THE SAFETY DATA IMPROVEMENT PROGRAM 2013–14 BIENNIAL REPORT TO CONGRESS

Pursuant to Section 4128 of the
Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
Public Law 109-59
February 2016

INTRODUCTION

Section 4128 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) authorized the Secretary of the U.S. Department of Transportation (DOT) to make grants to States through the Safety Data Improvement Program (SaDIP) for projects and activities to improve the accuracy, timeliness, and completeness of commercial motor vehicle (CMV) safety data. SAFETEA-LU also directed the Secretary to transmit a biennial report to Congress on the activities and results of the program and any recommendations the Secretary determines to be appropriate. The *Safety Data Improvement Program 2011–2012 Biennial Report* was transmitted to Congress on March 17, 2014. Section 32603 of the Moving Ahead for Progress in the 21st Century Act authorized continuation of SaDIP.

BACKGROUND

The Federal Motor Carrier Safety Administration (FMCSA) is responsible for regulating the safety of interstate large truck and bus travel in the United States. Since FMCSA was established in 2000, large truck and bus fatalities have declined from 5,620 in 2000 to 4,251 in 2013 (the most recent year for which complete crash data are available). In 2000, the fatality rate from crashes involving large trucks and buses was 0.205 per 100 million total vehicle miles traveled (VMT) on the Nation's highways. By 2013, that same rate had decreased to 0.142, a 31 percent improvement. Additionally, the injury rate from crashes involving large trucks and buses decreased from 3.94 per 100 million VMT in 2000 to 2.89 per 100 million VMT in 2013, a 27 percent overall improvement. With roughly 1,100 employees, FMCSA oversees an industry comprised of more than 525,000 interstate motor carriers and approximately 5.7 million active commercial drivers. The FMCSA relies on strong partnerships with its stakeholders to achieve its safety mission.

The FMCSA is a data-driven organization. Therefore, timely, accurate, and accessible data are critical to the success of the Agency's safety programs and the development of its regulations. The FMCSA uses data collected from motor carriers, Federal and State agencies, and other sources to monitor motor carrier compliance with the Federal Motor Carrier Safety Regulations and Hazardous Materials Regulations. Data are also necessary to evaluate the safety performance of motor carriers, drivers, and vehicles, and to help Federal and State safety investigators focus their enforcement resources by identifying high-risk carriers and drivers. Timely, accurate, and complete crash and inspection reporting is one of the five national program elements of the Motor Carrier Safety Assistance Program. The collection of data is a core component of a successful enforcement program.

The FMCSA maintains the Motor Carrier Management Information System (MCMIS), which contains data on carrier registrations, crashes, inspections, safety audits, and investigations. Access to the system is provided to designated Federal and State employees through SAFETYNET. SAFETYNET is an automated information management system that supports FMCSA programs by enabling designated users to upload safety performance data on interstate and intrastate commercial motor carriers to MCMIS. Once entered, the data is available to States and other entities for further analysis. Additionally, motor carrier companies, insurers, shippers, safety researchers, advocacy groups, and a variety of other entities use the data from MCMIS.

Prior to SAFETEA-LU and the Motor Carrier Safety Improvement Act of 1999 (MCSIA), deficiencies in the data were revealed through periodic audits of MCMIS crash data by FMCSA. Data on crashes involving large trucks and buses were incomplete, and many eligible crashes were not reported. Section 225 of MCSIA addressed the lack of complete, timely, and accurate CMV crash data through the creation of the Commercial Vehicle Analysis Reporting System (CVARS) program. CVARS was developed to address deficiencies in data quality and insufficient data reporting. Under CVARS, FMCSA initiated several efforts including continued State funding to improve the collection and analysis of truck and bus crash data, State Safety Data Quality (SSDQ) performance measures development, and other initiatives to assist the States in improving data reported to FMCSA. Under MCSIA and CVARS, DOT provided more than $21 million in discretionary grants and cooperative agreements to 34 States between 2002 and 2005.

STATE SAFETY DATA IMPROVEMENT PROGRAM

SaDIP is the successor to the CVARS program. SAFETEA-LU authorized $11 million for Fiscal Years (FY) 2006 through 2009 ($2 million for FY 2006 and $3 million annually for the remaining years) to award grants to States for projects and activities to improve data reported to FMCSA. SAFETEA-LU, as amended under Public Law 111-117, 124 Stat. 71, 49 U.S.C. §§ 31102-31104, provided $3 million each year for FY 2010 through FY 2014. Requests for SaDIP grants exceeded the available funds each year from FY 2008 through FY 2014. Since FY 2006, FMCSA has awarded 105 SaDIP grants to 36 States, totaling more than $25 million.

Additionally, in FY 2006, FMCSA established specific guidelines to better assess State proposals for SaDIP grants; to better prioritize funding requests received from the States; and to provide greater uniformity in evaluating, ranking, and awarding funds to States. Evaluation criteria for awards have been clearly defined and posted publicly at www.grants.gov for potential grant applicants to review and consider prior to submitting an application.[1] All eligible applications for SaDIP funds were received from States via www.grants.gov. Technical review panel members evaluated grants, and awards were disbursed before the close of each FY for all years since the inception of the SaDIP program. These grant lifecycle enhancements were made in response to agency-wide grants management policies and initiatives and in response to the November 2005 Government Accountability Office report titled "Further Opportunities Exist to Improve Data on Crashes Involving Commercial Motor Vehicles." Table 1 shows the distribution of SaDIP grants to the States since FY 2009.

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[1] Example of guidance from the FY 2015 SaDIP Notice of Funds Available (NoFA) can be found at: https://www.grantsolutions.gov/gs/preaward/previewPublicAnnouncement.do?id=50033.

Table 1. SaDIP Awards for FY 2006 to 2014

State	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
Alabama	$500,000.00	$350,000.00		$443,001.00	$375,687.00	$464,808.00
Alaska	$335,479.20	$94,416.00	$120,049.00	$127,758.00	$165,764.00	$184,167.00
Arkansas						$407,500.00
Connecticut	$25,600.00	$45,600.00	$280,345.00	$258,343.00		
District of Columbia					$334,294.00	
Florida			$440,000.00	$353,250.00	338,373.00	307,292.00
Georgia		$200,000.00		$54,136.00		$50,644.00
Indiana	$99,902.33			$111,281.00		
Iowa		$350,000.00				
Kansas	$240,288.16					
Louisiana	$270,746.40		$298,305.00		$309,994.00	
Maine	$205,708.67	$193,619.00		$182,587.00	$183,126.00	
Maryland	$288,000.00		$318,642.00			
Massachusetts	$215,981.64	$90,447.00			$380,252.00	$79,431.00
Michigan		$350,000.00	$290,000.00			
Mississippi					$379,110.00	$379,110.00
Missouri	$68,250.00					
Nebraska	$299,923.20					
New Jersey		$104,244.00	$204,739.00	$204,739.00		$323,759.00
New Mexico		$82,755.00		$102,640.00		
North Carolina	$450,120.40	$72,175.00	$697,920.00	$187,232.00		
North Dakota				$35,000.00		
Oklahoma		$350,000.00				
Pennsylvania				$147,869.00		
Rhode Island		$54,944.00				
Tennessee		$311,800.00				
Texas					$277,400.00	$344,088.00
Utah				$336,164.00		
Virginia		$350,000.00		$456,000.00	$250,000.00	$459,201.00
Wisconsin			$350,000.00			
Total[2]	**$3,000,000.00**	**$3,000,000.00**	**$3,000,000.00**	**$3,000,000.00**	**$2,994,000.00**	**$3,000,000.00**

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[2] The following States have not received a SaDIP grant: Colorado, Delaware, Hawaii, Illinois, Minnesota, Montana, New York, Ohio, Oregon, South Carolina, South Dakota, Vermont, West Virginia, and Wyoming. Of these States, the following received CVARS grants or cooperative agreements prior to FY 2006: Colorado, Minnesota, Montana, New York, Ohio, South Carolina, South Dakota, Vermont, and West Virginia.

Using these grants, States have undertaken the following primary activities:

- Reducing the backlog of data not yet entered into State-level databases by hiring contractors and State personnel to create more complete State crash data files.
- Developing and implementing electronic data systems for collecting and processing crash data in a more timely, accurate, and consistent manner.
- Providing training and education to law enforcement officers and State traffic records personnel on the definitions and criteria for CMV crashes and how to create more accurate and consistent data.
- Implementing measures to address deficiencies in States' ability to address DataQs system requests for data review in a timely fashion and to improve the overall quality of crash and inspection data reported by the States to FMCSA.
- Analyzing existing data and State crash data collection forms to identify insufficiencies or inaccuracies and develop plans for addressing them.

Awards for activities supported by SaDIP and its predecessor CVARS have resulted in significantly improved data reported by the States to FMCSA. Since there is variability among States in the reporting of safety event data used by FMCSA to evaluate State safety programs, a State Safety Data Quality (SSDQ) methodology was developed to evaluate the completeness, timeliness, accuracy, and consistency of State-reported data.[3] In addition to meeting the eligibility requirements established by SAFETEA-LU, successful SaDIP grant applicants must address their performance against the SSDQ methodology in their grant proposals. The section below describes the methodology against which States are rated. The SSDQ Map (see Figure 2) provides a pictorial representation of the States' performance against the SSDQ methodology.

COMPREHENSIVE SSDQ PROGRAM

On January 3, 2002, the Office of Management and Budget issued "Government-wide Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information disseminated by Federal Agencies under Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001" (P.L. 106-554), effective December 2000. These guidelines were implemented and made effective for all information released by FMCSA as of October 1, 2002. The DOT Office of Inspector General (IG) 2004 report, "Improvements Needed in the Motor Carrier Safety Status Measurement System,"[4] recommended that FMCSA focus on improving data quality. The FMCSA developed a comprehensive data and information quality plan that supports the DOT data quality guidelines and addresses the recommendations in the IG's report. The following components are included in the plan.

Methodology for State Safety Data Quality: The SSDQ evaluation uses a 12-month timeframe that ends 3 months prior to the MCMIS snapshot for each measure, unless otherwise stated in the rating description. When first developed in 2004, the methodology consisted of five performance measures and one overriding performance indicator. In October 2007, FMCSA introduced two additional performance measures that focused on the completeness of the crash

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[3] The SSDQ methodology can be found online at:
https://ai.fmcsa.dot.gov/DataQuality/methodology/default.aspx#showDetail.
[4] DOT OIG Report MH-2004-034 is available at: https://www.oig.dot.gov/library-item/30311.

file. The methodology was modified again in October 2010 and now consists of nine performance measures (five crash and four inspection measures) and one overriding performance indicator, as depicted in Figure 1.
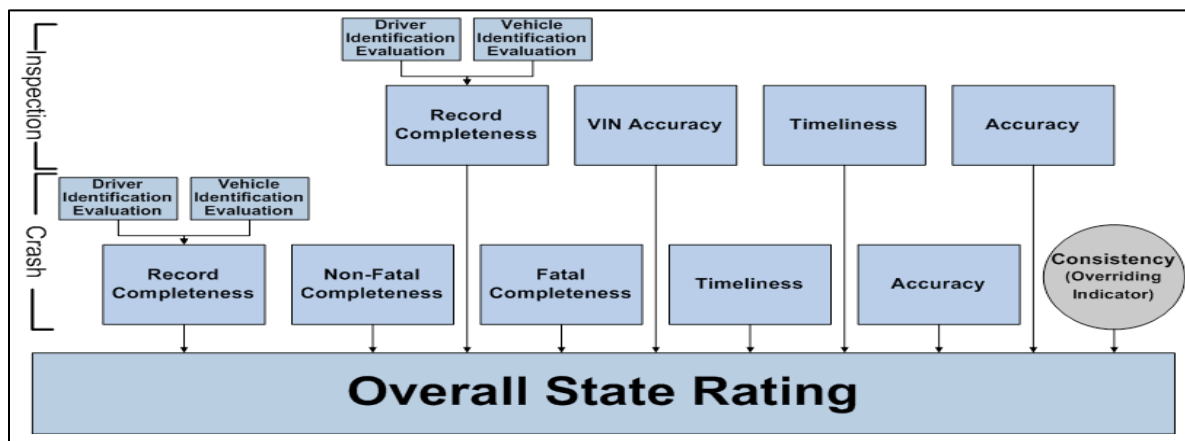

Figure 1. Diagram. State Safety Data Quality Evaluation Methodology

Monthly SSDQ Evaluation and the SSDQ Map: The SSDQ evaluation is updated monthly to reflect improvements in crash and roadside inspection reporting. Evaluation reports are released to the public each month on the Analysis and Information Online Web site at http://ai.fmcsa.dot.gov/DataQuality/dataquality.asp.

States receive a rating of "Good," "Fair," or "Poor" for each SSDQ measure and an overall State rating. The FMCSA developed the color-coded SSDQ map as a visual tool for States to use for improving crash and inspection data reported to FMCSA. Figure 2 depicts the overall data quality rating for each State based on the following criteria: good/green for States with at least one good crash measure, one good inspection measure, and no poor measures; fair/yellow for States with no more than one poor measure; poor/red for States with two or more poor measures. Red-flagged States are automatically rated poor overall.
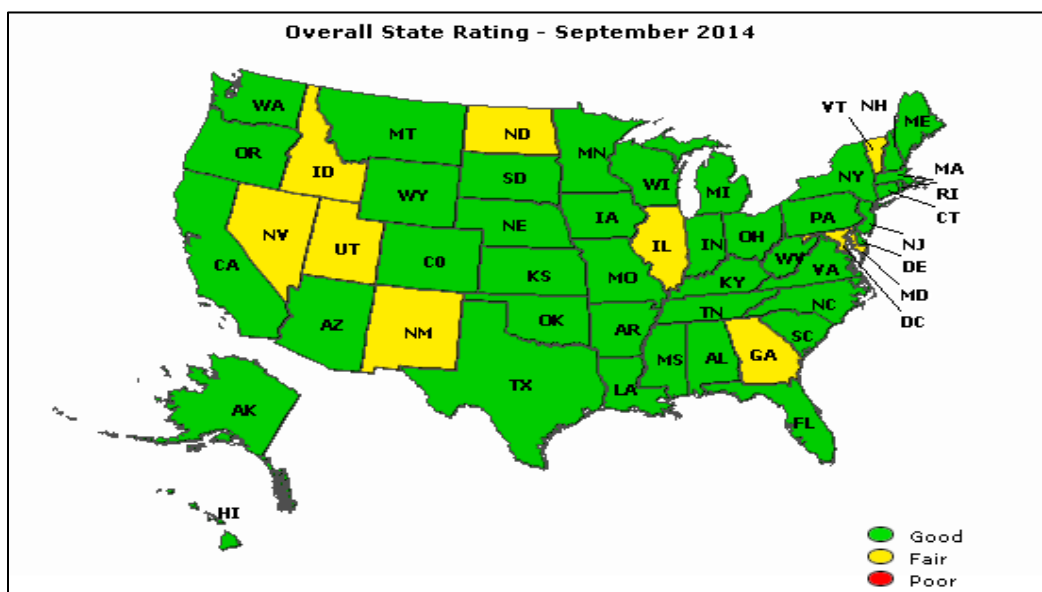

Figure 2. Map. SSDQ Map—Overall State Ratings, September 2014

SSDQ Continuous Improvement: The SSDQ performance measures have undergone continuous development, with new measures added and existing ones refined as part of an ongoing effort to improve State data quality. Table 3 summarizes the States' overall rating as the performance measures have evolved since the inception of the SSDQ program.

Table 3. SSDQ Performance Measure Changes from FY 2004 to FY 2014

Overall State Rating	5 Measures + 1 Indicator		7 Measures + 1 Indicator		9 Measures + 1 Indicator		9 Measures + 1 Indicator (NFCC Modifications)[5]			
	3/2004	3/2007	9/2007	8/2010	9/2010	8/2011	1/2012	9/2012	9/2013	9/2014
Good	24	40	21	40	36	44	39	46	45	41
Fair	13	8	20	9	12	6	10	4	5	9
Poor	14	3	10	2	3	1	2	1*	1*	1*

*District of Columbia

Technical Assistance: The FMCSA currently funds three Data Quality Specialists to support State data quality improvements. Every State has one of the Data Quality Specialists assigned to assist in the State's efforts to improve and maintain data quality. The Specialists monitor the States' data on a regular basis and provide their observations to the States. Data Quality Specialists are also available to the State to spot trends and monitor progress, develop and analyze custom reports, suggest strategies for improvement, and provide connections to tools or other specialists.

Fatality Analysis Reporting System (FARS)/MCMIS Fatal Crash Record Matching Tool: The FARS/MCMIS Fatal Crash Record Matching Tool is designed to help reconcile differences between the FARS and MCMIS databases. A methodology was developed to "match" fatal large truck and bus crash records between the FARS and MCMIS databases. The methodology defines a "matched record" between the two databases as a crash that involved at least one fatality, involved a large truck or bus, and contains the same information in several key fields (e.g., county, date, time, Vehicle Identification Number, and USDOT number). The methodology has more than 40 unique matching combinations that can produce a single match between FARS and MCMIS fatal crash records.

State Police Accident Report (PAR) Analysis: Data elements included on the State PAR, instructions for completing the PAR, and State crash records are reviewed to determine the nature and extent of reporting. Recommendations for improving the PAR are provided to State agencies to ensure all data required to be reported to FMCSA are collected at the crash scene.

Training: State agencies are provided customized training and materials based on their State crash reports and truck and bus supplemental forms. The FMCSA also provides training to SAFETYNET operators to improve the quality of the inspection and crash data input into SAFETYNET and uploaded to MCMIS. The training is designed to help SAFETYNET operators with the following: to improve the data used in the Crash and Inspection Record Completeness measure and the Crash and Inspection Accuracy measure; to run queries in SAFETYNET; to use the Driver Information Resource online tool to search past inspections and

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[5] Non-fatal crash completeness measure was the most recent measure to be refined.

crashes in MCMIS; to use Query Central to locate driver, vehicle, and carrier information; to understand the different carrier types used in SAFETYNET; and to resolve non-matches.

DataQs System: The DataQs System, established in February 2004, is an electronic means for filing concerns about Federal and State data contained in FMCSA data systems. Through this system, motor carriers, drivers and other interested persons may submit requests for data review, which are then automatically forwarded to the appropriate office for resolution. The system also allows requestors to monitor the status of their request(s). On December 31, 2014, FMCSA published the DataQs Analyst Guide, Best Practices for Federal and State Agency Users,[6] which supersedes and updates the previous DataQs guidance document published in January 2011. The guide provides practical guidance and best practices to address and resolve requests submitted electronically to FMCSA by motor carriers, commercial drivers, and other persons using the DataQs system. The document is designed primarily to support FMCSA and State agency DataQs analysts by providing uniform, consistent, and reliable procedures for reviewing and resolving data quality inquiries.

The FMCSA announced in a June 5, 2014, Federal Register notice (79 FRN 32491) that it would proceed with a new policy to reflect the results of adjudicated citations related to roadside inspection violations, contained in MCMIS. The FMCSA subsequently created system functionality in DataQs and MCMIS to enable commercial drivers and motor carriers to submit DataQs requests that address the outcomes of adjudicated citations related to roadside inspection violations recorded in MCMIS. Violations that are the subject of a citation that has been dismissed or otherwise favorably adjudicated will not be displayed by other FMCSA data systems such as Safety Measurement System (SMS) and the Pre-employment Screening Program. The FMCSA National Training Center delivered a briefing to the public and industry partners regarding final enhancements to the display of information on the SMS public Web site (http://ai.fmcsa.dot.gov/sms) and outlined changes to MCMIS that were implemented to improve inspection violations data that are consistent with the Agency's new adjudicated citations policy. The briefing was offered via webinar format three times in August 2014.

SUMMARY

The SaDIP and the comprehensive SSDQ program contribute to the States' ability to continuously improve the quality, accuracy, completeness, and timeliness of their truck and bus crash and inspection data collection and reporting. The improvements enhance the ability of both Federal and State governments to make highway planning, investment, and safety enforcement decisions. However, more work remains to be done. The FMCSA continues to support States' data quality efforts in order to sustain this progress and increase the number of State participants working to improve the collection, analysis, and reporting of motor carrier crash and inspection data, with the primary goals of improving motor carrier safety and reducing fatal and injury crashes on the Nation's roadways.

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[6] The DataQs Analyst Guide can be found at:
https://dataqs.fmcsa.dot.gov/Data/Guide/DataQs_Users_Guide_and_Best_Practices_Manual.pdf.