



OOIDA Foundation

RESEARCH • SAFETY • ECONOMICS

WHITE PAPER **A New Direction Needed for FMCSA**

6/27/2014



Table of Contents

Introduction	3
Proactive and Not Reactive.....	3
Comparison of the development of the Highway Safety Manual (HSM) and the development of the Compliance, Safety and Accountability (CSA) program by the FMCSA	3
Accurate data and Substantive Safety.....	3
Lack of countermeasures.....	4
True safety Experts.....	6
Project Initiation and mind set change:.....	8
Bibliography	9

Introduction

The Federal Motor Carrier Safety Administration (FMCSA) needs a new approach to meeting their stated mission objective of reducing crashes, injuries and fatalities involving large trucks and buses. In order for FMCSA to regain their credibility, the Agency needs an approach to highway safety that is:

1. Proactive and not reactive;
2. Based on accurate data;
3. Reliant upon “substantive safety” of scientific findings;
4. Based on effective counter measures for reducing crashes and their severity; and
5. Based on the utilization of true safety experts.

Proactive and Not Reactive

The proactive approach to reducing crashes, injuries and fatalities is exemplified by the recent development of the Highway Safety Manual, which is a cooperative research program that was initiated by the Federal Highway Administration.

Comparison of the development of the Highway Safety Manual (HSM) and the development of the Compliance, Safety and Accountability (CSA) program by the FMCSA

TR News Magazine, a publication of the Transportation Research Board, recently ran a series of articles on the development of The Highway Safety Manual (HSM). This project took eleven years to develop and, “represents a dedicated effort to create and drive the science of safety into practical use and to integrate safety as a key consideration in any highway project, program, or activity. The development of the HSM focused on the quantification of safety performance, beyond the traditional safety paradigm.” The HSM researchers quickly learned that summarizing crash history and doing a nominal assessment of what would improve safety performance no longer worked. The first step was to improve the reliability of information, thus allowing substantive assessments that would reduce fatal and serious injuries. They had two core principles:

- Allow the user to base decisions on actual anticipated changes in crash frequency and severity; and
- Address the statistical issues that have a direct impact on reliability.

Accurate data and Substantive Safety

The researchers for the HSM recognized that in order to develop a substantive analysis they had to have accurate data. In developing CSA, FMCSA relied on state data that has been shown to be reflective of

“idiosyncratic practices of state regulators.¹” Unfortunately, FMCSA failed to take the first step of improving the reliability of information and instead relied on a nominal assessment of the data. The following are two examples that the Agency should have completed in order to improve on the accuracy of the data:

- FMCSA needed to look at the data and recognize individual state bias that appeared in the data. (Gimpel, Wells Fargo et al.)
- FMCSA needed to meet with the personnel involved in the inspection process and format a training program that standardized crash reporting for commercial vehicles.

There are two basic types of safety reasoning, Nominal safety, which thinks that the application of a standard design provided safety, and Substantive safety, that provides a statistically reliable assessment of safety performance.

If using Nominal safety reasoning the Agency assumes that the program will provide safety. Applying this to FMCSA’s Compliance, Safety and Accountability (CSA) project, the assumption is that if a carrier/driver meets the compliance standard, safety will be enhanced. However, Substantive safety relies on scientific findings for determining the anticipated safety performance, which is measured in crash frequency and severity.

FMCSA has been heavily criticized for stating that the CSA scoring system of the violations of the Federal Motor Carrier Safety Regulations and the weighted scores assigned for such violations, were in direct correlation to crash risk. The Agency claims that they consulted and worked with “subject matter experts,” but they have never fully identified who these experts were. Nonetheless, under subsequent research by outside firms, FMCSA has had to admit that many of the weighted scores and violations were not directly correlated to crash risk and has consequently changed some of the weightings and points assigned. As an example, FMCSA changed the weighting for those hours-of-service (HOS) violations so that the weights assigned were equal for both manual log violations and ELD violations. These aftermarket changes should have been done prior to implementation of the program, and they clearly undermine the credibility of the CSA program, while also creating an aura of distrust of the whole system.

Lack of countermeasures

The next step in developing the HSM was the selection of appropriate countermeasures that maximize the potential for reducing crashes and their severity. CSA offers no countermeasures only punitive assessment of drivers and carriers for future compliance reviews or inspections.

The Agency’s avowed reasoning is that they can take the “bad actors” off the road, which will in turn keep the public safe. Obviously this type of reasoning utilizes the nominal safety thinking method, in other words, compliance equals safety. However, facts will demonstrate that there are approximately

¹ James Gimpel, *Continuing Issues in the carrier Safety Measurement System (CSMS) of the FMCSA: The Perspective of Small Carriers*, OOIDA (2013).

40,000+ new applications for authority every year, so though removing a few “bad actors” might look good on paper, it does not offer any effective countermeasures for crash risk.

FMCSA has collected a wealth of data and the Agency ranks the events that they find in their data that are more likely to lead to a crash and a fatality for commercial motor vehicles. Nevertheless, rather than develop countermeasures for these events, FMCSA reacts by recording the violation and assigning a weighted point score to the driver and to the carrier.

FMCSA spends a considerable amount of money, which is channeled through various research programs, to gather data and analyze the results. It is important to note that many of these organizations are highly regarded and offer outstanding analysis. In addition, FMCSA has its own internal department of Analysis, Research and Technology. However, by visiting FMCSA’s website, the problems become apparent. The Research Division of FMCSA describes their mission: to reduce the number and severity of commercial motor vehicle (CMV)-involved crashes and enhance the safety and efficiency of CMV operations by:

1. Conducting systematic studies directed toward fuller scientific discovery, knowledge, or understanding;
2. Adopting, testing, and deploying innovative driver, carrier, vehicle, and roadside best practice and technologies; and
3. By expanding the knowledge and portfolio of deployable technologies and innovations, the Research Division will help FMCSA reduce crashes, injuries, and fatalities and will deliver a program that contributes to a safe and secure commercial transportation system.

The Agency’s mission statement is broad, vague, and has no grounding in practicality. Instead of implementing countermeasures to crash risk, FMCSA are looking at a “fuller scientific discovery, knowledge, or understanding.” Rather than looking for **innovative** driver, carrier, vehicle roadside best practices and technologies, they should be looking at driving behaviors of good drivers that have millions of miles of driving without an accident. In fact, the average owner-operator has two million miles over the course of their career without a reportable accident.² Instead of reinventing the wheel, the Agency should build on what is already available, and then expand technologies and best practices based on good drivers. Instead of “expanding the knowledge and portfolio of deployable technologies and innovations,” FMCSA needs to examine their own wealth of data to find countermeasures that may or may not be dependent upon a “portfolio of deployable technologies.”

For an example, FMCSA’s own research shows that 70-80% or more of all crashes involve driver error and they even drill down to specific errors, but instead of looking at preventive countermeasures to those errors, they look to technology to solve the problems. If human errors are the problem in 70-80%

² *Owner-Operator Member Profile Survey 2012*, OOIDA Foundation, AVAILABLE: <http://www.oida.com/OOIDA%20Foundation/RecentResearch/OOIDP.asp>

of crashes, then there needs to be countermeasures to those driver errors. Instead of looking for countermeasures to lane change errors, which has the highest percentage of fatalities attributed to drivers (12%), FMCSA focuses on EOBRs to remove drowsy, asleep, sleepy and/or fatigued drivers (2%). Tools do not create the road safety future—trained professionals do.³

True safety Experts

HSM utilized a Safety Systems Approach, which drew all the safety partners together. In fact, stakeholder input was a key ingredient in the development process. Importantly, the stakeholders were the people who were actually involved in the safety programs, and not just agency officials or agency divisions. While developing CSA, the Agency took the program to certain states to conduct a pilot test, but while they were in the developmental stage, FMCSA used “subject matter experts” and not stakeholders, or those directly affected by the program, to create the severity and weight rating for CSA. Afterwards, the Agency then went to various stakeholders and tried to acquire a buy-in for the program, but still they did not seek input from those most affected by the program, the drivers and carriers.

According to the Owner-Operator Independent Drivers Association’s (OOIDA) surveys of its membership, the average owner-operator has more than twenty years of driving experience and less than 1% of them have ever been involved in a Department of Transportation reportable accident. These may not be “subject matter experts” but they are expert drivers. The following are suggestions to FMCSA that will improve safety and help the Agency accomplish their mission statement to reduce crashes, injuries, and fatalities involving CMVs:

- Ride along with drivers who have demonstrated safe driving skills for millions of miles and listen, observe and record.
- Look for the positive driving skills that they have developed, focus on the positive actions of the good drivers.
- Re-examine the tapes of drivers where the Agency looked for fatigue, accidents, etc., and record the good driver actions that helped them avoid a crash.
- Accentuate the positive traits of good drivers and develop best practices. Best practices are not based on what not to do, but what is the safe and prudent thing to do.
- Understand that to develop good drivers, we want to emphasize good driving habits and skills, once again teach the positive.
- Do not automatically turn to technology to attempt to mitigate poor driving skills, but rather search for what preventative countermeasures safe drivers utilize and how those countermeasures might be incorporated into a skills program for entry-level drivers seeking their CDL license.
- Instead of developing a portfolio of technologies that are designed to mitigate the effects of poorly trained drivers be proactive and develop a required curriculum emphasizing those countermeasures learned from safe drivers.

³ Ezra Hauer, *Creating Our Safety Future*, TR News; Department of Civil Engineering, University of Toronto

- FMCSA should examine the HSM methodology, which involved understanding the factors contributing to crashes across the location, corridor or system. Furthermore, the HSM focused on highway safety, but recognized the importance of the vehicle, of human factors, and of the interventions of education, enforcement, and emergency medical services.

Now let us examine the Mission statement of another safety agency, the National Highway Traffic Safety Administration (NHTSA), which is to “save lives, prevent injuries, and reduce economic costs due to road traffic crashes.”

In determining priorities for the agency, NHTSA looked at several perspectives:

- Vehicle type
- Crashworthiness-- what part of vehicle was struck first
- Crash Avoidance—rear-end; lane change etc.
- Crash type—what did the vehicle impact
- Body region injured and societal costs

Moreover, NHTSA have Priority Programs and Projects in four distinct categories:

1. The size of the target population;
2. The effectiveness of countermeasures and their potential to save lives;
3. The availability and practicability of these countermeasures; and
4. The potential that countermeasures could be developed in the future that could be reasonably effective against a large target population.

Note the mention of countermeasures rather than regulations, violations, or technology. While NHTSA may recommend technology, their first consideration is countermeasures that are available and practical. In comparison, FMCSA takes a reactive, after-the-fact, enforcement approach to road safety that offers punishment for violations, which has effectively become their image.

Congress has mandated FMCSA on several occasions to implement an entry-level driver-training program for Commercial Drivers, a mandate that the Agency has largely ignored. One of the primary arguments opposing mandatory requirements is the fact that there has been little or no research that indicates that specific driver training reduces crash risk. This is of course a Catch-22 since there are no specific requirements for CDL training. Therefore, no research has studied drivers that have undergone these requirements.

It is time to initiate a new approach to driver training as a method of reducing crash risk. While we are sure that it will not replace the reactive enforcement orientation of CSA, entry-level driver training may provide a better and more educated approach than what is currently in place.

Project Initiation and mind set change:

In conclusion, FMCSA should employ its research program utilizing FMCSA, NHTSA and TIFA data on crashes and the leading causes of initial events leading up to a crash, in developing an educational program that will be used to create a standardized commercial driver qualification curriculum. Further, we recommend that the Agency interact with real drivers who have two million miles of safe driving, and not “subject matter experts,” and build a program of best practices based on the data collected on drivers who encounter critical events and avoid accidents.

For more information regarding the case against of FMCSA, visit the OOIDA Foundation’s website here: <http://www.oida.com/OOIDA%20Foundation/Issues/FMCSA.asp>

Bibliography

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