

# THE MOTOR CARRIER SAFETY ASSISTANCE PROGRAM 2012 ANNUAL REPORT TO CONGRESS

Pursuant to section 31102(e) of title 49, United States Code  
October 2015

The Federal Motor Carrier Safety Administration's (FMCSA) Motor Carrier Safety Assistance Program (MCSAP) provides financial assistance to State<sup>1</sup> and local government agencies. The goal of MCSAP is to reduce the number and severity of crashes and hazardous material incidents involving commercial motor vehicles (CMV). Specifically, MCSAP has resulted in the development and implementation of programs to improve the safety of CMVs on the Nation's roadways.

Section 31102(e) of title 49, United States Code requires the Secretary of the U.S. Department of Transportation to submit an annual report on MCSAP that analyzes CMV safety trends among States, documents the most effective CMV safety programs implemented with MCSAP grants, and describes the effects on CMV safety activities carried out with these grants. In addressing these requirements, this report reflects activities and outcomes achieved in Fiscal Year (FY) 2012. FMCSA utilized FY 2012 information in its analysis as it represents the most recent year for which fully collected and evaluated safety data is available.<sup>2</sup>

## OVERVIEW OF MCSAP FUNDING

Congress appropriated \$165.3 million for MCSAP funding in FY 2012. The FMCSA awarded these funds per section 31102 through two grant programs:

- The **Basic** funding program is the core MCSAP grant program. It distributes funds proportionally to the States, the District of Columbia, and Puerto Rico using four equally weighted factors: (1) 1997 road miles, (2) vehicle miles traveled (VMT), (3) population, and (4) special fuel consumption. These factors are evaluated using a MCSAP formula calculation established under 49 CFR § 350.323. This process allows the Secretary to maintain an objective and reliable disbursement process for each MCSAP eligible State. The U.S. Territories of Guam, American Samoa, the U.S. Virgin Islands, and the Commonwealth of the Northern Mariana Islands each receive a fixed annual amount of \$350,000 in MCSAP funds. In FY 2012, FMCSA distributed approximately \$155.3 million in MCSAP Basic grants.

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<sup>1</sup> Pursuant to section 31101 of title 49, United States Code, the definition of States includes "a State of the United States, the District of Columbia, Puerto Rico, the Virgin Islands, American Samoa, Guam, and the Northern Mariana Islands."

<sup>2</sup> The time required for the comprehensive analysis and correlation of intervention and safety data limits the ability to use activities and outcomes statistics from more recent fiscal years.

- The FMCSA provides **Incentive** funds to those States that demonstrate improvement in CMV safety programs by achieving reductions in CMV-involved fatal crashes, the CMV fatal crash rate, or that meet other specified CMV safety performance criteria, such as the timely uploading of CMV inspection data to FMCSA data systems. States may use these funds for any MCSAP-eligible safety purpose. The FMCSA distributed \$10 million in MCSAP Incentive grants in FY 2012.

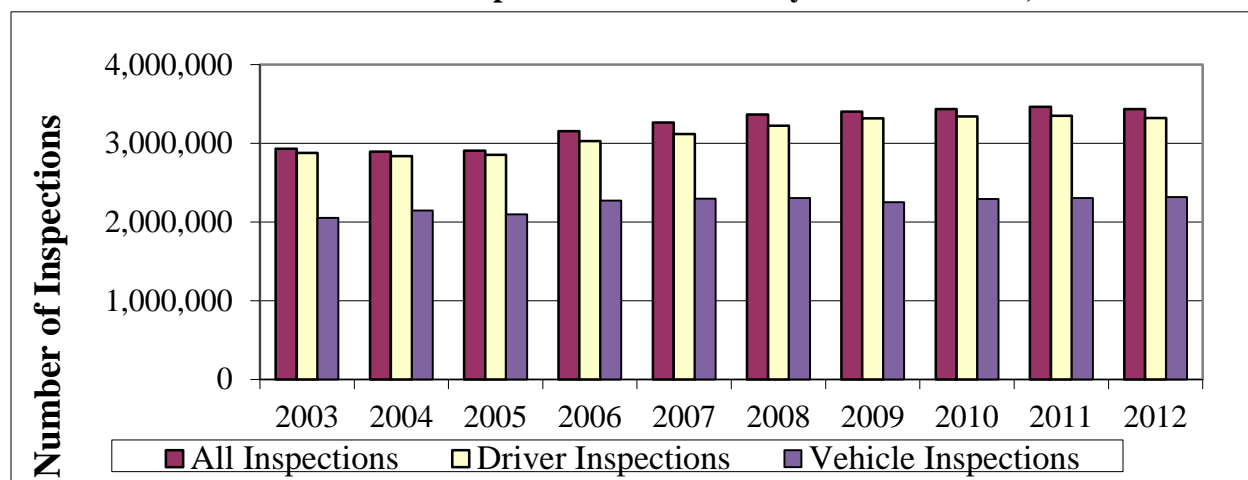
Congress appropriated an additional \$44 million in grant funds through the MCSAP High Priority (\$15 million) and Border Enforcement (\$29 million) grant programs. These discretionary programs support CMV inspections, traffic enforcement targeted at CMVs, and motor carrier interventions. The data provided in this report is inclusive of the activities funded by all four grant programs.

## MCSAP ACTIVITIES AND OUTCOMES

### Roadside Inspections and Traffic Enforcement

Roadside inspections and traffic enforcements are two effective methods for determining carrier and driver compliance with Federal and compatible State regulations. As shown in Exhibit 1, from FY 2003 through FY 2012, the number of annual roadside inspections conducted by State personnel increased by more than 500,000. Driver inspections increased by approximately 15 percent during this period, and vehicle inspections increased by almost 13 percent.<sup>3</sup> In FY 2012, approximately 5 percent of driver inspections and 20 percent of vehicle inspections resulted in Out-of-Service Orders. Commercial passenger vehicle (e.g., motorcoaches and for-hire shuttles) inspections numbered 112,496, an increase of 121 percent from FY 2003.

**Exhibit 1: Driver and Vehicle Inspections Conducted by State Personnel, FY 2003-2012**



Source: FMCSA Inspection Archive, June 2012 (2012 Data from the Motor Carrier Management Information System (MCMIS) as of November 16, 2012).

<sup>3</sup> The sum of driver and vehicle inspections is greater than that shown for all inspections because Level I and II inspections contain both a driver and a vehicle component.

The FMCSA uses an intervention model to measure the effectiveness of roadside inspections and traffic enforcement in terms of crashes and injuries avoided and lives saved. The intervention model is based on the premise that the roadside inspection and traffic enforcement programs directly and indirectly contribute to the reduction of truck and bus crashes.<sup>4</sup>

Once FMCSA calculates the number of crashes avoided for each inspection, it can estimate the number of lives saved and injuries avoided as a result of those crashes avoided. By first utilizing historical data, FMCSA determines the percentage of crashes that result in fatalities and injuries. The FMCSA uses MCMIS data to compute the average number of fatalities per fatal crash, injuries per fatal crash, and injuries per non-fatal crash. These averages are then multiplied by the number of fatal and injury crashes avoided, resulting in the estimated number of lives saved and injuries avoided.

Exhibit 2 shows that MCSAP-supported roadside inspections and traffic enforcement actions contributed to preventing an estimated 8,833 injuries and saved an estimated 472 lives in FY 2012. Some of the derived safety benefits have declined from previous years due to less traffic enforcement inspections. Traffic enforcement inspections are those initiated as a result of an observed traffic violation and resulting traffic violations are included on the inspection report. In recent years, FMCSA has encouraged State and local law enforcement agencies to increase their emphasis on conducting traffic enforcement as a tool to deter driver-specific crash causation behaviors without necessarily conducting an accompanying inspection.

### Exhibit 2: Intervention Benefits for the Past Three Fiscal Years

Intervention Benefits	FY 2010	FY 2011	FY 2012
Roadside Inspections	2,849,350	3,021,002	3,071,817
Traffic Enforcements with an Inspection	710,983	580,939	510,083
<b><i>Total Interventions</i></b>	<b><i>3,560,333</i></b>	<b><i>3,601,941</i></b>	<b><i>3,581,900</i></b>
Crashes Avoided due to Roadside Inspections	8,154	8,311	8,721
Crashes avoided due to traffic enforcements	8,330	6,468	5,703
<b><i>Total Crashes Avoided</i></b>	<b><i>16,484</i></b>	<b><i>14,779</i></b>	<b><i>14,424</i></b>
Injuries Avoided due to Roadside Inspections	5,129	5,106	5,341
Injuries Avoided due to Traffic Enforcements	5,240	3,974	3,492
<b><i>Total Injuries Avoided</i></b>	<b><i>10,369</i></b>	<b><i>9,080</i></b>	<b><i>8,833</i></b>
Lives Saved due to Roadside Inspections	258	272	285
Lives Saved due to Traffic Enforcements	263	212	187
<b><i>Total Lives Saved</i></b>	<b><i>521</i></b>	<b><i>484</i></b>	<b><i>472</i></b>

Source: Roadside Inspection Effectiveness Model

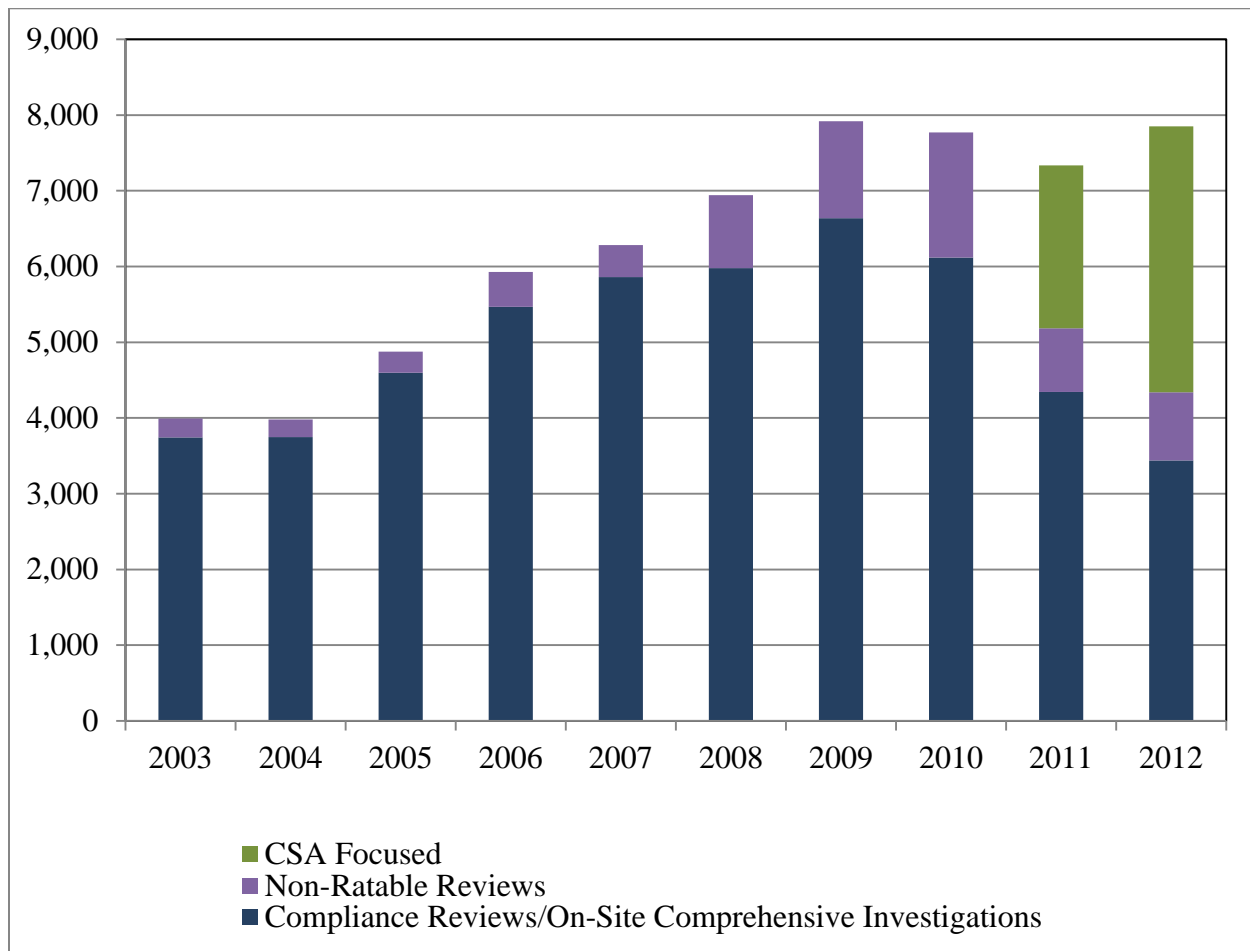
<sup>4</sup> The RIEM represents FMCSA's most recent modeling effort for roadside interventions and traffic enforcement activity. The approach used to assign crash risk was initially developed in a study performed by Volpe, called the Violations Severity Assessment Study (VSAS), which was peer reviewed in 2008.

## Investigations and Interventions

Since its deployment in FY 2011, States have been increasingly using the interventions (e.g., warning letters and focused and comprehensive investigations) developed in the Agency's Compliance, Safety, Accountability (CSA) program. The CSA on-site comprehensive investigation is comparable to the compliance reviews conducted previously.

In 2012, States conducted over 3,442 on-site comprehensive investigations and 3,511 new focused reviews, as shown in Exhibit 3. Non-ratable reviews are included in this table of activities because, while not directly impacting a carrier's safety rating, FMCSA believes that this contact with the Agency improves the carrier's overall safety posture. In total, there were 7,849 reviews conducted in FY 2012, representing a 96.5 percent increase from FY 2003.

**Exhibit 3: Carrier Reviews Conducted by State Personnel – FY 2003 – FY 2012**



Source: Safety Progress Reports for 2011 and 2012.

The FMCSA uses the Carrier Intervention Effectiveness Model (CIEM) to estimate crash rate reductions resulting from the interventions and reports safety benefits in terms of crashes avoided, injuries prevented, and lives saved. For FY 2011, the CIEM estimates 6,145 crashes avoided, 3,774 injuries prevented, and 201 lives saved.<sup>5</sup>

The CIEM indicates that carriers receiving warning letters as a first intervention experience substantial crash rate reductions. The vast majority of the carriers receiving these letters did not receive a follow-up intervention, suggesting that the warning letter in and of itself can be an effective tool for improving motor carrier safety. Other interventions, such as offsite investigations, onsite focused investigations and onsite comprehensive investigations, have even greater impacts on crash rate reductions.

### State Safety Trends

Through the MCSAP and Border Enforcement funding distributed to State and local agencies, FMCSA seeks consistent, uniform, and effective safety programs nationwide. This investment is working, as evidenced by Exhibit 4. The fatality rate, expressed as the number of fatalities per 100 million VMT, is 31.8 percent lower in FY 2012 than FY 2003.

**Exhibit 4: State Safety Trends in Truck and Bus Fatalities per 100 Million Total VMT**

Calendar Year	Fatal Crashes	Fatalities	Total VMT (Millions)	Fatalities per 100 Million Total VMT
2003	4609	5343	2,890,221	0.185
2004	4734	5519	2,964,788	0.186
2005	4805	5539	2,989,430	0.185
2006	4643	5347	3,014,371	0.177
2007	4472	5116	3,031,124	0.169
2008	3994	4545	2,976,528	0.153
2009	3193	3619	2,956,764	0.122
2010	3512	3957	2,967,266	0.133
2011	3593	4043	2,950,402	0.137
2012	3702	4183	2,968,815	0.141

Source: 2012 Large Truck and Bus Crash Facts, VMT from FHWA

### Safety Trends for Individual States

Exhibit 5 shows the fatalities for each State resulting from crashes involving large trucks as a percent of total State VMT. The large truck fatality rate declined for all but six States from Calendar Year (CY) 2002 to CY 2012.

<sup>5</sup> The peer review for the CIEM was conducted by MaineWay Services in 2014. For this effort, FMCSA provided MaineWay Services with a copy of the CIEM Technical Report, describing the model's methodology.

**Exhibit 5: State Level Large Truck Fatality Rate per 100 Million Total VMT  
(CY 2002, 2007, 2012)**

State	2002			2007			2012		
	Fatalities	Total VMT	Rate	Fatalities	Total VMT	Rate	Fatalities	Total VMT	Rate
Alabama	128	57,515	0.22	134	61,410	0.22	107	64,959	0.16
Alaska	8	4,896	0.16	4	5,153	0.08	4	4,792	0.08
Arizona	104	51,334	0.20	98	62,963	0.16	85	60,129	0.14
Arkansas	98	30,080	0.33	114	33,171	0.34	88	33,522	0.26
California	362	320,942	0.11	366	328,312	0.11	254	326,272	0.08
Colorado	53	43,545	0.12	82	48,713	0.17	58	46,769	0.12
Connecticut	18	31,205	0.06	28	32,053	0.09	14	31,269	0.04
Delaware	17	8,875	0.19	6	9,483	0.06	9	9,186	0.10
District of Columbia	0	3,547	0.00	2	3,609	0.06	1	3,572	0.03
Florida	376	178,367	0.21	301	206,121	0.15	214	191,374	0.11
Georgia	198	108,321	0.18	229	112,541	0.20	153	107,488	0.14
Hawaii	4	8,886	0.05	3	10,345	0.03	6	10,050	0.06
Idaho	32	14,167	0.23	27	15,782	0.17	13	16,315	0.08
Illinois	156	105,401	0.15	154	107,483	0.14	122	104,578	0.12
Indiana	131	72,523	0.18	147	71,478	0.21	112	78,923	0.14
Iowa	68	30,847	0.22	71	31,253	0.23	60	31,596	0.19
Kansas	79	28,443	0.28	77	30,048	0.26	64	30,572	0.21
Kentucky	122	46,841	0.26	104	48,063	0.22	82	47,344	0.17
Louisiana	114	43,295	0.26	121	45,376	0.27	108	46,889	0.23
Maine	22	14,727	0.15	21	15,035	0.14	11	14,199	0.08
Maryland	63	53,702	0.12	69	56,503	0.12	65	56,476	0.12
Massachusetts	24	53,266	0.05	28	55,071	0.05	15	55,940	0.03
Michigan	135	100,144	0.13	124	104,614	0.12	72	94,548	0.08
Minnesota	86	54,562	0.16	86	57,233	0.15	60	56,988	0.11
Mississippi	83	36,429	0.23	75	43,337	0.17	51	38,667	0.13
Missouri	154	68,163	0.23	136	69,151	0.20	92	68,504	0.13
Montana	26	10,395	0.25	31	11,307	0.27	11	11,885	0.09
Nebraska	59	18,719	0.32	43	19,439	0.22	44	19,277	0.23
Nevada	32	17,966	0.18	29	22,146	0.13	18	24,148	0.07
New Hampshire	15	12,578	0.12	12	13,459	0.09	6	12,894	0.05
New Jersey	72	69,942	0.10	64	76,152	0.08	59	74,225	0.08
New Mexico	61	22,789	0.27	57	26,850	0.21	42	25,562	0.16
New York	132	133,057	0.10	155	136,737	0.11	100	128,221	0.08
North Carolina	169	92,894	0.18	168	103,598	0.16	127	104,950	0.12
North Dakota	19	7,336	0.26	12	7,844	0.15	48	10,081	0.48

Ohio	203	107,861	0.19	134	110,631	0.12	153	112,715	0.14
Oklahoma	130	45,731	0.28	112	47,572	0.24	124	47,872	0.26
Oregon	55	34,578	0.16	53	34,750	0.15	28	33,173	0.08
Pennsylvania	174	104,476	0.17	194	108,699	0.18	166	98,884	0.17
Rhode Island	5	8,142	0.06	7	8,636	0.08	4	7,807	0.05
South Carolina	101	47,290	0.21	91	51,109	0.18	82	49,036	0.17
South Dakota	19	8,499	0.22	14	9,005	0.16	20	9,113	0.22
Tennessee	150	68,229	0.22	149	71,179	0.21	111	71,167	0.16
Texas	467	221,026	0.21	502	243,443	0.21	568	237,836	0.24
Utah	44	24,564	0.18	39	26,832	0.15	18	26,528	0.07
Vermont	10	9,677	0.10	5	7,694	0.06	5	7,216	0.07
Virginia	100	77,450	0.13	108	82,077	0.13	85	80,959	0.10
Washington	55	54,776	0.10	79	56,939	0.14	46	56,762	0.08
West Virginia	65	20,005	0.32	48	20,564	0.23	45	9,226	0.23
Wisconsin	109	58,746	0.19	85	59,493	0.14	65	59,087	0.11
Wyoming	32	9,007	0.36	24	9,366	0.26	26	9,271	0.28
<b>U.S. Total</b>	4,939	2,855,756		4,822	3,029,822	8	3,921	2,968,815	7

Source: Fatalities: National Highway Traffic Safety Administration Fatalities Analysis Reporting System.  
VMT: Federal Highway Administration

## CONCLUSION

MCSAP grants continue to be the primary funding of State and local government programs that save lives and reduce injuries by preventing large truck and bus crashes. The FMCSA's State, local government, and non-profit partners accomplish this through consistent, uniform, and effective safety programs. Roadside inspections, traffic enforcements, and interventions prevented crashes, injuries, and fatalities. As a result, FMCSA will continue to work with the States, local government, and non-profit partners to use these MCSAP grant resources to improve safety on the Nation's roadways.