



TRAFFIC SAFETY FACTS

Crash • Stats

DOT HS 812 446

A Brief Statistical Summary

October 2017

Drowsy Driving 2015

This report presents data regarding drowsy driving as it currently exists in NHTSA's databases. A drowsy-driving crash is a crash in which the driver was reported as drowsy or sleepy based on the police accident report (PAR).

Data

Drowsy driving was reportedly involved in 2.3 to 2.5 percent of all fatal crashes nationwide from 2011 through 2015. In 2015, 2.3 percent (824) of the fatalities that occurred on U.S. roadways are reported to have involved drowsy driving. In 2015, the *total number* of fatalities increased by 7 percent compared to 2014, but the *proportion* reported to involve drowsy driving decreased, from

2.6 to 2.3 percent. The number of fatalities in crashes involving a drowsy driver between 2011 and 2015 has remained fairly constant, fluctuating between 2.3 percent of fatalities and 2.6 percent. Table 1 shows data for all fatal crashes, drivers involved, and fatalities involving drowsy driving from 2011 through 2015.

Table 1: Fatal Crashes, Drivers, and Fatalities in Crashes Involving Drowsy Driving, by Year, 2011-2015

Year	Total Fatal Crashes			Fatal Crashes Involving Drowsy Driving					
	Crashes	Drivers	Fatalities	Crashes		Drivers		Fatalities	
	Number	Number	Number	Number	Percent	Number	Percent	Number	Percent
2011	29,867	43,840	32,479	721	2.4%	723	1.6%	810	2.5%
2012	31,006	45,664	33,782	744	2.4%	744	1.6%	835	2.5%
2013	30,202	44,803	32,893	714	2.4%	713	1.6%	801	2.4%
2014	30,056	44,671	32,744	747	2.5%	747	1.7%	851	2.6%
2015	32,166	48,613	35,092	736	2.3%	736	1.5%	824	2.3%
2011-2015	153,297	227,591	166,990	3,662	2.4%	3,663	1.6%	4,121	2.5%
5-Year Average	30,659	45,518	33,398	732	2.4%	733	1.6%	824	2.5%

Source: Fatality Analysis Reporting System (FARS) 2011-2014 Final File and 2015 Annual Report File (ARF)

As compared to the fatal crash data from 2011 to 2015, drowsy driving is somewhat less prevalent in property-damage-only (PDO) crashes, constituting 1.0 to 1.2 percent of the total estimated PDO crashes. The percentage of all severity crashes and drowsy-driving crashes are dominated by property-damage-only crashes, since these make up about 70 percent of all police-reported crashes. From 2011 to 2015, injury crashes involving drowsy driving have constituted 1.9 to 2.1 percent of the overall injury crashes.

As shown in Table 2, an estimated 33,000 injury crashes with reports of drowsy drivers occurred in 2015 (1.9% of all injury crashes). Of all police-reported crashes that occurred in 2015 (fatal, injury, and property damage only), 1.4 percent involved reports of drowsy driving (90,000 out of 6.3 million crashes). Table 2 provides data for the 5 years 2011 to 2015 citing the overall number of crashes by crash severity and those that were reported to involve drowsy driving.

Previous Data

■ *Crashes and Fatalities Related to Driver Drowsiness/Fatigue* (Knippling & Wang, 1994) – Knippling and Wang conducted an analysis of FARS and GES data from 1989 to 1993 regard-

ing fatigue and drowsiness. Based on GES data, an average of 40,000 non-fatal injuries annually were associated with 1989-1993 police-reported driver drowsiness crashes (1.4%). Data from 1989 to 1993 indicates that drowsiness/fatigue was cited as a factor in an annual average of 1,357 fatal crashes resulting in 1,544 fatalities. This represents approximately 3.6 percent of all fatal crashes and 3.6 percent of fatalities during those 5 years.

■ *National Motor Vehicle Crash Causation Survey (NMVCCS)* – NMVCCS consists of post-crash survey data from a nationally representative sample of tow-away crashes. Fatigue and sleeping were identified in two variables during the survey. For those cases in which the critical reason for the critical pre-crash event (first fatigue-related variable) was attributed to the driver, 3.2 percent involved the driver being sleepy or actually sleeping at the time of the crash. Crash associated factors were also determined including one question asking whether or not the driver was fatigued. Seven percent of the drivers of the case vehicles were fatigued and 68 percent were not fatigued.

■ *Drowsy Driving: Crash Stats* (DOT HS 811 449) – Previous release of this report that looks at data years 2005 to 2009.

Table 2: Motor Vehicle Traffic Crashes and Crashes Involving Drowsy Driving, by Year, 2011-2015

Crash Year by Crash Severity		Overall Crashes	Crashes Involving Drowsy Driving	
		Number	Number	Percent
2011	Fatal	29,867	721	2.4%
	Injury	1,530,000	29,000	1.9%
	PDO	3,778,000	36,000	1.0%
	Total	5,338,000	66,000	1.2%
2012	Fatal	31,006	744	2.4%
	Injury	1,634,000	34,000	2.1%
	PDO	3,950,000	47,000	1.2%
	Total	5,615,000	81,000	1.4%
2013	Fatal	30,202	714	2.4%
	Injury	1,591,000	32,000	2.0%
	PDO	4,066,000	39,000	1.0%
	Total	5,687,000	72,000	1.3%
2014	Fatal	30,056	747	2.5%
	Injury	1,648,000	33,000	2.0%
	PDO	4,387,000	53,000	1.2%
	Total	6,064,000	87,000	1.4%
2015	Fatal	32,166	736	2.3%
	Injury	1,715,000	33,000	1.9%
	PDO	4,548,000	56,000	1.2%
	Total	6,296,000	90,000	1.4%
2011-2015	Fatal	153,297	3,662	2.4%
	Injury	8,118,000	160,000	2.0%
	PDO	20,728,000	232,000	1.1%
	Total	29,000,000	396,000	1.4%

Note: All injury and PDO numbers are estimates which have been rounded to the nearest 1,000. Percentages are based on unrounded numbers.
Source: FARS 2011-2014 Final and 2015 ARF, National Automotive Sampling System (NASS) General Estimate System (GES) 2011-2015

Methodology

Data sources available to analyze drowsy driving include NHTSA's Fatality Analysis Reporting System (FARS) and National Automotive Sampling System (NASS) General Estimates System (GES). FARS is a census of fatal crashes in the 50 States, the District of Columbia, and Puerto Rico (Puerto Rico is not included in U.S. totals). Nonfatal crash and injury statistics are based on data from the NASS GES. The NASS GES is a probability-based sample of police-reported crashes from 60 locations across the country, from which estimates of national totals for injury and property-damage-only crashes are derived.



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A FARS or NASS GES crash is determined to involve a drowsy driver if the driver's condition (impairment) at the time of the crash is "drowsy or sleepy." These are physical impairments of the driver which may have contributed to the cause of the crash as identified by law enforcement.

Limitations

There are inherent limitations to FARS and NASS GES data with respect to determining the presence of drowsy driving. The data for FARS and NASS GES are based on PARs and investigations which are conducted after the event has occurred. These codes that identify drowsy driving involvement in FARS and NASS GES are factors that may have played a role in the crash, as reported by law enforcement.

- PARs vary across jurisdiction, as do reporting practices for citing driver drowsiness on the PAR, both within States as well as between them. The Model Minimum Uniform Crash Criteria guidelines recommend fatigue be coded as a physical condition of the driver. Some States, however, may include fatigue as an attribute of distraction.
- Underreporting of the occurrence of drowsy driving is most likely due to lack of firm evidence of such involvement since investigation is done after the crash; drivers unaware of the role that drowsiness played in the crash; drivers reluctant to disclose that they fell asleep or were tired; and fatality of the involved driver.
- Previous reports cite data limitations that include over-reporting due to greater social acceptance of fatigue over alcohol use, speeding, or inattention, or underreporting from crashes involving "drift out of lane" that could actually be drowsy driving. NASS GES involves only police-reported crashes, and fewer than half of all crashes are police-reported, thus potentially missing single-vehicle drowsy driving crashes with minor or no injuries.

References

Knipling, R., & Wang, J. (1994). *Crashes and fatalities related to driver drowsiness/fatigue*. Washington, DC: National Highway Traffic Safety Administration.

NHTSA. (2008, July). *National Motor Vehicle Crash Causation Survey: Report to Congress* (DOT HS 811 059). Washington, DC: National Highway Traffic Safety Administration.

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