# Road & Traffic Safety Newsletter

Volume 1 October 1, 2006

## *Inside this issue*



## *From the editor's desk…*

This inaugural issue of the **Road & Traffic Safety Newsletter** builds on the interest manifested at the Road Safety Seminar that JP Research, Inc. and 5th Generation Technologies hosted at GRT Temple Bay this August. Its purpose is to offer a glimpse of what is happening around the world in the automotive industry and provide a forum for exchange of knowledge and experience between JP Research and the industry in India. We welcome any suggestions or comments on topics and issues you would like us to include in this newsletter.

The latest buzz in the U.S. is electronic stability control (ESC). ESC is a safety system designed to recognize adverse driving conditions by continuously measuring and evaluating speed, steering wheel angle, yaw rate, and the lateral acceleration of a vehicle from various sensors and using the data to compare a driver's steering input with vehicle motion.

NHTSA's latest studies show that ESC is highly effective in reducing "run off the road" type accidents for cars and light trucks. In 1995, Bosch was the first supplier to introduce ESC for the Benz vehicles. In late 1990s and early 2000, several studies were done to evaluate the effectiveness of ESC systems. A study performed in the U.S. using driving simulators showed a strong positive impact of ESC on vehicle stability, and a study performed by Volkswagen showed a 20% reduction in road fatalities in Germany with a 100% installation rate of ESC. A Swedish study showed that the proportion of new cars equipped with ESC had grown from 15% in March 2003 to 69% in December 2004. This study also showed high effectiveness for reduction of single vehicle crashes on icy/wet road surfaces. In June 2006, the Insurance Institute for Highway Safety (IIHS) found that ESC reduced the risk of single-vehicle fatal accidents by over 50%.

Currently, ESC is standard on about 30% of 2006 U.S. models and optional on 15%.

ESC system effectiveness is but one of the topics covered in this first issue of the newsletter, which provides abbreviated summaries (with links to original sources) highlighting the latest findings in auto safety research. We hope you find it useful.

## *Summer of 2006:*
## *What was revving motors in the U.S. automotive world?*

HERE ARE SOME OF THE CRITICAL NEWS ITEMS FROM THE PAST FEW MONTHS

**DOT Proposes Anti-Rollover Technology for New Vehicles**
*http://www.itsa.org/industry_member_news_content/c219_d669/News/Industry__Member_News.html*

A new proposal to require auto manufacturers to install electronic stability control (ESC) as a standard feature on all new passenger vehicles has the potential to save more than 10,000 lives every year, the National Highway Traffic Safety Administration (NHTSA) announced on September 14, 2006.

The proposed rule would require all manufacturers to begin equipping passenger vehicles under 10,000 pounds with ESC starting with the 2009 model year and to have the feature available as standard equipment on all vehicles by the 2012 model year (September 2011).

ESC systems use automatic computer-controlled braking of individual wheels to help the driver maintain control in situations where a vehicle without ESC would skid out of control and likely leave the road. Nearly all rollover crashes occur after a vehicle leaves the road. A 2004 study by NHTSA estimated that ESC reduced fatalities in single-vehicle crashes by 30 percent for passenger cars and 63 percent for SUVs.

According the NHTSA's proposed regulation, the average cost is estimated to be $111 per vehicle on vehicles that already include ABS brakes.

Since 2004, NHTSA has urged manufacturers to voluntarily add ESC as standard equipment on vehicles. As a result, almost 29 percent of all 2006 models - 57 percent of SUVs - are already equipped with ESC.

NHTSA is asking for comments on the ESC proposal for the next 60 days.

**New Side Crash Tests by Insurance Institute for Highway Safety, September 2006**
*http://www.iihs.org/news/rss/pr091406.html*

The Insurance Institute for Highway Safety recently tested four 2007 model vehicles with side airbags: Toyota FJ Cruiser and Ford Freestyle (midsize SUVs); Ford Fusion (midsize moderately priced car) and Ford Crown Victoria (large family car). The FJ Cruiser and Freestyle earn good ratings for protection in side crashes. The Fusion is rated acceptable, and the Crown Victoria is marginal.

**Summary of Test Results:** The FJ Cruiser with optional side airbags earned a good rating. Intrusion into the occupant compartment was minimal. Performance in all categories (dummy injury measures, head protection, and structure) was good across the board.

The institute noted that Freestyle's structure didn't perform quite as well in their tests, but this vehicle is rated good overall. The dummies' heads were protected from hitting any hard structures by side curtain-style airbags that deploy from above the windows. According to IIHS, both the Fusion and Crown Victoria (also sold by Mercury as the Milan and Grand Marquis) with side airbags improved. In the new test of the Fusion, head protection was good but measures recorded on the driver dummy indicated that a fracture of the pelvis would be possible in a crash of this severity. The Fusion with side airbags earned an overall rating of acceptable for side impact protection. In the Crown Victoria, head protection also improved, but this car is rated marginal by IIHS, because of high forces recorded on the driver dummy's pelvis and poor structural performance.

IIHS uses the following procedure to evaluate vehicle performance in side impacts: Each vehicle's overall side evaluation is based on performance in a crash test in which the side of the vehicle is struck by a barrier moving at 31 mph. The barrier represents the front end of a pickup or SUV. Ratings reflect injury measures recorded on two instrumented SID-IIs dummies, both representing a small woman or preteen; assessment of head protection countermeasures; and the vehicle's structural performance during the impact. Injury measures obtained from the two dummies, one in the driver seat and the other in the rear seat behind the driver, are used to

determine the likelihood that the driver and/or passenger in a real-world crash would have sustained serious injury to various body regions. The movements and contacts of the dummies' heads during the crash also are evaluated. Structural performance is based on measurements indicating the amount of B-pillar intrusion into the occupant compartment.For more information on this and other crash safety issues, go to http://www.iihs.org.

## *Latest Studies by NHTSA*

**Graduated Driver Licensing Reduces Fatal Crashes by 11%**
*http://www.jhsph.edu/publichealthnews/press_releases/2006/baker_gdl.html*

Graduated driver licensing programs reduce, by an average of 11 percent, the incidence of fatal crashes of 16-year-old drivers, according to a study by researchers from the **Johns Hopkins Bloomberg School of Public Health**'s Center for Injury Research and Policy and the Johns Hopkins School of Medicine. When examining the most comprehensive programs, which include at least five of seven components [see list below], the researchers found about a 20 percent reduction in fatal crashes involving 16-year-old drivers. The report was supported primarily by the National Highway Traffic Safety Administration (NHTSA) and in part by the Centers for Disease Control and Prevention.

"This study strongly underscores the effectiveness of graduated licensing laws. To states searching for solutions to the tragic problem of fatal crashes involving teenagers, it provides extremely valuable new information," said Nicole Nason, NHTSA Administrator.

Graduated driver licensing programs differ in each state. The Hopkins researchers based their analyses on the presence of the following components, chosen for analysis because they are commonly found in existing programs:

• A minimum age of 15 1/2 for obtaining a learner permit
• A waiting period after obtaining a learner permit of at least 3 months before applying for an intermediate license
• A minimum of 30 hours of supervised driving
• Minimum age of at least 16 years for obtaining an intermediate state license
• Minimum age of at least 17 years for full licensing
• A nighttime driving restriction
• A restriction on carrying passengers.

The researchers used data from 1994-2004 collected by NHTSA's Fatality Analysis Reporting System and the U.S. Census Bureau to examine various graduated driver licensing programs and fatal crash statistics in 36 U.S. states with graduated driver licensing programs and 7 without.

*— "Graduated Driver Licensing Programs and Fatal Crashes of 16-year-old Drivers: A National Evaluation" was published in the July 2006 issue of Pediatrics. Co-authors of the NHTSA report and Pediatrics study are Susan P. Baker, MPH, LiHui Chen, PhD, and Guohua Li, MD, DrPH.*

**Rise in Motorcycle and Pedestrian Deaths Led to Increase in Overall Highway Fatality Rate in 2005**
*http://safety.fhwa.dot.gov/*

An increase in motorcycle and pedestrian deaths contributed to an overall rise in highway fatalities in 2005, the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced today. The total number of fatalities rose 1.4 percent from 42,836 in 2004 to 43,443 in 2005 while the rate of fatalities was 1.47 fatalities per 100 million vehicle miles traveled (VMT), up from 1.45 in 2004.

Despite the spike in motorcycle and pedestrian fatalities, Acting Secretary of Transportation Maria Cino noted other fatality trends were improving.

Cino said NHTSA is working to reduce the number of motorcycle fatalities by encouraging motorcyclists to get proper training, always wear helmets, and absolutely never drink and ride. She added that the Department's Federal Highway

Administration is working with state and local governments to improve pedestrian safety and that the agency is providing more than $600 million over the next three years to help states develop pedestrian safety programs.

## *Useful Automotive Websites*

- National Highway Traffic Safety Administration
  *www.nhtsa.dot.gov*
- The Insurance Institute for Highway Safety and the Highway Loss Data Institute
  *www.hwysafety.org*
- NHTSA's SaferCar site
  New Car Assessment Program, Buy a Safer Car pamphlet, Star Rating System, and other safety programs and assessments.
  *www.safercar.gov*
- Intelligent Transportation Society of America
  *http://www.itsa.org/*

## *Upcoming International Conferences*

- **50th AAAM Annual Scientific Conference**
  *http://www.aaam.org*
  *October 15-18, 2006. Chicago, Illinois, U.S.A.*
- **2006 International IRCOBI Conference**
  *http://www.ircobi.org*
  *September 20-22, 2006. Madrid, Spain*
- **International Traffic Medicine Association 20th World Congress (ITMA 2006)**
  *http://www.trafficmedicine.org*
  *October 16-18, 2006. Melbourne, Australia*
- **CarFixWORLD**
  *http://www.carfixworld.com/*
  The first national trade event dedicated to industry issues, customer relationships, promoting programs and selling product.
  *September 29-October 1, 2006. Direct Energy Place, Toronto, Ontario*
- **AAPEX Show**
  *http://www.aapexshow.com/*
  Automotive Aftermarket Products Expo.
  *October 31-November 2, 2006. Sands Expo Center, Las Vegas, U.S.A.*

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