
Office of Inspector General

Audit Report

ACTIONS ARE NEEDED TO STRENGTHEN FMCSA'S COMPLIANCE, SAFETY, ACCOUNTABILITY PROGRAM

Federal Motor Carrier Safety Administration

Report Number: MH-2014-032

Date Issued: March 5, 2014





Memorandum

U.S. Department of
Transportation

Office of the Secretary
of Transportation
Office of Inspector General

Subject: **ACTION:** Actions Are Needed To Strengthen
FMCSA's Compliance, Safety, Accountability
Program
Federal Motor Carrier Safety Administration
Report No. MH-2014-032

Date: March 5, 2014

From: Joseph W. Comé 
Assistant Inspector General for Highway and
Transit Audits

Reply to
Attn. of: JA-40

To: Federal Motor Carrier Safety Administrator

Large trucks and buses were involved in over 125,000 reportable crashes in 2012. To improve commercial motor vehicle safety, the Federal Motor Carrier Safety Administration (FMCSA) launched its Compliance, Safety, Accountability program (CSA) nationwide at the end of 2010. CSA is designed to target enforcement interventions—such as roadside inspections and on-site reviews—on motor carriers posing a greater safety risk to the traveling public. To identify carriers with higher risks of unsafe behavior, FMCSA implemented the Carrier Safety Measurement System (CSMS), which draws on data submitted by States and carriers to assess carriers' on-road safety performance.

During a September 13, 2012, hearing before the House Transportation and Infrastructure Subcommittee on Highways and Transit, the FMCSA Administrator stated that FMCSA has sufficient data to assess the safety performance of nearly 200,000 out of approximately 525,000 active carriers in at least one safety category. According to FMCSA officials, these 200,000 carriers are involved in approximately 93 percent of all crashes. However, the trucking industry and Members of Congress expressed concerns about FMCSA's implementation of CSA, particularly the completeness and accuracy of CSMS data.

In October 2012, the Chairman and Ranking Member of the Subcommittee requested that we evaluate FMCSA's CSA program. Our objectives were to assess FMCSA's data quality controls and its enforcement intervention mechanisms. Specifically, we determined whether FMCSA (1) has sufficiently strengthened its

controls to ensure data quality, (2) addressed key challenges for timely and effective implementation of CSA enforcement interventions nationwide, and (3) followed system development best practices and controls when implementing CSA.

We conducted our work between January 2013 and January 2014 in accordance with generally accepted Government auditing standards. To conduct our work, we evaluated data quality of the Motor Carrier Management Information System (MCMIS)¹ tables from 2010 through 2012, which CSMS uses to generate rankings intended to reflect carrier performance and risk. We also reviewed reports on FMCSA's data correction process and data quality program, and evaluated FMCSA's progress in implementing enforcement interventions. As the Government Accountability Office (GAO) also has a standing request from the Senate Committee on Appropriations to evaluate CSA,² we coordinated with GAO to avoid duplicating work.

BACKGROUND

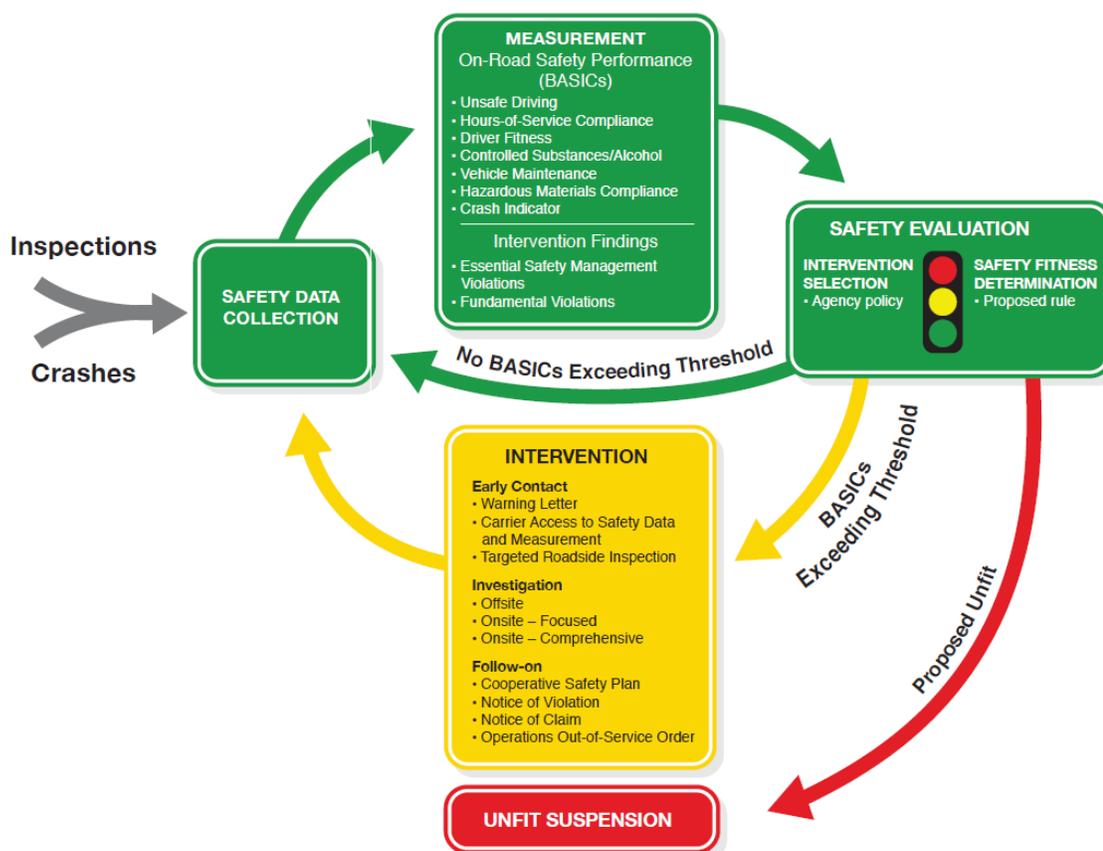
The goal of CSA is to reduce large truck and bus crashes, injuries, and fatalities by focusing the resources of FMCSA and its State partners on higher risk carriers. CSMS, a software algorithm, calculates percentile rankings for carriers' on-road safety performance in seven areas, called Behavior Analysis Safety Improvement Categories (BASICS) and a crash indicator.³ CSMS calculations rely on data including State-reported crash and inspection data and carrier-reported census data that include information on the company's size and operations. FMCSA maintains this data in MCMIS. Carriers and other parties can ask for corrections to State-reported crash and inspection data if they believe it is inaccurate. CSMS generates warning letters for carriers determined to be higher risk (based on BASIC and crash indicator percentile rankings) and prompts interventions that Federal and State enforcement officials could use to target those carriers, such as roadside inspections and on-site reviews. Figure 1 illustrates the operational model for the CSA program.

¹ MCMIS contains FMCSA inspection, crash, compliance review, safety audit, and registration data.

² GAO is evaluating the CSMS algorithm. Its announced audit objectives are to assess (1) How effectively does the Compliance, Safety, Accountability program identify and evaluate carriers that pose the highest safety risk? (2) To what extent do the interventions used under the Compliance, Safety, Accountability program improve motor carrier safety? and (3) What challenges does FMCSA face in fully implementing the Compliance, Safety, Accountability program?

³ The six BASICS are: (1) unsafe driving, (2) hours-of-service compliance, (3) driver fitness, (4) controlled substances/alcohol, (5) vehicle maintenance, and (6) hazardous materials compliance.

Figure 1. CSA Operational Model



Source: FMCSA CSMS Methodology, version 3.0.1 (August 2013)

The Volpe National Transportation Systems Center (Volpe) developed CSMS for FMCSA and is responsible for testing, maintaining, and making changes to the system. Because CSMS is a Department of Transportation (DOT) information technology system, industry best practices and Federal internal control standards are applicable to its development, testing, and validation. These best practices and standards include DOT's Integrated Program Planning and Management Governance and Practitioners Guides (IPPM)⁴ and guidance from the National Institute for Standards and Technology (NIST) and GAO.

From 1999 to 2006, we issued four reports related to MCMIS data and/or CSA's predecessor, SafeStat. GAO issued five reports on motor carrier data and enforcement from 1997 to 2011. In general, the recommendations from these reports focused on addressing data quality problems. See exhibit B for a list of these reports.

⁴ The IPPM provides a framework to ensure that DOT information technology programs and projects are effectively planned and managed.

RESULTS IN BRIEF

FMCSA has strengthened its controls to improve the quality of State-reported data used to assess carriers' safety performance, but the Agency has not fully implemented planned improvements to its processes for reviewing data correction requests and ensuring that information carriers are required to submit every 2 years is accurate.⁵ Specifically, FMCSA enhanced its efforts to monitor and correct State-reported data on crashes and inspections, and FMCSA reports show that States' data quality has generally improved. However, FMCSA has not yet implemented planned actions to revise guidance for its data correction process. In addition, FMCSA took limited action to address inaccurate and incomplete data reported by carriers, despite our 2006 recommendations. Our current review determined that only about 401,000 of the roughly 803,000 active interstate carriers updated their data as required,⁶ which can interfere with accurate calculations of carriers' safety performance. In November 2013, FMCSA issued a policy to automatically deactivate USDOT numbers⁷ for carriers who do not submit required data, but the deactivations are not scheduled to begin until March 2014.

FMCSA has not fully implemented the CSA enforcement intervention process nationwide. Only 10 States had fully implemented CSA enforcement interventions at the time of our report, and FMCSA provided no date when it expects to complete implementation at all States. The remaining 41 States (including the District of Columbia) are awaiting delivery of and training on the new software required to assess and monitor the interventions. FMCSA expects to release this software by May 2015. Because of the limited implementation of the enforcement interventions to date, we did not assess the effectiveness of the interventions.⁸ However, based on our initial observations, FMCSA faces 2 key challenges to fully implement CSA interventions in the 41 remaining States: (1) developing and deploying software training for the States in a timely manner and (2) working with its Division Offices and their State partners to ensure that States apply the interventions consistently.

FMCSA has limited documentation demonstrating that it followed information technology system best practices and Federal guidance while developing and testing CSMS. Specifically, industry best practices and Federal guidance emphasize thorough documentation of information technology system components

⁵ Carriers are required to update their company's census data every 2 years.

⁶ Between January 2011 and February 2013.

⁷ The USDOT Number serves as a unique identifier when collecting and monitoring a company's safety information acquired during audits, compliance reviews, crash investigations, and inspections. Companies that operate commercial vehicles transporting passengers or hauling cargo in interstate commerce must have a USDOT Number.

⁸ In November 2013, the National Transportation Safety Board reported its concerns with the use of focused compliance reviews for several motor carriers involved in fatal crashes. It recommended that the Department of Transportation audit this area.

and controls. While FMCSA documented how carrier percentile rankings are calculated, its documentation of other important processes, such as validation and testing, is incomplete. For example, FMCSA lacks documentation to show that it conducted testing for four of the changes made to the system since its nationwide implementation in 2010.

We are making a series of recommendations to strengthen CSA's data controls, address intervention challenges, and improve system documentation.

FMCSA STRENGTHENED DATA QUALITY CONTROLS BUT HAS NOT FULLY IMPLEMENTED PLANNED IMPROVEMENTS

FMCSA strengthened data quality controls by enhancing efforts to monitor and correct State-reported crash and inspection data. However, FMCSA has not fully implemented planned improvements to its data correction process. In addition, FMCSA took limited action to address inaccurate and incomplete data reported by carriers, despite our 2006 recommendations. In November 2013, FMCSA issued a new enforcement policy for carriers who do not submit required data but has not yet begun using this process.

FMCSA Took Actions To Improve the Quality of State-Reported Data

Crash and inspection data that States regularly enter into MCMIS form part of the calculation that CSMS uses to evaluate carriers' percentile rankings. Prior audits by our office and GAO identified the need for considerable improvement in State-reported data. In 2004, FMCSA implemented the State Safety Data Quality program (SSDQ), which evaluates States' data reporting and assigns an overall qualitative score based on ratings for nine SSDQ performance measures, such as crash record completeness and inspection accuracy.⁹ FMCSA has repeatedly updated the SSDQ performance measures (see exhibit C for descriptions of the performance measures and the years each was updated). For example, in 2010, FMCSA added more stringent goals and two new measures for inspection report completeness and accuracy.

FMCSA's monthly reports from 2010 to 2012 show that States' overall SSDQ performance ratings have improved over time. According to the SSDQ ratings for 2012, 36 States' data quality were considered "good" overall. In contrast, 31 States received this rating in 2010. States' performance on some individual SSDQ measures has also improved. In 2012, 47 States were rated "good" for the

⁹ Currently, the nine SSDQ performance measures are: (1) crash record completeness, (2) non-fatal crash completeness, (3) fatal crash completeness, (4) crash timeliness, (5) crash accuracy, (6) inspection record completeness, (7) inspection vehicle identification number accuracy, (8) inspection timeliness, and (9) inspection accuracy.

crash record completeness measure, which means that these States reported completed driver and vehicle information to FMCSA at least 85 percent of the time. In 2010, only 44 States received a “good” rating for this measure.

Continued monitoring is important for FMCSA to promptly detect State data quality issues. For example, we found that almost 19 percent of the 136,810 crashes that States reported in MCMIS for calendar year 2010 were reported after the 90-day goal that FMCSA established for timely reporting. An FMCSA official stated that FMCSA was aware of this issue and attributed it to a software problem in some States.¹⁰ Timeliness has improved in the last 2 years: 27 States were rated “good” for crash reporting timeliness¹¹ in every month of 2011, and 30 States were rated “good” for this measure in every month of 2012.

In addition to SSDQ, FMCSA uses other tools to monitor and support improvement of State-reported data. For example, FMCSA regularly produces detailed reports with additional analysis of State-reported data quality. These reports, along with the SSDQ reports, help the Agency monitor the quality, timeliness, and integrity of MCMIS crash and inspection data—two categories used by CSMS to calculate carriers’ percentile rankings. In addition, FMCSA’s SAFETYNET, a database management system, contains data quality controls in the entry fields that help States and Divisions enter data correctly and identify problems before submitting the data. FMCSA also provides SAFETYNET guidance to promote best practices for consistent and accurate data entry.

FMCSA Has a Process for Correcting Inaccurate Data But Has Not Implemented Planned Improvements

Using a process FMCSA developed, known as DataQs, carriers and other parties sometimes challenge the accuracy of State-reported crash and inspection data in MCMIS. The most common data challenge that results in a correction is the claim that a State assigned a crash or inspection to the wrong carrier—an error that would affect the carrier’s percentile rankings. The DataQs process allows carriers or other parties to request corrections to State-reported MCMIS data. To request a data review, a filer must submit an electronic data review request, with a description of the inaccurate data, to FMCSA’s DataQs Web site. State DataQs analysts¹² review these requests, along with any supporting documentation provided, to decide whether to make data corrections. It is important to note that only a small percentage of the crash and inspection data is challenged—about

¹⁰ We did not verify FMCSA’s statement that untimely reporting was due to State software problems, as our work did not include assessments of reporting from each of the 51 States.

¹¹ A “good” rating means the State reported 90 percent or more of its crash data in 90 days or less.

¹² State DataQs analysts process nearly all DataQs requests, but FMCSA DataQs analysts review a small number of requests related to FMCSA data.

1 percent from 2012-2013. However, the American Trucking Association stated that inaccurate State-reported data significantly impacted some of their members' BASIC percentile rankings.

Since the crash and inspection data in MCMIS are State or locally generated, FMCSA's DataQs guidance gives State DataQs analysts considerable discretion when deciding whether to make data corrections. For example, some filers challenge whether carrier citations should be reported in MCMIS if they have been dismissed in State court. FMCSA guidance does not prescribe a specific course of action in these cases; instead, it recommends that DataQs analysts review these dismissals on a case-by-case basis.

FMCSA data, which tracks the number of requests for data reviews closed with a correction, shows it is possible that some States are stricter or more lenient than others when making DataQs decisions. For example, the data shows that California closed the highest proportion of its data challenges with corrections (78 percent), and Connecticut closed the lowest proportion (26 percent). FMCSA and State officials identified various factors that contribute to the variation in correction rates. According to FMCSA, corrections are more likely if the filer provides supporting documentation. For example, among data review requests related to inspection data, 71 percent of requests that included supporting documentation were closed with a correction, compared to 53 percent of requests without supporting documentation. The variations in correction rates may also be attributable to how accurately States input crash and inspection data in MCMIS. We spoke with officials from Connecticut about why they closed the lowest proportion of data changes with corrections. According to an official, the low correction rate reflected the extensive training Connecticut provided to staff that report violations. If the data are input correctly the first time, they require fewer corrections later on.

FMCSA attempts to promote consistency among States' data reporting by providing written guidance and by tracking the number of data reviews closed with corrections. According to FMCSA, it is updating the DataQs guidance to clarify how data challenges should be reviewed and to provide additional measures to ensure that data challenges are closed consistently. For example, the draft guidance we reviewed provided clarification on what constitutes sufficient evidence for making a correction. FMCSA also developed new reports to collect additional information and better analyze the outcomes of data reviews but has not begun using them.

FMCSA Has Yet To Implement Planned Actions To Improve Carrier-Reported Data

FMCSA safety regulations require carriers to routinely update their census data—including information on carriers' addresses, phone numbers, number of power units (motor vehicles), and vehicle miles traveled—that goes into MCMIS. Certain census data fields form part of the calculation that CSMS uses to evaluate carriers, and missing or outdated data can lead to incorrect computations of carriers' BASIC percentile rankings. Despite FMCSA's efforts and our prior recommendations, we found continued weaknesses in carrier-reported census data.

In 2006, we reported that approximately 192,000 (27 percent) of 702,277 existing motor carriers did not update census data, and that inaccurate and incomplete carrier-reported data hampered safety monitoring and enforcement activities. Accordingly, we recommended that FMCSA take firm action to increase compliance with the census data updating requirement by intensifying efforts to fine motor carriers that resist compliance or by taking other measures that can be demonstrated to be effective.¹³ In its response to this recommendation, FMCSA did not commit to any specific action to increase carriers' compliance with this requirement; therefore, the recommendation remains open.

In the 7 years since we first made the recommendation, FMCSA stated that it has taken over 2,000 enforcement actions (such as levying fines) against carriers with outdated census data. However, we determined that between January 2011 and February 2013, only about 401,000 of the roughly 803,000 interstate carriers¹⁴ active in MCMIS had updated their census data.

Lack of updated census data could impede FMCSA's ability to effectively follow through on its planned actions to assess higher risk carriers. At a September 13, 2012, congressional hearing, the FMCSA Administrator stated that FMCSA has sufficient data to assess nearly 200,000 out of approximately 525,000 active carriers in at least one safety category. According to FMCSA, these 200,000 carriers are involved in approximately 93 percent of all crashes. However, we uncovered the following data quality issues when we analyzed the census data for these 200,000 carriers:

- Approximately 5,000 carriers (about 2.5 percent) of the 200,000 carriers are types that FMCSA does not oversee, such as inactive and/or intrastate non-

¹³ *Significant Improvements in Motor Carrier Safety Program Since 1999 Act but Loopholes for Repeat Violators Need Closing* (OIG Report Number MH-2006-046), Apr. 21, 2006.

¹⁴ In September 2012, FMCSA testified there were approximately 525,000 active carriers. When we requested data on these carriers in 2013, FMCSA provided a list of about 523,000 active carriers—fewer than the roughly 803,000 active carriers we identified during our review. While we counted all carriers labeled “active” in MCMIS (to be consistent with our prior reviews), FMCSA counted only carriers with a record of external activity (such as inspection, crash, and vehicle registration) in the past 3 years.

hazardous materials carriers. As a result, these carriers are not required to submit census data in MCMIS and should not have been included in FMCSA's list of active carriers.

- Of the approximately 195,400 carriers remaining, about 9 percent have not updated their census data in the last 2 years. While this is a marked improvement compared to 2005 levels (approximately 27 percent), updated census data is critical to accurate CSMS calculations of carriers' percentile rankings. For example, if a carrier does not update MCMIS to show that its total vehicle miles traveled has decreased in recent years, then the carrier's BASIC percentile ranking could be inflated.
- About 13 percent of the carriers had zeros in a data field used to record the number of their power units, which refers to the number of motor vehicles in a carrier's fleet. Power unit entry data is included as part of the denominator for two CSMS calculations: the crash indicator and the percentile ranking for unsafe driving. Zero power unit entries in the denominator can interfere with these calculations, as numbers cannot be divided by zero. For example, it would not be possible to calculate a crash indicator for a carrier with no motor vehicles (zero power unit entries) because a crash, by definition, must involve a vehicle.

To address this longstanding issue with carrier-reported data, FMCSA issued a policy on November 1, 2013, that will automatically deactivate USDOT numbers for carriers who do not submit required census data. According to the policy,¹⁵ FMCSA plans to send warning letters to carriers and to provide a grace period for them to update their census data before the Agency deactivates their USDOT numbers. According to the policy, deactivations will begin in March 2014 for carriers that fail to update their data by January 2014.

FMCSA FACES CHALLENGES IN FULLY IMPLEMENTING CSA ENFORCEMENT INTERVENTIONS

CSA is designed to target enforcement interventions—such as roadside inspections and on-site reviews—on higher risk motor carriers, as identified by CSMS calculations of carriers' percentile rankings. FMCSA phased in use of all CSA enforcement interventions in some States¹⁶ and focused its efforts on ensuring consistent use of the interventions. As part of this process, FMCSA issued its CSA intervention policy and a manual for enforcement personnel.

¹⁵ FMCSA memorandum MC-ECS-2013-0009.

¹⁶ The nine test States are Colorado, Delaware, Georgia, Kansas, Maryland, Minnesota, Missouri, Montana, and New Jersey. According to FMCSA, Alaska also implemented all interventions.

FMCSA reports that 10 States have fully implemented CSA enforcement interventions and the other States have implemented most interventions except off-site investigations and cooperative safety plans. FMCSA has a rough timeline for full implementation of CSA interventions in the remaining 40 States and the District of Columbia but has not set an implementation date. These remaining States are waiting for FMCSA's information technology office to deliver Sentri, the enforcement intervention software, which will be used by all States and is expected to be released in May 2015. The purpose of this software is to combine FMCSA's roadside inspection, investigative, and enforcement reporting, as well as access to carrier and driver information, into one system for use by States and FMCSA Division Offices. FMCSA plans to deliver training to these States 90 days after the software release but provided no date when it expects all States to fully implement CSA's enforcement interventions.

Because of the limited implementation of CSA enforcement interventions to date, we did not assess the effectiveness of the interventions. However, based on our initial observations, FMCSA faces 2 key challenges to fully implement CSA interventions in the 41 remaining States: (1) developing and deploying software training for the States in a timely manner and (2) working with its Division Offices and their State partners to ensure that States apply the interventions consistently.

FMCSA HAS LIMITED DOCUMENTATION DEMONSTRATING IT FOLLOWED INFORMATION TECHNOLOGY BEST PRACTICES AND FEDERAL GUIDANCE FOR CSMS

Industry best practices and Federal guidance emphasize thorough documentation of information technology system components and controls. While some of these best practices and guidance are not requirements, they are advisable for high-visibility systems, such as CSMS.¹⁷ However, our review determined that, while FMCSA documented how CSMS generates percentile rankings, it lacks complete documentation on system components, validation processes, and system change processes and related testing. Insufficient documentation impedes FMCSA's ability to demonstrate the actions already taken to support CSMS and to identify the actions that will be needed to maintain effective control of the system in the event of staff turnover and further changes to the system.

Documentation of System Components. NIST recommends that agencies have an information system component inventory that accurately reflects the current system. According to GAO, such an inventory helps to provide control over

¹⁷ As of November 2013, the DOT Chief Information Officer requires FMCSA and other Operating Administrations to identify how IPPM processes and practices will be implemented for new and existing systems.

system changes and mitigate system corruption risk. In March and April of 2013, after we announced our audit, FMCSA updated and consolidated its CSMS requirements document, which describes the functions the system is intended to perform. However, the requirements document did not include a complete list of the 51 MCMIS data fields that CSMS uses to calculate carriers' BASIC percentile rankings. Without a complete and documented list of the 51 data fields, it is difficult for FMCSA to demonstrate the quality of the data it relies on to calculate the percentile rankings. After several weeks of communication with officials from FMCSA and Volpe, we were able to identify the 51 MCMIS data fields. Our testing of the data revealed no significant problems, and we concluded that the data were generally complete and accurate.¹⁸

Documentation of Routine System Validation. FMCSA has not formally documented its system validation processes in a single directive, policy, or manual approved by management—as recommended in GAO guidance on internal controls.¹⁹ Although the CSMS requirements document mentions validation of CSMS data, it does not provide details on the specific validation steps. According to a separate, unsigned document that FMCSA provided, Volpe performs two types of validations of CSMS results: (1) monthly validations to confirm that CSMS calculations of carriers' BASIC percentile rankings are correct and based on complete and accurate MCMIS data and (2) validations performed after changes are made to the system methodology, which are intended to reconcile differences in CSMS coding. Without an approved document, FMCSA lacks assurance that staff will properly carry out these validation processes.

Further, the results of CSMS validation steps are not completely documented, despite GAO guidance calling for documentation of control activities performed. For example, Volpe uses spreadsheets to record the results of its monthly validations, but it does not collect them in a central file to provide a complete validation record. In addition, Volpe does not formally record the results of its validations after the system methodology is changed. In the event of staff turnover, a well-documented process and records are necessary to ensure these validations are properly performed and documented.

Documentation of System Change Processes and Associated Testing. DOT's Integrated Program Planning and Management Governance and Practitioners Guides and NIST guidance²⁰ recommend documenting processes for making

¹⁸ We conducted basic reliability tests to identify blank or invalid entries among the 51 MCMIS fields used by CSMS to calculate percentile rankings—as well as 8 supporting fields using data pulled directly from MCMIS from January through April 2013.

¹⁹ GAO/AIMD-00-21.3.1, Standards for Internal Control in the Federal Government, Nov. 1999; GAO-01-1008G, Internal Control Management and Evaluation Tool, Aug. 2001.

²⁰ NIST Special Publication 800-53 Revision 3, Recommended Security Controls for Federal Information Systems and Organizations, Aug. 2009 (includes updates as of May 1, 2010).

changes to an information technology system in a configuration management plan.²¹ While FMCSA staff were able to describe the process used to make changes to CSMS, FMCSA has not formally documented this process in a configuration management policy, which would include a change management process. In addition, FMCSA cannot demonstrate that its system change processes have been followed. As table 1 shows, FMCSA lacks complete documentation for changes made to the system since implementation in December 2010—including documentation to show that it conducted testing during the four occasions the system was changed. However, GAO’s Federal Information System Controls Audit Manual²² states that a system should be tested (and test results should be recorded) when changes are made to the system.

Table 1. CSMS Testing Documentation

Date System Changed	Documented test plan	Evidence that testing occurred	Test results recorded	Documented acceptance of changes
December 2010 (nationwide system implementation)	No	Yes	Yes	No
January 2012	No	No	No	No
August 2012	No	No	No	No
December 2012	Yes	No	No	Yes
August 2013	No	No	No	No

Source: OIG analysis of CSMS documentation.

CONCLUSION

FMCSA has made progress in moving toward a more data-driven, risk-based approach to oversight of the motor carrier industry, as called for by CSA. Quality data are critical to accurately identifying the highest risk carriers for enforcement interventions. While FMCSA has strengthened quality controls for State-reported data, more action is needed in key areas, including improving census data and completing its roll out of CSA enforcement interventions. Given that CSMS is such a high-visibility system within the motor carrier industry, FMCSA can also enhance its documentation of system processes to better adhere to best practices and Federal guidance. Without sustained management attention in these areas,

²¹ A configuration management plan outlines the processes required to ensure that changes to an information technology system are controlled.

²² GAO-09-232G, Federal Information Systems Controls Audit Manual (FISCAM), Feb. 2009.

FMCSA will be hindered in its ability to effectively implement CSA nationwide and address the key concerns of industry stakeholders.

RECOMMENDATIONS

We recommend the Federal Motor Carrier Safety Administrator:

1. Issue updated DataQs guidance;
2. Implement the process for deactivating USDOT numbers when carriers do not submit required census data, as described in FMCSA memorandum MC-ECS-2013-0009;
3. Develop a comprehensive plan to fully implement CSA enforcement interventions in the remaining 41 States. The plan should include an estimated completion date and milestones for releasing Sentri software, developing and delivering training, and using the enforcement interventions;
4. Update the CSMS requirements document to (a) specify all sources of CSMS data, including each of the MCMIS fields used, and (b) fully describe CSMS validation procedures;
5. Develop and implement a process for managing CSMS system documentation that includes a central file for validation records and testing results; and
6. Develop and implement a configuration management policy that includes documentation of system changes and associated testing for CSMS.

AGENCY COMMENTS AND OFFICE OF INSPECTOR GENERAL RESPONSE

We provided FMCSA with our draft report on January 30, 2014, and received its formal response on February 27, 2014. FMCSA's response is included in its entirety as an appendix to this report. In its response, FMCSA concurred with all six of our recommendations and provided appropriate planned actions and timeframes. Accordingly, we consider all six recommendations resolved but open pending completion of planned actions.

ACTIONS REQUIRED

FMCSA's planned actions for all six recommendations are responsive, and we consider the recommendations resolved but open pending completion of the planned actions.

We appreciate the courtesies and cooperation of the Federal Motor Carrier Safety Administration, the Volpe National Transportation Systems Center, and the U.S. Department of Transportation during this audit. If you have any questions concerning this report, please call me at (202) 366-5630 or Wendy Harris, Program Director, at (202) 366-2794.

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cc: DOT Audit Liaison, M-1
FMCSA Audit Liaison, MCPRS

EXHIBIT A. SCOPE AND METHODOLOGY

We conducted our work from January 2013 through January 2014 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.

Our objectives were to assess FMCSA's data quality controls and its enforcement intervention mechanisms. Specifically, we determined whether FMCSA (1) has sufficiently strengthened its controls to ensure data quality, (2) addressed key challenges for timely and effective implementation of CSA enforcement interventions nationwide, and (3) followed system development best practices and controls when implementing CSA.

To verify whether FMCSA established adequate data quality controls, we evaluated the MCMIS data used by CSMS to generate carriers' BASIC percentile rankings, including carriers' census data and State-reported crash and inspection data. We also evaluated FMCSA's SSDQ performance measures and reviewed SSDQ monthly reports that rated States' performance from calendar year 2010 to 2012. Further, we reviewed FMCSA's data correction process, known as DataQs, and analyzed data challenges entered from February 1, 2012, to February 22, 2013.

To evaluate FMCSA's implementation of CSA enforcement interventions, we reviewed FMCSA regulations and guidance and policies related to the enforcement interventions, and interviewed FMCSA officials. We limited work on this objective because only 10 States have implemented the interventions.

To determine whether FMCSA met system development controls when implementing CSA, we conducted a detailed review of FMCSA's CSMS system documentation. FMCSA provided much of this system documentation in August 2013—7 months after we announced our audit. We also examined CSMS validation and testing procedures. In addition, we worked with our information technology specialists to review CSMS system security controls and FMCSA's information system change and approval processes.

EXHIBIT B. OIG AND GAO REPORTS RELATED TO MOTOR CARRIER DATA AND ENFORCEMENT

OIG Reports

Significant Improvements in Motor Carrier Safety Program Since 1999 Act but Loopholes for Repeat Violators Need Closing (OIG Report Number MH-2006-046), Apr. 21, 2006.

Report on Investment Review Board Deliberations on the Motor Carrier Management Information System (OIG Report Number MH-2004-068), June 29, 2004.

Improvements Needed in the Motor Carrier Safety Status Measurement System (OIG Report Number MH-2004-034), Feb. 13, 2004.

Motor Carrier Safety Program, Federal Highway Administration (OIG Report Number TR-1999-091), Apr. 26, 1999.

OIG reports are available on our Web site at: <http://www.oig.dot.gov>.

GAO Reports

Motor Carrier Safety: More Assessment and Transparency Could Enhance Benefits of New Oversight Program (GAO-11-858), Sept. 29, 2011.

Motor Carrier Safety: The Federal Motor Carrier Safety Administration Has Developed a Reasonable Framework for Managing and Testing Its Comprehensive Safety Analysis 2010 Initiative (GAO-08-242R), Dec. 20, 2007.

Further Opportunities Exist to Improve Data on Crashes Involving Commercial Motor Vehicles (GAO-06-102), Nov. 18, 2005.

Truck Safety: Motor Carriers Office Hampered by Limited Information on Causes of Crashes and Other Data Problems (GAO/RCED-99-182), June 29, 1999.

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

EXHIBIT C. FMCSA'S STATE SAFETY DATA QUALITY PROGRAM "GOOD" RATINGS

SSDQ Performance Measure	Description of "Good" Rating	Year(s) Measure Implemented/ Changed
Overall State SSDQ Rating	Minimum of 1 Good Crash Measure, 1 Good Inspection Measure, and 0 Poor Measures	2004, 2006, 2007, 2010, 2011
Crash Record Completeness	≥85% completed driver and vehicle crash information reported to FMCSA	2007
Non-Fatal Crash Completeness	Non-fatal crash records are ≥ lower boundary of 90% prediction interval and ≤ upper boundary of 99% prediction interval, based on data ranges generated by a model.	2007, 2011
Fatal Crash Completeness	≥90% of State-reported fatal crash records in MCMIS, compared to number of fatal crash records reported in NHTSA's Fatality Analysis Reporting System (FARS).	2004
Crash Timeliness	≥90% of crashes reported within 90 days	2004, 2006, 2010
Crash Accuracy	≥95% State-reported records are matched to a company registered in MCMIS over 12 months	2004, 2006
Inspection Record Completeness	≥85% completed driver and vehicle inspection information reported to FMCSA	2010
Inspection Vehicle Identification Number (VIN) Accuracy	≥85% completed and accurate VINs reported to FMCSA	2010
Inspection Timeliness	≥90% inspection records reported to FMCSA within 21 days over 12 months	2004, 2006, 2010
Inspection Accuracy	≥95% inspection records reported by State over 12 months match to a company registered in MCMIS	2004

Source: Based on FMCSA's SSDQ methodology, dated January 2012.

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APPENDIX. AGENCY COMMENTS



U.S. Department
Of Transportation
Federal Motor Carrier
Safety Administration

Memorandum

Subject: **ACTION:** Response to Office of Inspector General (OIG) Draft Report: Actions Are Needed To Strengthen FMCSA's Compliance, Safety, Accountability Program **Date:** February 27, 2014

From: Anne S. Ferro, Administrator **Reply to:** MC-P

To: Joseph W. Comé, Assistant Inspector General for Highway and Transit Audits

The Federal Motor Carrier Safety Administration (FMCSA) is committed to improving large truck and bus safety and to ultimately reduce crashes, injuries, and fatalities that are related to commercial motor vehicles. To assist in this effort, the Compliance, Safety, Accountability (CSA) program provides motor carriers and drivers with attention from FMCSA and State Partners about their potential safety problems.

FMCSA CONTINUES TO IMPROVE THE QUALITY OF THE DATA IT COLLECTS

The FMCSA closely monitors the quality of State reported data through the State Safety Data Quality (SSDQ) program and offers assistance and guidance when potential problems are noted. As of January 2014, 41 States had an overall rating of "good"¹ in the SSDQ performance measures. Also, all States were rated "good" in crash record completeness, with only the District of Columbia not scored due to insufficient data, and 38 States were rated "good" in crash reporting timeliness.

On April 27, 2013, FMCSA released a redesigned DataQs² system for motor carriers, drivers, other industry representatives, and the public to submit Requests for Data Review (RDRs). The

¹ The State Safety Data Quality (SSDQ) program uses 4 ratings, Good, Fair, Poor, and Insufficient Data to assess the quality of State reported data. For more information about the State Safety Data Quality (SSDQ) program please reference <http://ai.volpe.dot.gov/DataQuality/DataQuality.asp?redirect=intro.asp>

² DataQs is an online system for drivers, motor carriers, Federal and State agencies, and others to file concerns about Federal and State data maintained in the FMCSA Motor Carrier Management Information System (MCMIS) and released to the public.

enhanced DataQs system improves the user experience and the quality of requests submitted. The enhancements include the following features:

- New My DataQs dashboard;
- More easily accessible tools and resources;
- Step-by-step process for submitting a Request for Data Review (RDR) or Inspection Report Request (IRR); and,
- Improved list of reviews requested with expanded status options allowing for easier tracking and monitoring of requests.

In addition, new reports were developed to allow for more in-depth analysis of how RDRs are processed. These reports provide the ability to identify potential areas of improvement from a systemic level down to an individual officer.

A revision to the DataQs User Guide and Manual is under development to incorporate additional guidance and best practices to assist the States in addressing RDRs. The manual will include new guidance being developed for responses to RDRs concerning inspection violations with an accompanying citation that goes through an adjudication process in the State within which the violation was cited.

FMCSA has been proactive in encouraging motor carriers to submit biennial updates to their registration data. In 2009, FMCSA implemented an automated reminder in the SafeStat system. A reminder message would be sent to motor carriers whose Motor Carrier Identification Report (FMCSA Form MCS-150) had not been updated within the previous 24 months as required. A similar reminder was implemented in other systems, including DataQs where an additional feature requires motor carriers to update their registration information before an RDR will be processed. In addition, a reminder to submit a biennial update to registration data is also incorporated in the on-line CSA Safety Measurement System (SMS), which is available to motor carriers to monitor their safety performance data. Finally, information on the status of a carrier's registration data is displayed in all enforcement information systems employed by FMCSA and its State partners to readily identify carriers with out-of-date registration data.

Effective November 1, 2013, FMCSA implemented a provision resulting from the Unified Registration System (URS) final rule (78 FR 52608, August 23, 2013) that states that a motor carrier that fails to comply with the biennial update requirement will be subject to civil penalties and deactivation of its U.S. Department of Transportation (USDOT) number. In addition, one of the new provisions in the URS final rule will prohibit a motor carrier without an active USDOT number or without USDOT registration from operating a commercial motor vehicle (CMV) in interstate commerce.

FMCSA IS COMMITTED TO SUCCESSFULLY DEPLOYING CSA INTERVENTIONS NATIONWIDE IN A UNIFORM MANNER.

The first two phases of nationwide implementation of the SMS and “new interventions” elements of the CSA program are complete. The first phase began in December 2010 with the use of SMS to identify and prioritize high-risk carriers for investigations as well as several new interventions, which include warning letters, focused investigations, red flag violations, and driver-based sampling processes. The second phase of CSA implementation began in September 2011 with the integration of the Safety Management Cycle into all investigations. This process provides investigators with the tools needed to systematically identify truck and bus companies’

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underlying safety problems. It provides a step-by-step process that goes beyond just identifying “what” the violations are to get at “why” the safety performance issues are occurring.

Deployment of the third phase of CSA will occur upon completion of the Agency’s new investigative software. The Agency’s rollout of the Phase III process will include:

- Offsite investigations, which avoids the cost and disruption of deploying investigators to a carrier’s place of business.
- Cooperative Safety Plans (CSP), which provides opportunities for truck and bus companies to describe their plans for taking corrective actions.
- Serious Violations Follow-up Efficiency, which allows the agency to best use its investigative resources while ensuring carriers properly address and correct serious violations discovered during investigations.

FMCSA will mitigate risks to successful deployment by developing an implementation plan covering policy, information technology (IT), training, and communications elements.

FMCSA IS COMMITTED TO IMPROVE THE CARRIER SAFETY MEASUREMENT SYSTEM (CSMS)

The FMCSA is updating the CSMS requirements document to specify all sources of CSMS data, including each of the Motor Carrier Management Information System (MCMIS) fields used, and to fully describe CSMS validation procedures. The FMCSA has been proactive in improving its life cycle management of IT systems. The FMCSA now has a fulltime configuration manager and a test lead which will facilitate the development and implementation of a process for managing CSMS system documentation that includes a central file for validation of records and testing results for IT systems. FMCSA will also develop and implement a configuration management policy that includes documentation of system changes and associated testing for CSMS and other FMCSA information systems.

RECOMMENDATIONS AND RESPONSES

Recommendation 1: “Issue updated DataQs guidance.”

Response: Concur. FMCSA is currently revising the DataQs User Guide and Manual.

Target Action Date: July 31, 2014

Recommendation 2: “Implement the process for deactivating USDOT numbers when carriers do not submit required census data, as described in FMCSA memorandum MC-ES-2013-0009.”

Response: Concur. Starting March 1, 2014, FMCSA will begin deactivating USDOT numbers for carriers that do not complete their census data updates as required. In November 2013, FMCSA sent warning letters to all motor carriers required to submit a census data update in January 2014. On March 1, 2014, any carrier who was required to update its census data in January 2014, and fails to do so, will have its USDOT number deactivated. Additionally, on the first day of every month thereafter, the next group of carriers scheduled to complete their census data as required, and fail to do so, will have their USDOT number deactivated. For example, on April 1, 2014, FMCSA will deactivate USDOT numbers for carriers that were due to complete their census data

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update during February 2014 and did not complete their update as required. These carriers received a warning letter in December 2013. On May 1, 2014, FMCSA will deactivate USDOT numbers for carriers that were due to complete their census data update during March 2014 and did not complete their update as required. The schedule and table for the required census data update can be found in 49 CFR 390.19 (b)(2) & (3).

Target Action Date: March 31, 2014

Recommendation 3: “Develop a comprehensive plan to fully implement CSA enforcement interventions in the remaining 41 States. The plan should include an estimated completion date and milestones for releasing Sentri software, developing and delivering training, and using the enforcement interventions.”

Response: Concur. FMCSA will develop an implementation plan to reflect recent activity and future requirements.

Target Action Date: May 30, 2014

Recommendation 4: “Update the CSMS requirements document to (a) specify all sources of CSMS data, including each of the MCMIS fields used, and (b) fully describe CSMS validation procedures.”

Response: Concur. FMCSA will update the CSMS – System Requirements document to include two new chapters: “Sources of CSMS Data” and “CSMS Validation Procedures.” The latter chapter will address validation of both the monthly CSMS runs and CSMS system changes.

Target Action Date: June 30, 2014

Recommendation 5: “Develop and implement a process for managing CSMS system documentation that includes a central file for validation records and testing results.”

Response: Concur. In June 2013, FMCSA implemented a process for recording the completion of the steps required to validate the SMS monthly runs in a centralized location (via SharePoint). Based on the updated validation procedures referenced in Recommendation #4, FMCSA will develop a more comprehensive centralized system that will store important results and correspondence for each monthly run.

Target Action Date: June 30, 2014

Recommendation 6: “Develop and implement a configuration management policy that includes documentation of system changes and associated testing for CSMS.”

Response: Concur. FMCSA will integrate CSMS system changes into the existing FMCSA information technology (IT) configuration management policy and supporting configuration management tool, the Electronic Change Request System (eReqs). The eReqs process includes: internal FMCSA validation; executive oversight; impact assessment; Software Development Life Cycle documentation, which describes the

requirements, testing, and deployment; and, storage of the modification request documentation and release artifacts to the centralized location.

Target Action Date: June 30, 2014

We appreciate the opportunity to offer our perspective on this report. Please contact William Quade, Associate Administrator for Enforcement and Program Delivery, by telephone at (202) 366-4553 with any questions or requests for additional assistance.