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HLDI CAR ANTILOCK BRAKE STUDY IS CONSISTENT WITH NHTSA, GM EVALUATIONS

The Highway Loss Data Institute (HLDI) in January published a passenger car antilock brake effectiveness special report updating its 1994 antilock study. Concurrently, the National Highway Traffic Safety Administration (NHTSA) released a report on the effectiveness of antilock brake systems for passenger cars. A third study conducted by General Motors (GM) has also been released. All three studies have similar bottom line findings that suggest that antilock brakes for passenger cars have little or no effect in reducing the total number of real-world crashes, despite successful test track performance. The NHTSA and GM studies also provide additional analyses of the effects of antilock brakes on different crash types; however, these results are less than definitive because of uncertainties concerning the validity of some of the assumptions made by the researchers. This Advisory summarizes the key results from these studies.

HLDI Examines Insurance Claims Data on Antilocks

Last year HLDI released results of its first study of antilock braking systems for cars. It found no differences in insurance losses for seven GM cars with antilocks compared with their predecessor models without them. HLDI updated this study by examining an additional year of claims experience for the same cars. The collision and property damage liability losses for these antilock-equipped cars were compared with the losses for the same models in the preceding model year. Collision data represented more than 1.2 million insured vehicle years and nearly 90,000 claims. Property damage liability records represented more than 30,000 claims and nearly one million insured vehicle years.

Overall, the study found no significant decreases in claims frequency, under either collision or property damage liability coverages, for the selected 1992 models with standard antilock brakes compared with 1991 models without antilocks. This was true even during the winter months in northern states, where weather conditions are such that antilocks would be expected to have more of an impact. At the individual make and model level, there were both statistically significant increases and decreases in claim frequencies for both collision and property damage liability coverages. However, there was no meaningful

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pattern of differences in claim frequencies. The detailed car-by-car and year-by-year comparisons in the HLDI report provide no evidence that the introduction of antilock brakes as standard equipment reduces the total number of collision or property damage liability claim frequencies resulting from real-world crashes.

NHTSA's Findings Consistent With HLDI Study

NHTSA estimates that antilocks have had little or no effect on reducing the total number of collisions to date. "NHTSA's finding is consistent with the accident analysis published by the Insurance Institute for Highway Safety in January 1994," the report states. The agency based its statistical analysis of the effectiveness of antilocks on 32,000 police-reported crashes in 1990-92 from Florida, Pennsylvania, and Missouri and 1989-93 data on fewer than 1,000 crashes from the Fatal Accident Reporting System, a government maintained data base of fatal crashes nationwide. Results for different crash types were mixed.

NHTSA reported that compared with non-antilock-equipped cars, cars with antilocks had about a 20 to 30 percent higher crash involvement rate in single-vehicle, run-off-road crashes, but about a 15 to 25 percent reduced risk of multiple-vehicle collisions on wet roads. For both wet and dry road conditions, the risk of fatal collisions with pedestrians and bicyclists was reduced by 27 percent in cars with antilock brakes. The net effects were nonsignificant reductions in fatal crashes (2 percent) and nonfatal crashes (3 percent).

GM Paper Finds Positive Effects of Antilocks Minimal

A paper by Leonard Evans of General Motors concluded that the introduction of antilock brakes on seven GM models, the same vehicles used in the HLDI study, was associated with a slight reduction in overall crash risk of 3 ± 1 percent for 15,000 police-reported crashes in Texas and Missouri during 1992-93. As in the NHTSA study, there were mixed results for different crash types. A 13 percent decrease in crashes on wet roads was reported, along with a 34 percent lower pedestrian crash risk, but there was a 44 percent increase in rollover risk associated with antilocks.