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VSA Group Projects

Current Projects

TIFA/BIFA Surveys: TIFA is an FMCSA-sponsored annual survey of medium and heavy trucks involved in fatal accidents, and BIFA is the equivalent for buses. We are completing the 2008 calendar year.

CSA 2010: CSA 2010 is the FMCSA initiative currently being tested in selected states to improve large truck and bus safety with the goal of reducing CMV-related crashes, injuries, and fatalities. Within the CSA 2010 Operational Model, the Safety Measurement System (SMS) has been designed to replace the current SafeStat method used to measure the relative safety fitness of CMV operators. VSA is performing the evaluation of the SMS. The final report is due December 31, 2010 (see detailed description below).

Michelin: This is a project to examine associations between vehicle tire properties, such as tread depth, and certain crash outcomes that involve control/traction loss, braking, or avoidance maneuvers.

Straight Truck and Bus Rollover: This is a NHTSA-sponsored project to evaluate the potential benefits of electronic stability control (ESC) in single unit trucks and motor coach buses. The final report is in preparation.

Forward Collision: We are currently working on a NHTSA-sponsored project to estimate the safety benefits of a Collision Mitigation Braking system for heavy trucks. The system will...

Events and Outreach Activities

On August 25 John Woodroffe and Dan Blower presented preliminary results from a study of underride in fatal truck and bus crashes at the NHTSA offices in Washington D.C. VSA is collecting data on underride in rear-end crashes as a supplement to the TIFA and BIFA surveys. The purpose is to evaluate the current underride guard standard.


As part of the U-M GIEU (Global Intercultural Experience for Undergraduates Program), Oliver Page led a group of fifteen undergraduate students on a visit to South Africa in July to promote road safety. During the four-week trip, the students spoke to approximately 3,000 young people in South African schools.
activate the brakes if it detects an imminent forward collision.

MCMIS Evaluations: These studies evaluate how well states are reporting truck and bus crashes to FMCSA’s Motor Carrier Management Information System (MCMIS) crash file program. The MCMIS Crash file is one of the inputs to FMCSA’s process to identify and correct unsafe motor carriers.

TIFA and BIFA Update

The 2007 Buses Involved in Fatal Accidents (BIFA) data file has been produced, and codebooks and factbooks are now available.

These publications, as well as previous years, may be viewed on the CNTBS website:

http://www.umtri.umich.edu/cntbs/

CSA 2010 Project

Researchers in the VSA Group are playing a key role in a new, nation-wide system to improve large-truck and bus safety. The initiative, Comprehensive Safety Analysis 2010 (CSA 2010), is led by the Federal Motor Carrier Safety Administration (FMCSA). CSA 2010 is designed to improve upon FMCSA’s current system used to monitor the safety of motor carriers, and take follow-up action when necessary. The program’s operational model, the Safety Measurement System (SMS), will eventually replace the current monitoring and enforcement model, called SafeStat.

Under the current system, SafeStat combines data on crash rate, selected roadside inspections and traffic violations, and compliance reviews from the previous thirty months to produce a score. If the SafeStat score is greater than 225, a carrier is identified as “at risk”, or requiring interventions to improve safety. The process culminates in a compliance review conducted by FMCSA, which can be very resource-intensive.

In contrast, CSA 2010 identifies carriers for interventions at a lower threshold, allowing FMCSA and its state partners to contact a larger number of carriers earlier in the process. The goal is to identify and address safety problems before crashes occur. The system takes into account all safety-based roadside inspection violations, not just out-of-service violations, as well as state-reported crashes, using twenty-four months of performance data.

The SMS then assesses each carrier’s safety performance in seven categories, representing behaviors and conditions that can lead to crashes. If the carrier’s score exceeds the minimum threshold, the carrier receives a warning letter, the first of seven graded interventions, which range from warning letters to onsite investigations. This incremental series of interventions is a significant change from the old system, and may eliminate many of the costly compliance reviews.

Preliminary data from the UMTRI evaluation suggests that the new system does, in fact, identify high-risk carriers. Next steps in the project are to evaluate the effectiveness of individual interventions by determining if carriers improve following contact by FMCSA.