the limited guidance FHWA provided on the reports, the quality and usefulness of reports that list very few hazardous locations or use unfamiliar terms to identify locations is unclear, and some reports may not be enhancing public awareness of the most severe

highway safety hazards and needs as intended. FHWA officials told us that HSIP's strategic highway safety plans and annual reports provide a more comprehensive and consistent summary of safety challenges facing the states—and thus offer more promise in contributing to public awareness of safety issues—than the 5 percent report. When DOT developed its reform proposal as part of its preparation for the upcoming reauthorization of all surface transportation programs, including HSIP, in 2009, it proposed eliminating this reporting requirement.

Matters for Congressional Consideration

To improve HSIP's effectiveness, Congress should consider taking the following two actions:

- To better align HSIP funding with states' top safety priorities, restructure two of HSIP's statutory funding provisions by
  - modifying HSIP's flexible funding provision to either revise or eliminate the certification requirement so that states can more freely direct HSIP funds to behavioral and emergency medical services projects—rather than infrastructure improvement projects—when data analysis indicates more fatalities and serious injuries could be prevented by doing so and
  - revising the rail-highway crossing set-aside program to ensure that its funding level is more closely and appropriately tied to the number of fatalities and serious injuries that such improvements can be expected to prevent in the states, and to ensure that any resulting additional funds be directed to highway safety projects that promise greater benefits.
- Eliminate the requirement for states to prepare the 5 percent report, given states' current data limitations that hinder their complete and consistent reporting.

Recommendations for Executive Action

To help states fully implement the data-driven project selection process prescribed for HSIP, we recommend that the Secretary of Transportation direct the FHWA Administrator to take the following three actions:

- define which roadway inventory data elements—contained in its proposal for a Model Minimum Inventory of Roadway Elements, as appropriate—a state needs to meet federal requirements for HSIP;

- set a deadline for states to finalize development of the required roadway inventory data; and
- require states to submit schedules to FHWA for achieving compliance with this requirement.

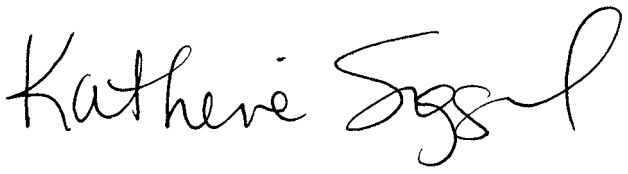
Agency Comments

We provided a draft of this report to DOT for review and comment prior to finalizing the report. DOT generally agreed with the findings and recommendations and provided technical comments, which we incorporated as appropriate. FRA officials also provided their additional perspective on HSIP's rail-highway crossing set-aside program—which is administered by FHWA—emphasizing that such crossings have the potential for serious or even catastrophic accidents and, as we noted in our report, that crossing safety is particularly important for states and communities with a greater proportion of crossings and train traffic.

As agreed with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the date of this letter. At that time, we will send copies to interested congressional committees and the Secretary of Transportation. The report also will be available at no charge on the GAO Web site at http://www.gao.gov.

If you or your staff have any questions about this report, please contact me at (202) 512-2834 or siggerudk@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix III.

Sincerely yours,



Katherine A. Siggerud
Managing Director, Physical Infrastructure Issues

Appendix I: Objectives, Scope, and Methodology

In this report, we assessed the Highway Safety Improvement Program's (HSIP) progress toward enhancing highway safety through road improvements—a goal set forth in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). To perform this assessment, we addressed the following questions: (1) What steps have states taken to implement HSIP since SAFETEA-LU? (2) What have been the results to date of states' efforts in carrying out HSIP, including the results of their set-aside programs for rail-highway crossings and for high-risk rural roads? (3) What types of guidance and assistance has the Federal Highway Administration (FHWA) provided to states to support their planning, implementation, monitoring, and evaluation of HSIP?

In responding to these questions, our overall approach was to review pertinent legislation; analyze the strategic highway safety plans and related documentation that 25 states submitted to FHWA in 2007, including 6 states where we conducted site visits; review FHWA guidance to states and division offices; and interview FHWA Office of Safety and division officials, state transportation and safety officials, and a wide range of stakeholders and interest groups.

The legislation that we reviewed included

- SAFETEA-LU's changes to the HSIP provisions and other highway safety funding authorizations in the U.S. Code and
- the SAFETEA-LU Technical Corrections Act of 2008.

For the 25 states we selected, we analyzed their

- strategic highway safety plans;
- annual HSIP, high-risk rural road, and rail-highway crossing program reports; and
- 5 percent reports.

Our analysis of this documentation focused on the extent to which the selected states had met key elements added by SAFETEA-LU, including

- involving multiple stakeholder groups in the strategic planning process;

- selecting projects that addressed all aspects of highway safety, including infrastructure, behavioral, and emergency medical services projects;
- developing a data-driven project selection process; and
- incorporating an evaluation component in the strategic highway safety plan.

We also determined the extent to which the plans included projects addressing rail-highway crossings and high-risk rural roads.

To select the 25 states whose highway safety documentation we analyzed, we randomly selected 19 states and judgmentally selected 6 other states—California, Florida, Illinois, Iowa, Mississippi, and Pennsylvania—where we conducted site visits and more in-depth reviews. To select the 6 states for site visits, we considered several factors, including

- numbers of highway fatalities in 2005;
- numbers and rates of alcohol-related fatalities, rural deaths, and pedestrian deaths;
- numbers of fatalities at rail-highway crossings;
- miles of urban and rural roads; and
- geographic distribution.

Although our analyses covered about half of the 51 strategic highway safety plans and related reports that the 50 states and the District of Columbia submitted to FHWA, our analyses cannot be projected nationwide because our sample did not include a sufficient number of randomly selected states and we selected the 6 states we visited judgmentally.

Besides analyzing the 25 selected states' strategic highway safety plans and related reports, we reviewed 8 guidance documents that FHWA provided to the states on implementing their highway safety programs and interviewed FHWA Office of Safety officials. Additionally, in the 6 states we visited, we interviewed FHWA division officials and state transportation and safety program officials. We asked the FHWA officials about the guidance and assistance they provided to the states and sought the views of the state officials on the value and extent of FHWA's

involvement in the strategic highway safety planning process. During our site visits, we also asked FHWA division officials and state transportation officials for their views on how SAFETEA-LU had affected HSIP and the implementation of the rail-highway crossing and high-risk rural road programs in their states.

Finally, we interviewed representatives from a wide range of stakeholder and interest groups to obtain their views on the program. These groups included the following:

- Other federal agencies:
  - Federal Motor Carrier Safety Administration
  - Federal Railroad Administration
  - National Highway Traffic Safety Administration
- State and local organizations:
  - American Association of State Highway and Transportation Officials
  - Governors Highway Safety Association
  - National Association of County Engineers
  - National Association of Counties
- Education and research organizations:
  - AAA Foundation for Traffic Safety
  - Operation Lifesaver
  - the University of California Berkeley Traffic Safety Center
- Advocacy and industry groups:
  - American Highway Users Alliance
  - Association of American Railroads
  - Mothers Against Drunk Driving

We conducted this performance audit from May 2007 through November 2008 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained meets these standards.

Appendix II: HSIP Apportionments for States, Including Equity Bonus and Other Adjustments

Formulas in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) govern the Federal Highway Administration's (FHWA) apportionments to states for the Highway Safety Improvement Program (HSIP). FHWA bases its HSIP apportionments initially on the amounts authorized by SAFETEA-LU for the program and the related apportionment factors. FHWA then applies other adjustments based on factors not related to safety.

First, SAFETEA-LU added a requirement that FHWA apportion HSIP funds to individual states based on three equally weighted factors: (1) lane miles of federal-aid highways in each state, (2) total vehicle miles traveled on federal-aid highways in each state, and (3) number of fatalities on the federal-aid system in each state. FHWA then adjusts the HSIP apportionment for other factors identified in SAFETEA-LU and other laws related to federal appropriations in general. Adjustments made because of SAFETEA-LU provisions include the Equity Bonus Program; the State Planning and Research set-aside; and, as applicable, revenue-aligned budget authority. Other laws include rescissions due to appropriations acts.

The Equity Bonus Program, authorized by SAFETEA-LU, creates the largest adjustment that FHWA makes to state HSIP apportionments. The Equity Bonus Program provides funding to states based on equity criteria, such as a minimum return on contributions to the Highway Trust Fund. Because of the Equity Bonus Program, FHWA increased states' HSIP apportionments by $281 million in fiscal year 2006, $281 million in fiscal year 2007, and $301 million in fiscal year 2008. It added 23.6 percent to the amount SAFETEA-LU authorized for HSIP in fiscal year 2008. Under the program, two states and the District of Columbia did not receive an adjustment because they did not meet program criteria, while the other states, which met the bonus criteria, had their HSIP apportionments increased by varying amounts.

States are required, since SAFETEA-LU, to set aside 2 percent of their HSIP apportionments for specified state planning and research purposes. In fiscal year 2008, this set-aside reduced the amount that FHWA apportioned to states for HSIP by $27 million.

SAFETEA-LU included provisions for the distribution of revenue-aligned budget authority. This adjustment, which reflects changed estimates in highway account tax receipts, can cause a change in HSIP apportionments, to bring budget authority in line with revised revenue. FHWA made no revenue-aligned budget authority adjustments in fiscal

years 2006 or 2008, but did increase the HSIP apportionment in fiscal year 2007 by $32.1 million due to this adjustment factor.

Appropriations laws can mandate a rescission of apportionments. In 2006, FHWA revised the HSIP apportionment down by 1 percent due to a rescission. This reduced the HSIP apportionment by about $12.4 million for fiscal year 2006. No rescissions were required for fiscal years 2007 and 2008.

Table 2 provides details of FHWA's fiscal year 2008 apportionments by state.

Table 2: Apportionments of HSIP Funds, by State, Fiscal Year 2008

State	HSIP for all public roads	HSIP rail-highway crossings set-aside	HSIP high-risk rural road set-aside	Equity bonus for HSIP	2 percent state planning and research set-aside reduction	Total HSIP apportionment to states
Alabama	$21,585,162	$4,402,428	$2,016,648	$9,539,910	$662,834	$36,881,314
Alaska	4,816,567	1,100,000	450,000	5,907,146	223,474	12,050,239
Arizona	20,670,374	2,643,819	1,931,182	9,788,759	647,806	34,386,328
Arkansas	14,703,681	3,715,371	1,373,729	4,638,716	414,323	24,017,174
California	94,542,807	15,799,013	8,832,902	19,037,163	2,448,257	135,763,628
Colorado	15,692,814	3,130,510	1,466,141	3,020,772	403,595	22,906,642
Connecticut	7,634,037	1,308,802	713,229	2,006,594	207,077	11,455,585
Delaware	4,816,567	1,100,000	450,000	751,047	120,352	6,997,262
District of Columbia	4,816,567	1,100,000	450,000	0	105,331	6,261,236
Florida	50,848,349	8,536,504	4,750,636	30,712,493	1,726,230	93,121,752
Georgia	34,004,366	8,181,350	3,176,944	19,527,994	1,134,186	63,756,468
Hawaii	4,816,567	1,100,000	450,000	516,791	115,667	6,767,691
Idaho	6,946,249	1,656,853	648,971	3,138,513	214,675	12,175,911
Illinois	33,302,208	10,055,232	3,111,343	9,783,419	923,939	55,328,263
Indiana	18,953,829	7,204,490	1,770,809	10,402,398	622,541	37,708,985
Iowa	14,534,318	4,947,537	1,357,905	1,415,309	346,151	21,908,918
Kansas	16,594,875	6,123,937	1,550,418	812,955	379,165	24,703,020
Kentucky	15,698,692	3,567,557	1,466,690	4,431,589	431,939	24,732,589
Louisiana	15,843,364	4,159,189	1,480,207	2,025,349	386,978	23,121,131
Maine	4,816,567	1,186,942	450,000	0	105,331	6,348,178
Maryland	14,093,286	2,273,932	1,316,701	2,328,637	354,772	19,657,784
Massachusetts	12,952,825	2,360,935	1,210,151	758,716	298,434	16,984,193

State	HSIP for all public roads	HSIP rail-highway crossings set-aside	HSIP high-risk rural road set-aside	Equity bonus for HSIP	2 percent state planning and research set-aside reduction	Total HSIP apportionment to states
Michigan	31,354,773	7,768,635	2,929,399	8,336,286	852,409	49,536,684
Minnesota	19,767,073	5,914,043	1,846,789	5,933,531	550,948	32,910,488
Mississippi	16,276,249	3,328,546	1,520,650	2,958,785	415,114	23,669,116
Missouri	25,818,035	6,034,429	2,412,115	8,071,981	726,043	41,610,517
Montana	7,437,206	1,748,422	694,840	3,840,259	239,446	13,481,281
Nebraska	9,980,723	3,705,049	932,474	1,044,352	239,151	15,423,447
Nevada	7,465,355	1,100,000	697,470	2,316,151	209,580	11,369,396
New Hampshire	4,816,567	1,100,000	450,000	833,444	122,000	7,078,011
New Jersey	17,422,236	3,588,846	1,627,717	5,499,292	490,985	27,647,106
New Mexico	10,533,313	1,565,355	984,101	3,051,173	291,372	15,842,570
New York	32,999,363	6,328,237	3,083,049	4,584,791	813,344	46,182,096
North Carolina	25,069,804	6,171,837	2,342,210	9,343,151	735,103	42,191,899
North Dakota	6,785,822	3,472,532	633,983	849,296	165,382	11,576,251
Ohio	30,032,171	8,555,008	2,805,832	10,536,104	867,482	51,061,633
Oklahoma	20,047,029	5,052,599	1,872,945	4,268,154	523,763	30,716,964
Oregon	13,117,523	3,105,301	1,225,538	1,534,174	317,545	18,664,991
Pennsylvania	31,809,303	7,191,491	2,971,865	6,726,382	830,151	47,868,890
Rhode Island	4,816,567	1,100,000	450,000	0	105,331	6,261,236
South Carolina	22,033,900	4,096,530	2,058,573	8,504,797	651,945	36,041,855
South Dakota	7,978,365	2,308,872	745,399	1,926,252	213,000	12,745,888
Tennessee	22,140,448	4,591,335	2,068,528	8,107,608	646,332	36,261,587
Texas	76,832,361	16,934,757	7,178,258	36,200,902	2,404,230	134,742,048
Utah	7,175,986	1,586,657	670,435	1,404,186	185,012	10,652,252
Vermont	4,816,567	1,100,000	450,000	7,285	105,477	6,268,375
Virginia	23,588,009	4,458,740	2,203,770	8,879,387	693,423	38,436,483
Washington	16,847,426	3,991,859	1,574,013	1,137,725	391,183	23,159,840
West Virginia	8,375,352	1,985,435	782,489	2,769,486	238,547	13,674,215
Wisconsin	20,475,248	5,361,084	1,912,952	10,620,380	660,172	37,709,492
Wyoming	4,816,567	1,100,000	450,000	893,838	123,208	7,137,197
Total	**$963,313,412**	**$220,000,000**	**$90,000,000**	**$300,723,422**	**$27,080,735**	**$1,546,956,099**

Source: GAO analysis of FHWA data.

Note: Numbers may not sum to totals because of rounding.

Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact

Katherine A. Siggerud, (202) 512-2834 or siggerudk@gao.gov

Staff Acknowledgments

In addition to the contact named above, other key contributors to this report were Rita Grieco (Assistant Director), Richard Calhoon, Bess Eisenstadt, Susan Irving, Bert Japikse, Jacqueline Nowicki, Sara Ann Moessbauer, John W. Stambaugh, and Frank Taliaferro.

GAO's Mission

The Government Accountability Office, the audit, evaluation, and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.

Obtaining Copies of GAO Reports and Testimony

The fastest and easiest way to obtain copies of GAO documents at no cost is through GAO's Web site (www.gao.gov). Each weekday afternoon, GAO posts on its Web site newly released reports, testimony, and correspondence. To have GAO e-mail you a list of newly posted products, go to www.gao.gov and select "E-mail Updates."

Order by Phone

The price of each GAO publication reflects GAO's actual cost of production and distribution and depends on the number of pages in the publication and whether the publication is printed in color or black and white. Pricing and ordering information is posted on GAO's Web site, http://www.gao.gov/ordering.htm.

Place orders by calling (202) 512-6000, toll free (866) 801-7077, or TDD (202) 512-2537.

Orders may be paid for using American Express, Discover Card, MasterCard, Visa, check, or money order. Call for additional information.

To Report Fraud, Waste, and Abuse in Federal Programs

Contact:

Web site: www.gao.gov/fraudnet/fraudnet.htm
E-mail: fraudnet@gao.gov
Automated answering system: (800) 424-5454 or (202) 512-7470

Congressional Relations

Ralph Dawn, Managing Director, dawnr@gao.gov, (202) 512-4400
U.S. Government Accountability Office, 441 G Street NW, Room 7125
Washington, DC 20548

Public Affairs

Chuck Young, Managing Director, youngc1@gao.gov, (202) 512-4800
U.S. Government Accountability Office, 441 G Street NW, Room 7149
Washington, DC 20548