List of Written Questions Submitted for Response
National Highway Traffic Safety Administration
Research and Development Programs Public Meeting
Baltimore/Washington International Airport Marriott
July 26, 2001, 1:30 p.m. - 5:00 p.m.

Association of International Automobile Manufacturers, Inc.

Question 1. What is the status of NHTSA's research on seat back strength?

Answer.

We are conducting full-vehicle sled tests in the development of a rear impact test procedure for seat back performance.

Production seats and advanced integrated safety seat prototypes are being evaluated with front and rear seat occupants in both low and high speed rear impact modes.

We are also conducting modeling to analyze front and rear seat occupant interaction, study seat back strength characteristics on occupant injury in high and low speed rear impact simulations, and examine rebound effects and out-of-position consequences from increasing seat back stiffness.

We are monitoring real world seat back performance through the National Automotive Sampling System (NASS) and special case reviews.

Question 2. Has NHTSA begun using the NADS for research in driver distraction?

Answer.

A detailed National Advanced Driving Simulator (NADS) research program plan is currently being finalized for addressing a variety of issues involving driver distraction. It is anticipated that this plan will be implemented sometime in early fall. Preparations are underway to install appropriate interfaces and hardware in one of the NADS cabs to accommodate this research. The research itself will focus on issues related to cell phones, in-vehicle telematics, cognitive distraction, and the development of standardized test scenarios.

Question 3. In presentations at the ESV conference on the NHTSA's vehicle aggressivity and compatibility research, it was noted that the Agency is conducting research in this area using

both vehicle-to-vehicle crash tests and computer simulations to evaluate potential aggressivity countermeasures applied to both striking and struck vehicles. What countermeasures is the agency studying?

Answer.

NHTSA's vehicle compatibility research program has two major objectives. The first objective is to develop a computer systems model that is capable of predicting how structural changes to a single vehicle category can affect the overall fatality and injury outcomes for the U.S. fleet. This type of systems analysis tool would be invaluable to the agency in determining priorities and research directions for compatibility research.

The second major goal of the compatibility research is to develop test procedure(s) to evaluate vehicle compatibility. Such a procedure should be linked to real world performance, yet should also provide a repeatable laboratory procedure to measure the compatibility characteristics.

In developing both the systems model and the test procedures, NHTSA has investigated the effects of some vehicle design characteristics on crash compatibility. Following these studies, the Agency will investigate suitable countermeasures to address the issue of compatibility.

Question 4. NTSB issued a recommendation (H-01-09) in May suggesting that NHTSA and industry take steps to inform the public about the benefits, use, and effectiveness of collision warning systems (CWS) and adaptive cruise control (ACC). When will the Agency's field operational testing of rear-end CWS integrated with ACC be completed? Are there any other research projects completed or underway that the Agency believes will be useful in responding to the NTSB recommendation?

Answer:

NHTSA now expects that the GM/Delphi field operational test and Volpe Center's independent evaluation of rear-end CWS will be completed in May 2004.

Other research projects that have been completed or are underway that will be useful in responding to the National Transportation Safety Board (NTSB) recommendation include:

-The field test and evaluation of ACC in passenger cars that was completed by the University of Michigan Transportation Research Institute (UMTRI) in 1998,

-The development of performance specifications for a rear-end crash warning system in passenger cars that was completed by Frontier (STI) in 1998,

-The current truck field operational test of ACC and rear-end crash warning that is being conducted by Volvo in partnership with USExpress,

-The previous and ongoing work by the Crash Avoidance Metrics Partnership (CAMP, a partnership between Ford and GM) that developed objective tests for rear-end crash warning systems in passenger cars.

Suncoast Collision Analysis

Question 1. Under Specific Crash Avoidance R&D topics, lane change/merge collision avoidance system guidelines, is any specific algorithm employed and has such algorithm been field tested. If so, what parameters were used to establish the lane change aspect?

Answer.

The guidelines for lane change/merge list the desired system functional performance, hence are not at the algorithm level. However, for the purposes of validating those specifications, a particular algorithm was developed by TRW for right-side lane changes only. That algorithm had the following characteristics: warn for all vehicles in an adjacent proximity zone (+ or - 30 feet from right rear bumper); plus warn for all vehicles that are less than 3 seconds from entering the proximity zone. Warning was accomplished by lighting an icon in the right and center rear view mirrors. These limits were developed through test track testing. This algorithm was field tested by TRW with promising effectiveness results.

Question 2. Under Specific National Center for Statistics and Analysis (NCSA) topics, do either of these investigative studies or data collection involve motorcycles?

Answer.

Currently, there is no funding for Special Crash Investigations involving motorcycles, and the Crash Avoidance Data Collection Project underway involves large trucks. Consequently, neither involve motorcycles. The National Center for Statistics and Analysis (NCSA) recently published a report on fatal motorcycle crashes, *Recent Trends in Fatal Motorcycle Crashes, DOT HS 809 271*, which is available on our Web site.