

OOIDA Foundation

RESEARCH • SAFETY • ECONOMICS

WHITE PAPER

**A Performance Review of CSA indicates that
CSA should be placed Out-of-Service and its
Authority Revoked**

9/15/2016



Owner-Operator Independent Drivers Association Foundation

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Preface

The following White Paper is based on facts as found in the 2014 *Large Truck and Bus Crash Facts*. The information is provided by the U.S. Department of Transportation through the Federal Motor Carrier Safety Administration's (FMCSA) Analysis Division.

The author of this White Paper, as well as all those who care about safety, has and continues to be concerned with the increasing number of fatal and injury crashes that involve commercial motor vehicles (CMVs) over the previous five years (2010-2014). While there has been much discussion on this subject, including several proposed and final rulemakings, this author believes that there has been little focus on the actual cause behind these increases and that there has been very little introspection by FMCSA of its own culpability for the increases. This author believes in fact that there has been and continues to be an attempt to justify a failed program, namely the Safety Measurement System (SMS), based on its inspection program called Compliance, Safety and Accountability (CSA). What is more startling however is that by targeting others within the industry, in particular drivers, FMCSA has directed attention away from their failed program while other agencies and safety advocates have bought into the fabrication.

Most of the criticism concerning CSA has centered on the methodology and algorithms used to determine the safety rating for motor carriers. Much discussion has focused on the accuracy of the data and whether or not it has any real-world value. This paper examines the true factual performance of the CSA program for the five years of its implementation and demonstrates that it has been a total failure. The author is concerned that by focusing simply on the issues surrounding the methodology and the safety ratings, the program has endured because no one has properly studied the actual performance and effectiveness of CSA in its attempt to reduce fatal and injury crashes involving CMVs.

CSA is exclusively an FMCSA initiative, and as such they must take full ownership and responsibility for the program's failure to achieve the Agency's stated objective.

The following White Paper reflects the view of the author of this report, the Director of Operations for the Owner-Operator Independent Drivers Association Foundation (OOFI), and does not necessarily reflect the opinion of its affiliate, the Owner-Operator Independent Drivers Association.

Executive Summary

According to the Office of Management and Budget's Circular A-123 and the Government Performance and Results Act (GPRA, P.L. 103-62) every Federal Agency is required to undergo a performance review in order to determine if the Agencies' programs and regulations are effective in meeting the stated mission statement of said Agency. FMCSA's mission statement for their institution of the CSA program "[is] to implement more effective and efficient ways for FMCSA, its state Partners and the trucking industry to prevent commercial motor vehicle (CMV) crashes, fatalities and injuries.¹" Through this statement, FMCSA has therefore set the parameters for their performance review.

In order to assess the performance and effectiveness of CSA, the author examined the 2014 edition of the Agency's *Large Truck and Bus Crash Facts*, an annual report compiled from four separate databases: the Fatality Analysis Reporting System, the General Estimates System, the Motor Carrier Management Information System Crash File, and Highway Statistics. The report contains descriptive statistics and crash data concerning information collected two years prior, thus even though the report was published in 2016, it presents crash statistics involving large trucks, buses, and passenger vehicles from 2014.

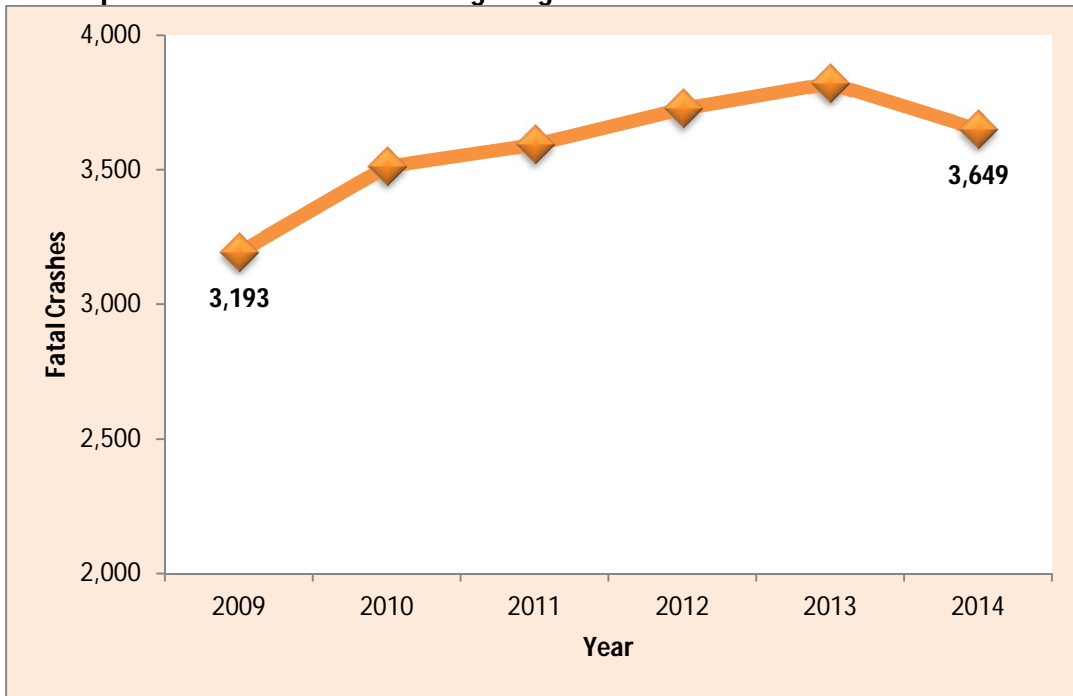
In general, FMCSA is quick to utilize the increase in crashes and overall fatalities which have occurred over the last few years in order to draw attention to the need for further safety regulations and the continued monitoring of motor carriers and truck drivers through the CSA program. The Agency particularly attempts to justify and push their CSA agenda by utilizing correlations in their various analyses, despite the numerous criticisms from the Government Accountability Office and other notable analytical groups including the Owner-Operator Independent Drivers Association Foundation (OOFI). In fact, through Section 5221 of the Fixing America's Surface Transportation Act, Congress has required that FMCSA review the methodology and practices of the CSA system using the National Academy of Science and Transportation Research Board as third party reviewers of the program.

Using an analogy from CSA:

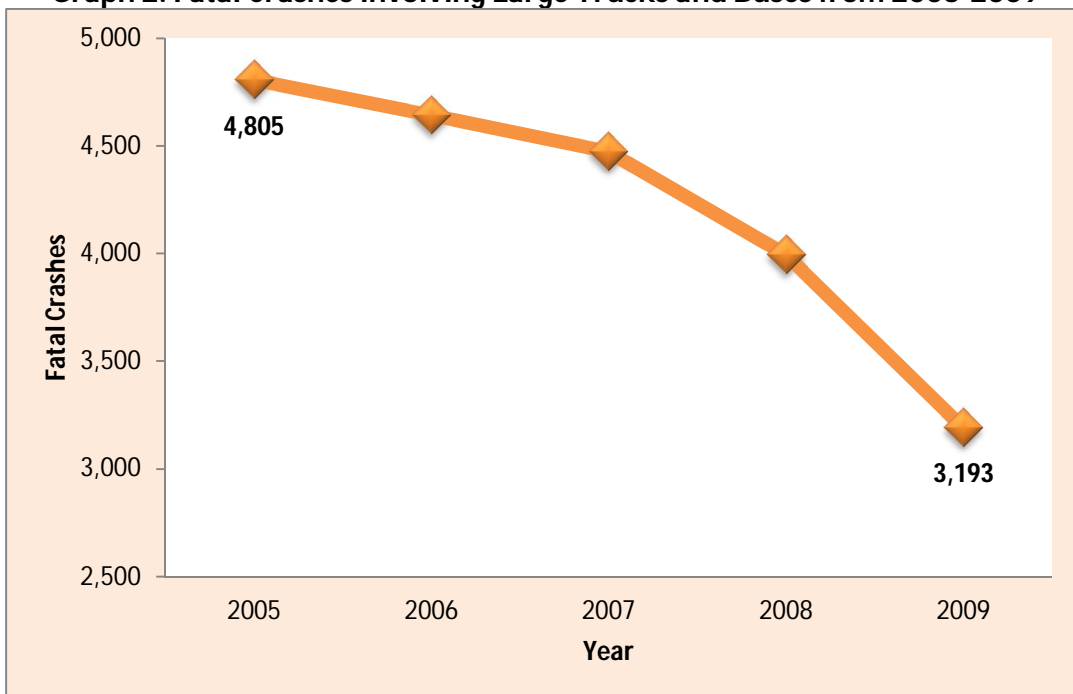
Following a review and examination of crash data since the introduction of CSA in 2010, the author believes that the CSA program should be placed out-of-service and have its authority revoked, as the program has failed to implement "more efficient and effective ways" to reduce crashes involving CMVs. A look at the following facts demonstrates that between 2009 and 2014 there has been a 14 percent increase in fatal crashes, 55 percent increase in injury crashes, and a 36 percent increase in property damage only (PDO) crashes, while the most recent preliminary figures indicate that there was another 4% increase in fatalities in 2015 over the previous year.

¹ *Carrier Safety Measurement System Methodology, Version 3.0, Revised December 2012*, FMCSA pg. 1-1.

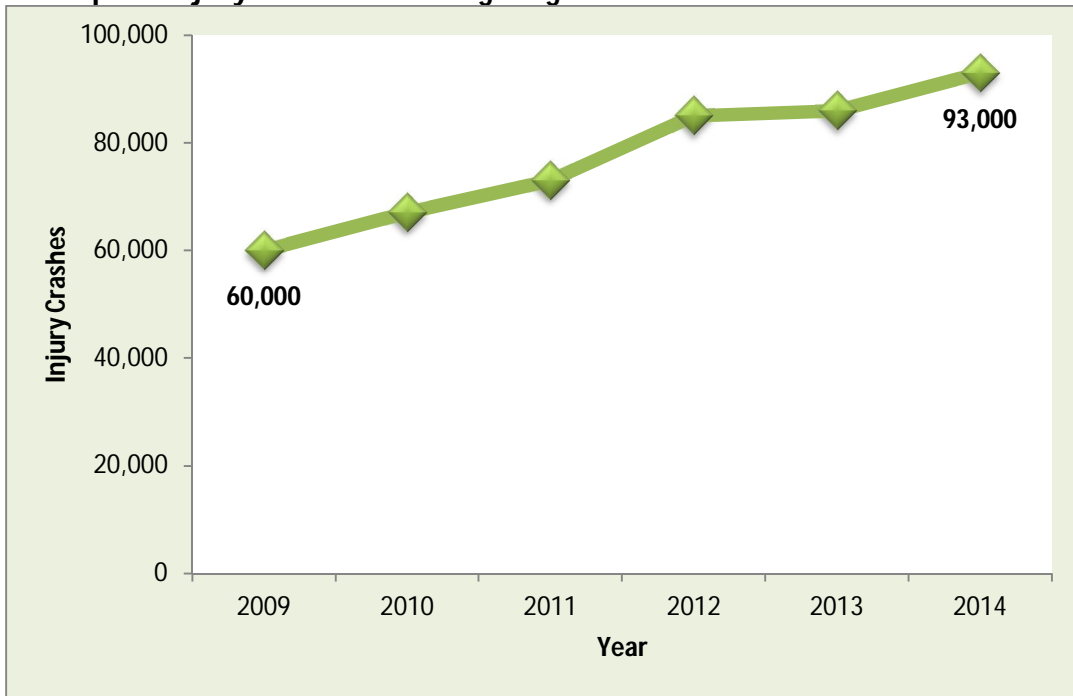
Graph 1: Fatal Crashes involving Large Trucks and Buses from 2009-2014



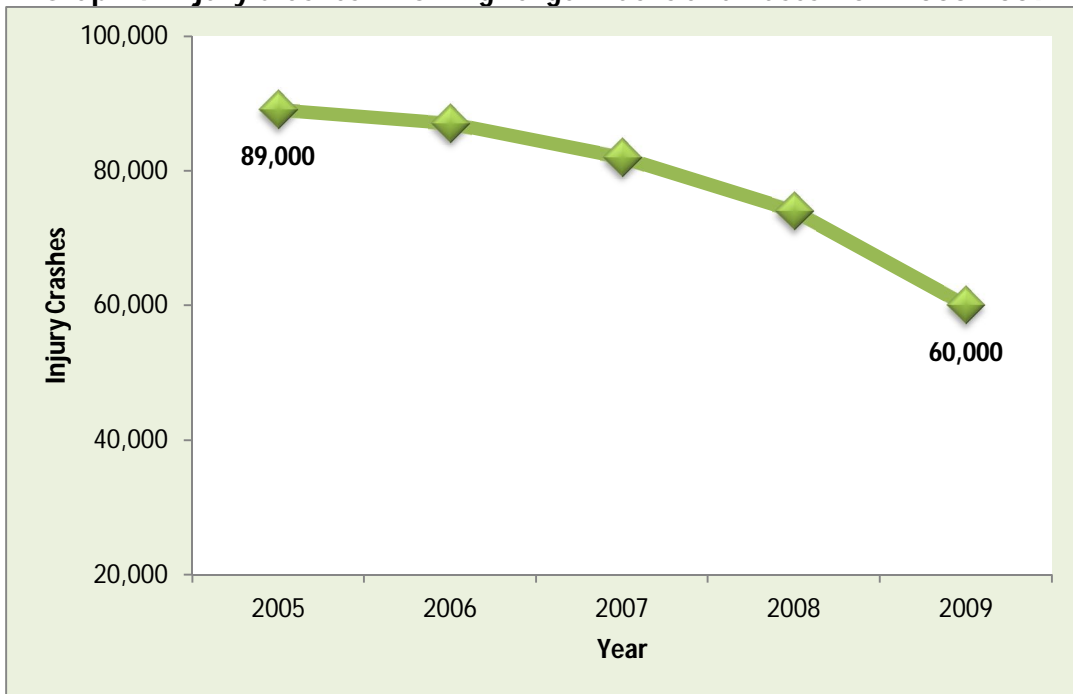
Graph 2: Fatal Crashes involving Large Trucks and Buses from 2005-2009



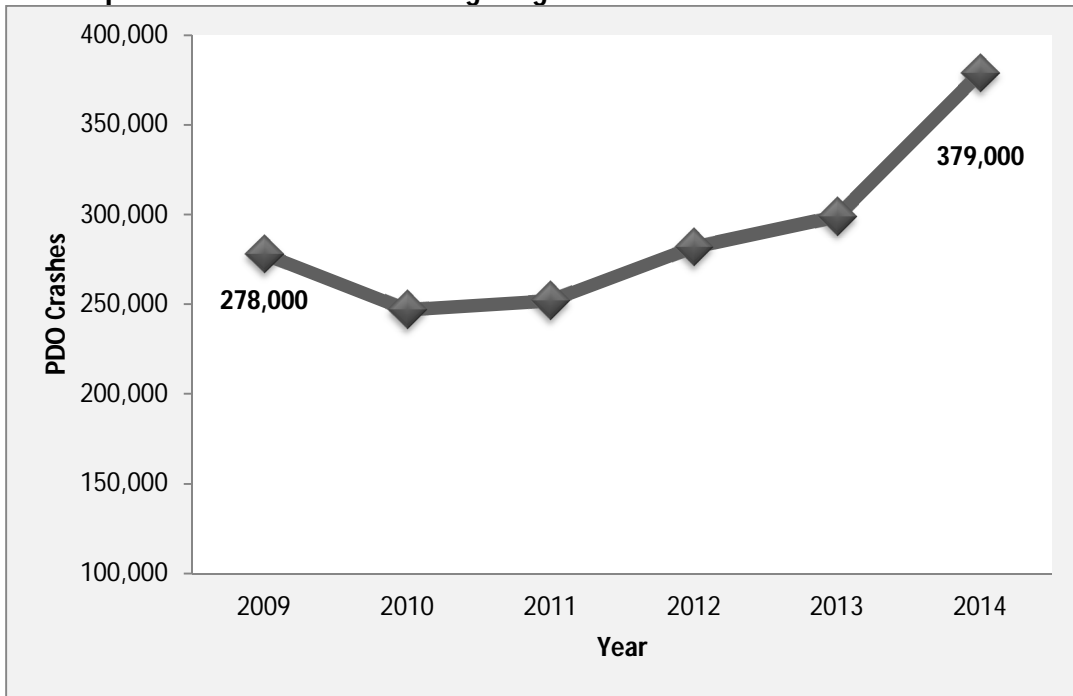
Graph 3: Injury Crashes involving Large Trucks and Buses from 2009-2014



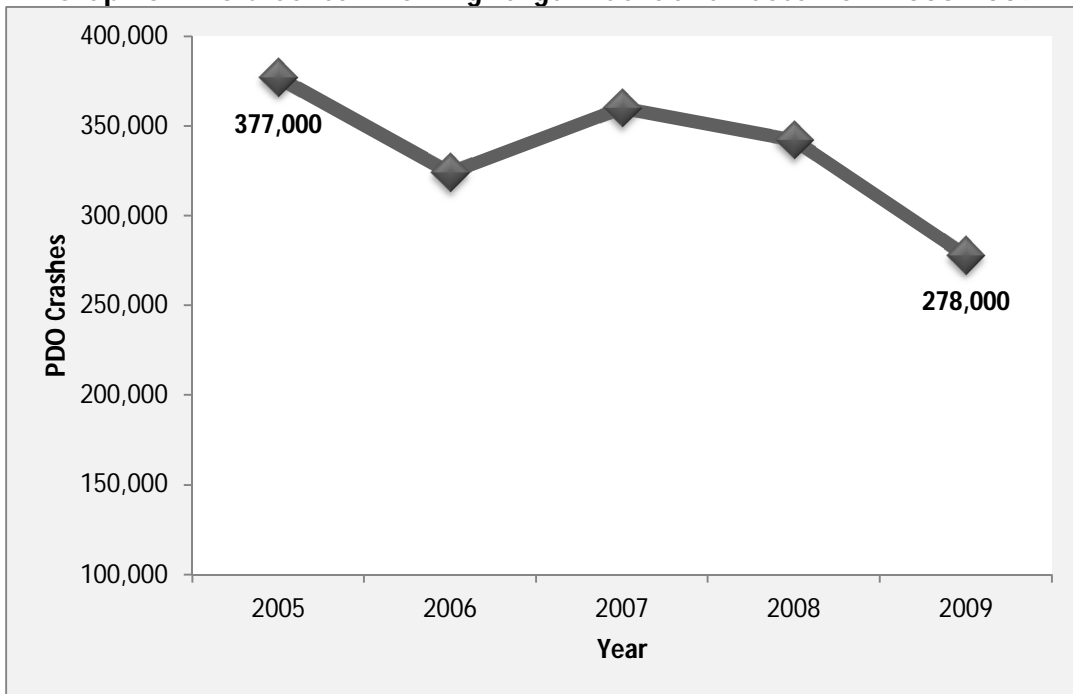
Graph 4: Injury Crashes involving Large Trucks and Buses from 2005-2009



Graph 5: PDO Crashes involving Large Trucks and Buses from 2009-2014



Graph 6: PDO Crashes involving Large Trucks and Buses from 2005-2009



OOFI attended a committee meeting in August 2016 which consisted of members of the National Academy of Science who were appointed to examine the effectiveness and methodology of CSA, as well as to determine whether the Agency's conclusions regarding the program were valid and reliable based on the data and metrics used. The committee was especially established in order to comply with the FAST Act, which required FMCSA to study this issue because of the many concerns presented by the trucking industry and others concerning the validity and reliability of the data used to attribute safety ratings to carriers and drivers. During the meeting, an FMCSA official stated that the Agency looks at and evaluates the "trends in carrier safety" before issuing a safety rating, or a safety fitness determination, for the motor carrier.

OOFI has also examined the safety trends that have occurred since the implementation of CSA and has discovered that while the number of fatal, injury, and PDO crashes have consistently decreased by 34 percent, 33 percent, and 26 percent respectively from 2004 to 2009, the overall number of crashes increased from 2010-2014.

FMCSA often claims that the number of fatalities and injury crashes justifies the CSA system as well as many other regulations governing the trucking industry. A FMCSA representative issued a statement to both the press and the industry that the number of fatal accidents rose again in 2015 and that the preliminary data from 2016 indicates yet another increase as the trend continues. While FMCSA has a tendency to spin the facts in order to emphasize the need for more regulations, the author believes that this should be an indictment of the failure of CSA along with the Agency that supports and enforces it. Other agencies which impact the trucking industry shamelessly use these same statistics to require additional equipment and further regulation in order to stem the tide of the rising fatalities and injuries involving CMVs.

As a partial explanation for the increase in crashes and fatalities involving large trucks in the past five years, FMCSA has stated that both the number of miles driven and the number of registrations for large trucks and buses has increased each year since 2010. According to FMCSA, this increase has led to an increase in exposure and thus the greater number of collisions. What they fail to mention however is that the number of vehicle miles traveled prior to CSA 2010 was higher, and that the number of registered trucks and buses was also greater, and yet with a much lower fatality and injury rate.

Table 1: Fatal, Injury, and PDO Crash Rates per 100 MVMT, 2009 and 2014

Year	MVMT†	Vehicle Registrations†	Crash Rates per 100 MVMT†			
			Fatal	Injury	PDO	Total
2009	302,693	11,815,207	1.05	19.82	0.92	1.13
2014	295,131	11,777,983	1.24	31.51	1.28	1.61
Percent Change	-2.5%	-0.3%	17.2%	59.0%	39.8%	43.0%

†Includes large trucks and buses

FMCSA is very adept at using "correlations" in their regulatory impact analyses in the stead of "causation" so that the Agency can implement and/or propose additional regulations on the trucking industry. OOFI takes exception with this approach as the very basics of scientific methodology explain

that correlation does not equal causation. It is quite common in basic statistics or experimental science to emphasize the absurdity of using correlations as a proxy to causations. One classic example is the correlation between the rise in murder rates in large cities and the increase in ice cream sales during the summer months. If we were lead to assume that correlation is equal to causation, then the simple answer to lower the murder rate would be to simply stop all sales of ice cream. While a statistical analysis utilizing a 95% confidence level with a small margin of error will show that the data is valid, it does not prove the validity of the statement. Rather it merely demonstrates that a correlation does indeed exist. It is this researcher's opinion that several different agencies and researchers utilize algorithms and mathematical equations in order to both confuse the public and to present the data and subsequent work as "scientific."

If the industry were allowed to perform a compliance review concerning the success of the Agency's CSA program based on FMCSA's own criteria for success, the Agency would receive an unsatisfactory rating and would be placed out-of-service and their authority to operate would certainly be revoked, as any motor carrier who has a 20 percent increase in fatality accidents and a 55 percent increase in injury crashes deserves more than just an alert.

Mindful of the truth behind correlations and causations, the author believes that there must have been some catalyst responsible for the dramatic reverse in the downward trend of crashes which was occurring prior to 2010. After a careful review, the primary and most conspicuous change which occurred during this time frame was the initiation of CSA. Although correlation does not equal causation as stated previously, a correlation can and should prompt further inquiry into a subject from time to time.

Over the years, OOFI has released a number of white papers criticizing much of the methodology and analysis which FMCSA has initiated and proclaimed as "sound science."² Nevertheless, OOFI is even more troubled by the simple fact that there was a steady reduction in large truck fatalities and injuries until 2010, followed by a huge jump in both fatalities and injuries. The author believes that FMCSA must bear some of the responsibility for the increase in 542 fatalities and 39,000 injuries since CSA. Moreover, it seems that the Agency continues to defend a system that has proven to be ineffective in

² <http://www.ooida.com/OOIDA%20Foundation/WhitePapers/WhitePapers.asp>

accomplishing FMCSA's stated goals. It appears to this researcher³ instead that FMCSA has practiced what is known as the Hegelian Dialectic.⁴

The fundamental principle of the Hegelian Dialectic technique is to divert the real inspection of a program or issue by introducing an exaggerated potential problem, or by manufacturing a crisis in order to generate a strong reaction from the public that demands an action. The subsequent group or individual who exaggerated or manufactured the crisis then offers a solution that diverts the public's attention away from the real problem at hand. This technique has been used abundantly in politics throughout history and has proven to be highly successful with often devastating results.

Rather than address a program which has proven to be unsuccessful and highly problematic, FMCSA has shifted the crisis of increased fatalities and injuries to fatigue drivers as the primary cause of accidents. Safety advocates and sleep apnea vendors have since taken up the cause and have demanded action from the Agency in order to stem the supposed epidemic. From here, FMCSA, the manufacturer of this crisis, has offered solutions such as stricter enforcement of the hours-of-service through electronic logging devices and a proposal for mandatory sleep apnea testing, thereby appearing to solve the crisis in the trucking industry.

Addressing the True Crisis

In order to address the increase in fatality and injury crashes, FMCSA must first acknowledge that their present program has not achieved its stated goals and honestly examine their own data for the true cause of crashes. As part of their team approach to finding the proper solutions, the Agency must listen to the real "experts" who drive a CMV every day and not the supposed subject matter experts that FMCSA has previously relied upon.

For many years, the Office of Analysis, Research and Technology for FMCSA has provided data and conclusions on the cause of large truck accidents. In fact, FMCSA has published an annual list of the top ten factors that lead to fatal crashes, and has spent a large amount of resources completing their own definitive study of large truck crashes, called the Large Truck Crash Causation Study (LTCCS). Most of

³ This method of focusing on something other than the real underlying cause is often a result of confirmation bias where the organization or individual gathers information that supports pre-existing views and then confuses coincidence with correlation and correlation with causation. In true scientific research, it is important to first try and disprove that the data is uncorrelated rather than attempting to prove that there is a correlation. This process is called rejecting the null hypothesis and is the standard for scientific methodology. FMCSA, to this researcher's knowledge, has never attempted to perform research that endeavors to reject the null hypothesis but routinely uses confirmation bias and interprets correlation as causation. OOFI has offered a plan for change within FMCSA in a White Paper, *The Case Against FMCSA*, based on other similar agencies who implement a more scientific and data driven safety program.

⁴ Georg Wilhelm Friedrich Hegel was a 19th century German philosopher who devised a method of resolving disagreements called the **Hegelian Dialectic**. In controlling behavior, almost all major events in history employ the Hegelian Dialectic which consists of a: **Problem**—manufacture a crisis or take advantage of one already in place in order to get the desired **Reaction** of public outcry whereby the public demands a **Solution** which has been predetermined from the beginning.

these reports share common conclusions and factors on what increases the risk of crashes and fatalities involving large trucks.

It would seem intuitive that FMCSA would use this vast array of data to build their SMS and to consign a greater emphasis on those risk factors that are more likely to lead to crashes as evidenced by their data. The following is a list of the top ten factors which are routinely listed as the contributing factor leading to a greater likelihood of an accident:

- Failure to keep in proper lane;
- Speeding (includes driving too fast for conditions);
- Inattention;
- Failure to yield right of way;
- Failure to obey traffic signal;
- Following improperly;
- Improper turn;
- Erratic or reckless driving;
- Overcorrecting; and
- Drowsy, asleep and or fatigued.

The only way to ascertain a violation or a potential crash event in all of these scenarios is through observing the actions of the driver and the truck. It would seem counterintuitive to remove enforcement personnel from the road and instead emphasize roadside inspections as the best course of action to prevent crashes and fatalities involving CMVs. In 2007, OOFI conducted a survey of OOIDA members concerning speed limiters and found that the majority of its members, who have over 20 years of driving experience, believe that the best incentive for controlling speed is a uniform speed limit and increased enforcement.⁵ While the implementation of CSA in 2010 has generated more inspections and consequent violations for both trucks and drivers, OOFI again reiterates that this has only resulted in more fatalities and injuries on the roadways.

Conclusion

Considering all the facts presented in this White Paper, where is the public outcry against the CSA program that has shown a trend of more fatality and injury crashes since its initiation? Where is the demand for change from the safety advocates and the federal agencies that use the data produced by FMCSA?

OOFI believes that there should be a greater focus and scrutiny to determine whether or not CSA has met the performance goals that led to its initiation. This research has found that *it has not*. FMCSA

⁵ *Speed Limiter Survey Results: Final Report*, OOIDA Foundation (2007), pg. 7.

needs therefore to take ownership for the lives that have been lost and the injuries that may have been prevented through a better approach to solving the crisis of a rising crash rate involving CMVs. Perhaps if FMCSA were to do a cost-benefit analysis and multiply the 542 increased fatalities by the current value of statistical life (\$9.2 million in 2013 dollars x 542 = \$4,986,400,000), while also adding the monetary costs associated with highway delays, hospitals, and insurance, the Agency would be more willing to review a failed program. This researcher strongly believes that FMCSA should be held accountable for those lives and the countless others affected by those losses. CSA has been and still is a total failure in its objective to reduce fatalities and injuries in CMV crashes.

Reducing lives lost and injuries incurred to percentages and dollar values is unfortunately a common statistical data activity, but those lives lost are fathers, mothers, grandparents, children, relatives, and friends. Let's put statistics, percentages, scores, and egos aside, and remember that those additional 542 lives and 39,000 injuries were real people whose lives have been lost and or altered and changed forever.

All who are concerned about safety on the roads need to stay focused on the true crisis, as well as the impetus for the increased fatalities and injuries, and not fall victim to the manufactured crisis that helps to hide the real source.

To this researcher the tremendous emphasis on fatigue, ELDs, speed limiters, and mandatory rest periods, are a smoke screen which conceals what might be the actual source of the increased collision rate since 2010. Fatigue, sleep apnea, hand written logs, split sleeper-berth, were all present prior to 2010 and the fatality and injury rate showed a steady trend downward for the five years prior to 2010.

The correlation between the introduction of CSA in 2010 and the reversal of the improved safety performance in both fatal and serious injury crashes needs careful analysis and should be the catalyst for further review. Instead of examining the safety ratings of motor carriers with suspect methodology and logic, the focus needs to be placed upon the performance of FMCSA and its SMS in meeting the state objective of reducing fatal and serious crashes involving CMVs.