

1997 Traffic Crashes, Injuries and Fatalities - Preliminary Report

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Introduction

This report contains preliminary estimates of motor vehicle crashes and resulting injuries and fatalities.

The crash estimates for 1997 are based on all cases reported to the General Estimate System (GES) for the first nine months of 1997 and the cases reported for October, November, and December of 1996. The Primary Sampling Unit (PSU) weights were changed in 1997 to reflect the demographic changes that have occurred since the original survey design. The weights for the 1996 cases have been modified accordingly to insure a more realistic comparison between 1996 and 1997.

The GES obtains its data from a nationally representative probability sample selected from all police-reported crashes which occur annually. Although the GES file contains fatal, injury, and property damage cases, for the purpose of this report only injury and property damage cases are utilized.

The fatality estimates for 1997 are based on all cases reported to the Fatal Analysis Reporting System (FARS) as of February 1998, and on the preliminary reporting of the total number of traffic fatalities in 1997 by each state. The number of cases on file as of February 1998 are estimated to represent about 85 percent of the final total for the year. The combination of the two sources has been used for a number of years to produce fairly accurate estimates of detailed traffic fatality statistics months before the actual reporting of all cases is completed.

FARS and GES are sponsored and managed by the National Center for Statistics and Analysis (NCSA), an office of the National Highway Traffic Safety Administration (NHTSA).

The estimates of fatalities for 1997 represent an extrapolation of the data presently available in the FARS file. Extrapolation factors have been established for each of the twelve months using the expected final monthly fatality counts and the corresponding counts in the FARS file. Past experience has shown that most large estimates, counts of 10,000 or more, tend to be within one percent of the final figure. Smaller estimates are subject to relatively larger estimation errors.

For some data elements, e.g., Highway System, Land Use, Speed Limit and Vehicle Type, the reporting is not quite as complete at this early date and the file contains a large number of cases with unknown values. Additional adjustments were required for these data elements, in order to make proper comparisons with previous years' data.

The GES file is based on a sample survey; therefore, all estimates based on this file are subject to sampling and nonsampling errors. Sampling errors represent the probable differences between the results obtained from the sample survey and those results that would be obtained from a census of the population. Sampling variability should be taken into account when interpreting year-to-year differences. The technical note (DOT HS 807 796), which is available from NHTSA, provides a complete description of the GES sample design, and estimation of sampling errors.

The GES does not provide estimates for individual states or NHTSA regions. Only FARS estimates of total fatalities in each state and region are presented in the report.

The report presents a series of estimates on crashes, injuries, and fatalities for 1997. The report contains three major sections. The tables in the first section reflect a comparison of selected 1997 estimates to the corresponding counts reported for 1996. The second section consists of a group of charts reflecting various trends in crashes, injuries, and fatalities. The final section is designed to provide a large and detailed set of 1997 estimates derived from the GES and FARS files.

The fatality trend, presented in the report, is based on monthly data from January 1975 through December 1997. These fatality counts have been combined with the travel estimates, over the same period of time, to compute the fatality rate trend. Vehicle Miles of Travel (VMT) data used to calculate the fatality rate were provided by the Federal Highway Administration (FHWA).

The year to year comparisons rely on the redistribution of unknown data for 1997. These results, therefore, may change once the completed version of the 1997 GES and FARS files become available.

Principal Findings

Crashes, Injuries, and Fatalities

The number of police-reported traffic crashes is estimated at 6,753,500 for 1997. This represents a small (1.3%) decrease over 1996. The number of injuries that occurred in these crashes is estimated at 3,450,000, which is 1.7 percent lower relative to 1996.

An estimated 42,000 people lost their lives in traffic crashes during 1997. This represents a 0.2 percent decrease from the 42,065 fatalities reported for 1996. The 1997 total is 1.4 percent lower than in 1983 and 17.8 percent lower than the count in 1980. The years 1980 and 1983 are used for comparisons as these years represent the previous high and low points in the fatality trend during the first fifteen years of the FARS file (1975-1990).

Based on the FHWA's estimated increase of 2.0 percent in vehicle miles of travel, the fatality rate for 1997 is estimated at 1.7 fatalities per 100 million vehicle miles of travel, the same as in 1996 but much lower than the 2.6 for 1983, and 3.3 for 1980.

The overall fatality trend (Page 25) displays a cyclical pattern. Since 1975 two cycles have been completed and 1997 may be the peak of the third cycle. The period of the cycle is approximately nine years with lows in 1975, 1983, and 1992, and highs in 1979, 1988 and, possibly, in 1997. Both highs and lows have been decreasing their values with each cycle. The fatality rate per 100 million vehicle miles of travel, based on the ratio of the monthly trend values of fatalities and travel, has continued to decline at a steady rate, from the 3.5 level at the beginning of 1975 to about 1.7 by the end of 1993. The fatality rate has remained at the 1.7 level through the end of 1997.

Between 1996 and 1997 the number of pedestrian fatalities decreased by 5.4 percent while pedalcyclist fatalities increased by about 4.6 percent. Fatalities in single vehicle crashes and angle collisions remained at the same level as in 1996. Head on crash and sideswipe crash fatalities increased by 3 percent and 8 percent respectively, while rear end crash fatalities decreased by 1 percent.

In 1997 the number of fatalities associated with the presence of alcohol decreased with respect to 1996. More specifically, the number of fatalities in crashes where the BAC level was at .1 or above decreased by 3.5 percent, and a larger decrease of 5.9 percent occurred in crashes where the BAC level was between .01 and .09. Fatalities increased by 2.5 percent in crashes where no alcohol was present.

Location

The number of crashes occurring on roads with a posted speed limit below 55 mph decreased by about 2.4 percent, roads posted at 55 mph and above show an increase of about 2.8 percent.

Crash injuries decreased by 2.6 percent on all roads combined with a posted speed below 55 mph, and increased by about 1.2 percent on roads posted at 55 mph and higher speed limits. All roads with a posted speed limit under 55 mph had about a 2.4 percent average decrease in fatalities from 1996 while the increase was 1.7 percent on roads posted at 55 mph and higher speeds.

Fatalities increased by 3.8 percent over 1996 in rural areas and decreased by 5.7 percent in urban areas. Fatalities increased by 5 percent on the Interstate system and by 1.6 percent on the U.S. routes that are not part of the Interstate system. The combination of state and county roads experienced an average decrease of less than 1 percent. Fatalities on local and other roads decreased by 1.8 percent.

Drivers

An estimated 12,088,470 drivers were involved in police-reported crashes in 1997, a decrease of about 1.1 percent from 1996. About 2,182,660 drivers suffered some type of injury and an additional 24,860 were fatally injured, a 2.3 percent decrease over 1996 for the number of driver injuries and a 1.3 percent increase for the number of driver fatalities.

The number of drivers involved in fatal crashes in 1997 was 57,000, about the same number as in 1996. The proportions of male and female drivers in fatal crashes remained almost the same as in 1996. Between 1980 and 1997, the number of male drivers in fatal crashes has decreased by 20 percent while female drivers involved in fatal crashes experienced an increase of 28 percent.

Between 1996 and 1997, the number of drivers of motorcycles involved in fatal crashes decreased by 3 percent, while the number of drivers of passenger cars also decreased by 2.4 percent. During the same period the number of drivers involved in fatal crashes increased by almost 2.7 percent for light trucks and vans, while medium and heavy trucks combined experienced no change.

The number of driver fatalities increased by 1.3 percent overall, with males showing a 1 percent decrease and females a 2 percent increase. For drivers over 65 years of age, the number of fatalities increased by 6 percent, while driver fatalities in the younger groups showed no change.

Passengers

The number of passengers injured in traffic crashes is estimated at 1,125,890, a very small increase over 1996. The number of passengers that died in motor vehicle crashes is estimated at 11,040, 1 percent fewer than in 1996. The number of occupant fatalities remained the same as in 1996. The number of occupant fatalities decreased by 1 percent in passenger cars, increased by 4 percent in light trucks, and increased by 16 percent for medium and heavy trucks. Motorcycle driver and passenger fatalities, combined, also decreased by 3 percent.

Nonoccupants

About 76,550 pedestrians were injured in crashes during 1997, a 6 percent decrease from the previous year. The number of pedestrians killed in 1997 was 5,300, about 5 percent lower than in 1996. Since 1980, pedestrian fatalities have decreased by 32 percent, the decrease being similar for both males and females. The number of pedalcyclists injured in 1997 is estimated at 64,900, a 7 percent decrease from 1996. The estimated 800 pedalcyclist fatalities for 1997 is 5 percent higher than in 1996. Since 1980, pedalcyclist fatalities have decreased by 17 percent.

For copies of the full report, please call (202) 366-4198 or toll free, 1-800-934-8517. Questions regarding the report may be directed to Ezio Cerrelli at (202) 366-5358.