

THE BLUE RIBBON PANEL ON DEPOWERED AND
ADVANCED AIRBAGS — STATUS REPORT ON AIRBAG
PERFORMANCE

Susan A. Ferguson, Moderator
Insurance Institute for Highway Safety

Lawrence Schneider
University of Michigan Transportation Research Institute

Maria Segui-Gomez
John Hopkins University and Universidad deNavarra

Kristy Arbogast
Partners for Child Passenger Safety, Children's Hospital of
Philadelphia, University of Pennsylvania

Jeffrey Augenstein
William Lehman Injury Research Center, University of Miami

Kennerly H. Digges
Federal Highway Administration/National Highway Traffic Safety
Administration National Crash Analysis Center

SUMMARY

Susan A. Ferguson

In February 2000, a group of highway safety organizations sent a letter to the Secretary of the U.S. Department of Transportation expressing concern about a possible return to the 30-mph rigid barrier test using unbelted dummies previously required by Federal Motor Vehicle Safety Standard (FMVSS) 208. The letter asked the National Highway Traffic Safety Administration (NHTSA) to expedite data collection of the real-world crash experience of airbag-equipped vehicles certified to the 30-mph sled test using unbelted dummies because of suggestions that depowered airbags may not provide the same level of protection, particularly to larger, unbelted occupants. For the same reason, the letter also recommended that the auto industry commit funding for additional

data collection and to establish a panel of experts to evaluate the data. In response, the Alliance of Automobile Manufacturers (Alliance) committed to funding a 3-year program to be managed by an independent third party. A panel of experts consisting of representatives from the highway safety research community, the National Transportation Safety Board, academia, medical institutions, and the insurance industry was established as the Blue Ribbon Panel (BRP) for Evaluation of Depowered and Advanced Airbags and met for the first time in February 2001. The BRP also includes representatives from NHTSA and the automobile industry who participate as observers. The BRP held its first public meeting in April 2003 to provide an update of its activities and to summarize the real-world evidence on the performance of depowered airbags. This AAAM session will provide a brief summary of the public meeting.

The goals of the BRP effort are to answer three basic questions:

1. Are vehicles equipped with redesigned and advanced airbag systems as effective as vehicles equipped with first-generation airbags at reducing overall injury and death in frontal crashes?
2. Are vehicles equipped with sled-certified airbag systems offering reduced protection in higher severity crashes, particularly for unbelted occupants?
3. Is the incidence of airbag-induced injuries to children and other vulnerable occupants lower in vehicles with redesigned airbags, particularly in low-speed frontal impacts?

After studying various possible approaches for data collection, the BRP decided to utilize the existing National Automotive Sampling System/Crashworthiness Data System (NASS/CDS) infrastructure by adding three new data collection teams. The panel agreed that the Alliance-funded study should gather a probability-based sample of frontal crashes of all severity levels involving vehicles of the current model year and the four prior model years but to oversample higher severity crashes. The crash data collected will be fully compatible with and incorporated into the current NASS/CDS cases. The combined cases can be weighted to estimate national crash rates, thus enhancing the ability to use the total file for statistical analysis. Three new NASS sites were selected, investigators were hired, and training began in October 2001. Anecdotal data collection began at the new primary sampling units (PSUs) on January 1, 2002, and full case investigations began April 1, 2002. In 2002, there were 1,047 NASS/CDS cases meeting the criteria for analysis of airbag performance and, of these, 341 were Alliance team cases. The Alliance-funded cases are thus making a significant contribution to the overall number of cases available for analysis of airbag effectiveness. All cases are available for viewing on NHTSA's web site: <http://www-NASS.nhtsa.dot.gov/BIN/NASSCASELIST.EXE/SETFILTER>. At the behest of the BRP, NHTSA now is making preliminary NASS cases available on the web on a quarterly basis rather than once a year in July.

The goal of this panel session is to assess data that have been collected to date from various sources to begin to answer some of the questions posed above. Data from NHTSA's Special Crash Investigation (SCI) program indicate airbag-related deaths in

low-speed crashes are well down from previous levels. Deaths, normalized by million registered vehicle years, peaked during 1995-97 with a steady decline thereafter. This decline can be attributed to both the changes in airbag system design and the success of the public information campaign, which has advised motorists not to place children in front seats. The campaign also has emphasized the importance of adults using seat belts and sitting a safe distance from the airbag module. The rate of airbag-related driver fatalities per million registered vehicles for vehicles equipped with sled-certified airbag systems, compared with those certified with the rigid barrier, showed that fatalities for sled-certified systems were lower in some calendar years, whereas for other calendar years fatalities for the barrier-certified systems were lower. Airbag-related fatalities involving children for the sled-certified systems were lower in all calendar year groupings. At this time, the SCI program has not investigated a single fatal or life-threatening injury involving the deployment of an advanced airbag certified to the test requirements that will be in effect in September 2003.