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December 20, 2007

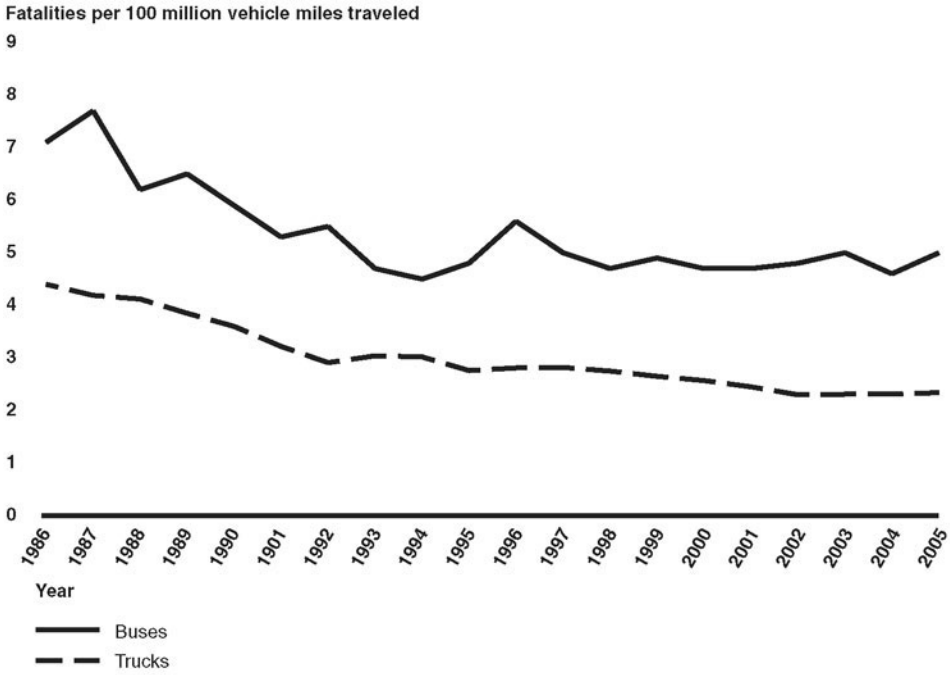
The Honorable Frank R. Lautenberg
Chairman
The Honorable Gordon H. Smith
Ranking Member
Subcommittee on Surface Transportation and
Merchant Marine Infrastructure, Safety, and Security
Committee on Commerce, Science, and Transportation
United States Senate

Subject: *Motor Carrier Safety: The Federal Motor Carrier Safety Administration Has Developed a Reasonable Framework for Managing and Testing Its Comprehensive Safety Analysis 2010 Initiative*

About 5,500 people die each year as a result of crashes involving large commercial trucks or buses,[1] and about 160,000 more are injured. While the fatality rate for these crashes has generally decreased over the last 20 years, the decline has leveled off in the most recent years. (See fig. 1.) The Federal Motor Carrier Safety Administration (FMCSA) within the U.S. Department of Transportation shoulders the primary federal responsibility for reducing these crashes, fatalities, and injuries and recognizes the need to make improvements if it is to achieve further substantial safety advancements. A key FMCSA effort to improve motor carrier safety is implementing the agency's Comprehensive Safety Analysis 2010 (CSA 2010) initiative. Through CSA 2010, FMCSA expects to reduce motor carrier crashes, fatalities, and injuries by using better ways to identify unsafe carriers and drivers; assessing a larger portion of the motor carrier industry and holding carriers and drivers accountable for sustained performance by regularly determining their safety fitness; and expanding the range of interventions to be used with carriers and drivers that fail to comply with safety requirements.

[1]Large trucks are those with a gross vehicle weight greater than 10,000 pounds. A bus is a motor vehicle that is used to carry more than eight passengers (including the driver).

Figure 1: Commercial Motor Vehicle Fatality Rate, 1986 to 2005



Source: GAO presentation of Department of Transportation data.

Notes: Fewer buses are involved in fatal and nonfatal accidents than large trucks, but they tend to involve more people.

The latest year for which data were available was 2005.

While the CSA 2010 initiative began in 2004, much remains to be done before its implementation in 2010. Until now, FMCSA has developed its CSA 2010 operational concept into a prototype operational model and will take a major step toward implementation next month (January 2008) when it begins to test the CSA 2010 operating model in four states (Colorado, Georgia, Missouri, and New Jersey).[2]

You asked us to conduct a broad assessment of FMCSA's progress in planning and implementing CSA 2010. Because much of the detailed work to develop and implement CSA 2010 remains to be done, our work has focused on how FMCSA has managed its initiative, rather than assessing safety benefits that might arise from it. Specifically, we reviewed

- how FMCSA sees CSA 2010 increasing safety,
- whether FMCSA's overall framework for planning and implementing CSA 2010 is reasonable, and

[2]The operational concept of CSA 2010 involves using a computer algorithm to measure safety performance and an expanded set of interventions to address safety problems. The computer algorithm will be used during the operational test to identify carriers with safety problems and to prompt FMCSA interventions. The operational test will enable FMCSA to determine the impact of CSA 2010 on safety outcomes (such as effect on violation rates) compared to its current approach to regulating safety.

- the extent to which the operational test of the CSA 2010 model will inform FMCSA of its ability to fully implement the initiative in 2010.

We briefed your offices on December 7, 2007, and this report transmits the results of our work. A copy of the briefing is enclosed.

Background

Currently, FMCSA conducts compliance reviews to determine, through what it calls safety fitness determinations, whether motor carriers are safe enough to continue operating. These comprehensive on-site reviews assess carriers' compliance with safety regulations through interviews with company officials and reviews of records that pertain to, as applicable, alcohol and drug testing of drivers, insurance coverage, crashes, driver qualifications, driver hours of service, vehicle maintenance and inspections, and transportation of hazardous materials. While effective, compliance reviews are resource-intensive and allow only a small percentage of the motor carrier industry to be evaluated—each year FMCSA and its state partners are able to conduct compliance reviews of only about 2 percent of the estimated 724,000 motor carriers subject to the federal safety and hazardous materials regulations.[3] In addition, because they focus on carriers, compliance reviews generally do not directly result in compliance actions against drivers.

Since August 2004, FMCSA has been developing a new approach under its CSA 2010 initiative to measure safety and compliance, determine safety fitness, recommend and apply interventions, and track and evaluate safety improvements for both carriers and individual drivers. CSA 2010 is a data-driven approach to determining safety fitness that is not contingent on compliance reviews. Under this approach, a measurement system (computer algorithm) will use safety data inputs to rate the safety performance of carriers and individual drivers.[4] Currently, FMCSA is focusing its efforts on the carrier component of CSA 2010 and will turn its attention to the driver component following the next highway statute reauthorization (the current authorization expires in 2009), through which, according to FMCSA, it intends to gain new authority to regulate drivers. Prior to reauthorization, FMCSA plans to refine its driver measurement system to use it to identify drivers with safety deficiencies and take enforcement actions, as allowed under current authority, against them.

[3]According to FMCSA, this is the number of commercial motor carriers registered in its Motor Carrier Management Information System (MCMIS) as of September 2007. It includes an unidentified number of carriers that are registered but are no longer in business.

[4]FMCSA has developed two separate measurement systems—one for carriers and one for drivers—for use under CSA 2010.

To determine carrier safety fitness, FMCSA will use data it collects[5] and intends to collect—pertaining to such things as roadside inspection violations, accidents,[6] drivers' confirmed positive test results for controlled substances and alcohol,[7] and commercial driver's license convictions[8]—arranged in seven Behavioral Analysis and Safety Improvement Categories (BASIC) that, according to FMCSA's analysis of the data, are associated with unsafe performance. (See table 1.)

[5]Data for CSA 2010 will primarily be drawn from MCMIS. Our previous work assessed FMCSA data reliability and discussed problems with the quality of the crash data reported to FMCSA. See GAO, *Motor Carrier Safety: Federal Safety Agency Identifies Many High-Risk Carriers but Does Not Assess Maximum Fines as Often as Required by Law*, GAO-07-584 (Washington, D.C.: Aug. 28, 2007). Our current work does not examine the effect of these problems on the operation of the CSA 2010 model.

[6]Police accident reports that are uploaded by states to MCMIS do not always contain sections to document driver-related factors contributing to a crash. FMCSA intends to redesign MCMIS and work with states to support the redesign of police accident reports to allow for the collection and reporting of driver-related factors contributing to a crash.

[7]FMCSA intends to collect, contingent upon rulemaking, all confirmed positive tests for controlled substances and alcohol for commercial drivers from medical officials via a Web portal and maintain the information in a national database.

[8]FMCSA can currently access information on commercial driver's license convictions using its Commercial Driver's License Information System (CDLIS). However, the CDLIS database cannot be searched to identify all drivers with a specific commercial driver's license violation. In other words, CDLIS can be used to query an individual driver's records, but it cannot produce a list of all drivers who have been convicted of a specific violation. In conjunction with its CDLIS modernization effort, FMCSA is developing a method that would allow it to use conviction data to identify all drivers with unsafe driving records and the carriers they work for.

Table 1: CSA 2010 BASIC Definitions and Data Sources for Carriers

BASIC	Operational definition	Data sources
Driver fitness	Operation of commercial motor vehicles by drivers who are unfit to operate them because they lack training, experience, or medical qualification.	• Roadside inspection violations for failure to have a valid commercial driver's license • Crash reports citing a lack of experience or medical reason as a cause or contributing factor • Compliance review violations for failure to maintain proper driver qualification files or use of unqualified drivers
Unsafe driving	Dangerous or careless operation of commercial motor vehicles.	• Driver traffic violations and convictions for speeding, reckless driving, improper lane change, inattention, and other unsafe driving behavior
Fatigued driving	Driving commercial motor vehicles while fatigued.	• Hours-of-service violations • Crash reports with driver fatigue cited as a contributing factor
Controlled substances and alcohol	Operation of a commercial motor vehicle while impaired by or in possession of alcohol, illegal drugs, or any other substance that renders the driver incapable of safely operating a motor vehicle.	• Roadside inspection violations involving controlled substances or alcohol • Crash reports citing driver impairment or intoxication as a cause • Positive controlled substances or alcohol test results on drivers
Crash/incident experience	Histories or patterns of high crash involvement, including frequency and severity.	• Law enforcement crash reports • Crashes reported by the carrier that are discovered during on-site investigations
Vehicle maintenance	Failure of commercial motor vehicle due to improper or inadequate maintenance.	• Roadside inspection violation for brakes, lights, and other mechanical defects • Crash reports citing a mechanical failure as a contributing factor • Compliance review violations associated with pre-trip inspections, maintenance records, and repair records
Improper loading/cargo securement	Shifting loads, spilled or dropped cargo, and unsafe handling of hazardous materials.	• Roadside inspection violations pertaining to load securement, cargo retention, and hazardous material handling • Crash reports citing shifting loads or spilled/dropped cargo as a cause or contributing factor

Source: FMCSA.

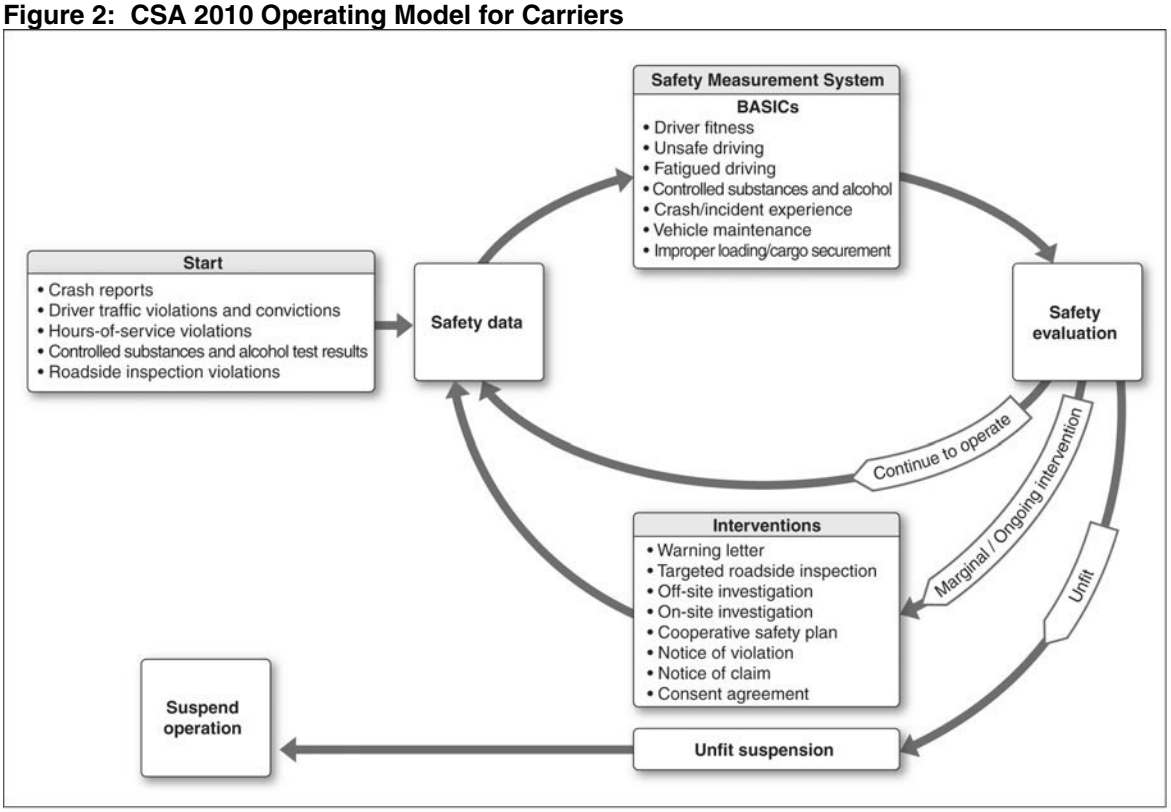
Note: Most of the BASICs deal with driver characteristics and behavior. FMCSA will address these driver behaviors by intervening with carriers that use unsafe drivers. FMCSA will also use these same BASICs and underlying data sources to determine the safety fitness of individual drivers.

The safety measurement system will score carriers in each BASIC and make a safety fitness determination[9] to indicate (1) whether a carrier should continue to operate,

[9]FMCSA's ability to determine carrier safety fitness under CSA 2010 is contingent upon completion of rulemaking. FMCSA plans to publish a notice of proposed rulemaking on this issue by summer 2008 and expects that the final rule will be in place approximately a year later.

(2) if operational deficiencies requiring FMCSA intervention exist, or (3) if a carrier should be suspended from operating.[10] (See fig. 2.)

Figure 2: CSA 2010 Operating Model for Carriers



Sources: FMCSA and GAO.

When FMCSA finds indications of carrier safety problems through its analysis of data—the safety measurement system will indicate if a carrier is deficient in one or more BASICs—it plans to make flexible, progressive interventions commensurate with both the behavior exhibited by carriers and any safety intervention history.[11] (See table 2.) While these interventions are not new, FMCSA intends to apply them in a more systematic manner under CSA 2010. For example, if a safety measurement shows that a carrier is deficient in the driver fitness BASIC, the system will automatically generate a warning letter and, depending on the severity of the problem, may trigger an on-site investigation, during which an inspector reviews the carrier's driver qualification files, among other actions, to identify and correct the

[10]Safety fitness determinations will be affected by the type of violation a carrier makes. For example, FMCSA will evaluate violations found through interventions to determine if they are from what the agency considers areas of essential safety management. If essential safety management violations are 10 percent or more of records checked, failure of the corresponding BASIC will result. Additionally, FMCSA has identified 15 violations that it believes are so fundamental to ensuring safety, that a carrier making any one of the violations will be deemed unfit.

[11]Interventions can also be initiated by other means such as a carrier being the subject of a complaint or involved in a fatal crash. FMCSA has not yet developed interventions for individual drivers. According to FMCSA, development of these interventions is contingent upon it gaining new authority to assess individual drivers' safety fitness through reauthorization of the highway statute.

deficiency. If these interventions do not remedy the problem, FMCSA may apply more stringent actions, such as assessing penalties or, in the worst case, suspending the carrier.

Table 2: Proposed CSA 2010 Carrier Interventions

Intervention	Description
Warning letter	The safety measurement system will automatically generate a warning letter (to a carrier) when it detects that a carrier is deficient in one or more BASICs. The letter will describe the safety problem(s), offer suggestions for improvement, and explain how the carrier may challenge the accuracy of FMCSA's findings.
Targeted roadside inspection	The issuance of a warning letter will prompt inspectors at permanent and temporary roadside inspection stations to inspect carriers that are known to have deficiencies in one or more BASICs.
Off-site investigation	Carriers that continue to demonstrate BASIC deficiencies will be asked to voluntarily submit documents to help FMCSA evaluate carrier safety management practices, determine the root causes of a safety problem, and take corrective action. For example, FMCSA may ask a carrier that is deficient in the controlled substances and alcohol BASIC for records pertaining to its driver drug testing program. If a carrier does not comply with FMCSA's request, the agency may intervene through an on-site investigation.
On-site investigation	Carriers that continue to demonstrate BASIC deficiencies, that are involved in a fatal crash, or are the subject of a complaint will undergo a focused on-site investigation so that FMCSA can attempt to determine the root causes of a safety problem and take corrective action. In instances of broad or complex safety problems, a carrier will be subject to a comprehensive on-site investigation similar to that currently performed during a compliance review.
Cooperative safety plan	Following an off-site or on-site investigation, the carrier and FMCSA will collaboratively create a safety plan that addresses the root causes of problems, which the carrier will voluntarily implement.
Notice of violation	Carriers with regulatory violations that do not warrant fines and can be immediately corrected will receive a formal notice that requires a response.
Notice of claim	Carriers with regulatory violations that are severe and warrant penalties will receive a legal notice.
Consent agreement	To avoid further enforcement proceedings, a carrier may negotiate an agreement that will address the root causes of a safety problem and result in a deferral of or reduction in penalties. Nonregulatory solutions, such as the use of electronic onboard recorders[a] or collision avoidance systems, may be incorporated into the agreement.
Unfit suspension	Carriers that do not comply with other interventions will be prevented from operating. The carrier has the right to due process.

Source: FMCSA.

[a]Electronic onboard recorders are devices used to measure the amount of time a driver operates a vehicle. Electronic onboard recorders may be recommended, for example, for carriers that allow their drivers to operate beyond hours of service limits set by law.

Results in Brief

FMCSA expects that CSA 2010 will provide safety benefits by enabling the agency to (1) increase its reach by assessing whether most motor carriers and drivers are safe and holding them accountable by regularly determining their safety fitness; (2) enhance its investigative and enforcement actions through the greater use of less resource-intensive interventions; and (3) improve its ability to identify safety deficiencies through better use of data. Under CSA 2010, all carriers—and eventually

all drivers—with sufficient safety data available will receive a safety rating that is periodically updated. Currently, FMCSA is able to provide safety ratings for relatively few carriers and for no drivers. As described earlier, CSA 2010 will employ a progressive array of interventions that can be tailored to match the severity of the safety problems they are intended to correct. CSA 2010 intends to use new data—such as information from police accident reports about driver-related factors contributing to a crash—and improve existing data sources—by, for example, using its database of licensed commercial drivers to identify all drivers with convictions for unsafe driving practices, as well as the carriers they work for—to enable a more precise assessment of safety problems. CSA 2010 will support evolving and new enforcement and compliance efforts. For example, (1) carriers from Canada and Mexico that operate in the United States under open border agreements will be rated under CSA 2010 in the same way as U.S. carriers; (2) violations found through audits of new entrants[12]—a program that FMCSA is working to strengthen—will be used in the CSA 2010 safety measurement system; and (3) data sources related to drivers' health—such as drivers' confirmed positive test results for controlled substances or alcohol—will be developed to focus attention on driver physical qualifications, a key FMCSA policy area.

FMCSA has established a reasonable framework to plan and implement CSA 2010. In its planning efforts to date, it has met three factors associated with successful planning—set a clear project mission, established top leadership support, and developed a detailed plan.[13] As FMCSA transitions from planning to implementing CSA 2010, it has met or is taking steps to meet those factors—such as consulting with affected stakeholders and providing needed technology and expertise to accomplish technical tasks—critical to the project's successful implementation. However, since some aspects of implementation are still being defined, we cannot yet assess FMCSA's efforts to effectively meet the success factors for implementation. For example, FMCSA has provided a range of technical resources to, among other efforts, develop the CSA 2010 operating model, initiate rulemaking, develop training instruments, and configure supporting data and information technology systems.

[12]Carriers newly registered with the Department of Transportation are subject to an 18-month safety monitoring period. During this period—generally between 3 and 6 months after a new registration is obtained—a carrier will receive a safety audit to determine if it has the necessary systems in place to ensure basic safety management controls. Failure to demonstrate basic safety management controls may result in the revocation of the carrier's new-entrant registration.

[13]We reviewed project management literature and identified 10 factors associated with the successful planning and implementation of projects. Efforts associated with successful project planning are (1) setting a clear project mission that establishes goals and sets direction; (2) establishing top leadership support to allocate resources and confer authority to project managers; and (3) developing a project plan that details actions required for implementation. Efforts associated with successful project implementation are (1) consulting with affected stakeholders; (2) selecting and training members of the project team; (3) providing needed technology and expertise to accomplish technical tasks; (4) selling the project to its intended users; (5) controlling the project by monitoring and providing timely feedback; (6) establishing a framework for and communicating needed information to key stakeholders; and (7) troubleshooting and managing unexpected problems and deviations from the plan.

However, certain efforts, such as rulemaking and data and information technology system configuration, will continue as the operational test progresses and may lead to refinement of the CSA 2010 concept. Therefore, an assessment of FMCSA's overall effort cannot be completed until these activities occur over the course of the operational test (from January 2008 through June 2010).

The CSA 2010 operational test will inform FMCSA of its ability to implement the carrier component of its initiative by enabling the real-time use of the safety measurement system and interventions that constitute the operating model.[14] However, according to FMCSA, the driver component cannot be fully tested until the agency receives new authority to regulate individual drivers that the department intends to seek as part of the next highway statute reauthorization (the current authorization expires in 2009). FMCSA has established a reasonable structure for and approach to evaluating the test. Carriers in the four test states will be divided into test and control groups (a conventional study method) to enable FMCSA to (1) assess whether the CSA 2010 approach will yield better safety outcomes than its current approach and (2) evaluate how resource intensive it is to use the interventions. To determine whether CSA 2010 provides better safety outcomes, FMCSA will, for example, compare changes to key safety indicators—such as violation rates and BASIC scores—experienced by the test and control groups from the beginning to the end of the test. To evaluate the approach's effect on resource needs, FMCSA will look to quantify such factors as (1) the number of people working on interventions, (2) the number of carriers being contacted, (3) the types of interventions used, and (4) the number of labor hours each intervention takes.

Agency Comments and Our Evaluation

In reviewing a draft of this report, the Department of Transportation stated that it agreed with its contents. It offered a clarifying comment, which we incorporated.

Scope and Methodology

To determine how FMCSA sees CSA 2010 increasing safety, we reviewed documents and interviewed FMCSA officials to discuss the benefits the agency expects from its new safety initiative. Additionally, we reviewed transcripts of recent congressional hearings on FMCSA to identify (1) concerns about the agency's performance and (2) topical issues affecting the motor carrier industry in general. We used the broad findings from our review of the transcripts to assess how, if at all, CSA 2010 addresses concerns about FMCSA and is affected by topical industry issues. To assess whether the overall framework for planning and implementing CSA 2010 is reasonable, we reviewed our work pertaining to organizational transformation and professional literature on project management topics. We determined that our review of FMCSA's effort to plan and implement CSA 2010 fit within the construct of

[14]The CSA 2010 operational test will take place over 30 months, beginning in January 2008 and concluding in June 2010. A 30-month test period is planned to account for the sequential steps of (and time lags between) identifying a problem, allowing the carrier to take remedial action, and gathering data over a period of time to see if safety improvements have been made.

project management and focused our effort on defining project management success factors. Once we defined a framework of project management success factors appropriate to our level of analysis, we reviewed CSA 2010 project management and planning documents and interviewed agency officials to determine the extent to which FMCSA meets the success factors. To determine the extent to which the operational test will inform FMCSA of its ability to fully implement CSA 2010, we reviewed operational test planning documents and held discussions with FMCSA officials to examine which CSA 2010 components will be tested and how the test will be evaluated. We then applied findings from our review of the testing protocol to discuss the implications of FMCSA's testing approach to its ability to implement the initiative. To inform our overall analysis, we talked with a broad range of stakeholders from industry and safety advocacy groups and discussed their views on CSA 2010. We conducted our review from April 2007 through December 2007 in accordance with generally accepted government auditing standards.

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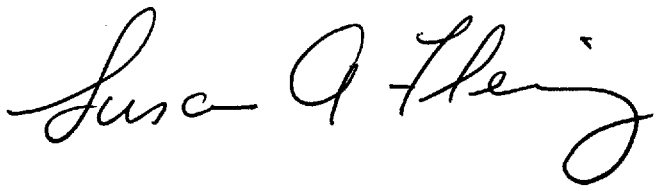
As agreed to with your offices, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. We will then send copies of this report to congressional committees and subcommittees with responsibilities for commercial motor vehicle safety issues, the Secretary of Transportation, the Administrator of FMCSA, and the Director of Office of Management and Budget. We will also make copies available to others upon request. In addition, the report will be available at no charge on GAO's Web site at http://www.gao.gov.

Should you or your staff have any questions on matters discussed in this report, please contact me at (202) 512-2834 or flemings@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report were James Ratzenberger, Assistant Director; Michael Armes; Joanie Lofgren; Denise McCabe; and Walter Vance.



Susan A. Fleming
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Enclosures

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Results

FMCSA Has Developed a Reasonable Framework for Managing and Testing Its CSA 2010 Initiative

Objectives

CSA 2010 is a key FMCSA initiative to (1) assess whether most carriers and drivers are safe enough to continue operating and (2) deploy an expanded range of interventions to address safety problems. The CSA 2010 safety measurement systems score carriers and drivers in seven Behavioral Analysis and Safety Improvement Categories (BASIC), and interventions are based on the severity of safety problems.

We reviewed (1) how FMCSA sees CSA 2010 increasing safety, (2) whether FMCSA's overall framework for planning and implementing CSA 2010 is reasonable, and (3) the extent to which the operational test of the CSA 2010 model will inform FMCSA of its ability to fully implement the initiative in 2010.

Scope and Methodology

To carry out our work, we (1) reviewed FMCSA documents, interviewed agency officials, and reviewed transcripts of congressional hearings related to FMCSA; (2) reviewed our work on organizational transformation and professional literature on project management topics and developed a framework of project management success factors based on our reviews; and (3) reviewed FMCSA documents and interviewed agency officials about testing protocols and applied our findings to discuss implications of FMCSA's testing approach to its ability to implement its initiative. To inform our overall analysis, we talked to a broad range of stakeholders from industry and safety advocacy groups.

Summary of Results

FMCSA expects CSA 2010 to provide increased safety benefits.

- Increased reach by rating safety fitness of most carriers and drivers and holding them accountable for sustained performance through regular reassessments.
- Enhanced investigative and enforcement ability through greater use of less resource-intensive interventions.
- Improved ability to identify safety problems through better use of data.

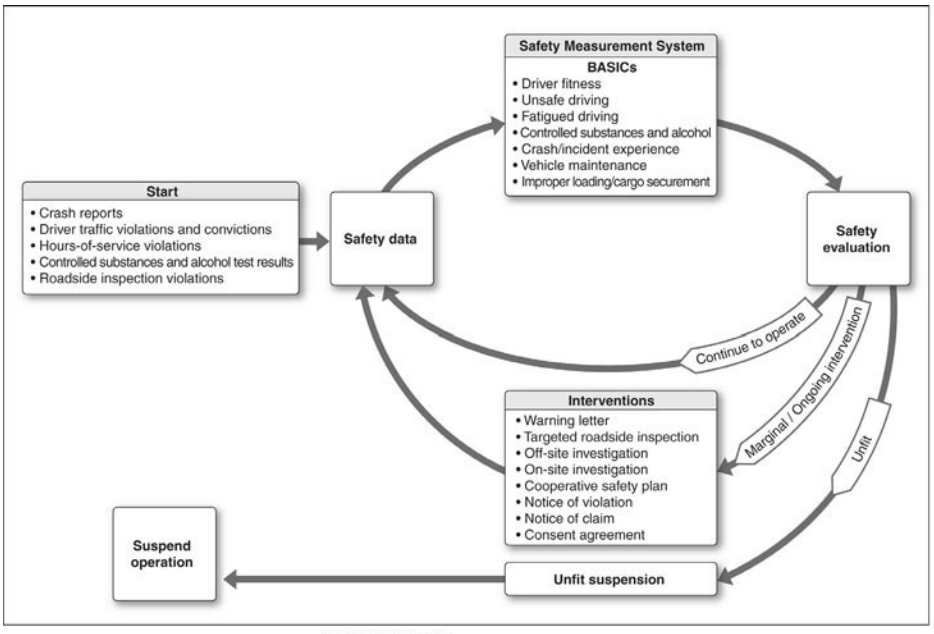
FMCSA is taking a reasonable approach to planning and implementing CSA 2010.

- Has met success factors related to project planning.
- Has met or is taking steps to meet success factors related to project implementation; effectiveness of efforts will not be apparent until implementation progresses further.

Operational test beginning January 2008 will partially inform FMCSA of its ability to implement CSA 2010.

- Test will assess carrier component (and driver component to a lesser extent) of CSA 2010.
- FMCSA has established a reasonable structure for and approach to evaluating the test.

CSA 2010 Operational Concept



Sources: FMCSA and GAO.

CSA 2010 Implementation Schedule

Date	FMCSA Action
Completed, as of December 2007	• Developed prototypes of safety measurement system algorithms for *carriers* and *drivers*. • Developed operational definitions and policies for using *carrier* interventions.[a] • Developed plans to operationally test *carrier* safety measurement system and interventions.
January 2008	• Begin phase 1 of operational test of *carrier* safety measurement system and interventions in four states (Colorado, Georgia, Missouri, and New Jersey); three of seven BASICs and eight of nine interventions to be tested.[b]
June 2008	• Begin phase 2 of operational test of *carrier* safety measurement system and interventions in same four states; all BASICs and 8 of 9 interventions to be tested.
2008-2010	• Continue to develop data resources for *carrier* and *driver* safety measurement systems. • Develop and issue rules to (1) establish use of *carrier* safety measurement system in determining safety fitness and (2) enable FMCSA to collect individual drivers' controlled substances and alcohol test results (in cases of positive test results indicating a driver's use of controlled substances or alcohol). • Evaluate operational test and report results to agency officials at 6-month intervals beginning June 2008. • Propose legislation as part of highway statute reauthorization to provide FMCSA with new authority to determine safety fitness of and take interventions affecting individual drivers.
To be determined	• Train staff in all states on CSA 2010 *carrier* safety measurement system and interventions.[c]
June 2010	• Complete operational test of *carrier* safety measurement system and interventions. • Begin deploying CSA 2010 *carrier* safety measurement system and interventions to all states.[d]
To be determined (post 2010)	• Operationally test and deploy CSA 2010 *driver* safety measurement system and interventions in all states.

[a]Operational definitions related to phase 2 of the operational test are scheduled to be completed in March 2008.

[b]See page 20 for details.

[c]FMCSA has yet to define plans for training safety investigators (FMCSA and state staff) in all states. The results of the operational test will be used to determine plans for rolling out training to all states.

[d]Evaluation of the operational test may result in changes to the CSA 2010 operating model—for example, certain interventions may be altered or eliminated if the test reveals problems with their use—however, FMCSA will still deploy CSA 2010 in some form as long as it expects to achieve safety benefits above its current approach.

Expected Safety Benefits

Benefit	FMCSA Rationale

Increased reach by rating the safety fitness of most carriers and drivers and holding them accountable through regular reassessments.	• Safety rating based on performance data, not tied to compliance review.
	  ○ CSA 2010—Most carriers and drivers will receive a safety rating derived from BASIC scores;[1] regular updates intended to sustain safety performance and promote accountability.
	  ○ Current approach—Compliance review needed to make safety rating; FMCSA conducts compliance reviews and provides safety ratings on approximately 2% of the estimated 724,000 carriers registered with FMCSA.
	• Carriers from Canada and Mexico will be rated the same way as U.S. carriers.
	• New entrants will be rated, in part, on results of new entrant audits that FMCSA is planning to strengthen.

Enhanced investigative and enforcement ability through greater use of less resource-intensive interventions.
 	
Deploying CSA 2010 may require changes to FMCSA's legislative authority as interventions supplant compliance reviews. We did not assess the extent to which these changes may be necessary.
	• Flexible and progressive interventions will allow tailoring of investigative and enforcement actions to correct unsafe behavior.[2]
	  ○ CSA 2010—Interventions linked to BASIC scores:
	  ▪ Warning letter automatically sent when threshold exceeded on one or more BASICs; targeted roadside inspections, used to gain additional safety data, applied to carriers that received warning letters.
	  ▪ Off-site investigations used to address administrative discrepancies; for example, carriers could provide records missing from FMCSA files.
	  ▪ Focused on-site investigations, which are less resource-intensive than comprehensive on-site investigations, conducted to address specific problem identified by BASIC scores.
	  ○ Current approach—Compliance review, a resource-intensive action, is the primary intervention triggered by evaluation of Motor Carrier Safety Status Measurement System (SafeStat) scores.
	• More interventions will be made under CSA 2010.
	• Operational test will be used to develop qualitative and quantitative assessments of interventions to determine, for example,
	  ○ whether interventions are clearly enough defined to enable their consistent application,
	  ○ how different BASIC thresholds affect the number of interventions, or
	  ○ whether FMCSA and state partners will have sufficient resources to follow up on expected number of interventions.

[1]Safety ratings are contingent upon sufficient data being available to determine BASIC scores. Carriers and drivers without sufficient data will not receive safety ratings. Rating safety fitness of individual drivers is contingent upon FMCSA's obtaining authority through reauthorization of the highway statute.

[2]Interventions discussed are applicable to carriers. According to FMCSA, development of driver interventions depends on it receiving authority to regulate individual drivers through reauthorization of the highway statute.

Expected Safety Benefits (con't.)

Benefit

Improved ability to identify safety problems through better use of data.

Data in FMCSA's Motor Carrier Management Information System, which is currently used by SafeStat for rating carrier safety, will also be used to measure carrier safety under CSA 2010. While we have previously reported on problems with the quality of FMCSA's data, our current work does not examine the effect of these problems on the operation of the CSA 2010 model.

FMCSA Rationale

- Expanded sources and improved quality of data will allow for more robust safety measurement.
  - CSA 2010—Divides data into seven BASICs to enable more precise safety measurement and targeted interventions. FMCSA plans to
    - use new data on test results for drivers' use of controlled substances and alcohol (contingent on rulemaking) and
    - coordinate with states to (1) more accurately code reported traffic violations, (2) identify drivers convicted of traffic violations, (3) capture driver-related factors in crash reports, and (4) conduct more post-crash inspections.
  - Current approach—SafeStat uses data in four categories to identify high-risk carriers that are prioritized for compliance reviews.
- Will include all violations in making a safety fitness determination, as recommended by the National Transportation Safety Board.
- Developing data sources related to driver health—obtaining confirmed positive test results for use of controlled substances and alcohol—focuses attention on driver physical qualifications, a key FMCSA policy area.

CSA 2010 Framework

Successful Projects

We identified a framework of 10 success factors related to project management.

Overall Assessment

CSA 2010 is transitioning from the planning phase to the implementing phase (see enc. II).

- FMCSA has met success factors associated with planning phase—setting clear project mission, establishing top leadership support, and developing project plan.
- FMCSA has met or is taking steps to meet success factors associated with implementing phase.

Success Factor

FMCSA Actions

Set a clear project mission that establishes goals and sets direction.

- Our assessment: FMCSA has met this success factor.

- Established mission to implement more effective and efficient ways for FMCSA, its state partners, and industry to reduce commercial motor vehicle crashes, fatalities, and injuries.
- Established overall goals to (1) assess more carriers and drivers, (2) apply a wider range of interventions to correct high-risk behavior, and (3) use improved data to better identify high-risk carriers and drivers.
- Publicized intent to implement CSA 2010 to motor carrier community.

Establish top leadership support to allocate resources and delegate authority to project managers.

- Our assessment: FMCSA has met this success factor.

- Established a dedicated CSA 2010 team to manage planning and implementation under direction of the Chief Safety Officer, who has agencywide authority to assign tasks supporting CSA 2010.[3]
  - For example, in June 2007, the Chief Safety Officer formally tasked Associate Administrators with 26 actions to support continued development of CSA 2010.
- Contracted with the Volpe Center to provide technical assistance to the CSA 2010 team.
- Requested $5.6 million in its fiscal year 2008 budget to support CSA 2010.

[3]The Chief Safety Officer is a senior administration official reporting directly to the FMCSA Deputy Administrator.

CSA 2010 Framework (con't.)

Success Factor

Develop a project plan that details actions required for implementation.

- Our assessment: FMCSA's approach to project planning seems reasonable; new graphic format of plan shows relationships among and sequencing of tasks better than the format of the earlier master plan.

  We assessed FMCSA's approach to planning, but not the reasonableness of FMCSA's plan or the likelihood of the agency's meeting interim milestone dates and the June 2010 deployment date.

Consult with affected stakeholders.

- Our assessment: FMCSA has met this success factor to this point; effectiveness of future stakeholder consultation will be evident as CSA 2010 takes its final form prior to implementation.

FMCSA Actions

- Developed a master plan—organized according to the structure of the technical subteams that make up the CSA 2010 team—in August 2006 (updated June 2007) as a staff-level working document that details tasks, start and end dates, and responsible parties.
  - June 2007 update shows a longer time period (30 months) for conducting the operational test and evaluating results than was depicted in the August 2006 plan (17 months).
  - June 2007 update shows deployment of CSA 2010 beginning 5 months later (June 2010) than was depicted in the August 2006 plan (January 2010).
- Developed a new plan format in October 2007 that graphically illustrates the schedule.
  - Schedule shows intent to conduct 30-month operational test and begin deployment in June 2010 (same as June 2007 plan update).
  - Plan is to be used across the agency to convey schedule for implementing CSA 2010.

- Held public forums to obtain feedback from stakeholders and provide information on the conceptual direction and progress of CSA 2010.
  - Public listening sessions September/October 2004 (6 sessions), November 2006, and December 2007.
  - Motor Carrier Safety Advisory Committee meeting (May 2007).[4]
- Participated in industry-sponsored events such as Commercial Vehicle Safety Alliance workshop (September 2007).
- Included three state officials (from the Colorado State Patrol, South Carolina State Patrol, and the Missouri Department of Transportation) on the CSA 2010 team.
- Conducted briefings with transportation officials and industry groups in states where CSA 2010 will be operationally tested (Colorado, Georgia, Missouri, and New Jersey).

[4]The Motor Carrier Safety Advisory Committee, established in September 2006, is a group—consisting of up to 20 members representing the motor carrier industry, safety advocates, and safety enforcement officials appointed by the FMCSA Administrator—that provides advice and recommendations to the FMCSA Administrator on motor carrier safety programs and regulations. The committee is scheduled to conduct public meetings at least four times per year to address the agenda set by FMCSA.

CSA 2010 Framework (con't.)

Success Factor

Select and train members of the project team.

- Our assessment: FMCSA has met this success factor.

  We assessed FMCSA's effort to develop a project team, but not the qualifications of the FMCSA staff assigned to the team.

Provide needed technology and expertise to accomplish technical tasks.

- Our assessment: FMCSA has taken steps to address various technical requirements; effectiveness of efforts will be seen in results of the operational test.

  We did not assess the qualifications of FMCSA's or its consultants' personnel or the technical quality of their efforts.

FMCSA Actions

- Established CSA 2010 team responsible for developing operational model (new safety measurement systems and interventions), planning operational test, and coordinating rule and policy changes among other efforts needed to implement the initiative.[5]
  - Staffed full-time positions for Program Manager (reports to Chief Safety Officer), Assistant Program Manager, and Program Assistant.
  - Assigned headquarters (3 total), field (10 total), and state partner (3 total) staff collateral duty (up to 50%) to the team.
  - Contracted with Volpe Center and technical consultants for support.[6]

[5]Personnel assigned to the CSA 2010 team are staffed to one or more technical subteams (10 technical subteams were in place as of September 2007) that are responsible for coordinating various aspects of developing and implementing CSA 2010.

[6]FMCSA has contracted with a technical consultant to assist with training and change management and plans to contract with a second technical consultant to support evaluation of the operational test.

- Assembled staff with a range of skills and experience—enforcement, data analysis, information technology, training, legal—to support technical aspects of CSA 2010 development and implementation.
  - Operational model development:
    - Enforcement and information technology specialists (supported by Volpe Center) developed data sources (BASICs) and the computer algorithm used to measure the safety fitness of carriers and drivers.
    - Enforcement and legal specialists developed interventions (for carriers) and operational definitions for their use.
  - Implementation:
    - Information technology specialists identified needs and continue to coordinate with FMCSA's Office of Information Technology to ensure information technology and data systems will be in place to operate CSA 2010.
    - Data analysis specialists (supported by technical consultant) are developing plans for collecting data during the operational test and making measurements to assess effectiveness of test.
    - Legal specialists supported development of rules needed to (1) use the carrier safety measurement system as a means of determining carrier safety fitness and (2) obtain confirmed positive test results for individual drivers' use of controlled substances and alcohol.
    - Training specialists (supported by technical consultant) are developing training materials and a plan for training investigators in the four states where CSA 2010 will be tested.

CSA 2010 Framework (con't.)

Success Factor	FMCSA Actions

Sell project to its intended users (FMCSA and the state investigators who will use CSA 2010 within the scope of their safety enforcement duties).
• Our assessment: FMCSA has taken initial steps to meet this success factor; effectiveness of efforts will be seen as CSA 2010 moves closer to deployment.
	• Developed a change management strategy and action plan that discusses ways to communicate the reasons for change and outlines steps for addressing users' concerns and possible resistance to change.
	• Contracted with a technical consultant to build upon and implement portions of the change management strategy and action plan; the consultant will
	  ○ develop communications tools such as poster boards and a one-page briefing paper,
	  ○ maintain an updated CSA 2010 Web site,
	  ○ interview internal and external stakeholders, and
	  ○ train FMCSA and state staff on use of CSA 2010.[7]

Control project by monitoring and providing timely feedback.
• Our assessment: FMCSA has met this success factor to this point; effectiveness of efforts will be determined as the initiative progresses and control becomes more complex.
 	
We assessed FMCSA's framework for monitoring CSA 2010 implementation, but not the effectiveness of FMCSA's monitoring efforts.
	• Senior officials:
	  ○ FMCSA Administrator receives briefings and provides feedback at key decision points.
	  ▪ A January 2007 briefing resulted in taskings to Associate Administrators that engaged line staff in supporting implementation.
	  ▪ A June 2007 briefing resulted in approval to develop new rules—enabling FMCSA to (1) determine safety fitness of carriers using new safety measurement concept and (2) collect confirmed positive test results for individual drivers' use of controlled substances and alcohol—needed to support implementation.
	  ○ Chief Safety Officer maintains oversight via biweekly meetings with CSA 2010 Program Manager.
	• CSA 2010 team:
	  ○ Periodic meetings enable planning and coordination.
	  ○ Assignment of staff to multiple technical subteams enhances cross-team communication.

[7]Training will initially be provided to FMCSA and state staff in the four states where CSA 2010 is to be operationally tested.

CSA 2010 Framework (con't.)

Success Factor	FMCSA Actions
Establish a network for and communicate needed information to key stakeholders. • Our assessment: FMCSA has met this success factor to this point; effectiveness of future efforts will be seen as CSA 2010 moves toward deployment.	• FMCSA's efforts pertaining to this success factor are evident in elements of those previously discussed: o consult with affected stakeholders (p. 16), o sell project to its intended users (p. 18), and o control project by monitoring and providing timely feedback (p. 18).
Troubleshoot and manage unexpected problems and deviations from plan. • Our assessment: FMCSA has yet to face a significant unexpected problem; effectiveness of future efforts will be seen as CSA 2010 implementation progresses.	• FMCSA's efforts pertaining to this success factor are evident in elements of one previously discussed: o control project by monitoring and providing timely feedback (p. 18).

Testing and Evaluating CSA 2010

Our Assessment

Use of test and control groups for evaluative purposes is a conventional practice; FMCSA's approach to structuring its operational test seems reasonable.

Test Components

- The operational test will enable FMCSA to evaluate the *carrier* component of CSA 2010 by assessing
  - whether the CSA 2010 approach will yield better safety outcomes than FMCSA's current approach and
  - how carriers react to and how work of investigators is affected (qualitatively and quantitatively) by using the interventions.

- The operational test will not evaluate the *driver* component of CSA 2010 to the same extent as the *carrier* component.
  - Driver measurement system will be used to facilitate driver enforcement actions where needed.
  - Implementation of the driver component is contingent upon new legislative authority—that FMCSA intends to request as part of the highway statute reauthorization—for FMCSA to determine fitness of and make interventions affecting individual drivers.
  - FMCSA has not established a schedule for testing and deploying the *driver* component.

- CSA 2010 operational model test will divide *carriers* from four states into test and control groups of about 37,000 carriers in each group.
  - Test group will be subject to CSA 2010 interventions.
  - Control group will be subject to existing enforcement interventions.

- Operational test will be conducted over 30 months from January 2008 to June 2010 in two phases.
  - Phase I (begins January 2008):
    - BASICs: unsafe driving, fatigued driving, vehicle maintenance.
    - Interventions to be tested: warning letter, targeted roadside inspection, off-site investigation, on-site investigation, cooperative safety plan, notice of violation, notice of claim, consent agreement.[8]
  - Phase II (begins July 2008):
    - All BASICs.
    - Same interventions as Phase I.

- FMCSA will make adjustments to operating model—may decide to use fewer interventions, for example—as test results dictate and will proceed with implementation as long as safety benefits can be achieved.

[8]Currently, FMCSA can suspend a carrier only upon conducting a compliance review. To suspend carriers under CSA 2010, FMCSA must issue a rule that defines how safety fitness determinations will be made and protects carriers' due process rights. Because this rule will not be completed until the operational test is well underway, FMCSA will not be using this intervention in its test. If a poor-performing carrier in the test group is unresponsive to interventions, it will be removed from the test and subjected to a compliance review and related enforcement actions (including suspension).

Testing and Evaluating CSA 2010 (con't.)

Our Assessment

Overall, FMCSA's approach to evaluating CSA 2010 seems reasonable.

We did not assess evaluation measures or methodologies because they were being developed at the end of our fieldwork.

Evaluation Components

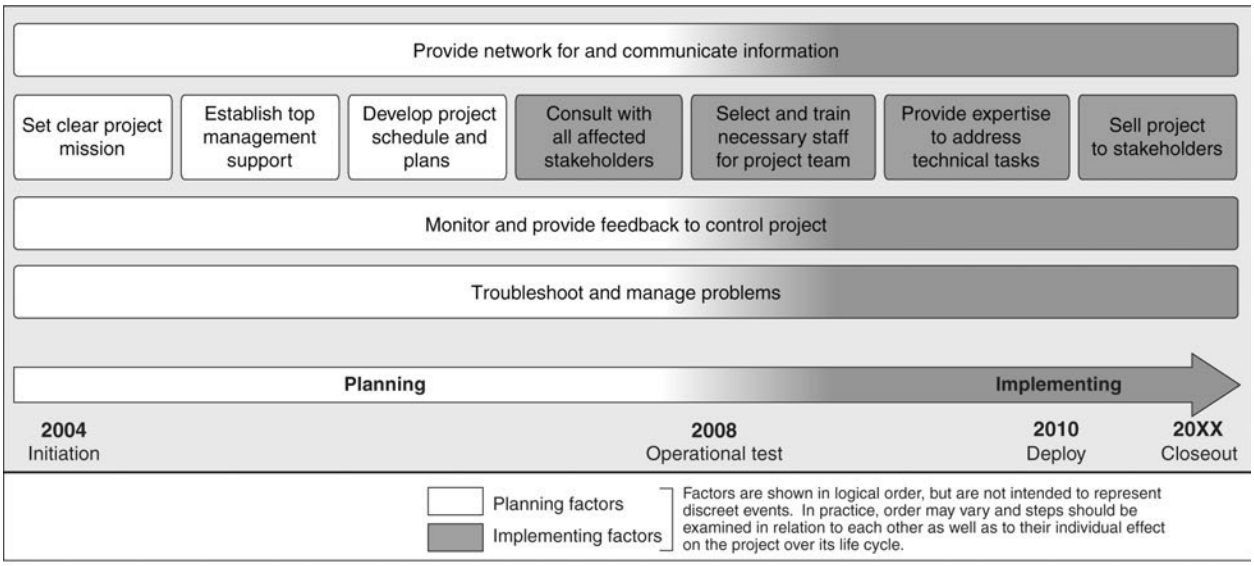
- Third-party consultant will develop plan to evaluate the operational test and will assist FMCSA in conducting the evaluation.
  - Evaluation reports will be provided at 6-month intervals beginning June 2008.

- FMCSA is considering several methods to determine CSA 2010 safety benefits:
  - Evaluating whether CSA 2010 safety measurement system is better at identifying unsafe carriers than current methods (e.g., Does CSA 2010 identify unsafe carriers that would be overlooked under current approach using SafeStat?).
  - Comparing changes to key safety indicators experienced by test and control groups, for example:
    - Violation rate (change from beginning to end of test).
    - BASIC scores (change from beginning to end of test).
  - Evaluating the effect of individual interventions on safety outcomes.

- FMCSA intends to evaluate CSA 2010's effects on carriers and on investigators' work through qualitative and quantitative assessments.
  - Qualitative evaluation will consider
    - whether interventions are clearly enough defined to enable their consistent application,
    - how carriers perceive the interventions, and
    - if unexpected obstacles to the application of a new intervention exist.
  - Quantitative evaluation will consider
    - the number of people working on new interventions,
    - the number of carriers being contacted, and by which interventions, and
    - how much time (labor hours) each intervention takes.

Enclosure II

Project Management Success Factors



Sources: FMCSA and GAO adaptation of Dennis P. Slevin and Jeffrey K. Pinto, "Balancing Strategy and Tactics in Project Implementation," Sloan Management Review (Fall 1987; 29,1).

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