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Incidence of Large Truck-Passenger Vehicle Underride Crashes in Fatal Accident Reporting System and National Accident Sampling System

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Abstract

Between 1988 and 1993, the Fatal Accident Reporting System (FARS) coded 4 percent of all fatal large truck-passenger vehicle crashes as involving underrides (portion of passenger vehicle slides under a large truck) or overrides (truck rides over another vehicle). In contrast, the National Accident Sampling System Crashworthiness Data System (NASS/CDS) coded 27 percent of a sample of 275 fatal large truckpassenger vehicle crashes as underrides during the same years. Seven percent of these 275 fatal crashes are identified as underrides in FARS. The discrepancy between FARS and NASS coding becomes more pronounced when underrides involving sides of passenger vehicles or trucks are considered. The reason for this discrepancy is that NASS/CDS did not code underrides involving side impacts, but FARS did. When underrides involving side impacts were added, the total percentage of underrides in NASS/CDS rose from 27 percent to 50 percent of fatal truck-car crashes. The most likely explanations for the lower incidence of underride coding in FARS are that (a) the greater amounts of information available to NASS/CDS analysts enable more complete identification of underrides, (b) FARS analysts sometimes may not recognize that an underride has occurred, and (c) underride was not a separate FARS variable before 1994. On the basis of NASS/CDS data, an estimated 1,108 fatal underride crashes occurred each year between 1988 and 1993 [95 percent confidence interval (CI) = 735, 1482]. Of these 1,108 underrides, 634 involved the front (CI = 328, 942), 248 involved the rear (CI = 137, 360), and 226 involved the sides (CI= 110, 341) of large trucks.

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