



U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**



DOT HS 809 579

April 2003

Technical Report

Alcohol Involvement in Fatal Crashes 2001



Published By:

NCSA

**National Center for Statistics and Analysis
Advanced Research and Analysis**

This publication is distributed by the U.S. Department of Transportation, National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings and conclusions expressed in this publication are those of the author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufacturers' names are mentioned, it is only because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.



1. Report No. DOT HS 809 579	2. Government Accession No.	3. Recipients's Catalog No.	
4. Title and Subtitle Alcohol Involvement in Fatal Crashes 2001		5. Report Date April, 2003	
		6. Performing Organization Code NPO-121	
7. Author(s) Rajesh Subramanian		8. Performing Organization Report No.	
9. Performing Organization Name and Address Mathematical Analysis Division, National Center for Statistics and Analysis National Highway Traffic Safety Administration U.S. Department of Transportation NPO-121, 400 Seventh Street, S.W. Washington, DC 20590		10. Work Unit No. (TRAIS)n code	
		11. Contract of Grant No.	
12. Sponsoring Agency Name and Address Mathematical Analysis Division, National Center for Statistics and Analysis National Highway Traffic Safety Administration U.S. Department of Transportation NPO-121, 400 Seventh Street, S.W. Washington, DC 20590		13. Type of Report and Period Covered NHTSA Technical Report	
		14. Sponsoring Agency Code	
15. Supplementary Notes Rajesh Subramanian is a Programmer Analyst employed by Rainbow Technology, Inc., a contractor for the Mathematical Analysis Division of the National Center for Statistics and Analysis.			
16. Abstract Alcohol related fatalities are defined as fatalities that occur in crashes where at least one driver or nonoccupant (pedestrian or pedalcyclist) involved in the crash has a positive Blood Alcohol Concentration (BAC) value. This report presents estimates of alcohol involvement in fatal traffic crashes that occurred during 2001. The data are abstracted from the Fatality Analysis Reporting System (FARS) and represent a combination of actual Blood Alcohol Concentration (BAC) test results and estimated BAC distributions when the BAC test results are not available. Estimates of alcohol involvement have been presented along various categories of interest like Driver Age, Gender and crash characteristics like rural/urban, single-vehicle/multiple vehicle crash comparisons. Charts compare the extent of alcohol involvement for the last five years and underlying data for the comparisons up to the 1982 data year are provided in the Appendix. Descriptive measures like the mean and median BAC values are catalogued in the Appendix. Also, continuous BAC distributions are provided for each of the categories.			
17. Key Words Alcohol Related Fatalities, Driver, Age, Gender, Crash Type, BAC Distributions		18. Distribution Statement Document is available to the public through the National Technical Information Service, Springfield, VA 22161	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No of Pages 57	22. Price

Form DOT F1700.7 (8-72)

Reproduction of completed page authorized



Table of Contents

Abstract	1
Highlights	1
1. Introduction	2
Alcohol-Related Fatalities by Person Role	3
Occupant Fatalities in Alcohol-Related Crashes.....	3
Fatalities by Person Role in High Alcohol-Crashes (Crash BAC=0.08+)	4
3. Drivers	5
4. Young Drivers	15
5. Pedestrians	15
6. States	16
7. Repeat Offenders (Recidivism)	17
8. Conclusions	19
References	20
Glossary	20
Appendix	23
Descriptive Statistics	53
Alcohol-Related Fatalities – Q&As	56

Abstract

Objectives – This report presents data on alcohol involvement in fatal crashes in the U.S. in 2001 according to crash and demographic characteristics such as age, gender, time of the day, day of the week etc. A companion publication presents summary alcohol data for 2001 (NHTSA, [2]).

Definitions – **Alcohol-Impairment** Blood Alcohol Concentration (BAC) levels are between 0.01 and 0.07 while **Intoxication** is 0.08 and above and **Involvement (alcohol-related)** is 0.01 and above. The glossary at the end of this report provides definitions of various other terminologies used in this report.

Methods and Data – The data are abstracted from the Fatality Analysis Reporting System (FARS) Annual Report File (ARF – to be updated to a final version later this year) and represent a combination of actual BAC test results and estimated BAC values for those drivers and nonoccupants (pedestrians and pedalcyclists) for whom BAC test results are not reported (Rubin [4] and Subramanian [5]).

Interpretation – Alcohol involvement cannot be interpreted as a direct causal relationship between alcohol use and any other attribute of fatal crashes. Inferences concerning causality can only be made on the basis of additional information that is independent of the FARS data.

Conclusions – Alcohol still remains a significant factor in motor vehicle traffic crashes in the U.S. After years of steady decline, alcohol-related fatalities have been rising in the last two years.

Highlights

In 2001, a total of 37,795 fatal motor vehicle traffic crashes were recorded in the United States that accounted for 42,116 fatalities. Of these crashes, an estimated 41 percent were **alcohol-related**, i.e., at least one driver, pedestrian or pedalcyclist had a BAC of 0.01 or greater. Alcohol-related crashes accounted for about 41 percent of all **fatalities** in traffic crashes.

About 21 percent of all **drivers** involved in fatal crashes were **intoxicated**, i.e., their BAC was 0.08 or greater (0.08+). Twenty-four percent of all **male drivers** involved were intoxicated as compared to 13 percent of all **female drivers**.

About 33 percent of **all drivers** aged **21-24** involved in fatal crashes were intoxicated.

Of all **motorcycle operators** involved in fatal crashes, 29 percent were intoxicated. This compares to about 23 percent for drivers of passenger cars and 23 percent for drivers of Light Trucks and Vans.

About 52 percent of all drivers killed in **nighttime** crashes were intoxicated. About 63 percent of all drivers killed in **single-vehicle nighttime** crashes were intoxicated.

The rate of alcohol involvement among fatally injured **unbelted** drivers of passenger vehicles was 46 percent as compared to 15 percent for **belted** drivers.

Alcohol-impaired or intoxicated drivers with **prior DWI convictions** were involved in crashes that accounted for about 10 percent of all alcohol-related fatalities.

About 33 percent of all pedestrians killed in traffic crashes were intoxicated.

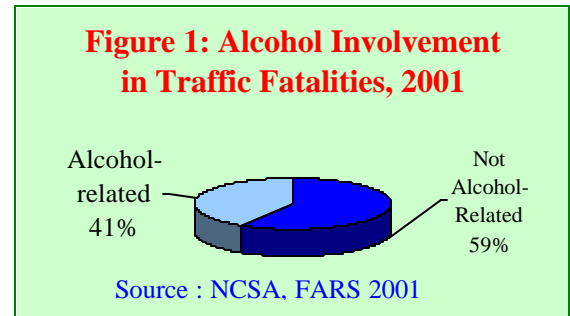
1. Introduction

This publication presents statistics on alcohol involvement in fatal motor vehicle traffic crashes in the United States for 2001. It presents detailed data on the extent of alcohol involvement in traffic crashes according to a number of demographic and environmental characteristics. Several comparisons of alcohol involvement for the period 1982-2001 are presented to illustrate changes and trends.

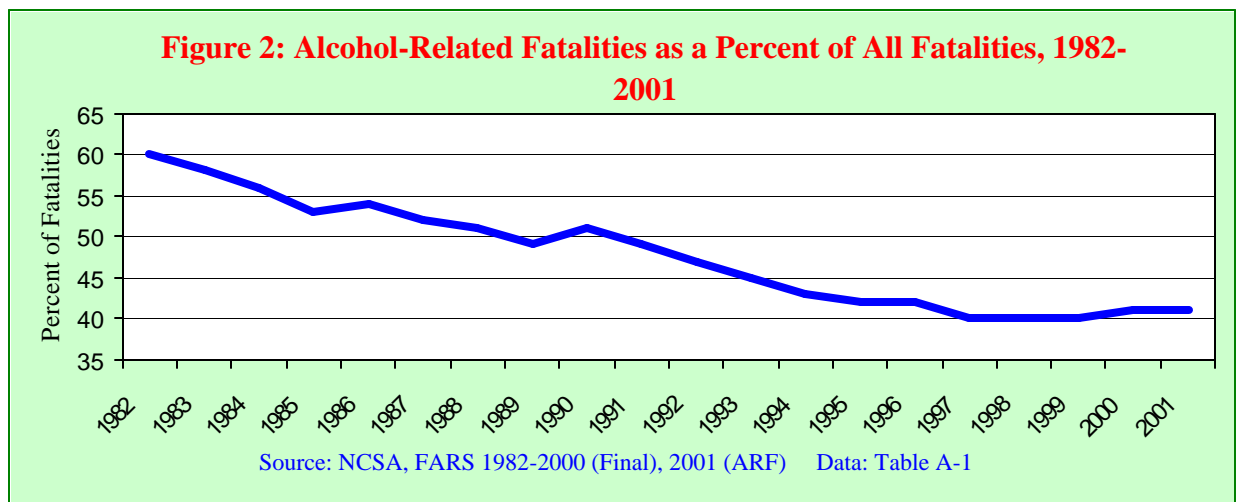
Alcohol involvement in traffic crashes can be studied at two levels – crash level or person level. Alcohol involvement at the person level is the BAC of the person, driver or a nonoccupant, involved in a crash. Alcohol involvement at the crash level is the highest BAC among any of the actively involved persons (drivers, pedestrians or pedalcyclists) in the crash.

2. Crashes and Fatalities

In 2001, 41 percent of all motor vehicle traffic crashes were alcohol-related. Such crashes also accounted for about 41 percent of all fatalities in traffic crashes [Figure 1].



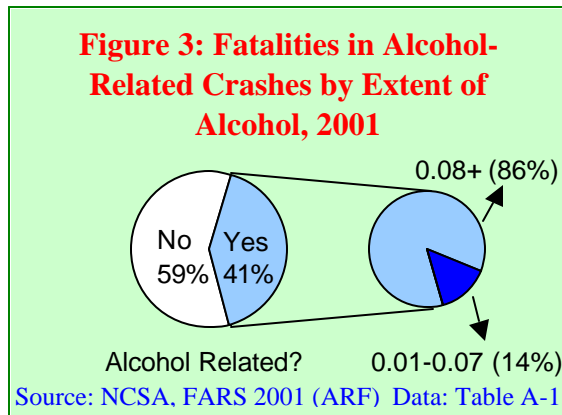
In 2000, for the first time in ten years, the number of alcohol-related fatalities went up. In 2001, a total of 17,448 fatalities occurred in 15,585 alcohol-related crashes. Figure 2 presents the trend of alcohol-related fatalities since 1982.



Between 2000 and 2001, fatalities in all crashes have gone up by 0.4 percent, while fatalities in alcohol-related crashes have also increased by 0.4 percent. Fatalities in alcohol-impaired crashes have increased by

nearly 0.2 percent, while those in alcohol-intoxicated crashes have risen by 0.4 percent.

A majority of alcohol-related fatalities occur in crashes where at least one of the actively involved participants had a BAC of 0.08 or greater. As in prior years, over 85 percent of all alcohol-related fatalities occurred in such crashes during 2001 [Figure 3].



Alcohol-Related Fatalities by Person Role

A total of 17,448 persons were killed in alcohol-related crashes in 2001. Table 1 breaks down these fatalities by the role of the person, i.e., if the person was a driver, a passenger or a non-occupant.

Table 1: Alcohol-Related Fatalities by Person Role, 2001

Person Role	Driver	Passenger	Non-Occupant	Total
Number	10,781	3,978	2,689	17,448
Percent	62%	23%	15%	100%

Source: NCSA, FARS 2001 (ARF)

A total of 14,759 or about 85 percent of fatalities in alcohol-related crashes occurred to occupants of vehicles.

Occupant Fatalities in Alcohol-Related Crashes

This section analyzes the circumstances involving the fatalities to 14,759 occupants who were killed in alcohol-related crashes. These occupants include any person riding in a passenger vehicle, large truck, bus or a motorcycle in transport. Table 2 further breaks down the data in Table 1 by providing a distribution of alcohol involvement among various groups of drivers and passengers.

Table 2: Occupant Fatalities in Alcohol-Related Crashes by Role and Driver Impairment, 2001

Person Role	Number	Percent
Non-Sober Driver	9,573	65%
Sober Driver	1,208	8%
Passengers Riding with Non-Sober Drivers**	2,916	20%
Passengers Riding with Sober Drivers**	1,006	7%
Total*	14,759	100%

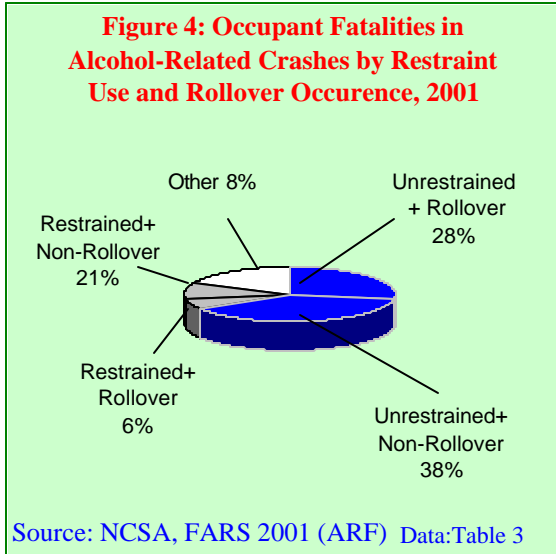
Source: NCSA, FARS 2001 (ARF)

*Note: Components do not add up to total as not all passengers have coded drivers in FARS.

**Number of Passengers do not total to 3,978 as not all passengers have coded drivers.

Alcohol involvement in these crashes cannot be interpreted as a direct causal relationship between alcohol use and any other attribute of fatal crashes. Inferences concerning causality can only be made on the basis of additional information that is independent of the FARS data. However, other factors like restraint use, rollover etc. are factors that may be significant in determining the injury outcome for the persons involved in the crash.

Figure 4 illustrates other factors that may have a causative effect for the fatality, namely restraint use (safety belts, helmets and child safety seats) and rollover occurrence.



As shown in Figure 4, about two-thirds of occupants killed in alcohol-related crashes were also not restrained. Also, about 34 percent of occupants killed in alcohol-related crashes were in vehicles that rolled over. Table 3 depicts the data underlying the chart in Figure 4.

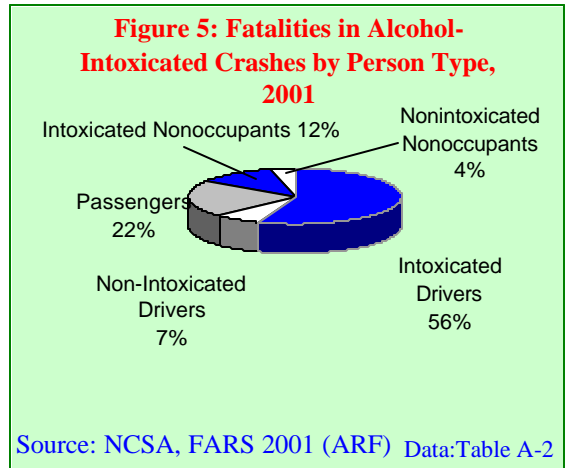
Table 3: Occupant Fatalities in Alcohol-Related Crashes by Restraint Use and Rollover Occurrence, 2001

Restraint Use/ Rollover	Number	Percent
Rollover+Unrestrained	4,067	28%
Non-Rollover+Unrestrained	5,595	38%
Rollover+Restrained	852	6%
Non-Rollover+Restrained	3,030	21%
Other	1,215	8%
Total	14,759	100%

Source: NCSA, FARS 2001 (ARF)

Fatalities by Person Role in High Alcohol-Crashes (Crash BAC=0.08+)

This section looks at the role of persons (drivers, passengers, pedestrians, etc.) who were fatally injured in crashes where at least one of the involved drivers or non-occupants was intoxicated (BAC=0.08+). Figure 5 presents the distribution by person type of the 14,933 fatalities that occurred in such crashes.



The number of non-occupants killed in such crashes increased by about 4 percent from 2000 to 2001. 13 percent (64 non-occupants) more non-intoxicated non-occupants were killed in such crashes in 2001 as compared to 2000. Comparatively, the number of intoxicated drivers killed in such crashes increased only marginally (2 percent) from 2000 to 2001 [Table A-2].

3. Drivers

This section analyzes the extent of alcohol involvement by the BAC of the driver. In 2001, 57,480 drivers were involved in fatal crashes. Of these drivers, 74 percent were sober, 4 percent had BAC between 0.01 and 0.07, and 21 percent were intoxicated (BAC=0.08+).

Figure 6 depicts the distribution of BAC for all drivers who were involved in fatal crashes in 2001. In FARS, reported BAC values range from 0 to a plausible maximum of 0.94.

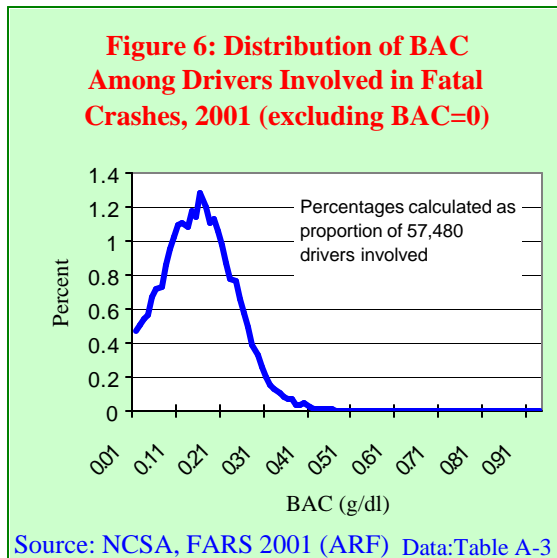


Table 4 shows descriptive statistical measures for BAC values among all non-sober drivers involved in fatal crashes in 2001. A median BAC of 0.16 implies that the BAC of half of all non-sober drivers involved in fatal crashes in 2001 are above 0.16, which is twice the legal limit of intoxication, namely 0.08.

Table 4: Summary Statistics: Non-Sober Drivers Involved in Fatal Crashes, 2001

Drivers Involved	Average BAC	Median BAC	75 th Percentile	25 th Percentile
All Drivers	0.16	0.16	0.21	0.10

Source: NCSA, FARS 2001 (ARF)

Impaired drivers comprise a large proportion of the non-sober participants in fatal motor vehicle traffic crashes while non-sober pedestrians and pedalcyclists accounted for a relatively smaller proportion. It is important to identify the characteristics of the impaired drivers, the circumstances surrounding the crash involving such drivers as well as the geographical representation of the occurrence of such crashes.

The following sub-sections present data and findings on the alcohol involvement of drivers in fatal crashes for the factors that have shown the strongest association with evidence of alcohol use in these crashes. These factors are listed below.

Demographic characteristics:

- Age of the Driver
- Gender of the Driver
- Restraint Use
- License Status
- Severity of Injury

Crash circumstances:

- Type of the Crash (Single or Multiple Vehicle)
- Time of the Day
- Day of the Week
- Rural/Urban

Injury Severity

A fatally injured driver is about twice as likely to have consumed alcohol as compared to a driver who survived the crash.

Fatally injured drivers are tested for alcohol by the medical examiner. The proportion of all fatally injured drivers with whom alcohol was associated was about twice that of all drivers who survived the fatal crash. Figure 7 presents a five-year trend of the extent of alcohol involvement by the survival status of the driver.

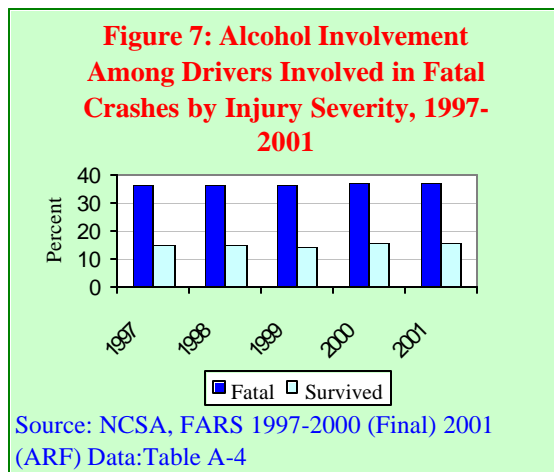


Figure 8 shows the distribution of the BAC values among drivers involved by their survival status.

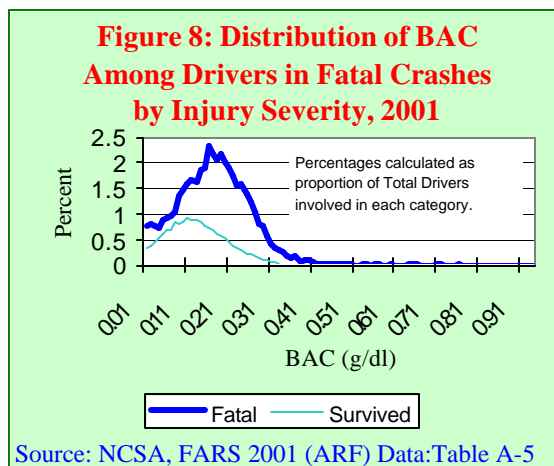


Table A-28, in the Statistical Abstracts section of the Appendix, shows descriptive statistical measures for BAC values among drivers involved by their survival status.

The extent of alcohol involvement among drivers involved in fatal crashes by their survival status is shown in Table 5.

Table 5: Drivers Involved by Their BAC and Injury Severity, 2001

Injury Severity	Percent of Drivers Involved by Driver BAC			Total Drivers Involved
	No Alcohol	0.01-0.07	0.08+	
Fatal	63%	5%	32%	25,840
Survived	84%	4%	13%	31,640
Total	74%	4%	21%	57,480

Source: NCSA, FARS 2001 (ARF)

It can be inferred that drivers who survive fatal crashes are intoxicated much less frequently than fatally injured drivers. Some of the difference can be attributed to higher levels of BAC reporting for fatally injured drivers as compared to drivers who survived a fatal crash. However, NHTSA's imputation methodology reduces this bias significantly by estimating the BAC for the large number of surviving drivers with missing BAC.

Gender of the Driver

Male Drivers involved in fatal crashes are twice as likely to have consumed alcohol as compared to female drivers.

In 2001, the alcohol involvement among male drivers was 29 percent while that for female drivers was 16 percent. Figure 9 shows the trend of alcohol involvement among male and female drivers between 1997 and 2001.

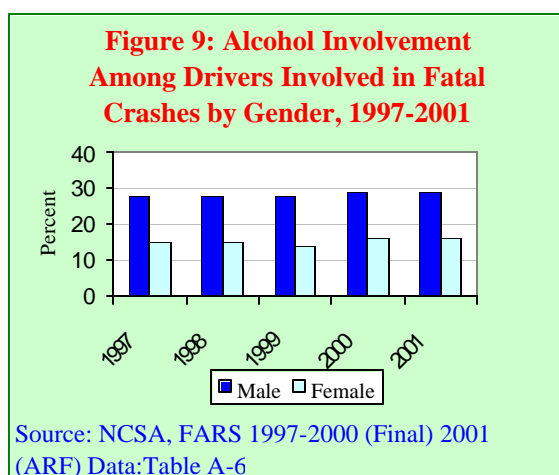


Figure 10 depicts the distribution of person level BAC for all drivers who were involved in fatal crashes in 2001 by the gender of the driver.

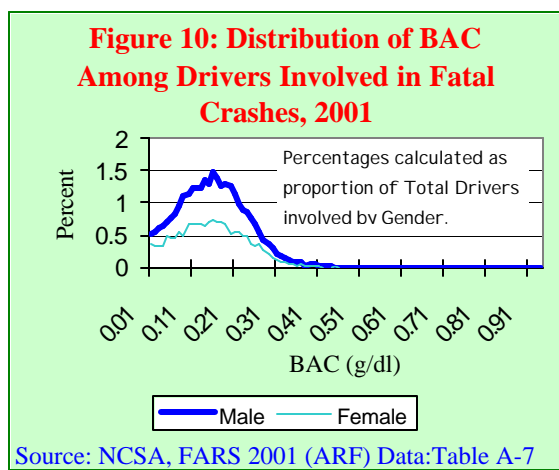


Figure 10 shows that a greater proportion of the male drivers involved had alcohol compared to female drivers at any positive BAC level.

Table A-29, in the Statistical Abstracts section of the Appendix, shows descriptive statistical measures for BAC values among drivers involved by their gender.

The extent of alcohol involvement among drivers involved in fatal crashes by their survival status is shown in Table 6.

Table 6: Drivers Involved by Their BAC and Gender, 2001

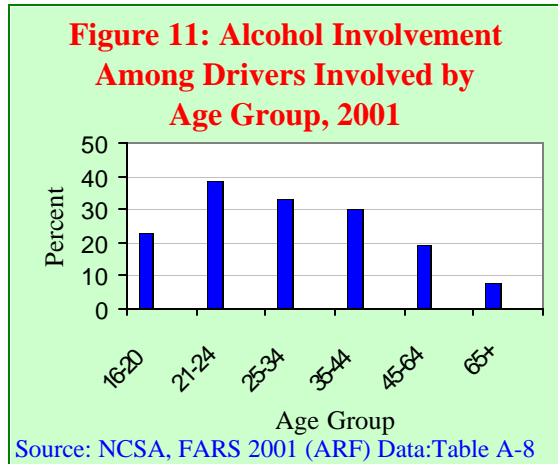
Gender of the Driver	Percent of Drivers Involved by Driver BAC			Total Drivers Involved
	No Alcohol	0.01-0.07	0.08+	
Male	71%	5%	24%	29,629
Female	84%	3%	13%	14,867
Total	74%	4%	21%	57,480

Source: NCSA, FARS 2001 (ARF)
 Note: Components do not add to totals due to Unknown values.

The proximity of the descriptive measures (Table A-29) for male and female drivers indicate that there is little difference in BAC level as a function of gender for drivers who had consumed alcohol and were then involved in fatal crashes.

Age of the Driver

Figure 11 depicts the extent of alcohol involvement among drivers involved in fatal crashes by the age of the driver.



As shown in Table 7, drivers in the age group 21-24 were most likely to be intoxicated followed by drivers aged 25 to

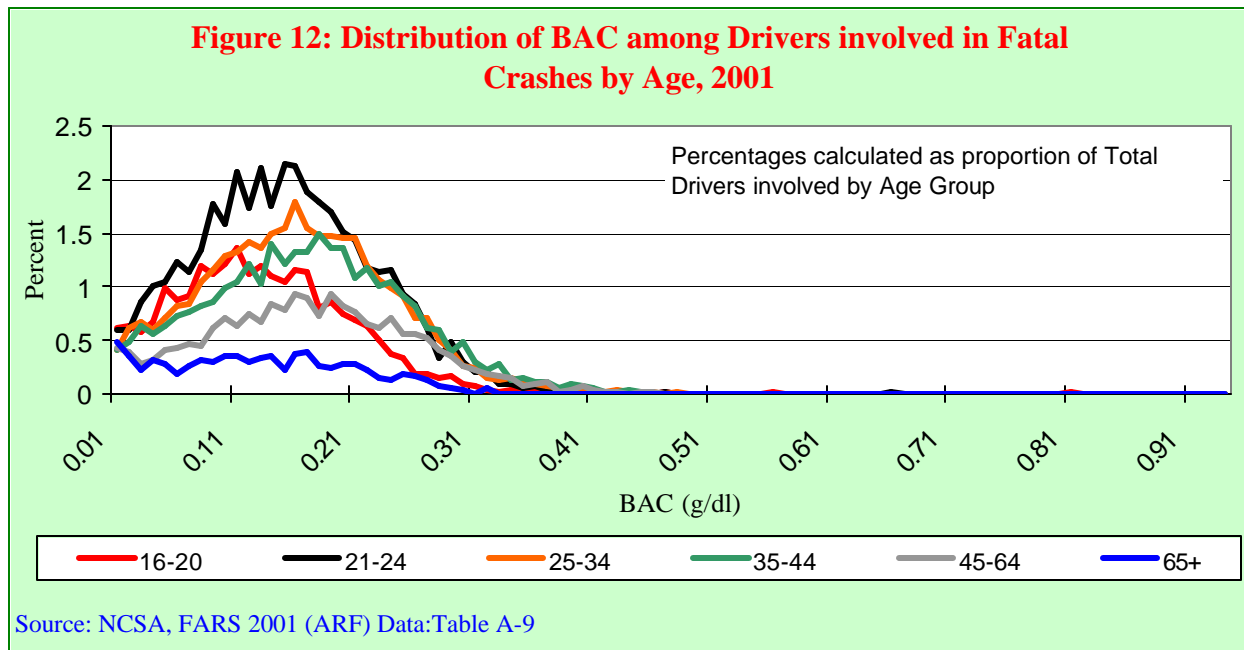
34. Table A-30, in the Appendix, shows descriptive statistical measures for BAC values among drivers involved by their age.

Table 7: Drivers Involved by their BAC and Age, 2001

Age of the Driver	Percent of Drivers Involved by Driver BAC			Total Drivers Involved
	No Alcohol	0.01-0.07	0.08+	
16-20	77%	5%	18%	7,963
21-24	61%	6%	33%	6,016
25-34	67%	5%	28%	11,534
35-44	70%	4%	25%	11,201
45-64	81%	3%	17%	13,005
65+	92%	2%	6%	6,421

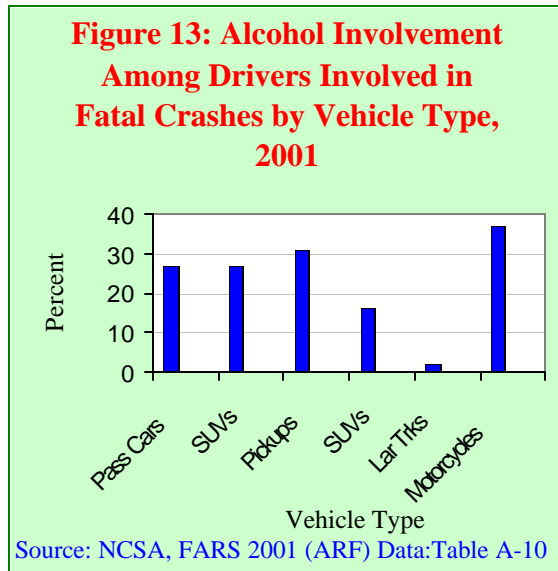
Source: NCSA, FARS 2001 (ARF)

Figure 12 depicts the distribution of person level BAC for all drivers who were involved in fatal crashes in 2001 by the age of the driver.



Type of Vehicle

Alcohol involvement among operators of motorcycles was the highest among drivers by categories of vehicles. Figure 13 and Table 8 show the extent of alcohol involvement by vehicle type for drivers involved in fatal crashes.



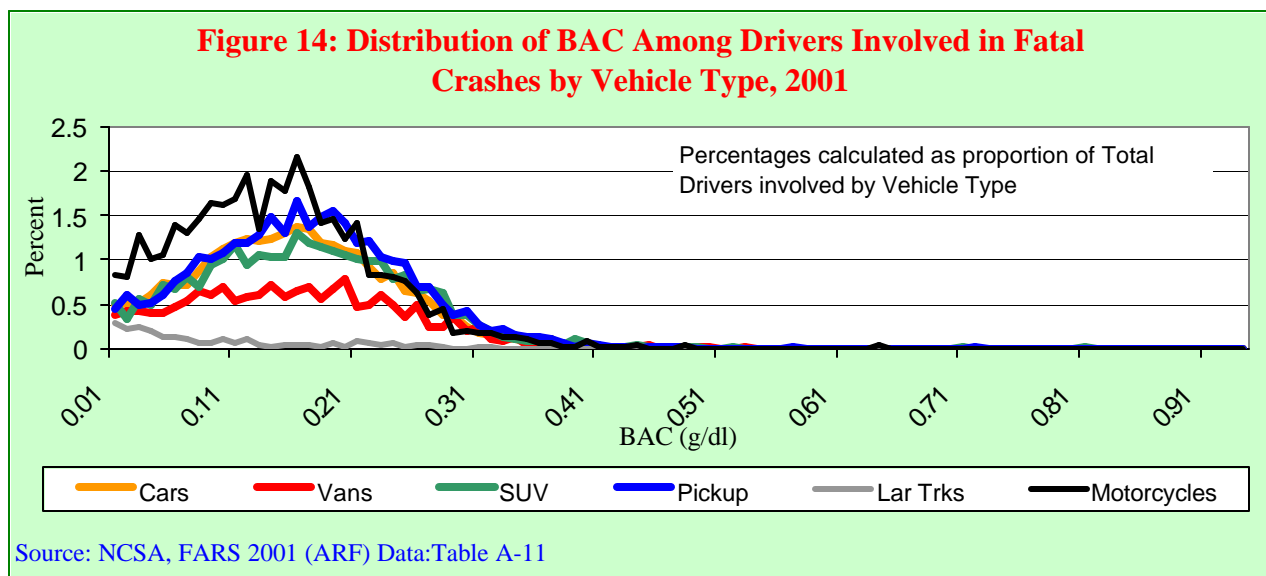
In 2001, alcohol involvement was highest among operators of motorcycles, followed by drivers of pickup trucks. Table A-31, in the Appendix, shows descriptive statistical measures for BAC values among drivers involved by vehicle type.

Table 8: Drivers Involved by Their BAC and Vehicle Type, 2001

Vehicle Type	Percent of Drivers involved by Driver BAC			Total Drivers Involved
	No Alcohol	0.01-0.07	0.08+	
Cars	73%	4%	23%	27,287
Vans	84%	3%	13%	3,707
SUVs	73%	4%	22%	5,889
Pickups	69%	4%	27%	10,892
Lg.Trucks	98%	1%	1%	4,749
M.Cycles	63%	8%	29%	3,245

Source: NCSA, FARS 2001 (ARF)

Figure 14 depicts the distribution of person level BAC for all drivers who were involved in fatal crashes in 2001 by the type of vehicle they were driving.



Roadway Function Class

In fatal crashes, drivers in rural crashes are marginally more likely to have alcohol as drivers who are involved in fatal crashes in urban areas.

Alcohol involvement was marginally more likely for drivers involved in fatal crashes in rural areas as compared to urban areas. Figure 15 depicts the extent of alcohol involvement by roadway function class over the last five years.

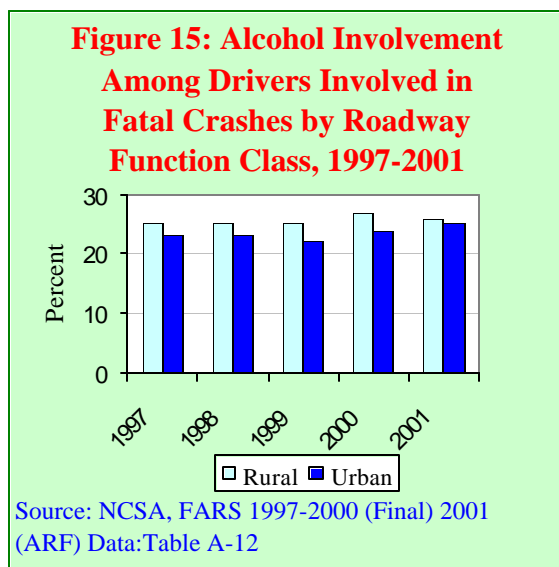


Figure 16 depicts the distribution of person level BAC for all drivers who were involved in fatal crashes in 2001 by the roadway function class of the road where the fatal crash occurred. The distributions are very similar for drivers involved in rural and urban areas.

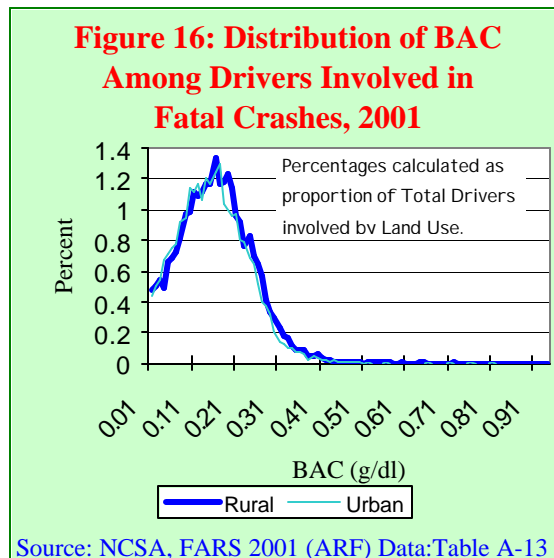


Table A-32, in the Statistical Abstracts section of the Appendix, shows descriptive statistical measures for BAC values among drivers involved by the roadway function class of the area where the crash occurred.

The extent of alcohol involvement among drivers involved in fatal crashes by roadway function class is shown in Table 9.

Table 9: Drivers Involved by Their BAC and Roadway Function Class, 2001

Roadway Function Class	Percent of Drivers Involved by Driver BAC			Total Drivers Involved
	No Alcohol	0.01-0.07	0.08+	
Rural	74%	4%	22%	32,041
Urban	75%	4%	21%	22,130
Unkn.	78%	4%	18%	3,309
Total	74%	4%	21%	57,480

Source: NCSA, FARS 2001 (ARF)

Time of the Day

Drivers involved in Nighttime fatal crashes are more than four times as likely to have had alcohol as compared drivers involved in daytime fatal crashes.

A greater proportion of drivers involved in nighttime crashes tend to have alcohol as compared to those in daytime crashes. Figure 17 depicts the extent of alcohol involvement by the time of the day over the last five years.

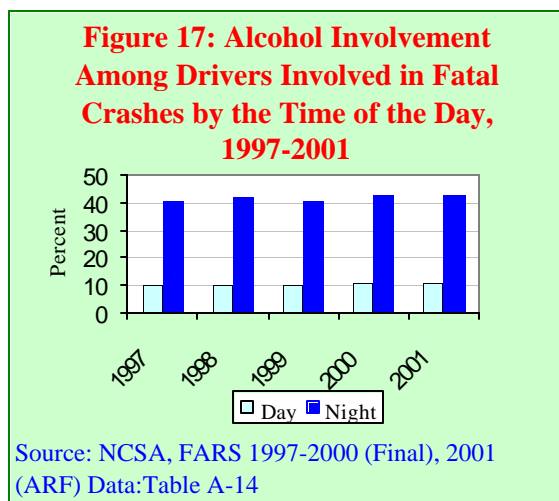


Figure 18 depicts the distribution of person level BAC for all drivers who were involved in fatal crashes in 2001 by the time of the day when the crash occurred.

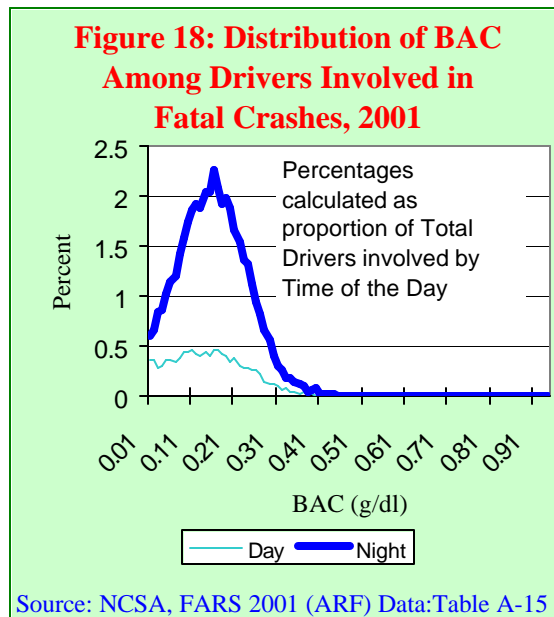


Table A-33, in the Statistical Abstracts section of the Appendix, shows descriptive statistical measures for BAC values among drivers involved by the time of the day.

The extent of alcohol involvement among drivers involved in fatal crashes by the time of the day is shown in Table 10.

Table 10: Drivers Involved by Their BAC and Time of the Day, 2001

Time of the Day	Percent of Drivers Involved by Driver BAC			Total Drivers Involved
	No Alcohol	0.01-0.07	0.08+	
Daytime	89%	2%	8%	31,564
Nighttime	57%	6%	37%	25,611
Total	74%	4%	21%	57,480

Source: NCSA, FARS 2001 (ARF)

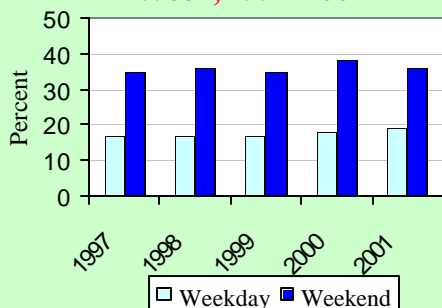
Note: Components do not add to totals due to Unknown values.

Day of the Week

In fatal crashes, drivers in crashes that occur during a weekend are about twice as likely be intoxicated as drivers who are involved in crashes that occur during a weekday.

A greater proportion of drivers involved in crashes that occur during the weekend tend to have alcohol as compared to those that occur during the week. Figure 19, which depicts the extent of alcohol involvement by the day of the week over the last five years, shows that a greater proportion of drivers involved in fatal crashes that occur during the weekend tend to have alcohol as compared to drivers involved in fatal crashes that occur during the week.

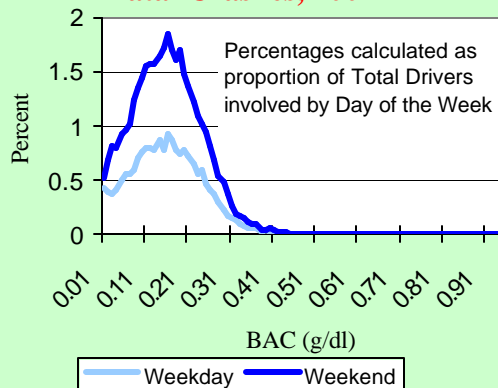
Figure 19: Alcohol Involvement Among Drivers Involved in Fatal Crashes by the Day of the Week, 1997-2001



Source: NCSA, FARS 1997-2000 (Final), 2001 (ARF) Data:Table A-16

Figure 20 depicts the distribution of person level BAC for all drivers who were involved in fatal crashes in 2001 by the day of the week when the crash occurred.

Figure 20: Distribution of BAC Among Drivers Involved in Fatal Crashes, 2001



Source: NCSA, FARS 2001 (ARF) Data:Table A-17

Table A-34, in the Statistical Abstracts section of the Appendix, shows descriptive statistical measures for BAC values among drivers involved by the day of the week.

The extent of alcohol involvement among drivers involved in fatal crashes by the day of the week is shown in Table 11.

Table 11: Drivers Involved by Their BAC and Day of the Week, 2001

Day of the Week	Percent of Drivers Involved by Driver BAC			Total Drivers Involved
	No Alcohol	0.01-0.07	0.08+	
Weekday	81%	3%	16%	34,918
Weekend	64%	6%	30%	22,462
Total	74%	4%	21%	57,480

Source: NCSA, FARS 2001 (ARF)

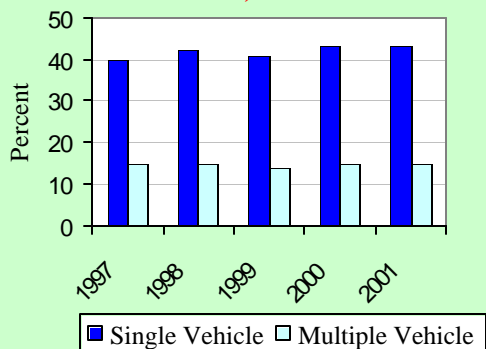
Note: Components do not add to totals due to Unknown values.

Type of the Crash

In fatal crashes, drivers in single vehicle crashes are about three times as likely to be intoxicated as drivers who are involved in multiple vehicle crashes.

A greater proportion of drivers involved in single vehicle crashes as compared to multiple vehicle crashes had alcohol. Figure 21 depicts the extent of alcohol involvement by the type of crash over the last five years.

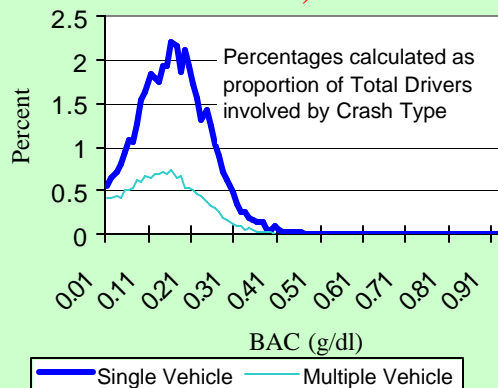
Figure 21: Alcohol Involvement Among Drivers Involved in Fatal Crashes by the Type of the Crash, 1997-2001



Source: NCSA, FARS 1997-2000 (Final) 2001 (ARF) Data:Table A-18

Figure 22 depicts the distribution of person level BAC for all drivers who were involved in fatal crashes in 2001 by the type of the crash.

Figure 22: Distribution of BAC Among Drivers Involved in Fatal Crashes, 2001



Source: NCSA, FARS 2001 (ARF) Data:Table A-19

Table A-35, in the Statistical Abstracts section of the Appendix, shows descriptive statistical measures for BAC values among drivers involved by Crash Type.

The extent of alcohol involvement among drivers involved in fatal crashes by Crash Type is shown in Table 12.

Table 12: Drivers Involved by Their BAC and Crash Type, 2001

Crash Type	Percent of Drivers Involved by Driver BAC			Total Drivers Involved
	No Alcohol	0.01-0.07	0.08+	
S. Veh	57%	6%	37%	21,365
M. Veh	85%	3%	12%	36,115
Total	74%	4%	21%	57,480

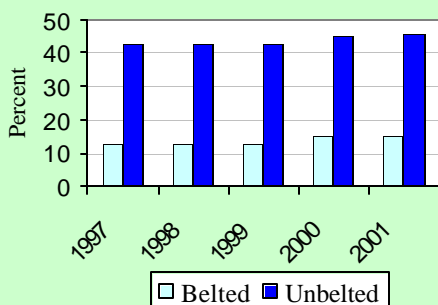
Source: NCSA, FARS 2001 (ARF)

Safety Belt Use

In fatal crashes, drivers of passenger vehicles who are unbelted are about four times as likely to be intoxicated as drivers who are wearing safety belts.

This section analyzes the extent of alcohol involvement by safety belt use among drivers of passenger vehicles (Cars, Light Trucks and Vans). A greater proportion of drivers who did not use safety belts had alcohol as compared to drivers who used safety belts. Figure 23 depicts the extent of alcohol involvement by the belt use for drivers of passenger vehicle over the last five years.

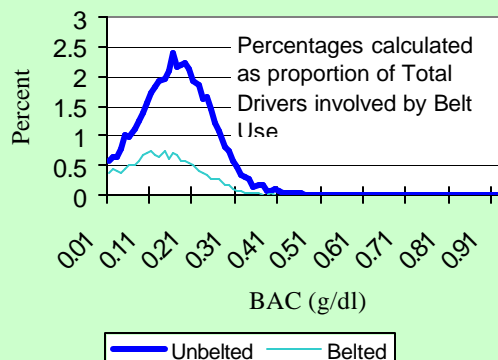
Figure 23: Alcohol Involvement Among Drivers of Passenger Vehicles Involved in Fatal Crashes by Safety Belt Use, 1997-2001



Source: NCSA, FARS 1997-2000 (Final), 2001 (ARF) Data:Table A-20

Figure 24 depicts the distribution of person level BAC for all drivers of passenger vehicles who were involved in fatal crashes in 2001 by their safety belt use.

Figure 24: Distribution of BAC Among Drivers of Passenger Vehicles by Their Safety Belt Use, 2001



Source: NCSA, FARS 2001 (ARF) Data:Table A-21

Table A-36, in the Statistical Abstracts section of the Appendix, shows descriptive statistical measures for BAC values among drivers of passenger vehicles involved by their safety belt use.

The extent of alcohol involvement among drivers of passenger vehicles involved in fatal crashes by their safety belt use is shown in Table 13.

Table 13: Drivers of Passenger Vehicles Involved by Their BAC and Safety Belt Use, 2001

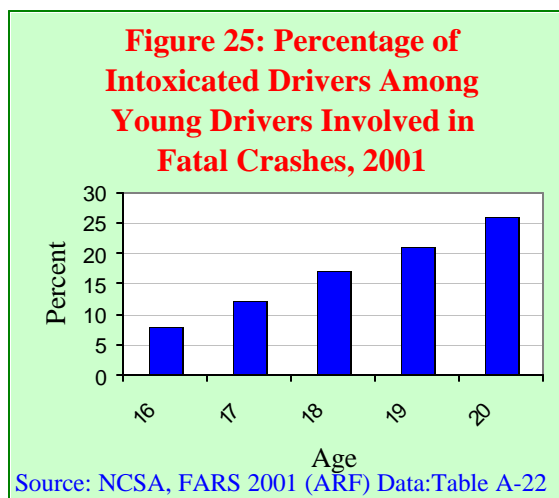
Safety Belt Use	Percent of Drivers Involved by Driver BAC			Total Drivers Involved
	No Alcohol	0.01-0.07	0.08+	
Used	85%	3%	12%	27,068
Not Used	54%	6%	40%	16,455
Total*	73%	4%	23%	47,882

Source: NCSA, FARS 2001 (ARF)

*Includes Unknown Restraint Use

4. Young Drivers

This section depicts the extent of alcohol involvement among young drivers (Ages 16-20). The total number of young drivers involved in fatal crashes decreased marginally from 2000 to 2001. The number of such drivers who were intoxicated also decreased marginally. In 2001, the percent of intoxicated drivers among younger drivers involved in fatal crashes ranged from 8 percent for drivers aged 16 to 26 percent for drivers aged 20. Figure 25 shows the percentage of drivers who were intoxicated by the age of the drivers involved.



5. Pedestrians

In 2001, there were 4,790 crashes in which one or more pedestrians were killed. These crashes resulted in 4,882 pedestrian fatalities. Alcohol involvement – whether for the driver or for the pedestrian – was reported in 47 percent of the traffic crashes that result in a pedestrian fatality. Table 14 depicts the extent of alcohol involvement by person-type in crashes where a pedestrian was fatally injured. Of the pedestrians

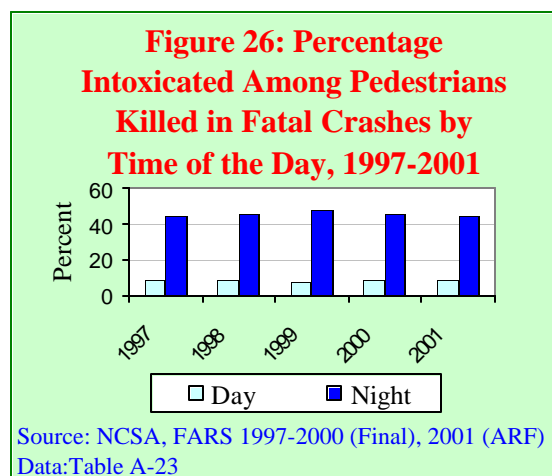
involved, 33 percent were intoxicated. 15 percent of the drivers involved in such crashes were intoxicated. In 6 percent of such crashes, both the driver and the pedestrian were intoxicated.

Table 14: Alcohol Involvement in Fatal Pedestrian Crashes, 2001

Pedestrian BAC	Driver BAC			Total
	No Alcohol	0.01-0.07	0.08+	
No Alcohol	2,520 (53%)	110 (2%)	360 (8%)	2,990 (62%)
0.01-0.07	170 (4%)	12 (0%)	37 (1%)	219 (5%)
0.08+	1,184 (25%)	97 (2%)	301 (6%)	1,581 (33%)
Total	3,873 (81%)	219 (5%)	697 (15%)	4,790 (100%)

Source: NCSA, FARS 2001 (ARF)

Pedestrians who were killed in nighttime crashes were about five times more likely to be intoxicated as compared to those who were killed in daytime crashes [Figure 26].

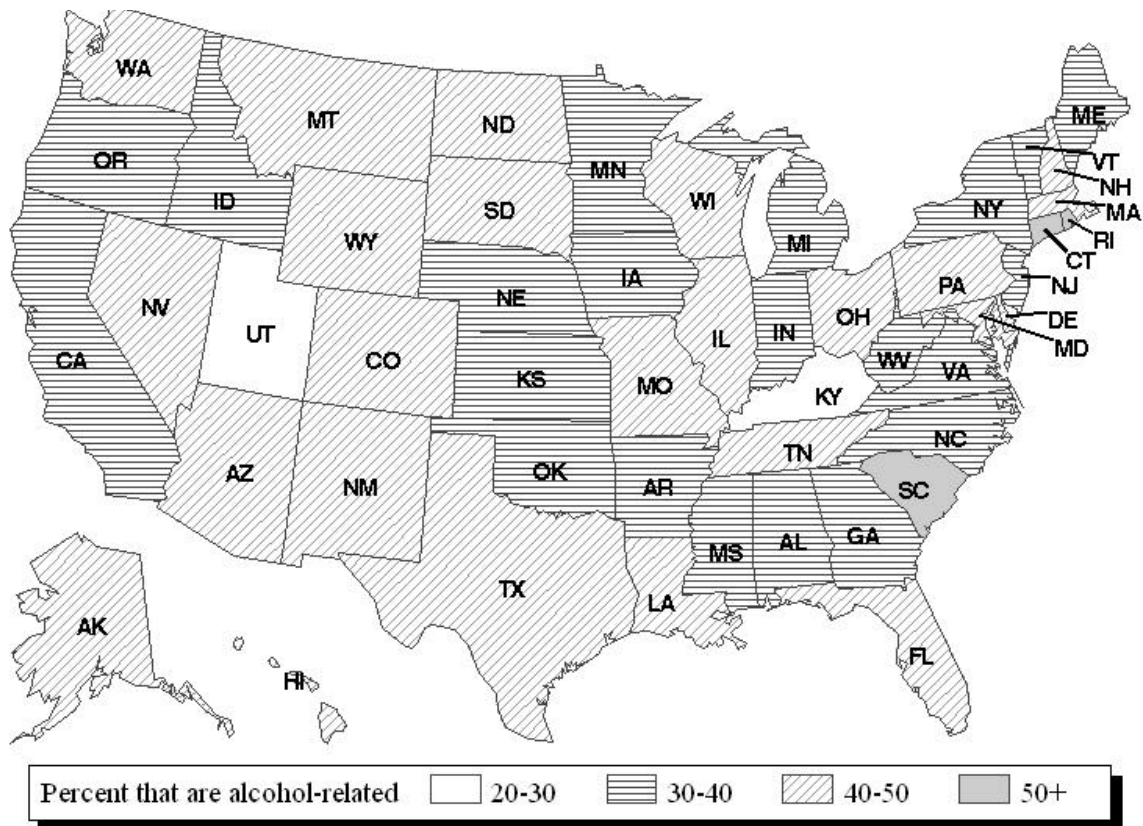


6. States

This section presents the extent of alcohol involvement individually for the 50 states, the District of Columbia and Puerto Rico (not included in the national totals). Caution should be exercised in comparing the estimates of alcohol involvement among the states. Differences in alcohol involvement can be due to any number of factors not necessarily directly related to a state's alcohol traffic safety program. For example, the accuracy and the reliability of the estimates presented depend upon the extent of alcohol testing for drivers, pedestrians and pedalcyclists. Figure 27 shows the

extent of alcohol-related fatalities in the U.S. by state. The categories represent percentages of all fatalities in a state that were alcohol related. A NHTSA Technical Report (Utter et. al., 2002) shows alcohol-related fatalities and rates per Vehicle Miles of Travel (VMT) by state from 1982 to 2001 and contains state maps of alcohol-related fatalities at the county level. Answers to frequently asked questions regarding differences between the number of alcohol-related fatalities reported by NHTSA and some states are provided in the Appendix. Statistics on alcohol testing among drivers involved in fatal crashes by state are available in NHTSA's State Alcohol Estimates fact sheet.

Figure 27: Alcohol-related fatalities as a percent of all fatalities in the U.S., 2001



Source: National Center for Statistics and Analysis, 2001 FARS Annual Report File

7. Repeat Offenders (Recidivism)

In fatal crashes, drivers with prior DWI (Driving While Intoxicated) convictions are more than three times as likely to be intoxicated as compared to those that do not have any prior DWI convictions.

Recidivism with respect to alcohol is coded in the *Previous-DWI* variable in FARS. The number of previously recorded DWI convictions that occurred within the last three years of the crash is coded in this variable. This section presents the extent of repeat offenders in fatal crashes that were alcohol related.

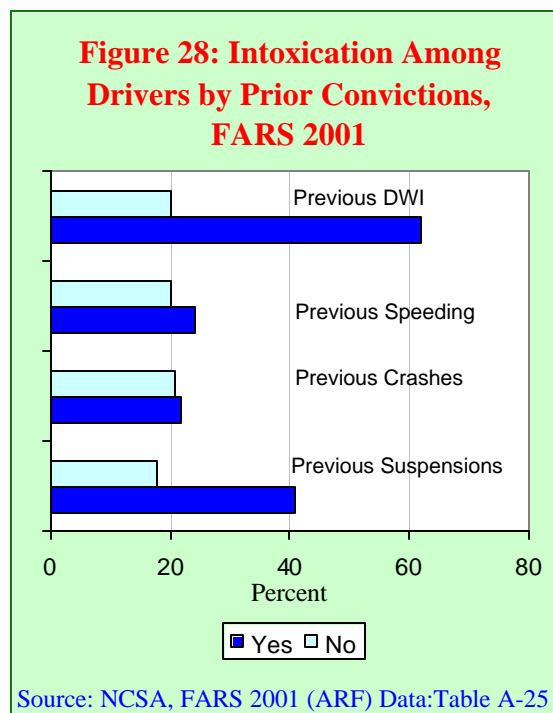
Drivers with one or more prior DWI convictions were more than twice as likely to be intoxicated when involved in a fatal crash. In 2001, among drivers with no prior DWI convictions, 20 percent were intoxicated as compared to 62 percent of those drivers who had one or more prior DWI convictions. Table 15 shows these proportions from 1997 to 2001.

Table 15: Extent of Intoxication Among Drivers involved in Fatal Crashes by Prior Convictions of the Driver, 1997-2001

Year	No Prior DWI Convictions	Prior DWI Convictions
1997	19%	63%
1998	19%	61%
1999	19%	63%
2000	20%	63%
2001	20%	62%

Source: NCSA, FARS 1997-2000 (Final), 2001 (ARF)

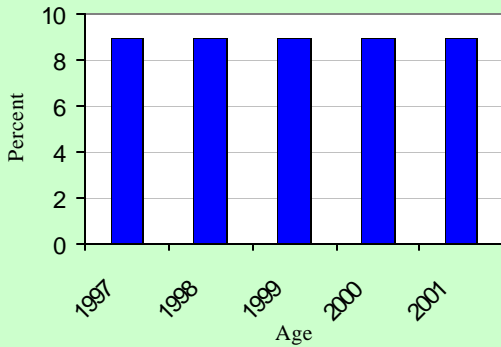
Figure 28 shows the percentage of drivers who were intoxicated and who had a prior driving record in the form of a crash, citation(s) for speeding, or prior suspensions.



As seen in Figure 28, drivers involved in fatal crashes who also had a prior DWI or prior suspensions were more than twice as likely to be intoxicated as compared to those that had a prior crash or speeding conviction.

In 2001, as a proportion of all drivers who consumed any alcohol (0.01+), about 14 percent had a prior DWI conviction. Figure 29 shows the same proportion over the last five years.

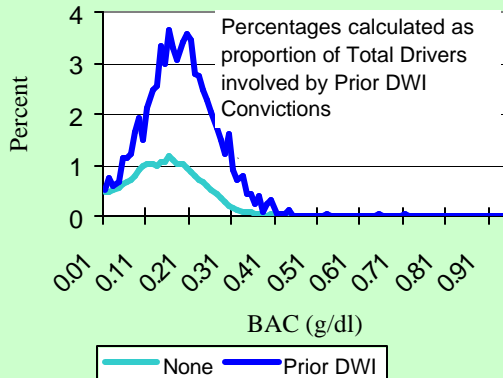
Figure 29: Alcohol-Involved Drivers with Prior DWI Convictions as a Proportion of all Drivers with Alcohol, 1997-2001



Source: NCSA, FARS 1997-2000 (Final), 2001 (ARF) Data:Table A-26

Figure 30 depicts the distribution of BAC for all drivers who were involved in fatal crashes in 2001 by prior DWI convictions.

Figure 30: Distribution of BAC Among Drivers Involved in Fatal Crashes, 2001



Source: NCSA, FARS 2001 (ARF) Data:Table A-27

As seen in Figure 29, conditional on being involved in a fatal crash, drivers with prior DWI convictions are more likely to test

positive for alcohol as compared to drivers who have had no prior DWI convictions.

Table A-37 in the Statistical Abstracts section of the Appendix shows descriptive statistical measures for BAC values among drivers involved by prior DWI convictions.

The extent of alcohol involvement among drivers involved in fatal crashes by prior DWI Convictions is shown in Table 14.

Table 16: Drivers Involved by Their BAC and Prior DWI Convictions, 2001

Prior DWI Convictions	Percent of Drivers Involved by Driver BAC			Total Drivers Involved
	No Alcohol	0.01-0.07	0.08+	
None	76%	4%	20%	53,321
1 or more	32%	6%	62%	1,888
Total	74%	4%	21%	57,480

Source: NCSA, FARS 2001 (ARF)

Note: Components do not add to totals due to Unknown values.

8. Conclusions

About 41 percent of all fatalities in the U.S. in 2001 occurred in crashes that were alcohol-related. This continues an upward trend in alcohol-related fatalities that began in 2000 – the first time in ten years, in which there was an increase in such fatalities.

Although alcohol involvement cannot be interpreted as a direct causal relationship between alcohol use and any other attribute of fatal crashes, it does provide insight into the extent of impaired driving along various categories that are of interest to those involved in policy-making or in directing impaired-driving countermeasures.

Alcohol-related fatalities are at a five-year high in 2001, after a decade of sustained decreases. The increase in alcohol involvement cannot be particularly traced to one cross-section of the driving population or specific environmental characteristics surrounding the crash. The increase in the overall number of fatalities is also reflected in corresponding increases in alcohol involvement among various categories of interest.

References

1. Klein, T.M., (1986) *A Method for estimating Posterior BAC distributions for persons involved in fatal traffic accidents*. Report DOT-HS-807-094, National Highway Traffic Safety Administration, Department of Transportation.
2. NHTSA (2002) *Traffic Safety Facts – Alcohol*.
3. Rubin, D.B. (1987) *Multiple Imputation of Nonresponse in Surveys*. J.Wiley and Sons, New York.
4. Rubin, D.B, Shafer, J.L. and Subramanian, R. (1998) *Multiple Imputation of Missing Blood Alcohol Concentration (BAC) Values in FARS*. Report DOT-HS-808-816, National Highway Traffic Safety Administration, Department of Transportation.
5. Subramanian, R. (2002) *Transitioning to Multiple Imputation – A New Method to Impute Missing Blood Alcohol Concentration (BAC) values in FARS*.
6. Utter, D.E., Subramanian, R. and Deutermann, W. (2002) *State Alcohol Related Fatality Rates*. Report DOT-HS-809-528, National Highway Traffic Safety Administration, Department of Transportation.

Glossary

Actively Involved Persons

These include all drivers or nonoccupants involved in a fatal crash. Nonoccupants include pedestrians and pedalcyclists. The term “actively-involved” qualifies persons whose actions and characteristics are significant determinants of the crash.

Alcohol Related Crashes

A Crash is said to be alcohol-related if any one of the actively-involved persons in a police-reported fatal traffic crash had a BAC of 0.01 g/dl or greater (0.01+).

Alcohol Related Fatalities

A fatality is said to be alcohol-related if it occurred in a crash where any one of the actively-involved persons in the crash had a BAC of 0.01 g/dl or greater.

Any Alcohol

A positive BAC value (BAC=0.01+) for any driver or nonoccupant in the crash.

ARF

Annual Report File of the Fatality Analysis Reporting System. A compilation of preliminary data on fatal motor vehicle traffic crashes each year in the U.S.

BAC

The Blood Alcohol Concentration (BAC) that is determined either by police-administered tests on surviving persons or from the medical records of fatally-injured

persons. BAC is usually measured in grams per deciliter (g/dl) of blood and plausible values in FARS range from 0.00 to 0.94+ g/dl.

Crash BAC

The highest BAC among all the actively-involved persons in the crash. For example, in a crash involving a vehicle and a pedestrian, if the driver of the vehicle had a BAC of 0.01 g/dl and the pedestrian had a BAC of 0.11 g/dl, the Crash BAC is 0.11 g/dl.

Discriminant Analysis

A multivariate statistical technique for estimating linear functions of variables, and using these linear functions to calculate the (posterior) probability to each of several mutually exclusive groups.

Driver BAC

The BAC of any driver in in a crash

Imputation

A procedure used to fill in missing data using statistical procedures. These procedures use the cases with known BAC values to learn about the variables that show significant relationship with the extent of BAC. This knowledge is in turn used on the characteristics of cases with missing BAC to “estimate” a value of BAC.

Impairment (*Impaired*)

For the purposes of this document, a person is said to be impaired if their BAC is between 0.01 and 0.07 g/dl (0.01-0.07).

Injury Severity

Presented as fatal or surviving. Any injury code other than fatal is treated as surviving.

Intoxication (*Intoxicated*)

For the purposes of this document, a person is said to be intoxicated if their BAC is 0.08 g/dl or greater (0.08+).

Multiple Imputation

A peer-reviewed, well-accepted statistical procedure to estimate missing BAC. Each missing BAC is replaced with “multiple” BAC values which are then combined to estimate extent of alcohol involvement. Enables reporting of errors, confidence intervals, etc.

Nonoccupant

Any person involved in a crash who is not the occupant of a motor vehicle. Pedestrians, pedal-cyclists, persons on roller-blades, skateboards, etc., are nonoccupants.

Person BAC

The BAC of a driver, pedestrian or pedalcyclist.

Prior DWI Convictions

Counts prior alcohol/drug convictions within three years from crash date

Recidivism

The tendency to repeatedly relapse into a criminal or delinquent habit such as Driving While Intoxicated (DWI).

Weekday

From 6 a.m. Monday to 5:59 p.m. Friday.

Rural/Urban

Land Use based on Federal Highway Administration classification.

Weekend

From 6 p.m. Friday to 5:59 a.m. Monday.

Appendix

Table A-1: Alcohol-Related Fatalities by Crash BAC Levels, FARS 1982-2001

Year	Total	No Alcohol		0.01-0.07		0.08+		0.01+	
	Num	Num	Percent	Num	Percent	Num	Percent	Num	Percent
1982	43,945	17,773	40	2,927	7	23,246	53	26,173	60
1983	42,589	17,955	42	2,594	6	22,041	52	24,635	58
1984	44,257	19,496	44	3,046	7	21,715	49	24,762	56
1985	43,825	20,659	47	3,081	7	20,086	46	23,167	53
1986	46,087	21,070	46	3,546	8	21,471	47	25,017	54
1987	46,390	22,297	48	3,398	7	20,696	45	24,094	52
1988	47,087	23,254	49	3,234	7	20,599	44	23,833	51
1989	45,582	23,159	51	2,893	6	19,531	43	22,424	49
1990	44,599	22,012	49	2,980	7	19,607	44	22,587	51
1991	41,508	21,349	51	2,560	6	17,599	42	20,159	49
1992	39,250	20,960	53	2,443	6	15,847	40	18,290	47
1993	40,150	22,242	55	2,361	6	15,547	39	17,908	45
1994	40,716	23,409	57	2,322	6	14,985	37	17,308	43
1995	41,817	24,085	58	2,490	6	15,242	36	17,732	42
1996	42,065	24,316	58	2,486	6	15,263	36	17,749	42
1997	42,013	25,302	60	2,290	5	14,421	34	16,711	40
1998	41,501	24,828	60	2,465	6	14,207	34	16,673	40
1999	41,717	25,145	60	2,321	6	14,250	34	16,572	40
2000	41,945	24,565	59	2,511	6	14,870	35	17,380	41
2001	42,116	24,668	59	2,515	6	14,933	35	17,448	41

Source: NCSA, FARS 1982-2000 (Final), 2001 (ARF)

Table A-2: Fatalities by Role in Crashes Where the Highest BAC in the Crash was 0.08 and Above, FARS 1982-2001

Year	Intox. Drivers		Nonintox. Drivers		Passengers		Intoxicated Nonoccs		Nonint. Nonocc		Total
	Num	%	Num	%	Num	%	Num	%	Num	%	Num
1982	12,139	52	1,636	7	5,264	23	2,943	13	1,264	5	23,246
1983	11,543	52	1,581	7	5,118	23	2,695	12	1,104	5	22,041
1984	11,499	53	1,659	8	4,781	22	2,652	12	1,124	5	21,715
1985	10,685	53	1,509	8	4,452	22	2,473	12	967	5	20,086
1986	11,409	53	1,634	8	4,938	23	2,466	11	1,024	5	21,471
1987	11,058	53	1,640	8	4,671	23	2,368	11	959	5	20,696
1988	11,103	54	1,541	7	4,682	23	2,366	11	907	4	20,599
1989	10,637	54	1,392	7	4,322	22	2,365	12	815	4	19,531
1990	10,395	53	1,431	7	4,536	23	2,337	12	908	5	19,607
1991	9,485	54	1,221	7	4,028	23	2,107	12	758	4	17,599
1992	8,452	53	1,132	7	3,627	23	2,028	13	608	4	15,847
1993	8,322	54	1,111	7	3,398	22	2,071	13	645	4	15,547
1994	7,913	53	1,167	8	3,345	22	1,890	13	670	4	14,985
1995	8,307	55	1,054	7	3,264	21	1,996	13	622	4	15,242
1996	8,175	54	1,017	7	3,491	23	1,997	13	583	4	15,263
1997	7,843	54	1,017	7	3,201	22	1,832	13	528	4	14,421
1998	7,834	55	920	6	3,042	21	1,887	13	524	4	14,207
1999	7,918	56	951	7	3,063	21	1,864	13	454	3	14,250
2000	8,167	55	1,084	7	3,378	23	1,736	12	505	3	14,870
2001	8,308	56	1,034	7	3,253	22	1,770	12	569	4	14,933

Source: NCSA, FARS 1982-2000 (Final), 2001 (ARF)

Table A-3: Distribution of BAC Among Drivers Involved in Fatal Crashes, 2001

BAC (g/dl)	Drivers Involved	
	Number	Percent*
0	42,774	74.42
.01	270	0.47
.02	290	0.50
.03	311	0.54
.04	325	0.56
.05	386	0.67
.06	410	0.71
.07	423	0.74
.08	491	0.85
.09	550	0.96
.10	591	1.03
.11	632	1.10
.12	633	1.10
.13	625	1.09
.14	673	1.17
.15	659	1.15
.16	738	1.28
.17	691	1.20
.18	638	1.11
.19	647	1.12
.20	606	1.05
.21	558	0.97
.22	503	0.87
.23	443	0.77
.24	438	0.76
.25	381	0.66
.26	330	0.57
.27	286	0.50
.28	222	0.39
.29	188	0.33
.30	149	0.26
.31	112	0.20
.32	89	0.15
.33	76	0.13
.34	64	0.11
.35	49	0.08
.36	43	0.08
.37	42	0.07
.38	20	0.03
.39	23	0.04
.40 & Above	105	0.18

*As a percent of all Drivers involved in Category
Source: NCSA, FARS 2001 (ARF)

Table A-4: Alcohol Involvement Among Drivers Involved by Injury Severity of the Driver and the Driver's BAC, 1982-2001

Year	Fatally Injured Drivers						Surviving Drivers					
	Total		BAC=0.01+		BAC=0.08+		Total		BAC=0.01+		BAC=0.08+	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1982	24,690	100	13,675	55	12,139	49	31,339	100	9,152	29	7,537	24
1983	24,138	100	12,949	54	11,543	48	30,518	100	8,633	28	7,223	24
1984	25,589	100	13,113	51	11,499	45	31,923	100	8,556	27	6,936	22
1985	25,337	100	12,377	49	10,685	42	32,546	100	7,625	23	6,174	19
1986	26,630	100	13,287	50	11,409	43	33,705	100	8,440	25	6,681	20
1987	26,833	100	12,780	48	11,058	41	34,609	100	8,039	23	6,426	19
1988	27,253	100	12,835	47	11,103	41	35,000	100	7,730	22	6,165	18
1989	26,389	100	12,143	46	10,637	40	34,046	100	6,853	20	5,552	16
1990	25,750	100	11,892	46	10,395	40	33,143	100	7,561	23	6,092	18
1991	23,930	100	10,792	45	9,485	40	30,461	100	6,304	21	5,059	17
1992	22,584	100	9,678	43	8,452	37	29,317	100	5,639	19	4,467	15
1993	23,142	100	9,490	41	8,322	36	30,259	100	5,401	18	4,254	14
1994	23,691	100	9,079	38	7,913	33	30,858	100	5,528	18	4,449	14
1995	24,390	100	9,549	39	8,307	34	31,774	100	5,141	16	4,059	13
1996	24,534	100	9,401	38	8,175	33	32,467	100	5,309	16	4,173	13
1997	24,667	100	8,997	36	7,843	32	32,021	100	4,763	15	3,736	12
1998	24,743	100	9,005	36	7,834	32	31,861	100	4,835	15	3,727	12
1999	25,257	100	9,131	36	7,918	31	31,245	100	4,513	14	3,529	11
2000	25,567	100	9,451	37	8,167	32	31,713	100	5,186	16	4,094	13
2001	25,840	100	9,573	37	8,308	32	31,640	100	5,133	16	3,985	13

Source: NCSA, FARS 1982-2000 (Final), 2001 (ARF)

Table A-5: BAC Distributions of Drivers Involved in Fatal Crashes by Injury Severity, 2001

BAC	Fatally Injured Drivers		Surviving Drivers	
	Number	Percent*	Number	Percent*
0	16,267	74.48	26,507	83.78
.01	168	0.77	102	0.32
.02	174	0.80	116	0.37
.03	170	0.78	141	0.45
.04	155	0.71	169	0.53
.05	193	0.88	193	0.61
.06	197	0.90	213	0.67
.07	208	0.95	215	0.68
.08	229	1.05	262	0.83
.09	291	1.33	259	0.82
.10	321	1.47	270	0.85
.11	342	1.57	290	0.92
.12	358	1.64	274	0.87
.13	351	1.61	274	0.87
.14	408	1.87	266	0.84
.15	414	1.89	245	0.77
.16	512	2.34	226	0.72
.17	472	2.16	219	0.69
.18	446	2.04	192	0.61
.19	473	2.16	174	0.55
.20	440	2.02	165	0.52
.21	418	1.91	140	0.44
.22	382	1.75	121	0.38
.23	339	1.55	104	0.33
.24	348	1.59	90	0.28
.25	306	1.40	74	0.23
.26	266	1.22	64	0.20
.27	227	1.04	59	0.19
.28	174	0.80	48	0.15
.29	163	0.75	25	0.08
.30	120	0.55	29	0.09
.31	92	0.42	20	0.06
.32	71	0.33	17	0.05
.33	65	0.30	11	0.04
.34	52	0.24	11	0.04
.35	39	0.18	10	0.03
.36	34	0.16	9	0.03
.37	36	0.16	6	0.02
.38	15	0.07	5	0.01
.39	18	0.08	6	0.02
.40 +	87	0.40	18	0.06

*As a percent of all Drivers involved in Category
Source: NCSA, FARS 2001 (ARF)

Table A-6: Alcohol Involvement Among Drivers Involved by Gender of the Driver and the Driver's BAC, 1982-2001

Year	Gender of the Driver									Total		
	Male			Female			Unknown					
	Total	BAC =0.01+		Total	BAC =0.01+		Total	BAC =0.01+		Total	BAC =0.01+	
	Num	Num	%	Num	Num	%	Num	Num	%	Num	Num	%
1982	44,370	19,478	44	10,675	2,854	27	984	496	50	56,029	22,827	41
1983	42,812	18,374	43	10,958	2,737	25	886	470	53	54,656	21,582	39
1984	44,723	18,417	41	11,907	2,921	25	882	331	37	57,512	21,669	38
1985	44,846	17,001	38	12,142	2,679	22	895	323	36	57,883	20,003	35
1986	46,653	18,459	40	12,744	2,774	22	938	494	53	60,335	21,727	36
1987	46,884	17,518	37	13,614	2,909	21	944	391	41	61,442	20,818	34
1988	47,402	17,446	37	13,951	2,799	20	900	320	36	62,253	20,565	33
1989	45,448	16,037	35	14,054	2,696	19	933	264	28	60,435	18,997	31
1990	44,281	16,408	37	13,726	2,741	20	886	305	34	58,893	19,453	33
1991	40,731	14,350	35	12,825	2,434	19	835	312	37	54,391	17,096	31
1992	38,598	12,873	33	12,596	2,297	18	707	146	21	51,901	15,317	30
1993	39,556	12,471	32	13,082	2,178	17	763	242	32	53,401	14,891	28
1994	40,233	12,105	30	13,567	2,279	17	749	222	30	54,549	14,606	27
1995	41,235	12,178	30	14,184	2,255	16	745	256	34	56,164	14,690	26
1996	41,376	12,142	29	14,850	2,382	16	775	185	24	57,001	14,709	26
1997	40,954	11,381	28	14,954	2,215	15	780	163	21	56,688	13,759	24
1998	40,816	11,345	28	15,089	2,262	15	699	233	33	56,604	13,840	24
1999	41,012	11,399	28	14,835	2,116	14	655	130	20	56,502	13,644	24
2000	41,795	12,070	29	14,790	2,402	16	695	164	24	57,280	14,637	26
2001	41,711	12,082	29	14,867	2,311	16	902	313	35	57,480	14,706	26

Source: NCSA, FARS 1982-2000 (Final), 2001 (ARF)

Table A-7: BAC Distributions of Drivers Involved in Fatal Crashes by Gender , FARS 2001

BAC	Drivers Involved			
	Male		Female	
	Number	Percent*	Number	Percent*
0	29,629	71.03	12,556	84.49
.01	214	0.51	53	0.36
.02	235	0.56	49	0.33
.03	253	0.61	49	0.33
.04	262	0.63	49	0.33
.05	299	0.72	73	0.49
.06	325	0.78	67	0.45
.07	340	0.81	68	0.45
.08	393	0.94	80	0.54
.09	458	1.10	73	0.49
.10	474	1.14	98	0.66
.11	512	1.23	101	0.68
.12	518	1.24	99	0.66
.13	509	1.22	100	0.67
.14	563	1.35	96	0.65
.15	543	1.30	104	0.70
.16	616	1.48	111	0.75
.17	577	1.38	103	0.69
.18	521	1.25	106	0.72
.19	537	1.29	99	0.67
.20	521	1.25	78	0.53
.21	468	1.12	83	0.56
.22	414	0.99	82	0.55
.23	366	0.88	71	0.48
.24	360	0.86	72	0.49
.25	323	0.77	53	0.36
.26	278	0.67	49	0.33
.27	228	0.55	55	0.37
.28	178	0.43	41	0.28
.29	155	0.37	31	0.21
.30	126	0.30	22	0.15
.31	93	0.22	18	0.12
.32	76	0.18	11	0.07
.33	64	0.15	12	0.08
.34	56	0.13	7	0.05
.35	40	0.10	8	0.05
.36	37	0.09	6	0.04
.37	31	0.07	10	0.07
.38	14	0.03	6	0.04
.39	20	0.05	4	0.02
.40 +	87	0.21	17	0.11

*As a percent of all Drivers involved in Category
Source: NCSA, FARS 2001 (ARF)

Table A-8: Alcohol Involvement Among Drivers Involved by Age of the Driver and the Driver's BAC, 1982-2001

Year	Age of the Driver														Total	
	16-20		21-24		25-34		35-44		45-64		65+		Unknown			
	Total	0.01+	Total	0.01+	Total	0.01+	Total	0.01+	Total	0.01+	Total	0.01+	Total	0.01+	Total	0.01+
	Num	%	Num	%	Num	%	Num	%	Num	%	Num	%	Num	%	Num	%
1982	9,858	45	9,018	53	14,787	46	7,984	38	8,921	29	3,894	15	1,567	41	56,029	41
1983	9,334	43	8,432	53	14,470	46	8,068	37	8,854	26	4,026	13	1,472	43	54,656	39
1984	9,804	40	8,963	52	15,233	44	8,563	35	9,143	25	4,316	14	1,490	33	57,512	38
1985	9,386	35	9,046	47	15,257	42	8,892	32	9,262	23	4,479	12	1,561	32	57,883	35
1986	10,163	37	9,129	49	16,179	43	9,240	33	9,096	23	4,881	12	1,647	41	60,335	36
1987	9,910	33	8,808	47	16,562	43	9,778	32	9,693	21	5,078	11	1,613	34	61,442	34
1988	10,171	33	8,555	47	16,398	42	10,077	32	10,081	21	5,376	11	1,595	30	62,253	33
1989	9,442	30	7,723	45	15,928	40	10,106	32	10,240	21	5,431	10	1,565	25	60,435	31
1990	8,821	33	7,195	46	15,764	43	10,177	33	9,935	21	5,501	10	1,500	31	58,893	33
1991	8,002	30	6,748	45	14,151	41	9,482	32	9,153	20	5,471	9	1,384	31	54,391	31
1992	7,192	27	6,323	42	13,049	40	9,284	31	9,360	20	5,474	10	1,219	21	51,901	30
1993	7,256	24	6,406	40	13,038	37	9,738	30	9,794	20	5,848	8	1,321	26	53,401	28
1994	7,723	24	6,291	39	12,891	36	9,951	29	10,321	19	6,061	9	1,311	25	54,549	27
1995	7,725	21	6,263	38	13,048	35	10,677	30	10,894	19	6,240	8	1,317	27	56,164	26
1996	7,824	23	6,205	38	12,889	34	10,955	29	11,364	19	6,387	9	1,377	21	57,001	26
1997	7,719	22	5,705	36	12,453	32	10,904	29	11,916	18	6,715	8	1,276	18	56,688	24
1998	7,767	22	5,613	37	11,925	32	11,241	28	12,168	18	6,690	8	1,200	28	56,604	24
1999	7,985	22	5,639	38	11,763	32	11,059	28	12,316	18	6,597	8	1,143	18	56,502	24
2000	8,024	24	5,950	38	11,739	33	11,132	30	13,000	19	6,281	8	1,154	22	57,280	26
2001	7,963	23	6,016	39	11,534	33	11,201	30	13,005	19	6,421	8	1,340	30	57,480	26

Source: NCSA, FARS 1982-2000 (Final), 2001 (Annual Report File)

Table A-9: BAC Distribution of Drivers Involved in Fatal Crashes by Age, 2001

Drivers involved by BAC level as a percentage of all drivers in age-group

BAC	16-20	21-24	25-34	35-44	45-64	65+
0	76.91	60.58	67.41	70.36	80.72	92.18
.01	0.62	0.60	0.42	0.41	0.44	0.48
.02	0.63	0.59	0.61	0.48	0.39	0.36
.03	0.58	0.86	0.67	0.64	0.28	0.22
.04	0.68	1.01	0.59	0.57	0.32	0.31
.05	0.99	1.05	0.70	0.64	0.42	0.29
.06	0.88	1.24	0.83	0.72	0.43	0.19
.07	0.91	1.14	0.84	0.77	0.46	0.27
.08	1.19	1.34	1.04	0.83	0.46	0.32
.09	1.12	1.77	1.16	0.87	0.61	0.31
.10	1.22	1.58	1.30	0.99	0.71	0.35
.11	1.37	2.07	1.32	1.05	0.63	0.35
.12	1.12	1.74	1.43	1.21	0.75	0.30
.13	1.20	2.11	1.37	1.02	0.67	0.34
.14	1.11	1.76	1.49	1.41	0.84	0.35
.15	1.05	2.14	1.56	1.21	0.78	0.22
.16	1.17	2.13	1.80	1.32	0.94	0.37
.17	1.14	1.88	1.56	1.33	0.89	0.40
.18	0.80	1.80	1.48	1.49	0.74	0.27
.19	0.86	1.70	1.48	1.37	0.94	0.25
.20	0.74	1.52	1.45	1.36	0.83	0.28
.21	0.70	1.43	1.45	1.09	0.76	0.28
.22	0.64	1.18	1.20	1.19	0.66	0.23
.23	0.50	1.15	1.06	1.02	0.62	0.15
.24	0.37	1.16	0.99	1.05	0.70	0.14
.25	0.33	0.93	0.91	0.92	0.57	0.18
.26	0.20	0.84	0.72	0.83	0.56	0.17
.27	0.20	0.62	0.71	0.62	0.53	0.14
.28	0.16	0.34	0.51	0.61	0.40	0.08
.29	0.16	0.49	0.42	0.39	0.36	0.06
.30	0.10	0.29	0.26	0.48	0.27	0.04
.31	0.07	0.21	0.25	0.30	0.22	0.01
.32	0.05	0.21	0.14	0.23	0.19	0.05
.33	0.03	0.09	0.13	0.28	0.16	0.00
.34	0.04	0.10	0.15	0.13	0.15	0.00
.35	0.04	0.06	0.11	0.16	0.08	0.01
.36	0.01	0.08	0.10	0.11	0.09	0.01
.37	0.02	0.05	0.07	0.11	0.12	0.01
.38	0.01	0.02	0.06	0.06	0.03	0.01
.39	0.00	0.04	0.05	0.10	0.03	0.00
.40 +	0.10	0.12	0.19	0.29	0.25	0.02

*As a percent of all Drivers involved in Category
Source: NCSA, FARS 2001 (ARF)

Table A-10: Alcohol Involvement Among Drivers Involved by the Vehicle Type and the Driver's BAC, 1982-2001

Year	Vehicle Type										Total	
	Passenger Cars		Light Trks and Vans		Large Trucks		Motorcycles		Other/ Unknown			
	Total	0.01 +	Total	0.01 +	Total	0.01+	Total	0.01+	Total	0.01 +	Total	0.01+
	Num	%	Num	%	Num	%	Num	%	Num	%	Num	%
1982	34,121	42	11,199	44	4,582	10	4,490	55	1,637	37	56,029	41
1983	33,069	40	11,017	43	4,790	10	4,288	57	1,492	37	54,656	39
1984	34,395	39	11,866	41	5,056	9	4,650	55	1,545	33	57,512	38
1985	34,071	36	12,372	37	5,091	7	4,598	53	1,751	28	57,883	35
1986	35,959	36	13,208	38	5,015	7	4,558	56	1,595	43	60,335	36
1987	36,371	35	14,407	37	5,046	5	4,061	51	1,557	32	61,442	34
1988	36,769	34	15,167	37	5,141	6	3,704	51	1,472	28	62,253	33
1989	35,204	32	15,579	35	4,903	4	3,182	53	1,567	23	60,435	31
1990	33,893	34	15,501	36	4,709	5	3,269	52	1,521	25	58,893	33
1991	31,102	31	14,702	35	4,291	4	2,816	52	1,480	32	54,391	31
1992	29,670	30	14,540	33	3,980	3	2,435	49	1,276	18	51,901	30
1993	30,060	28	15,207	31	4,271	4	2,471	45	1,392	26	53,401	28
1994	30,103	28	16,235	29	4,592	3	2,330	41	1,289	21	54,549	27
1995	30,773	27	17,483	29	4,410	4	2,262	42	1,236	25	56,164	26
1996	30,595	27	18,118	28	4,703	3	2,175	43	1,410	18	57,001	26
1997	29,896	26	18,502	26	4,859	3	2,159	41	1,272	17	56,688	24
1998	28,907	26	19,247	26	4,905	2	2,333	41	1,212	26	56,604	24
1999	27,878	25	19,865	26	4,868	3	2,528	40	1,363	17	56,502	24
2000	27,661	28	20,393	26	4,948	3	2,971	40	1,307	19	57,280	26
2001	27,287	27	20,595	27	4,749	2	3,245	37	1,604	27	57,480	26

Source: NCSA, FARS 1982-2000 (Final), 2001 (ARF)

Table A-11: BAC Distribution of Drivers involved in Fatal Crashes by Vehicle-Type, FARS 2001

Drivers as a percent of all drivers in Vehicle-Type						
BAC	Cars	Vans	SUVs	Pickups	Large Trucks	Motorcycles
0	72.83	83.68	73.47	69.14	97.53	63.29
.01	0.48	0.37	0.52	0.44	0.28	0.83
.02	0.52	0.42	0.33	0.60	0.22	0.80
.03	0.51	0.42	0.57	0.49	0.25	1.28
.04	0.59	0.41	0.49	0.51	0.19	1.02
.05	0.75	0.41	0.72	0.60	0.14	1.06
.06	0.72	0.46	0.67	0.75	0.14	1.39
.07	0.72	0.53	0.80	0.85	0.11	1.30
.08	0.87	0.66	0.70	1.03	0.06	1.47
.09	1.03	0.60	0.94	1.02	0.07	1.65
.10	1.12	0.69	1.02	1.07	0.10	1.61
.11	1.20	0.54	1.18	1.20	0.06	1.69
.12	1.24	0.59	0.94	1.20	0.10	1.96
.13	1.22	0.61	1.06	1.28	0.03	1.34
.14	1.24	0.71	1.04	1.49	0.03	1.90
.15	1.30	0.59	1.03	1.30	0.04	1.77
.16	1.36	0.65	1.30	1.66	0.05	2.16
.17	1.35	0.70	1.18	1.37	0.05	1.83
.18	1.19	0.56	1.14	1.48	0.02	1.41
.19	1.17	0.68	1.10	1.55	0.07	1.46
.20	1.10	0.78	1.05	1.41	0.01	1.24
.21	1.08	0.47	1.02	1.19	0.08	1.41
.22	0.93	0.49	1.00	1.21	0.05	0.83
.23	0.78	0.62	0.98	1.03	0.04	0.83
.24	0.85	0.48	0.79	0.98	0.05	0.82
.25	0.66	0.35	0.82	0.97	0.03	0.76
.26	0.63	0.49	0.64	0.68	0.05	0.62
.27	0.53	0.25	0.68	0.69	0.05	0.37
.28	0.38	0.25	0.63	0.49	0.03	0.45
.29	0.37	0.35	0.38	0.38	0.00	0.18
.30	0.24	0.19	0.38	0.42	0.00	0.19
.31	0.18	0.24	0.27	0.27	0.01	0.17
.32	0.15	0.11	0.20	0.21	0.02	0.18
.33	0.13	0.08	0.13	0.22	0.00	0.14
.34	0.11	0.13	0.10	0.16	0.00	0.12
.35	0.09	0.03	0.08	0.12	0.00	0.12
.36	0.07	0.09	0.09	0.13	0.00	0.06
.37	0.06	0.12	0.10	0.11	0.00	0.06
.38	0.04	0.01	0.04	0.06	0.00	0.01
.39	0.04	0.04	0.11	0.03	0.00	0.02
.40 +	0.18	0.17	0.29	0.21	0.02	0.22

*As a percent of all Drivers involved in Category
Source: NCSA, FARS 2001 (ARF)

Table A-12: Alcohol Involvement Among Drivers Involved by Roadway Function Class, 1982-2001																		
Year	Rural						Urban						Unknown					
	Total		.01+		.08+		Total		.01+		.08+		Total		.01+		.08+	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
1982	24,673	100	9,728	39	8,344	34	31,012	100	12,985	42	11,231	36	344	100	115	33	101	29
1983	24,219	100	9,347	39	8,092	33	30,338	100	12,196	40	10,639	35	99	100	39	39	35	35
1984	25,160	100	9,231	37	7,841	31	32,312	100	12,420	38	10,577	33	40	100	18	46	17	43
1985	25,786	100	8,658	34	7,248	28	32,060	100	11,336	35	9,605	30	37	100	9	24	6	16
1986	27,049	100	9,373	35	7,750	29	33,252	100	12,345	37	10,334	31	34	100	9	26	6	19
1987	34,589	100	12,088	35	10,191	29	26,792	100	8,713	33	7,277	27	61	100	17	28	16	26
1988	35,383	100	12,174	34	10,294	29	26,816	100	8,369	31	6,956	26	54	100	22	41	18	33
1989	33,800	100	11,005	33	9,397	28	26,596	100	7,981	30	6,782	25	39	100	11	28	10	26
1990	32,691	100	11,152	34	9,512	29	26,164	100	8,292	32	6,967	27	38	100	9	24	8	20
1991	30,584	100	10,142	33	8,659	28	23,735	100	6,932	29	5,866	25	72	100	22	31	19	26
1992	28,921	100	9,026	31	7,694	27	22,694	100	6,218	27	5,167	23	286	100	72	25	58	20
1993	30,121	100	8,751	29	7,437	25	22,928	100	6,053	26	5,071	22	352	100	87	25	68	19
1994	30,582	100	8,627	28	7,322	24	23,897	100	5,957	25	5,025	21	70	100	22	31	15	21
1995	31,433	100	8,782	28	7,423	24	24,439	100	5,844	24	4,884	20	292	100	64	22	59	20
1996	31,952	100	8,647	27	7,330	23	24,857	100	6,017	24	4,986	20	192	100	45	23	33	17
1997	32,719	100	8,268	25	6,999	21	23,902	100	5,479	23	4,569	19	67	100	13	19	11	16
1998	33,000	100	8,387	25	7,087	21	23,481	100	5,427	23	4,453	19	123	100	27	22	21	17
1999	33,333	100	8,461	25	7,144	21	23,006	100	5,149	22	4,273	19	163	100	35	21	30	18
2000	32,611	100	8,654	27	7,292	22	23,238	100	5,653	24	4,683	20	1,431	100	331	23	285	20
2001	32,041	100	8,403	26	7,094	22	22,130	100	5,591	25	4,617	21	3,309	100	713	22	582	18

Source: NCSA, FARS 1982-2000 (Final), 2001 (ARF)

Table A -13: BAC Distributions of Drivers Involved in Fatal Crashes by Roadway Function Class, 2001

BAC	Drivers Involved			
	Rural		Urban	
	Number	Percent*	Number	Percent*
0	23,638	73.77	16,539	74.74
.01	154	0.48	98	0.44
.02	163	0.51	112	0.51
.03	174	0.54	121	0.55
.04	159	0.50	148	0.67
.05	210	0.65	157	0.71
.06	219	0.68	167	0.75
.07	231	0.72	172	0.78
.08	262	0.82	204	0.92
.09	312	0.97	209	0.94
.10	314	0.98	252	1.14
.11	357	1.11	245	1.11
.12	347	1.08	260	1.17
.13	359	1.12	234	1.06
.14	375	1.17	267	1.20
.15	374	1.17	259	1.17
.16	427	1.33	277	1.25
.17	376	1.17	286	1.29
.18	380	1.18	229	1.03
.19	395	1.23	220	0.99
.20	365	1.14	211	0.95
.21	309	0.96	215	0.97
.22	296	0.92	179	0.81
.23	243	0.76	175	0.79
.24	267	0.83	150	0.68
.25	224	0.70	143	0.65
.26	206	0.64	114	0.52
.27	181	0.56	89	0.40
.28	131	0.41	83	0.38
.29	106	0.33	72	0.33
.30	96	0.30	46	0.21
.31	74	0.23	32	0.14
.32	56	0.17	29	0.13
.33	52	0.16	22	0.10
.34	37	0.12	21	0.09
.35	29	0.09	16	0.07
.36	26	0.08	17	0.08
.37	27	0.08	15	0.07
.38	14	0.04	5	0.02
.39	14	0.04	9	0.04
.40 +	67	0.21	33	0.15

*As a percent of all Drivers involved in Category
Source: NCSA, FARS 2001 (ARF)

Year	Table A-14: Alcohol Involvement Among Drivers Involved by the Time of the Day, 1982-2001											
	Day						Night					
	Total		BAC=0.01+		BAC=0.08+		Total		BAC=0.01+		BAC=0.08+	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1982	23,725	100	4,484	19	3,654	15	32,085	100	18,188	57	15,880	49
1983	24,381	100	4,385	18	3,639	15	30,037	100	17,019	57	14,972	50
1984	26,415	100	4,562	17	3,646	14	30,775	100	16,879	55	14,581	47
1985	27,578	100	4,281	16	3,357	12	30,008	100	15,526	52	13,329	44
1986	28,434	100	4,635	16	3,575	13	31,543	100	16,837	53	14,294	45
1987	29,227	100	4,400	15	3,471	12	31,854	100	16,183	51	13,800	43
1988	30,196	100	4,368	14	3,424	11	31,715	100	15,964	50	13,647	43
1989	29,953	100	4,038	13	3,231	11	30,170	100	14,750	49	12,767	42
1990	28,797	100	4,152	14	3,257	11	29,778	100	15,069	51	13,017	44
1991	26,829	100	3,445	13	2,748	10	27,249	100	13,426	49	11,595	43
1992	26,236	100	3,248	12	2,497	10	25,380	100	11,875	47	10,252	40
1993	27,770	100	3,166	11	2,494	9	25,355	100	11,549	46	9,925	39
1994	29,134	100	3,316	11	2,605	9	25,112	100	11,105	44	9,594	38
1995	30,066	100	3,331	11	2,614	9	25,755	100	11,121	43	9,547	37
1996	30,802	100	3,324	11	2,606	8	25,864	100	11,164	43	9,552	37
1997	30,979	100	3,163	10	2,467	8	25,368	100	10,390	41	8,937	35
1998	31,389	100	3,234	10	2,478	8	24,879	100	10,401	42	8,903	36
1999	31,212	100	3,239	10	2,500	8	24,968	100	10,194	41	8,750	35
2000	31,236	100	3,411	11	2,622	8	25,710	100	11,009	43	9,444	37
2001	31,564	100	3,435	11	2,678	8	25,611	100	11,080	43	9,445	37

Source: NCSA, FARS 1982-2000 (Final), 2001 (ARF)

Table A-15: BAC Distributions of Drivers Involved in Fatal Crashes by Time of the Day, 2001

BAC	Day		Night	
	Number	Percent*	Number	Percent*
0	28,129	89.12	14,531	56.74
.01	114	0.36	154	0.60
.02	115	0.36	171	0.67
.03	92	0.29	216	0.84
.04	98	0.31	224	0.87
.05	115	0.36	265	1.04
.06	115	0.36	294	1.15
.07	109	0.34	311	1.22
.08	122	0.39	366	1.43
.09	142	0.45	405	1.58
.10	139	0.44	446	1.74
.11	147	0.47	479	1.87
.12	133	0.42	494	1.93
.13	128	0.41	485	1.90
.14	141	0.45	526	2.06
.15	127	0.40	524	2.04
.16	147	0.46	583	2.28
.17	147	0.46	536	2.09
.18	133	0.42	494	1.93
.19	127	0.40	508	1.99
.20	111	0.35	484	1.89
.21	121	0.38	429	1.67
.22	97	0.31	398	1.55
.23	89	0.28	348	1.36
.24	90	0.28	339	1.33
.25	82	0.26	290	1.13
.26	81	0.26	240	0.94
.27	71	0.23	211	0.82
.28	48	0.15	169	0.66
.29	40	0.13	143	0.56
.30	42	0.13	104	0.41
.31	32	0.10	79	0.31
.32	19	0.06	69	0.27
.33	25	0.08	50	0.20
.34	18	0.06	46	0.18
.35	13	0.04	35	0.14
.36	9	0.03	34	0.13
.37	13	0.04	28	0.11
.38	6	0.02	14	0.06
.39	8	0.02	16	0.06
.40 +	31	0.10	72	0.28

*As percent of all drivers involved in category
Source: NCSA FARS 2001 (ARF)

Year	Table A-16: Alcohol Involvement Among Drivers Involved by the Day of the Week, 1982-2001											
	Weekday						Weekend					
	Total		BAC=0.01+		BAC=0.08+		Total		BAC=0.01+		BAC=0.08+	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1982	31,021	100	10,027	32	8,549	28	24,937	100	12,748	51	11,080	44
1983	30,948	100	9,242	30	7,994	26	23,646	100	12,296	52	10,738	45
1984	32,381	100	9,375	29	7,908	24	25,057	100	12,247	49	10,485	42
1985	33,676	100	8,743	26	7,350	22	24,121	100	11,212	46	9,467	39
1986	34,577	100	9,588	28	7,874	23	25,678	100	12,079	47	10,166	40
1987	35,234	100	8,975	25	7,457	21	26,107	100	11,774	45	9,962	38
1988	35,889	100	8,695	24	7,259	20	26,270	100	11,810	45	9,962	38
1989	35,080	100	7,968	23	6,741	19	25,282	100	10,982	43	9,405	37
1990	33,732	100	8,131	24	6,779	20	25,072	100	11,258	45	9,648	38
1991	31,477	100	7,203	23	6,054	19	22,826	100	9,832	43	8,438	37
1992	30,411	100	6,521	21	5,407	18	21,419	100	8,752	41	7,476	35
1993	31,692	100	6,331	20	5,308	17	21,640	100	8,517	39	7,229	33
1994	32,571	100	6,084	19	5,061	16	21,881	100	8,470	39	7,252	33
1995	33,723	100	6,259	19	5,223	15	22,340	100	8,362	37	7,083	32
1996	34,973	100	6,397	18	5,268	15	21,921	100	8,247	38	7,025	32
1997	34,388	100	5,875	17	4,892	14	22,209	100	7,835	35	6,647	30
1998	34,796	100	6,033	17	4,930	14	21,727	100	7,760	36	6,590	30
1999	34,346	100	5,837	17	4,839	14	22,081	100	7,757	35	6,563	30
2000	34,788	100	6,151	18	5,054	15	22,392	100	8,424	38	7,156	32
2001	34,918	100	6,542	19	5,419	16	22,462	100	8,111	36	6,827	30

Source: NCSA, FARS 1982-2000 (Final), 2001 (ARF)

Table A -17: BAC Distributions of Drivers Involved in Fatal Crashes by Day of the Week, 2001

BAC	Weekday		Weekend	
	Number	Percent*	Number	Percent*
0	28,376	81.26	14,351	63.89
.01	152	0.44	118	0.53
.02	136	0.39	153	0.68
.03	128	0.37	182	0.81
.04	146	0.42	178	0.79
.05	178	0.51	207	0.92
.06	192	0.55	217	0.97
.07	192	0.55	229	1.02
.08	210	0.60	280	1.25
.09	244	0.70	305	1.36
.10	267	0.76	323	1.44
.11	282	0.81	348	1.55
.12	279	0.80	352	1.57
.13	269	0.77	353	1.57
.14	302	0.86	370	1.65
.15	270	0.77	385	1.72
.16	321	0.92	413	1.84
.17	307	0.88	383	1.70
.18	274	0.79	362	1.61
.19	262	0.75	383	1.70
.20	271	0.78	332	1.48
.21	251	0.72	305	1.36
.22	227	0.65	275	1.22
.23	195	0.56	247	1.10
.24	207	0.59	227	1.01
.25	166	0.47	213	0.95
.26	144	0.41	183	0.81
.27	128	0.37	156	0.69
.28	102	0.29	119	0.53
.29	77	0.22	107	0.48
.30	63	0.18	85	0.38
.31	51	0.15	61	0.27
.32	45	0.13	44	0.20
.33	37	0.11	39	0.17
.34	29	0.08	35	0.15
.35	24	0.07	25	0.11
.36	22	0.06	22	0.10
.37	21	0.06	21	0.09
.38	10	0.03	9	0.04
.39	16	0.04	8	0.03
.40 +	48	0.14	56	0.25

*As percent of all drivers involved in category
Source: NCSA FARS 2001 (ARF)

Year	Table A-18: Alcohol Involvement Among Drivers Involved by Crash Type, 1982-2001											
	Single vehicle						Multiple Vehicle					
	Total		BAC=0.01+		BAC=0.08+		Total		BAC=0.01+		BAC=0.08+	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1982	23,731	100	13,317	56	11,859	50	32,298	100	9,511	29	7,817	24
1983	22,925	100	12,646	55	11,299	49	31,731	100	8,936	28	7,466	24
1984	23,545	100	12,540	53	11,056	47	33,967	100	9,128	27	7,379	22
1985	22,774	100	11,595	51	10,091	44	35,109	100	8,408	24	6,769	19
1986	24,163	100	12,776	53	11,066	46	36,172	100	8,951	25	7,025	19
1987	24,039	100	12,077	50	10,482	44	37,403	100	8,741	23	7,002	19
1988	24,587	100	12,155	49	10,552	43	37,666	100	8,411	22	6,716	18
1989	23,638	100	11,364	48	9,989	42	36,797	100	7,632	21	6,201	17
1990	23,314	100	11,697	50	10,258	44	35,579	100	7,756	22	6,229	18
1991	21,776	100	10,531	48	9,263	43	32,615	100	6,565	20	5,281	16
1992	20,291	100	9,306	46	8,124	40	31,610	100	6,010	19	4,795	15
1993	20,454	100	9,070	44	7,942	39	32,947	100	5,821	18	4,634	14
1994	20,416	100	8,749	43	7,673	38	34,133	100	5,857	17	4,689	14
1995	21,129	100	9,114	43	7,919	37	35,035	100	5,576	16	4,446	13
1996	21,021	100	9,002	43	7,834	37	35,980	100	5,707	16	4,514	13
1997	20,689	100	8,342	40	7,279	35	35,999	100	5,417	15	4,300	12
1998	20,805	100	8,643	42	7,495	36	35,799	100	5,198	15	4,066	11
1999	20,805	100	8,554	41	7,433	36	35,697	100	5,090	14	4,015	11
2000	21,026	100	9,030	43	7,806	37	36,254	100	5,607	15	4,455	12
2001	21,365	100	9,139	43	7,900	37	36,115	100	5,567	15	4,392	12

Source: NCSA, FARS 1982-2000 (Final), 2001 (ARF)

Table A-19: BAC Distributions of Drivers Involved in Fatal Crashes by Crash-Type, 2001

BAC	Single -Vehicle		Multiple Vehicle	
	Number	Percent*	Number	Percent*
0	12,226	57.22	30,548	84.59
.01	119	0.55	152	0.42
.02	139	0.65	151	0.42
.03	152	0.71	159	0.44
.04	172	0.80	153	0.42
.05	200	0.93	186	0.52
.06	230	1.08	180	0.50
.07	228	1.07	195	0.54
.08	269	1.26	222	0.62
.09	328	1.54	222	0.61
.10	349	1.63	242	0.67
.11	395	1.85	237	0.66
.12	384	1.80	249	0.69
.13	373	1.75	251	0.70
.14	414	1.94	259	0.72
.15	411	1.92	248	0.69
.16	473	2.21	266	0.74
.17	460	2.15	231	0.64
.18	396	1.86	242	0.67
.19	452	2.12	194	0.54
.20	414	1.94	192	0.53
.21	370	1.73	188	0.52
.22	335	1.57	168	0.47
.23	283	1.32	160	0.44
.24	306	1.43	132	0.37
.25	266	1.25	114	0.32
.26	221	1.03	109	0.30
.27	194	0.91	91	0.25
.28	153	0.71	70	0.19
.29	131	0.62	57	0.16
.30	102	0.48	46	0.13
.31	76	0.36	36	0.10
.32	56	0.26	33	0.09
.33	56	0.26	21	0.06
.34	39	0.18	25	0.07
.35	34	0.16	15	0.04
.36	30	0.14	13	0.04
.37	29	0.14	13	0.03
.38	12	0.06	8	0.02
.39	13	0.06	11	0.03
.40 +	76	0.36	29	0.08

*As percent of drivers involved in category
Source: NCSA FARS 2001 (ARF)

Table A-20: Alcohol Involvement Among Drivers of Passenger Vehicles Involved in Fatal Crashes by Safety Belt Use, 1982-2001

Year	Safety Belt Use									Total		
	Not Used			Used			Unknown					
	Total	BAC =0.01+		Total	BAC =0.01+		Total	BAC =0.01+		Total	BAC =0.01+	
	Number	Number	Percent	Number	Number	Percent	Number	Number	Percent	Number	Number	Percent
1982	33,793	7,664	23	1,515	377	25	10,012	3,603	36	45,320	11,643	26
1983	32,332	6,993	22	1,835	433	24	9,919	3,463	35	44,086	10,888	25
1984	32,979	6,983	21	2,756	604	22	10,526	3,472	33	46,261	11,058	24
1985	29,705	5,800	20	6,172	1,339	22	10,566	2,966	28	46,443	10,105	22
1986	28,778	6,050	21	10,891	2,372	22	9,498	2,628	28	49,167	11,050	22
1987	28,154	5,909	21	14,474	2,889	20	8,150	2,038	25	50,778	10,836	21
1988	28,146	5,883	21	16,948	3,395	20	6,842	1,628	24	51,936	10,906	21
1989	26,764	5,424	20	17,545	3,290	19	6,474	1,455	22	50,783	10,169	20
1990	24,706	5,044	20	18,340	3,564	19	6,348	1,523	24	49,394	10,132	21
1991	21,843	10,308	47	18,457	2,922	16	5,504	1,732	31	45,804	14,963	33
1992	19,836	9,213	46	19,106	2,921	15	5,268	1,638	31	44,210	13,772	31
1993	19,139	8,657	45	20,932	3,078	15	5,196	1,506	29	45,267	13,241	29
1994	18,946	8,429	44	22,763	3,309	15	4,629	1,489	32	46,338	13,228	29
1995	19,428	8,497	44	24,165	3,332	14	4,663	1,457	31	48,256	13,286	28
1996	18,759	8,372	45	25,207	3,506	14	4,747	1,481	31	48,713	13,360	27
1997	18,286	7,781	43	25,313	3,357	13	4,799	1,394	29	48,398	12,532	26
1998	17,601	7,643	43	25,854	3,421	13	4,699	1,377	29	48,154	12,441	26
1999	17,693	7,589	43	25,498	3,358	13	4,552	1,334	29	47,743	12,280	26
2000	16,995	7,663	45	26,690	3,986	15	4,369	1,414	32	48,054	13,063	27
2001	16,455	7,567	46	27,068	4,004	15	4,359	1,388	32	47,882	12,958	27

Source: NCSA, FARS 1982-2000 (Final), 2001 (ARF)

**Table A-21: BAC Distributions of Drivers of Passenger Vehicles
Involved in Fatal Crashes by Their Safety Belt Use, 2001**

BAC	Unbelted		Belted	
	Number	Percent*	Number	Percent*
0	8,889	54.02	23,064	85.21
.01	94	0.57	99	0.37
.02	104	0.63	117	0.43
.03	104	0.63	106	0.39
.04	130	0.79	105	0.39
.05	168	1.02	121	0.45
.06	160	0.97	136	0.50
.07	183	1.11	134	0.50
.08	206	1.25	156	0.58
.09	226	1.37	184	0.68
.10	254	1.54	192	0.71
.11	285	1.73	199	0.74
.12	297	1.81	186	0.69
.13	318	1.93	173	0.64
.14	323	1.96	203	0.75
.15	347	2.11	166	0.61
.16	392	2.38	190	0.70
.17	353	2.14	187	0.69
.18	363	2.21	156	0.58
.19	369	2.24	155	0.57
.20	348	2.11	150	0.55
.21	318	1.93	135	0.50
.22	307	1.87	110	0.41
.23	264	1.60	103	0.38
.24	274	1.66	91	0.34
.25	241	1.47	74	0.27
.26	200	1.21	73	0.27
.27	180	1.09	71	0.26
.28	135	0.82	48	0.18
.29	122	0.74	43	0.16
.30	95	0.58	31	0.11
.31	78	0.47	17	0.06
.32	57	0.35	17	0.06
.33	51	0.31	14	0.05
.34	43	0.26	9	0.03
.35	26	0.16	11	0.04
.36	29	0.18	8	0.03
.37	28	0.17	6	0.02
.38	14	0.08	4	0.01
.39	14	0.08	8	0.03
.40 +	71	0.43	18	0.07

*As percent of all drivers in category
Source: NCSA FARS 2001 (ARF)

Table A-22: Alcohol Involvement Among Drivers 16 Years and Older Involved by Age of the Driver and the Driver's BAC, 2001

Driver Age	Total	No Alcohol		0.01-0.07		0.08+		0.01+	
	Num	Num	%	Num	%	Num	%	Num	%
16	1,009	879	87	45	4	85	8	130	13
17	1,437	1,190	83	71	5	177	12	248	17
18	1,840	1,437	78	98	5	305	17	403	22
19	1,926	1,417	74	110	6	399	21	509	26
20	1,751	1,202	69	97	6	453	26	549	31
21	1,732	1,040	60	111	6	581	34	692	40
22	1,541	908	59	108	7	525	34	633	41
23	1,420	884	62	89	6	447	32	536	38
24	1,323	812	61	82	6	429	32	511	39
25	1,270	821	65	63	5	385	30	449	35
26	1,176	734	62	61	5	381	32	442	38
27	1,163	781	67	58	5	324	28	382	33
28	1,153	780	68	56	5	317	28	373	32
29	1,145	780	68	53	5	312	27	365	32
30	1,194	800	67	55	5	339	28	395	33
31	1,155	795	69	47	4	312	27	360	31
32	1,076	744	69	49	5	283	26	332	31
33	1,119	790	71	46	4	283	25	329	29
34	1,083	750	69	50	5	283	26	333	31
35	1,125	760	68	57	5	308	27	365	32
36	1,108	779	70	52	5	277	25	329	30
37	1,178	817	69	50	4	311	26	361	31
38	1,126	778	69	51	5	298	26	349	31
39	1,171	836	71	47	4	288	25	335	29

Source: NCSA FARS 2001 (ARF) Continued...

Table A-22: Alcohol Involvement Among Drivers 16 Years and Older Involved by Age of the Driver and the Driver's BAC, 2001

Driver Age	Total	No Alcohol		0.01-0.07		0.08+		0.01+	
	Num	Num	%	Num	%	Num	%	Num	%
40	1,128	792	70	49	4	287	25	336	30
41	1,088	762	70	45	4	281	26	326	30
42	1,135	833	73	41	4	261	23	302	27
43	1,075	791	74	38	4	246	23	284	26
44	1,067	733	69	45	4	290	27	334	31
45	1,006	760	76	27	3	219	22	246	24
46	949	723	76	27	3	200	21	227	24
47	905	678	75	34	4	194	21	227	25
48	835	654	78	20	2	161	19	181	22
49	853	647	76	24	3	182	21	206	24
50	767	587	76	33	4	148	19	180	24
51	760	615	81	19	2	127	17	145	19
52	736	589	80	20	3	127	17	147	20
53	744	600	81	15	2	129	17	144	19
54	752	618	82	17	2	117	16	134	18
55	572	475	83	17	3	80	14	97	17
56	533	461	86	10	2	62	12	72	14
57	542	460	85	11	2	71	13	82	15
58	573	472	82	13	2	88	15	101	18
59	503	418	83	20	4	65	13	86	17
60	455	394	87	14	3	46	10	61	13
61	439	392	89	8	2	39	9	47	11
62	404	351	87	12	3	42	10	53	13
63	379	338	89	8	2	33	9	41	11
64	298	268	90	8	3	23	8	31	10
65+	6,421	5,919	92	136	2	366	6	502	8
Unknown	1,340	934	70	99	7	308	23	407	30
Total	57,480	42,774	74	2,414	4	12,293	21	14,706	26

Source: NCSA FARS 2001 (ARF)

Table A-23: Alcohol Involvement Among Pedestrians Killed by Time of the Day, 1982-2001												
Year	Day						Night					
	Total		BAC=0.01+		BAC=0.08+		Total		BAC=0.01+		BAC=0.08+	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
	1982	2,347	100	289	12	239	10	4,937	100	2,795	57	2,515
1983	2,339	100	275	12	231	10	4,457	100	2,569	58	2,313	52
1984	2,448	100	266	11	219	9	4,534	100	2,531	56	2,281	50
1985	2,448	100	264	11	192	8	4,324	100	2,434	56	2,155	50
1986	2,381	100	263	11	192	8	4,359	100	2,382	55	2,112	48
1987	2,439	100	338	14	237	10	4,263	100	2,217	52	1,965	46
1988	2,596	100	278	11	215	8	4,233	100	2,227	53	1,993	47
1989	2,372	100	270	11	203	9	4,144	100	2,246	54	2,014	49
1990	2,383	100	221	9	163	7	4,073	100	2,211	54	2,004	49
1991	2,049	100	188	9	151	7	3,719	100	1,974	53	1,776	48
1992	1,955	100	229	12	178	9	3,572	100	1,896	53	1,713	48
1993	2,074	100	232	11	185	9	3,549	100	1,880	53	1,721	48
1994	2,037	100	222	11	180	9	3,419	100	1,743	51	1,554	45
1995	2,000	100	224	11	188	9	3,559	100	1,816	51	1,623	46
1996	1,901	100	205	11	161	8	3,528	100	1,840	52	1,672	47
1997	1,987	100	215	11	178	9	3,303	100	1,619	49	1,477	45
1998	1,876	100	234	12	177	9	3,321	100	1,713	52	1,521	46
1999	1,699	100	178	10	142	8	3,211	100	1,686	53	1,527	48
2000	1,676	100	194	12	158	9	3,055	100	1,577	52	1,396	46
2001	1,721	100	210	12	159	9	3,131	100	1,588	51	1,418	45

Source: NCSA, FARS 1982-2000 (Final), 2001 (ARF)

Table A-24: Fatalities in Traffic Crashes by Crash BAC and State, 2001

State	Total	No Alcohol		0.01-0.07		0.08+		0.01+	
	Fatalities	Fatalities	%	Fatalities	%	Fatalities	%	Fatalities	%
Alabama	994	618	62	39	4	336	34	376	38
Alaska	85	42	50	4	4	39	46	43	50
Arizona	1,048	560	53	64	6	424	40	488	47
Arkansas	611	418	68	44	7	150	25	193	32
California	3,956	2,387	60	292	7	1,277	32	1,569	40
Colorado	736	408	55	50	7	278	38	328	45
Connecticut	312	154	49	19	6	139	45	158	51
Delaware	136	71	52	8	6	58	42	65	48
Dist of Columbia	68	30	45	5	8	32	48	38	55
Florida	3,011	1,748	58	175	6	1,088	36	1,264	42
Georgia	1,615	1,058	65	91	6	466	29	557	35
Hawaii	140	80	57	9	7	51	36	60	43
Idaho	259	162	63	11	4	85	33	97	37
Illinois	1,414	794	56	86	6	535	38	620	44
Indiana	909	572	63	54	6	283	31	337	37
Iowa	447	292	65	29	6	126	28	155	35
Kansas	494	300	61	25	5	169	34	194	39
Kentucky	845	598	71	35	4	213	25	247	29
Louisiana	954	509	53	62	6	383	40	445	47
Maine	192	127	66	5	3	60	31	65	34
Maryland	660	370	56	51	8	239	36	290	44
Massachusetts	477	244	51	28	6	206	43	234	49
Michigan	1,328	810	61	77	6	441	33	518	39
Minnesota	568	342	60	30	5	196	34	226	40

Source: NCSA FARS 2001 (ARF)

Continued...

Table A-24: Fatalities in Traffic Crashes by Crash BAC and State, 2001

State	Total	No Alcohol		0.01-0.07		0.08+		0.01+	
	Fatalities	Fatalities	%	Fatalities	%	Fatalities	%	Fatalities	%
Mississippi	784	502	64	29	4	253	32	282	36
Missouri	1,098	575	52	82	7	441	40	523	48
Montana	230	126	55	8	4	96	42	104	45
Nebraska	246	150	61	17	7	79	32	96	39
Nevada	313	180	58	21	7	112	36	133	42
New Hampshire	142	73	51	15	10	55	39	70	49
New Jersey	747	450	60	53	7	244	33	297	40
New Mexico	463	249	54	35	7	179	39	214	46
New York	1,548	1,050	68	94	6	404	26	498	32
North Carolina	1,530	997	65	77	5	456	30	533	35
North Dakota	105	52	50	8	8	44	42	53	50
Ohio	1,378	774	56	89	6	515	37	604	44
Oklahoma	676	410	61	33	5	233	34	266	39
Oregon	488	298	61	34	7	157	32	190	39
Pennsylvania	1,530	867	57	83	5	580	38	663	43
Rhode Island	81	32	40	9	11	40	49	49	60
South Carolina	1,059	467	44	73	7	519	49	592	56
South Dakota	171	87	51	9	5	75	44	84	49
Tennessee	1,251	714	57	75	6	462	37	537	43
Texas	3,724	1,935	52	205	5	1,584	43	1,789	48
Utah	292	224	77	12	4	56	19	68	23
Vermont	92	57	62	2	2	33	35	35	38
Virginia	935	595	64	54	6	287	31	340	36
Washington	649	368	57	42	6	239	37	281	43
West Virginia	376	241	64	16	4	119	32	135	36
Wisconsin	763	399	52	39	5	325	43	364	48
Wyoming	186	105	56	11	6	71	38	81	44
U.S.	42,116	24,668	59	2,515	6	14,933	35	17,448	41
Puerto Rico	481	235	49	36	7	210	44	246	51

Source: NCSA FARS 2001 (ARF)

Table A-25: Extent of Intoxication Among Drivers Involved in Fatal Crashes by Prior Convictions

Year	Previous DWI						Previous Crashes					
	None			1 or More			None			1 or More		
	Total	BAC=0.08+		Total	BAC=0.08+		Total	BAC=0.08+		Total	BAC=0.08+	
	Num	Num	%	Num	Num	%	Num	Num	%	Num	Num	%
1982	50,843	16,820	33	2,288	1,587	69	42,716	14,235	33	10,416	4,172	40
1983	49,861	16,148	32	2,389	1,594	67	42,690	13,963	33	9,560	3,779	40
1984	52,528	15,812	30	2,630	1,732	66	44,708	13,658	31	10,450	3,886	37
1985	52,803	14,231	27	2,744	1,789	65	44,913	12,541	28	10,635	3,480	33
1986	54,794	15,044	27	3,028	2,015	67	46,783	13,416	29	11,039	3,643	33
1987	55,922	14,568	26	3,053	2,024	66	48,011	13,129	27	10,964	3,463	32
1988	56,988	14,566	26	2,932	1,957	67	48,905	13,054	27	11,015	3,469	31
1989	55,381	13,701	25	2,696	1,791	66	47,186	12,181	26	10,891	3,311	30
1990	53,920	13,904	26	2,667	1,813	68	46,310	12,595	27	10,223	3,102	30
1991	49,817	12,181	24	2,561	1,754	69	42,835	11,115	26	9,145	2,704	30
1992	47,920	10,971	23	2,254	1,512	67	41,170	10,079	24	8,595	2,294	27
1993	49,298	10,612	22	2,188	1,439	66	42,421	9,698	23	8,618	2,232	26
1994	50,707	10,525	21	2,073	1,353	65	42,652	9,410	22	10,128	2,468	24
1995	52,205	10,459	20	2,097	1,359	65	44,137	9,432	21	10,165	2,386	23
1996	53,350	10,732	20	1,919	1,209	63	44,949	9,494	21	10,320	2,446	24
1997	53,181	10,092	19	1,808	1,132	63	45,183	8,998	20	9,806	2,226	23
1998	53,074	9,957	19	1,849	1,128	61	45,363	8,912	20	9,560	2,173	23
1999	52,930	9,917	19	1,871	1,173	63	43,777	8,762	20	11,024	2,328	21
2000	53,344	10,568	20	1,896	1,193	63	44,166	9,176	21	11,073	2,585	23
2001	53,321	10,482	20	1,888	1,178	62	44,012	9,244	21	11,197	2,416	22

Source: NCSA FARS 1982-2000 (Final), 2001 (ARF)

Continued...

Table A-25 (Contd.): Extent of Intoxication Among Drivers involved in Fatal Crashes by Prior Convictions												
Year	Previous Speeding Convictions						Previous Suspensions					
	None			1 or More			None			1 or More		
	Total	BAC=0.08+		Total	BAC=0.08+		Total	BAC=0.08+		Total	BAC=0.08+	
	Num	Num	%	Num	Num	%	Num	Num	%	Num	Num	%
1982	37,017	11,965	32	16,115	6,441	40	48,461	15,812	33	4,670	2,596	56
1983	37,218	11,789	32	15,032	5,953	40	47,418	15,088	32	4,832	2,654	55
1984	39,870	11,961	30	15,288	5,583	37	49,543	14,634	30	5,615	2,910	52
1985	40,089	10,840	27	15,459	5,180	34	49,590	12,936	26	5,959	3,086	52
1986	42,105	11,776	28	15,717	5,283	34	51,210	13,577	27	6,612	3,483	53
1987	43,060	11,486	27	15,915	5,107	32	52,091	13,123	25	6,884	3,470	50
1988	43,612	11,230	26	16,308	5,293	32	52,355	12,814	24	7,565	3,709	49
1989	42,810	10,788	25	15,267	4,703	31	50,638	11,873	23	7,439	3,618	49
1990	41,841	11,043	26	14,746	4,674	32	48,977	11,934	24	7,610	3,783	50
1991	38,937	9,746	25	13,442	4,189	31	45,324	10,394	23	7,054	3,541	50
1992	38,023	9,137	24	12,151	3,346	28	43,814	9,474	22	6,359	3,009	47
1993	39,553	8,859	22	11,933	3,191	27	45,151	9,090	20	6,335	2,960	47
1994	41,079	8,931	22	11,701	2,947	25	46,340	9,015	19	6,440	2,862	44
1995	42,447	8,809	21	11,855	3,009	25	47,441	8,822	19	6,861	2,996	44
1996	43,134	8,943	21	12,135	2,998	25	48,668	9,090	19	6,601	2,851	43
1997	43,199	8,468	20	11,790	2,757	23	48,716	8,518	17	6,273	2,706	43
1998	43,388	8,388	19	11,535	2,697	23	48,461	8,360	17	6,462	2,725	42
1999	43,243	8,409	19	11,558	2,681	23	47,943	8,248	17	6,858	2,842	41
2000	43,302	8,844	20	11,938	2,918	24	48,041	8,694	18	7,198	3,067	43
2001	43,150	8,736	20	12,060	2,923	24	48,276	8,796	18	6,933	2,864	41

Source: NCSA FARS 1982-2000 (Final), 2001 (ARF)

Table A-26: Prior DWI Convictions Among Drivers who had any Alcohol (BAC=0.01+), 1982-2001

Year	Prior DWI Convictions						Total	
	None		Yes		Unknown			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1982	19,669	86	1,726	8	1,432	6	22,827	100
1983	18,668	86	1,727	8	1,187	5	21,582	100
1984	18,725	86	1,918	9	1,026	5	21,669	100
1985	17,064	85	1,964	10	976	5	20,003	100
1986	18,281	84	2,224	10	1,222	6	21,727	100
1987	17,581	84	2,198	11	1,039	5	20,818	100
1988	17,528	85	2,140	10	897	4	20,565	100
1989	16,217	85	1,948	10	832	4	18,997	100
1990	16,594	85	1,971	10	889	5	19,453	100
1991	14,461	85	1,905	11	730	4	17,096	100
1992	13,163	86	1,640	11	514	3	15,317	100
1993	12,693	85	1,565	11	633	4	14,891	100
1994	12,588	86	1,476	10	543	4	14,606	100
1995	12,585	86	1,471	10	634	4	14,690	100
1996	12,897	88	1,321	9	492	3	14,709	100
1997	12,101	88	1,240	9	419	3	13,759	100
1998	12,042	87	1,243	9	556	4	13,840	100
1999	11,940	88	1,283	9	420	3	13,644	100
2000	12,737	87	1,311	9	590	4	14,637	100
2001	12,641	86	1,292	9	774	5	14,706	100

Source: NCSA FARS 1982-2000 (Final), 2001 (ARF)

Table A -27: BAC Distributions of Drivers Involved in Fatal Crashes by Prior DWI Convictions, 2001

BAC	Prior Convictions			
	No prior DWI		Prior DWI	
	Number	Percent*	Number	Percent*
0	40,680	76.29	596	31.58
.01	251	0.47	10	0.51
.02	262	0.49	14	0.74
.03	282	0.53	11	0.59
.04	292	0.55	13	0.68
.05	341	0.64	22	1.17
.06	359	0.67	21	1.13
.07	373	0.70	23	1.21
.08	427	0.80	32	1.67
.09	476	0.89	36	1.91
.10	527	0.99	29	1.51
.11	553	1.04	40	2.10
.12	550	1.03	47	2.49
.13	538	1.01	48	2.56
.14	573	1.07	63	3.35
.15	574	1.08	56	2.97
.16	635	1.19	69	3.64
.17	596	1.12	62	3.29
.18	550	1.03	58	3.05
.19	550	1.03	64	3.41
.20	514	0.96	67	3.55
.21	467	0.88	65	3.46
.22	427	0.80	53	2.80
.23	372	0.70	52	2.75
.24	368	0.69	47	2.48
.25	323	0.61	43	2.26
.26	277	0.52	39	2.05
.27	238	0.45	33	1.73
.28	182	0.34	28	1.48
.29	155	0.29	23	1.24
.30	112	0.21	30	1.60
.31	92	0.17	17	0.90
.32	70	0.13	14	0.72
.33	57	0.11	15	0.81
.34	53	0.10	8	0.43
.35	39	0.07	8	0.43
.36	35	0.07	5	0.24
.37	32	0.06	7	0.39
.38	17	0.03	2	0.10
.39	18	0.03	4	0.23
.40 +	85	0.16	15	0.81

*As a percent of all drivers involved in Category
Source: NCSA FARS 2001 (ARF)

Descriptive Statistics

Table A-28: Summary Statistics: Drivers Involved by Injury Severity, 2001

Injury Severity	Average BAC	Median BAC	75 th Percentile	25 th Percentile
Fatal	0.17	0.17	0.23	0.11
Survived	0.14	0.13	0.18	0.08

Source: NCSA, FARS 2001 (ARF)

Table A-29: Summary Statistics: Drivers Involved by Gender, 2001

Gender of the Driver	Average BAC	Median BAC	75 th Percentile	25 th Percentile
Male	0.16	0.16	0.21	0.10
Female	0.16	0.15	0.21	0.10

Source: NCSA, FARS 2001 (ARF)

Table A-30: Summary Statistics: Drivers Involved by Age, 2001

Age Group	Average BAC	Median BAC	75 th Percentile	25 th Percentile
16-20	0.13	0.13	0.18	0.08
21-24	0.15	0.15	0.20	0.10
25-34	0.16	0.16	0.21	0.11
35-44	0.17	0.17	0.23	0.11
45-64	0.17	0.17	0.23	0.11
65+	0.13	0.12	0.18	0.08

Source: NCSA, FARS 2001 (ARF)

Table A-31: Summary Statistics: Drivers Involved by Vehicle Type, 2001

Vehicle Type	Average BAC	Median BAC	75 th Percentile	25 th Percentile
P.Cars	0.16	0.16	0.21	0.10
SUV	0.17	0.16	0.23	0.10
Pickups	0.17	0.16	0.22	0.11
Vans	0.16	0.16	0.22	0.09
Large Trucks	0.10	0.07	0.16	0.03
Motorcycles	0.14	0.14	0.19	0.09

Source: NCSA, FARS 2001 (ARF)

Table A-32: Summary Statistics: Drivers Involved by Roadway Function Class, 2001

Roadway Function	Average BAC	Median BAC	75 th Percentile	25 th Percentile
Rural	0.16	0.16	0.22	0.10
Urban	0.15	0.15	0.21	0.10

Source: NCSA, FARS 2001 (ARF)

Table A-33: Summary Statistics: Drivers Involved by the Time of the Day, 2001

Time of the Day	Average BAC	Median BAC	75 th Percentile	25 th Percentile
Daytime	0.15	0.15	0.21	0.08
Nighttime	0.16	0.16	0.21	0.10

Source: NCSA, FARS 2001 (ARF)

Table A-34: Summary Statistics: Drivers Involved by the Day of the Week, 2001

Day of the Week	Average BAC	Median BAC	75 th Percentile	25 th Percentile
Weekday	0.16	0.16	0.21	0.10
Weekend	0.16	0.16	0.21	0.10

Source: NCSA, FARS 2001 (ARF)

Table A-35: Summary Statistics: Drivers Involved by the Type of Crash, 2001

Crash Type	Average BAC	Median BAC	75 th Percentile	25 th Percentile
S. Vehicle	0.16	0.16	0.22	0.11
M. Vehicle	0.15	0.14	0.20	0.08

Source: NCSA, FARS 2001 (ARF)

Table A-36: Summary Statistics: Drivers of Passenger Vehicles Involved by their Safety Belt Use, 2001

Crash Type	Average BAC	Median BAC	75 th Percentile	25 th Percentile
Belted	0.16	0.16	0.22	0.11
Unbelted	0.15	0.14	0.20	0.08

Source: NCSA, FARS 2001 (ARF)

Table 37: Summary Statistics: Drivers Involved by prior DWI Convictions of the Driver, 2001

Crash Type	Average BAC	Median BAC	75 th Percentile	25 th Percentile
None	0.16	0.15	0.21	0.10
1 or more	0.19	0.18	0.24	0.13

Source: NCSA, FARS 2001 (ARF)

Alcohol-Related Fatalities – Q&As

This document answers questions related to the differences between the number of alcohol-related fatalities as reported by some states and those reported by NHTSA.

1. Why do some states report a smaller number of alcohol-related fatalities than the number reported by NHTSA?

- A. Discrepancies may occur because NHTSA and a state may use different approaches to counting alcohol-related fatalities. The primary reason for these discrepancies is that some states include only those fatalities that occur in crashes where alcohol involvement is **known**. NHTSA, on the other hand, also includes those fatalities that occur in crashes where actual alcohol involvement is unknown, but is estimated using imputation.

2. What is “imputation”?

- A. Imputation, the statistical procedure of ‘filling in’ missing data with plausible values, is an effective approach to estimating missing data. Imputation is widely used by researchers whose analyses would otherwise be biased by missing data.

3. Are there a large number of fatal crashes where alcohol involvement is not known?

- A. Yes. On an average, in more than 50 percent of the cases, alcohol involvement, as determined by actual alcohol testing, is not known. Alcohol test results may not be known for any of several reasons: the test was given, but the results were not obtained by the Fatality Analysis Reporting System (FARS); the test was refused; FARS was unable to determine if the tests were given; or, the test was not given.

4. How does NHTSA “impute” alcohol involvement?

- A. Imputation, as applied by NHTSA, uses characteristics of the persons involved in the crash to predict alcohol involvement when it is **not known**. Those characteristics include police-reported drinking, age, gender, restraint-use, type of crash, time of day, and driver of striking or struck vehicle.

5. How does NHTSA count alcohol-related fatalities?

- A. NHTSA counts a fatality as alcohol related if it occurs in a crash where any of the drivers, pedestrians or pedalcyclists involved has a Blood Alcohol Concentration (BAC) of 0.01 or more. BAC is the grams of alcohol per deciliter of blood (g/dl). NHTSA determines a fatality to be alcohol related based on known BACs in the FARS as well as imputed BACs when an alcohol test result is not reported.

6. What is the disadvantage of not imputing alcohol involvement?

- A. Because alcohol test results are unknown for a large proportion of cases, reporting alcohol-related fatalities based only on those cases with known results could lead to a significant underestimate of alcohol-related fatalities. When imputation is not used, cases with unknown alcohol involvement are treated as not being alcohol related.

7. What are the benefits of imputing alcohol involvement?

- A. Because the reporting of alcohol test results varies widely by state, imputation provides a more meaningful way for states to assess the problem of alcohol involvement in fatal crashes and compare the extent of their problem with other states. In addition, because NHTSA has applied imputation back to 1982 data, using the NHTSA estimates enables a state to perform a consistent assessment of its progress as well as to better allocate funds to impaired driving programs. Without imputation, the wide variation in a state's year-to-year reporting of alcohol involvement could produce a less consistent assessment of progress.

8. Are there any other reasons why NHTSA's estimates of alcohol-related fatalities may differ from those reported by some states?

- A. Yes. Other reasons that a state estimate of alcohol-related fatalities would differ from NHTSA's estimate include: the state may exclude fatalities that occur in some jurisdictions; the state may count only fatalities in crashes with an alcohol involved driver; the state may use an alcohol threshold other than 0.01 g/dl for counting alcohol related fatalities; or, the state may use data that has not yet been reported to FARS. While these definitional differences may cause a discrepancy in some states, the principal difference is whether or not imputation is used.

9. How could estimates of alcohol-related fatalities be improved?

- A. Data are most reliable when they are known. Consequently, if states tested all drivers involved in fatal crashes (killed *and* surviving) as well as improved the reporting of alcohol (BAC) test results to FARS, improved estimates of alcohol-related fatalities could be obtained.

More information about the methodology to impute missing BAC test results can be found in the following report located on NHTSA's web site:

<http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/Rpts/2002/809-403.pdf>

Additional information about imputation and Statistics on alcohol-related fatalities can be found at:

<http://www-nrd.nhtsa.dot.gov/departments/nrd-30/ncsa/AvailInf.html>



U.S. Department
Of Transportation

**National Highway
Traffic Safety
Administration**

400 Seventh St., S.W.
Washington, D.C. 20590

Official Business
Penalty for Private Use \$300



U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

