

CRASH AVOIDANCE PROJECTS

Truck Tractor and Motorcoach Stability Control

- Develop performance criteria and objective test(s) for a standard on electronic stability control for truck tractors and motorcoaches. The stability control system is aimed at addressing rollover and loss-of-control crashes.
- ESC estimated to be 40 to 56 percent effective against rollovers
- ESC estimated to be 14 percent effective against loss-of-control (oversteer or understeer) conditions.
- NPRM published on May 23, 2012 (77 FR 30766)
- Comment period closed August 21, 2012
- Next Steps: Review comments and finalize rule.

Forward Collision Avoidance and Mitigation (F-CAM) System Research

- Current Research includes:
 - Completing development of objective test procedures and performance metrics for these systems. (i.e. timing of warnings and required braking activity in specified crash scenarios)
 - Developing benefits estimates by leveraging modeling, simulation, field operation test data, and analysis of historical crash data.
 - Conducting human factors research related to the crash warning itself, and developing guidelines for heavy vehicle crash avoidance Driver-Vehicle Interfaces
 - Currently kicking off a field operational test involving the latest generation collision mitigation braking systems from brake system suppliers. To be managed by VTTI, this study will track the performance and operations of approximately 150 vehicles equipped with F-CAM technology for about 1 year. Systems from both major suppliers will be evaluated (Bendix and Meritor-Wabco)
 - Also will initiate a cost study (using a tear-down methodology) to estimate costs for such systems on heavy vehicles.
- Agency Decision on Rulemaking expected in 2013.

Lane Departure Warning Research

- The agency will begin the development of objective test procedures and performance metrics using latest generation systems in early 2013
- Currently conducting a comprehensive cost-benefits and synthesis study: To be completed by the end of 2013.

- The field operational study referred to above will also involve the latest generation Lane Departure Warning (LDW) systems from leading suppliers. LDW system operation and performance will be closely monitored on 150 vehicles for a minimum of one year.

Heavy Truck Tires

- NPRM published on September 29, 2010 in Federal Register to upgrade heavy vehicle tire standard, FMVSS 119. [Docket (www.regulations.gov): NHTSA-2010-0132]
- Tire manufacturers provided substantial comments and test data on a variety of truck tires.
- In response to comments, two rounds of additional endurance testing were completed in 2011 and 2012.
- Next Step: Test data analysis and agency decision by end of 2012.

CRASHWORTHINESS PROJECTS

Heavy Vehicle Event Data Recorders

- For the past several years, NHTSA worked with the SAE Truck and Bus Committee in the development of SAE Recommended Practice J2728, “Heavy Vehicle Event Data Recorders (HVEDRs)” which was published in June 2010.
- The agency is currently identifying implementation issues related to appropriate performance requirements, economic impacts and data collection needs so that we can make a decision on whether to initiate rulemaking.
- Next Step: Agency decision in 2012

Lap/Shoulder Belts on Motorcoaches

- NPRM published on August 18, 2010 [Docket (www.regulations.gov): NHTSA-2010-0112]
 - Seeks to reduce occupant ejections and mitigate injury during motorcoach crash events.
 - Proposes requiring lap/shoulder belts at all seating positions in motorcoaches.
 - Proposes requiring motorcoach seat belt assembly anchorages to meet strength performance requirements of FMVSS No. 210.
 - Proposes a definition for motorcoach to mean a bus with the following characteristics:
 - GVWR of 26,000 lb or greater
 - 16 or more designated seating positions
 - At least 2 rows of passenger seats that are forward-facing
 - Is not a school bus or an urban transit bus
 - Proposes a three-year lead time
- The agency received more than 100 comments on the NPRM. Major areas of comment were:
 - Definition of motorcoach
 - Retrofitting older motorcoaches
 - Performance requirements

- Concerns about seat belt use
 - Market forces on smaller operators
 - Lead time
- Next Step: The agency expects to issue a final rule in 2012.

Motorcoach Rollover Structural Integrity

- Agency is considering improvements to the structural integrity of motorcoaches in rollover events to maintain the occupant survival space and the structural integrity around the side windows.
- In 2008, NHTSA conducted roof crush/rollover tests on two older motorcoach models to evaluate two existing roof crush/rollover test procedures: one for school buses and the other specified in the European regulations. The objective of these tests was to determine the feasibility of their application to motorcoaches sold in the U.S.
- In 2009, NHTSA tested a newer motorcoach using the European test protocol and determined appropriate performance requirements for rollover structural integrity to maintain the occupant survival space.
- Next Step: NPRM is expected to be issued in 2012.

Motorcoach Fire Safety

- Agency is considering upgrading the fire standards that apply to motorcoaches.
- Two-year research program with National Institute of Standards and Technology (NIST) completed in 2011.
 - Research focus on wheel-well fires in motorcoaches.
 - NIST study designed to:
 - Review existing flammability standards and procedures.
 - Research fire propagation and penetration of motorcoach wheel-well fires.
 - Evaluate flammability of interior motorcoach material using standards and procedures from different countries and different transportation modes.
 - Evaluate countermeasures for mitigating propagation of wheel well fires.
 - Report in DOT Docket NHTSA-2007-28793-0026.
- Next Step: Follow-up research in 2012 to:
 - Develop candidate test procedures and performance requirements for flammability of exterior motorcoach material and fire detection systems.
 - Evaluate the performance of fire suppression systems.

Improve Glazing and Window Retention in Motorcoaches

- In 2006, NHTSA completed a joint research program on advanced glazing and window retention with Canada.
 - Preliminary results indicated that preventing ejection would involve not only glazing but also the structural integrity of the motorcoach to ensure that the glazing doesn't pop out when the bus structure twists

- NHTSA resumed the research on advanced glazing and window retention because the NPRM on structural integrity is expected in 2012.
- Status of Research:
 - The agency is developing candidate test procedures to evaluate glazing and window retention.
 - The first phase of the research has recently been completed and the agency decision was to conduct a second phase of research. The agency is currently pursuing the second phase.
- Next Step: Agency decision is expected in 2012.

Motorcoach Emergency Evacuation

- Agency is considering upgrading the motorcoach evacuation standards.
- NHTSA's emergency evacuation research program at the Volpe Center was completed in 2010. The objectives of this research were to:
 - Evaluate various egress strategies from a motorcoach and determine factors affecting egress rates.
 - Research ergonomics of operating and using emergency exits in a motorcoach.
 - Evaluate current motorcoach emergency signage and markings against those in other vehicles and transportation modes.
 - Evaluate the need for improved emergency lighting and illumination in motorcoaches.
- The agency analyzed the results and developed candidate motorcoach emergency egress requirements to ensure evacuation in adequate time under different emergency situations for various occupant groups, including children and the elderly.
- MAP-21 requires the agency to develop anti-ejection rulemaking for motorcoaches. As a result, the agency is currently focusing its efforts on improving glazing and window retention in motorcoaches before moving forward with a motorcoach emergency evacuation rulemaking.