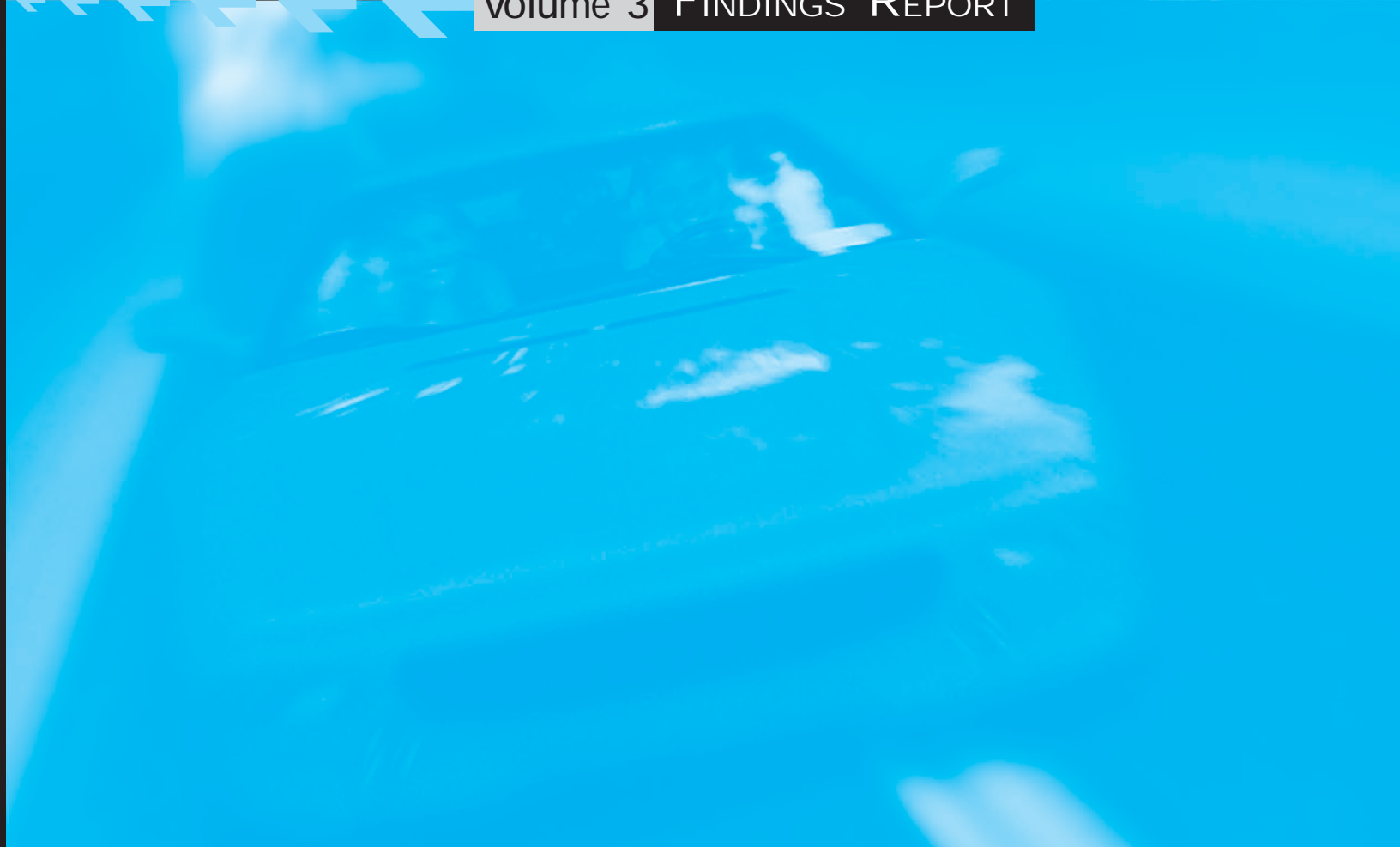


# 2001 NATIONAL SURVEY OF DRINKING AND DRIVING



←←←←← Volume 3 FINDINGS REPORT





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16. Abstract <p>This report represents the sixth in a series of biennial national surveys undertaken by the National Highway Traffic Safety Administration (NHTSA) starting in 1991, and reports data from this sixth administration as well as those of the first five administrations (1991, 1993, 1995, 1997 and 1999). The objective of these recurrent studies is to measure both current status and trends regarding the publics' attitudes, knowledge and self-reported behavior related to drinking and driving. These data are used in supporting future NHTSA initiatives, identifying areas where improvements have been made and identify those areas needing further attention.</p> <p>This report, Volume III: <i>Findings Report</i> presents a detailed description of respondent's behaviors and attitudes on various topics related to drinking and driving including reported frequency of drinking and driving, prevention and intervention, riding with impaired drivers, designated drivers, perceptions of penalties, and knowledge of and acceptance of Blood Alcohol Concentration (BAC) levels. Volume I: <i>Summary Report</i> presents a top line summary of these topics, and Volume II: <i>Methods Report</i> describes the methods used to conduct the interviews and analyze the data. It also contains copy of the most recent questionnaire.</p> <p>The findings for the 2001 survey administration indicate that despite the public's continued concern about drinking and driving, progress in a number of key areas has slowed. Nearly eight in ten (77%) respondents said that drinking and driving by others is a major threat to their personal safety. This is a significant decline since 1999 (80%). In 1995, 20% of drivers reported driving within two hours of drinking in the past year. This proportion rose to 23 % in 1999 and remained the same in 2001. The proportion of persons who put themselves at risk by riding with a potentially impaired driver declined between 1993 and 1995, and remains near the 1995 level of 12%. Perceptions of the certainty of being stopped for violating drinking and driving laws declined between 1995 and 1997 (from 33% saying such a stop is unlikely to 40% in 1997), but have remained at or near 40% since 1997. Support for increased use of sobriety checkpoints increased slightly since 1993 from 62% to 66% in 1997, but have declined back to 1993 levels again in 2001 (62%). While there was an increase in the proportion of persons who know the BAC limit in their state between 1995 (20%) and 1997 (29%), this level has remained consistent since 1997.</p> <p>On the other hand, some gains were made. Drinker-drivers made between an estimated 809 million and 1 billion driving trips within two hours of consuming alcohol (about 906 million) within the past year: This represents a significant decrease from the 1.3 billion trips measured in 1993. Support for zero tolerance for persons of any age to drive after consuming any alcohol continued to rise, from 43% in 1991, to 45% in 1995, to 48% in 2001. Also, support for a legal limit of .08 increased from the 1997 base of 56% to 68% in 1999, to 70% in 2001.</p>					
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# Introduction

## Background and Objectives

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In the United States 310,000 persons were injured and more than 16,000 persons (40% of crash fatalities) died in alcohol-related motor vehicle crashes during 2000 (Traffic Safety Facts 1999, National Center for Statistics and Analysis, NHTSA). In comparison to the mid-1980's, these figures reflect a significant reduction in alcohol-impaired driving, but the toll of injuries and fatalities remains unacceptably high.

The National Highway Traffic Safety Administration (NHTSA), along with other national and state agencies as well as grass roots organizations, have worked aggressively toward reducing the incidence of alcohol-related motor vehicle crashes. Passage of the 21-year-old minimum drinking age laws in all 50 states and the District of Columbia, as well as the October 2000 passage of a stricter standard for drinking and driving (setting .08 percent blood alcohol concentration as a threshold for impaired driving) is indicative of continuing progress in this area.

The 2001 survey represents the sixth in a series of biennial surveys begun in 1991. The objective of these studies is to measure the current status of attitudes, knowledge, and behavior of the general driving age public with respect to drinking and driving. The data collected are used to track the nature and scope of the drinking-driving problem and to identify areas in need of further attention in the pursuit of reducing drinking and driving.

## Methods

A more detailed Methods description can be found in Volume II: Methods Report, which is produced under a separate cover.

### *Sampling Objective*

The sampling objective of the study was to acquire a representative national sample of the general driving age public (age 16 and older) while allowing for a minimum of 100 completed interviews in each state and the District of Columbia. Respondents were reached and interviewed by telephone.

Gallup used a three-stage procedure to meet the sampling objective for each of the two samples:

1. For the main sample, Gallup first identified the universe of residential telephone listings within each of the 50 states and the District of Columbia.
2. Second, Gallup drew a systematic sample of telephone 100-number blocks within each state and the District of Columbia. Gallup then randomly generated the last two numbers for a full 10-digit phone number within each valid block selected in the previous stage. This procedure provides for an unequal, but known, probability of selection for each working residential phone number in the United States. For the control group sample, once the universe of residential telephone listings was identified within each of the geographic U.S. Census regions, Gallup drew a systematic sample of telephone 100-number blocks within each region. Gallup then randomly generated the last two numbers



for a full 10-digit phone number within each valid block selected in the previous stage. This procedure provides for an equal probability of selection for each working residential telephone number in the United States (both listed and unlisted residential households with telephones.)

3. In the second stage, for both the main sample and the control group sample, a single respondent was randomly selected (using the “most recent birthday” method described in the Methods report) for inclusion from all eligible members of the driving public residing in that household.

Up to 14 attempts were made to reach each randomly selected respondent. Seven attempts were made to reach the household, and once a respondent in the household was identified, Gallup made up to seven additional attempts to reach that person.

Gallup completed a total of 6,002 telephone interviews with persons age 16 and older between November 8 and December 23, 2001. Interviews were completed in both English and Spanish using a computer-assisted telephone interviewing (CATI) system.

### ***Sample Weighting***

While the main sample and the control group samples were weighted separately, a similar sample weighting was carried out for each sample. The final telephone samples of persons age 16 and older were weighted to equalize selection probabilities (at both the household and the individual levels) and to adjust for non-response bias by demographics. The following five-stage procedure was used:

1. In step one, households with multiple telephone lines, which results in giving them a higher chance of falling into the sample, were given a weight equal to the inverse of the number of telephone lines in the household.
2. To correct the disproportionality of unequal selection within the household (persons in household with only one person of driver age or older have a greater chance of selection than households with multiple eligible people), the inverse of the total number of persons age 16 or older was applied.
3. In the third stage, Gallup weighted the actual respondent database, weighted in the first two stages, to match the known demographic characteristics of the U.S. population by age, race, and gender based on the most recent Census Population Projections. For the control group sample, this was carried out at the Census region level; for the main sample, at the individual state level.
4. The population of geographic areas were weighted back into the correct proportions to match the known proportion in the entire United States. For the control group sample, the populations of each of the Census regions were put into alignment while the main sample, the sample for each of the 50 states and the District of Columbia, were put into their correct proportion in the entire universe.
5. Finally, Gallup projected the sample population up to the total non-institutionalized national population age 16 or older.

The final number of weighted and unweighted interviews by age and gender appear below.

**TABLE A**

	<u>TOTAL</u>	<u>Gender</u>		<u>Age</u>				
		<u>Male</u>	<u>Female</u>	<u>16-20</u>	<u>21-29</u>	<u>30-45</u>	<u>46-64</u>	<u>65+</u>
Unweighted	6002	2607	3395	901	804	1753	1615	905
Weighted	6002	2884	3119	565	902	1926	1641	944
Estimated sampling error range	±1.3%	±1.8%	±1.7%	±4.1%	±3.3%	±2.2%	±2.4%	±3.2%

### ***Precision of Sample Estimates***

All sample surveys are subject to sampling error in that results may differ from what would be obtained if the whole population had been interviewed. The size of such a sampling error depends largely on the number of interviews. For the main sample of 6,002 telephone interviews, the expected maximum sampling error range is approximately +/- 1.3% at the 95% level of confidence. Table A shows the sampling error ranges by age and gender at the 95% level of confidence. Due to the stratification and other complexities of the sample design, in some cases (particularly among smaller sub-groups of the population) the error ranges will be slightly larger than those shown in the table. This information is provided to offer the reader a ***general*** sense of the range of the true estimates.

The following tables may be used in estimating the sampling error in any percentage in this report. They may be interpreted as indicating the approximate range (plus or minus the figure shown) within which the results of repeated sampling in the same time period could be expected to vary 95% of the time, assuming the same sampling procedures, the same interviewers, and the same questionnaire.

Table B shows how much allowance should be made for the sampling error around a single percentage estimate in the study.

**TABLE B**  
**Recommended Allowance for Sampling Error of a Percentage**  
*In percentage points (at 95 in 100 confidence level)\**

Sample Sizes Near:	For percentages near:					
	5/95%	10/90%	20/80%	30/70%	40/60%	50/50%
	±	±	±	±	±	±
50	6.0	8.3	11.1	12.7	13.6	13.9
75	4.9	6.8	9.1	10.4	11.1	11.3
100	4.3	5.9	7.9	9.0	9.7	9.8
200	3.0	4.2	5.6	6.4	6.8	6.9
300	2.5	3.4	4.5	5.2	5.6	5.7
400	2.1	2.9	3.9	4.5	4.8	4.9
500	1.9	2.6	3.5	4.0	4.3	4.4
600	1.7	2.4	3.2	3.7	3.9	4.0
800	1.5	2.1	2.8	3.2	3.4	3.5
1,000	1.4	1.9	2.5	2.8	3.0	3.1
1,500	1.1	1.5	2.0	2.3	2.5	2.5
2,000	.96	1.3	1.8	2.0	2.1	2.2
2,500	.85	1.2	1.6	1.8	2.0	2.0
3,000	.78	1.1	1.4	1.6	1.8	1.8
4,000	.68	.9	1.2	1.4	1.5	1.5
5,000	.60	.8	1.2	1.3	1.3	1.4

\* The chances are 95 in 100 that the sampling error is not larger than the figures shown.

The table would be used in the following manner: Let us say a reported percentage is 30 for a group that includes about 300 respondents. Then we go to the column labeled “Percentages near 30/70%” in the table and go down to the row labeled “300.” The number at this point is 5.2, which

means that the 30% obtained in the sample is subject to a sampling error or  $\pm 5$  points. Another way of saying this is that 95 times out of 100 the true figure in the population would be somewhere between 25% and 35%.

In comparing survey results in two samples — for example, 1999 and 2001— the question arises as to how large a difference between them must exist before one can be reasonably sure that it reflects a real difference. In Table C, the number of points, which must be allowed for in such comparisons, is shown.

Here is an example of how the table would be used: Let us say that in 1999 53% of a particular portion of the sample report a particular behavior, while in 2001, 47% of those in this sub-group report the same behavior, for a difference of six percentage points between them. Can we say with any assurance that the six-percentage point difference reflects a real difference between 1999 and 2001? The sample contains approximately 2,000 adults in the sub-group in 1999 and again in 2001. We consult Table C, we look at the column headed 2,000 and the row labeled 2,000: we see the number 3.1 here. This means that the allowance for error should be 3.1 percentage points and that, in concluding that the percentage among the subgroup in 1999 is somewhere between three and nine points higher than among the subgroup in 2001 (our original reported difference of 6%, plus or minus the 3% in our table), we should be wrong only about 5% of the time. In other words, we can conclude with considerable confidence that a difference exists in the direction observed, and that it amounts to at least three percentage points.

**TABLE C**

**Recommended Allowance for Sampling Error of the Difference**  
*In percentage points (at 95 in 100 confidence level)\**

For percentages near 50%:

Sample Sizes Near:	100	300	400	500	600	800	1,000	2,000	4,000
100	13.9	11.3	11.0	10.7	10.6	10.4	10.3	10.0	9.9
300	11.3	8.1	7.5	7.2	7.0	6.7	6.5	6.1	5.9
400	11.0	7.5	6.9	6.6	6.3	6.0	5.8	5.4	5.1
500	10.7	7.2	6.6	6.2	5.9	5.6	5.4	4.9	4.6
600	10.6	7.0	6.3	5.9	5.7	5.3	5.1	4.6	4.3
800	10.4	7.7	6.0	6.0	5.6	5.0	4.7	4.1	4.0
1,000	10.3	6.5	5.8	5.4	5.1	4.7	4.4	3.8	3.4
2,000	10.0	6.1	5.4	4.9	4.6	4.3	3.8	3.1	2.7
4,000	9.9	5.9	5.1	4.6	4.3	4.0	3.4	2.7	2.2

\*The changes are 95 in 100 that the sampling error is not larger than the figures shown.

The table provided is for percentages near 50. For percentages higher or lower than 50, the error to be allowed for is somewhat smaller than those shown in the table.

## Data Presented

The findings of this study are presented in three parts. The first section examines the results from the current survey administration. The second part (beginning on page 97) shows racial and ethnic group comparisons (data were combined from the 1997, 1999, and 2001 administrations). Part three (beginning on page 133) examines trends over the six survey administrations.

Part one is presented in the following chapters:

- Drinking and Driving Behaviors
- Perceptions of Drinking and Driving as a Problem
- Prevention and Intervention
- Enforcement of Drinking and Driving Laws
- Knowledge and Awareness of BAC Levels and Legal Limits
- Motor Vehicle Crash and Injury Experience
- Effectiveness of Strategies to Reduce Drunk Driving

The following definitions are used throughout this report:

**Drinking/Drinker-drivers:** persons who drove within two hours of consuming alcohol.

**Other drivers who drink:** persons who drank alcohol in the past year, and who drove in the past year, but have not driven within two hours of consuming alcohol in the past year.

**Problem drinkers:** persons who meet at least ONE of the following three conditions:

- a) Said “yes” to two or more of the “CAGE” measures
  - “Have you felt you should cut down on your drinking?” (“C” for “cut down”)
  - “Have people annoyed (“A”) you by criticizing you about your drinking?”
  - “Have you felt bad or guilty (“G”) about your drinking?”
  - “Have you had a drink first thing in the morning to steady your nerves or get rid of a hangover?” (“E” for “eye-opener”)
- b) Consumed five or more drinks on four or more days in a typical four-week period.
- c) For females, consumed eight or more drinks on a given day in the past four weeks, or for males, consumed nine or more drinks on a given day in the past four weeks.

(Ewing, 1984; Skinner and Holt, 1987)

It should be noted that problem drinkers are not by definition drinker-drivers, as they may not drive after consuming alcohol.

**Trip:** a single occasion a person drove a motor vehicle.

**Drinking-driving trip:** a trip in which a person drove a motor vehicle within two hours of consuming alcohol.

**BAC (Blood Alcohol Concentration) Estimate V<sup>1</sup>**

- 1) Using the respondent's reported gender and weight
- 2) Number of drinks consumed, the time spent drinking, and time from last drink until driving
- 3) The blood alcohol concentration of drinker-drivers was estimated using the following formula:

Using the respondent's reported gender, weight, number of drinks consumed, the time spent drinking and time from last drink until driving, the blood alcohol concentration of drinker-drivers were estimated using the following formula:

```
compute mass=bodwgt/2.2046.  
if sex=1 waterpc=.58.  
if sex=2 waterpc=.49.  
metabac=(qn39+(qn41/60)-1)*0.012.  
compute waterkg=mass*waterpc.  
compute alcoz=qn38*.045.  
compute alcml=alcoz*23.36.  
compute alcg=alcml*.806.  
compute alckg=alcg/100.  
if waterkg>0 estbac=100*(alckg/waterkg).  
if estbac deltabac=estbac-metabac.  
if deltabac<0 deltabac=0.
```

Where: bodwgt=weight in pounds  
sex=1-male 2-female  
qn39=time spent drinking (in hours)  
qn41=time from last drink to drive (in minutes)  
qn38=number of drinks consumed

---

<sup>1</sup> BAC Estimation formula is from: Office of Program Development and Evaluation  
National Highway Traffic Safety Administration  
October, 1994

# 2001 Survey Administration Findings

## **Chapter 1: Drinking and Driving Behaviors**

---

This section provides information on the driving age public's behaviors with regard to drinking and driving. Specifically it covers the following topics:

- Prevalence and frequency of past-year and past-month drinking and driving behavior
- Estimates of total drinking and driving trips
- Drinking patterns of drinker-drivers and others who drink
- Characteristics of drinking-driving occasions
- Involving other passengers and children
- Estimated BAC levels
- Identifying problem drinkers; comparisons with other drinking drivers
- Riding with potentially unsafe drivers
- Driving when thought over legal limit

## **Drinking and Driving Behavior**

---

### **Past-Year and Past-Month Drinking and Driving Prevalence**

About one in five (22%) persons of driving age have driven a motor vehicle within two hours of consuming alcoholic beverages in the past year. Males are more than twice as likely to exhibit such behavior as females, with 32% of males and 13% of females reporting at least one drinking-driving trip in the past year. [Figure 1-A]

Adults age 21-29 and those 30-45 are the most likely to report having driven within two hours of consuming alcohol, with more than one-third of males (37%), and 18% of females in these age groups reporting such behavior. Those under legal drinking age are the least likely to have driven within two hours of drinking alcohol, with about 6% of those age 16 to 18 and 11% of those age 19-20 reporting past-year drinking-driving trips.

While one of the goals of this study is to obtain past-year estimates of drinking and driving behaviors, the accuracy of specific recall of drinking-driving trips over shorter periods is generally more reliable, particularly for behaviors that occur frequently. Thus, past year drinker-drivers were also asked for the total number of drinking-driving trips they had made within the past 30 days.

About one in eight (12%) adults of driving age has driven within two hours of drinking alcohol within the past 30 days. In relationship to reported past-year behavior, more than one-half of all past-year drinker-drivers have made at least one drinking-driving trip within the past 30 days. Males are three times as likely as females to report past-month drinking and driving. Also consistent with the past-year measure, persons in their 20s and 30s are most likely to drive within two hours of drinking in the past month. The proportion of past-month drinker-drivers declines with age. [Figure 1-B]

### **Frequency of Past-Year and Past-Month Drinking-Driving Trips**

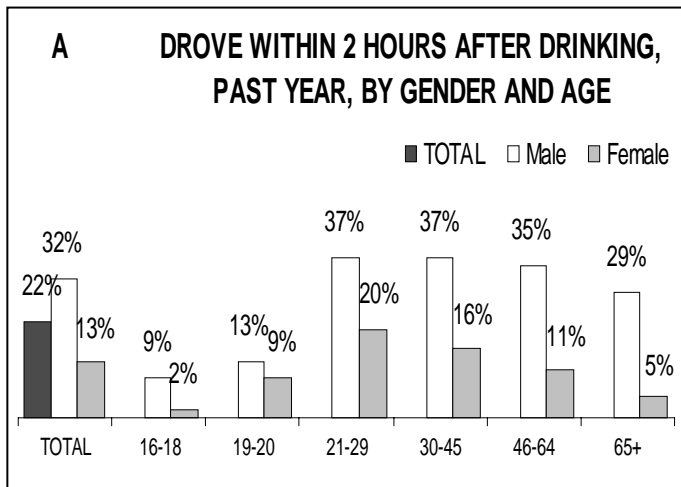
Those who have driven within two hours of drinking alcohol in the past year, report an average of about 11 such trips. Males are not only more likely to report drinking-driving behavior, but those who do drink and drive do so 1.6 times as often as do females. Males report an average of 12.9 drinking-driving trips as compared to 7.8 average trips by female drinker-drivers. [Figure 1-C]

The number of drinking-driving trips shows little variation by age group. While drinker-drivers age 65 or older take about 15.5 trips per year, those age 16-64 take an average of 9.5 to 12.5 trips per year. [Figure 1-C]

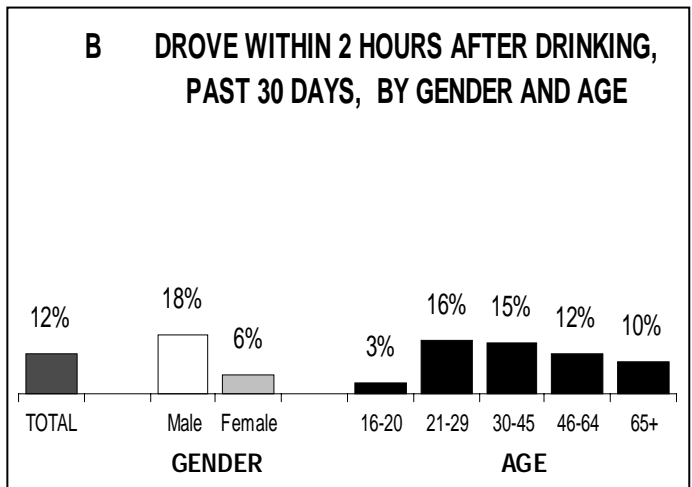
Past-year drinker-drivers report an average (mean) of 1.7 drinking-driving trips within the past 30 days. Males report making nearly twice as many past-month drinking-driving trips as females. The average number of such trips generally increases with age, although past-year drinker-drivers age 65+ make more trips than their younger counterparts. [Figure 1-D]



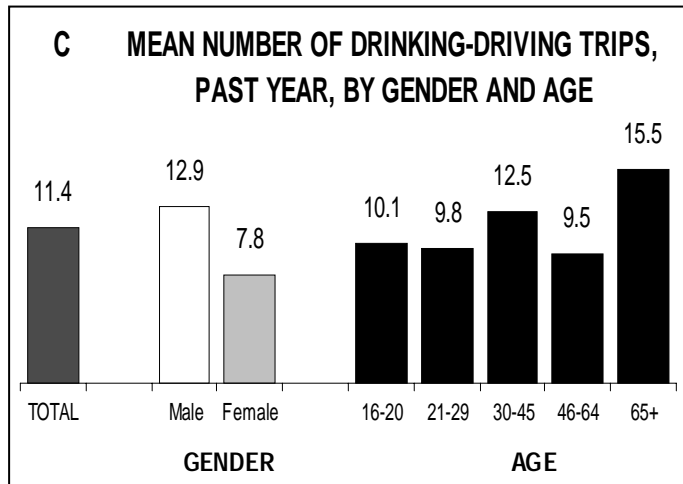
**FIGURE 1: PAST-YEAR AND PAST-MONTH DRINKING AND DRIVING BEHAVIOR**



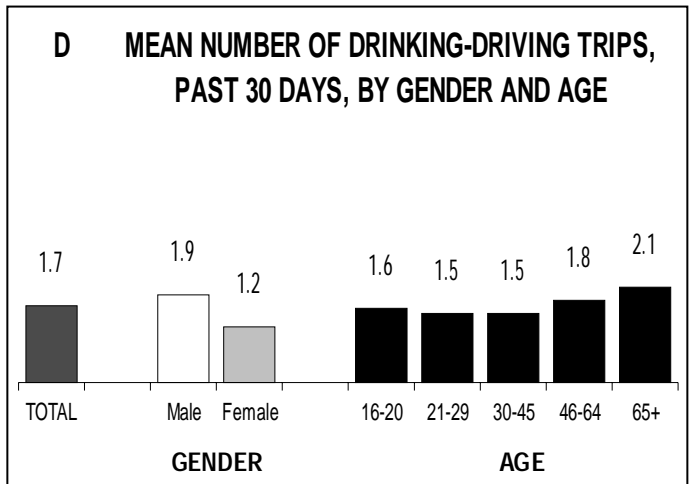
Q33: In the past 12 months, have you ever driven a motor vehicle within two hours after drinking alcoholic beverages?  
% One time or more [Base: Total respondents; n=6002]



Q35: In the past 30 days, how many times have you driven within two hours after drinking any alcohol?  
% One time or more [Base: Total respondents; n=6002]



Q34: How many times in the past 12 months, have you driven within two hours after drinking any alcohol?  
[Base: Drove after drinking, past year\*\*]



Q35: In the past 30 days, how many times have you driven within two hours after drinking any alcohol?  
[Base: Drove after drinking, past year\*\*]

\*\*Sample bases for this page:

Total drove after drinking past year n=1243

	Total	Male	Female	16-20	21-29	30-45	46-64	65+
Total Population	6002	2607	3395	901	804	1753	1615	906
Drove after drinking past year	1244	787	457	77	249	455	347	109

## Estimates of Total Drinking-Driving Trips

---

### Percent of Past-Month Drinking-Driving Trips by Age and Gender

Drinker-drivers in their 20s, while equally likely to report any past-month drinking-driving occasions, account for just 18% of all drinking-driving trips in an average month. Drinker-drivers age 30-64 account for the largest share of past-month drinking-driving trips, with those 30-45 making 35% and 46- to 64-year-olds making about 30% of these trips. [Figure 2-A]

Males account for more than three out of four (78%) reported drinking-driving trips made each month. Females make about 23% of such trips. [Figure 2-B]

### Estimated Total Yearly Drinking-Driving Trips

An analysis was undertaken to estimate the total drinking-driving trips for the driving public based on self-reported data. For the purposes of this analysis alcohol-impaired driving was defined as any positive response to the question “In the PAST 30 DAYS how many times have you driven a motor vehicle within two hours after drinking alcoholic beverages?”

### Calculation of Drinking-Driving Trips

For this analysis, the past 30-day measure was felt to be more reliable than the self-reported past 12-month measure. The total number of drinking-driving trips was calculated for each respondent by multiplying the self-reported number of trips in the past month by 12 to obtain a yearly total. The number of trips was summed across respondents and is reported by age and gender in Figure 2-C.

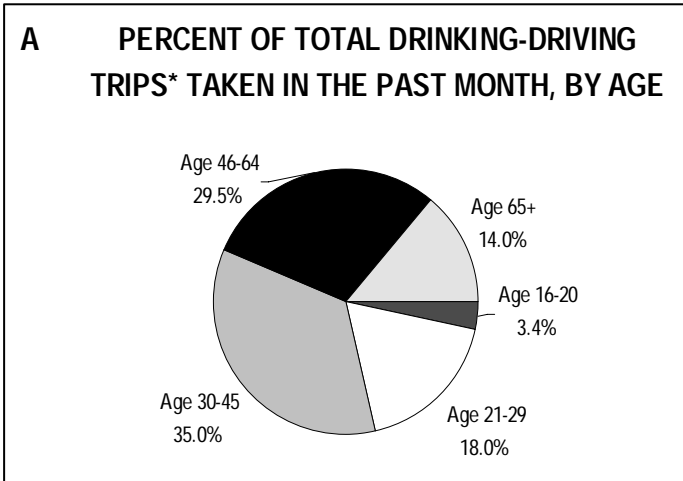
It is important to note that the total trip data presented here may not reflect the true number of alcohol-impaired driving trips made each year for a number of reasons: people may not be able to accurately recall the number of such trips, the previous month may not be indicative of the respondent’s total year drinking-driving trips, and people may under-report such behavior if they feel it is socially desirable to do so. This analysis is meant to provide an approximation of the range of possible drinking-driving trips by gender and age.

Overall, drinker-drivers made an estimated 809 million to 1.0 billion drinking-driving trips in the past year. Males made about 702 million (or 77%) of these total trips. Sixteen to 20-year-olds made between 9 and 51 million drinking-driving trips. The error range around these total yearly trip estimates by gender and age category is shown at the bottom of Figure 2.

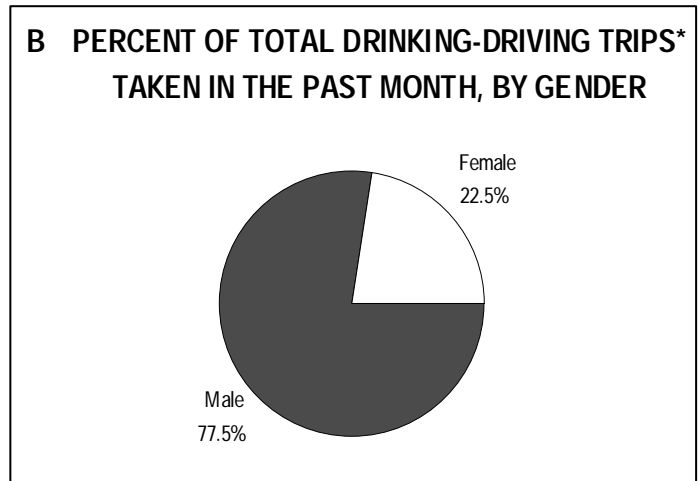
Figure 2-D presents the proportion of total drinking-driving trips made by age and gender in relation to the proportion that each of these groups comprises in the total population. While 21- to 29-year-olds are just 15% of the driving age population, they make 18% of all drinking-driving trips. Those age 16-20 make up 9% of the driving age population, but account for just 3% of drinking-driving trips.

EDITOR’S NOTE: While past-month trips were thought to be a more accurate representation than past 12-month recall, the reader is cautioned that a seasonal bias is possible in such reporting. If the past year measure were used rather than the past month (projected out for 12 months), the total number of trips would be approximately 513 million rather than 957 million trips.

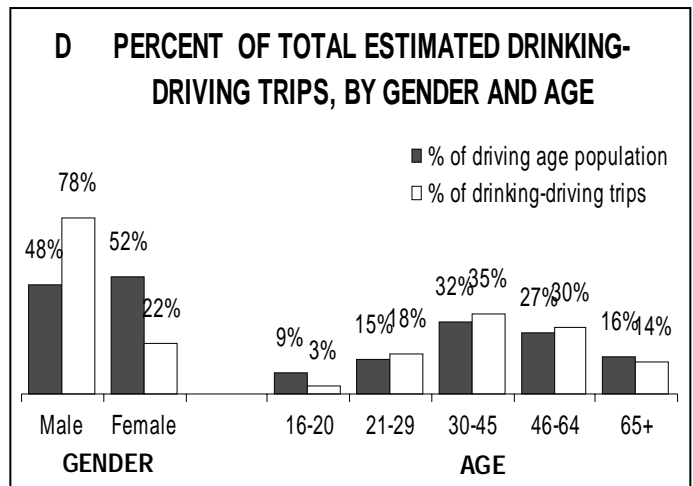
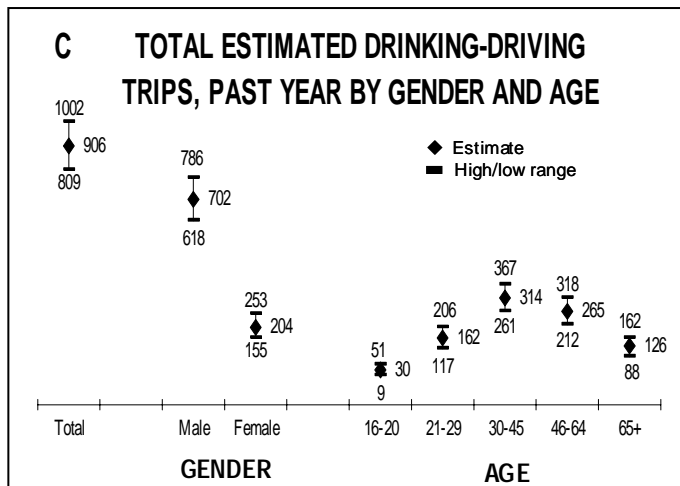
**FIGURE 2: NATIONAL ESTIMATES OF TOTAL DRINKING AND DRIVING TRIPS**



Q35: In the past 30 days, how many times have you driven within two hours after drinking any alcohol?  
 [Base: Past year drinking-driving trips\* (calculated by multiplying the mean reported number of trips by the number of respondents\*\*)]



Q35: In the past 30 days, how many times have you driven within two hours after drinking any alcohol?  
 [Base: Past year drinking-driving trips\* (calculated by multiplying the mean reported number of trips by the number of respondents\*\*)]



\*A drinking-driving "trip" is defined as an occasion when a driver drove within two hours after drinking any alcohol.

\*\*Sample bases for this page:

	Total	Male	Female	16-20	21-29	30-45	46-64	65+
Drove after drinking past year	1244	787	457	77	249	455	347	110
Sampling error range for total trips (in millions)	+97	+84	+49	+21	+45	+53	+53	+37

Total drinking-driving trips were estimated by multiplying the number of drinking-driving trips in the past 30 days by 12 to yield a yearly estimate for each respondent.

## **Frequency and Amount of Drinking, Drinker–Drivers vs. Others Who Drink**

---

### **Drinker-Drivers vs. Other Drivers**

#### *Frequency of Drinking Past Year*

Those who report driving within two hours of drinking in the past year (drinker-drivers) consume alcoholic beverages significantly more often than do non-drinker-drivers. Nearly one in three (31%) drinker-drivers consume alcoholic beverages three or more times a week, compared to just 10% of non-drinker-drivers who consume as often. [Figure 3-A]

#### *Amount of Alcohol Consumed Per Sitting*

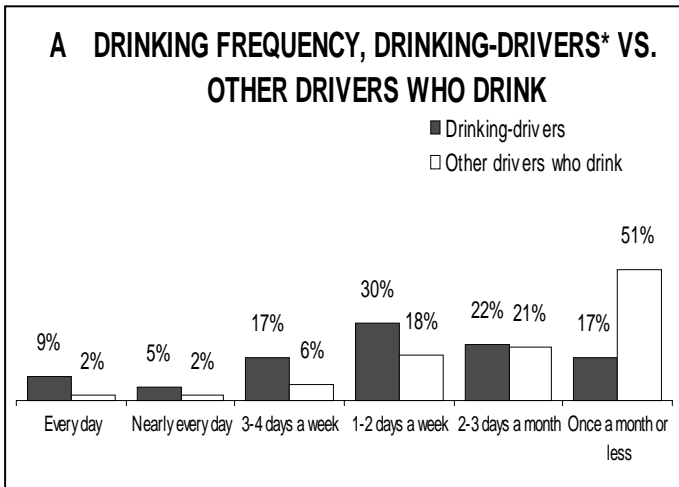
Drinker-drivers not only drink more often than other drivers who do not drink and drive; they also consume significantly more alcohol per sitting. Drinker-drivers report consumption of an average of 2.8 drinks per sitting as compared to 2.2 drinks per sitting for other drivers who drink. [Figure 3-B]

Males who drive within two hours of drinking alcohol are heavier drinkers than are other male drivers who drink, but do not drive. Male drinker-drivers average 3.0 drinks per sitting compared with 2.8 average drinks for those who do not drive after drinking. Drinker-drivers of all ages consume more per sitting than do other drivers who drink, with younger drinker-drivers consuming considerably more drinks per sitting than their counterparts who do not drive after drinking alcohol. [Figure 3-B]

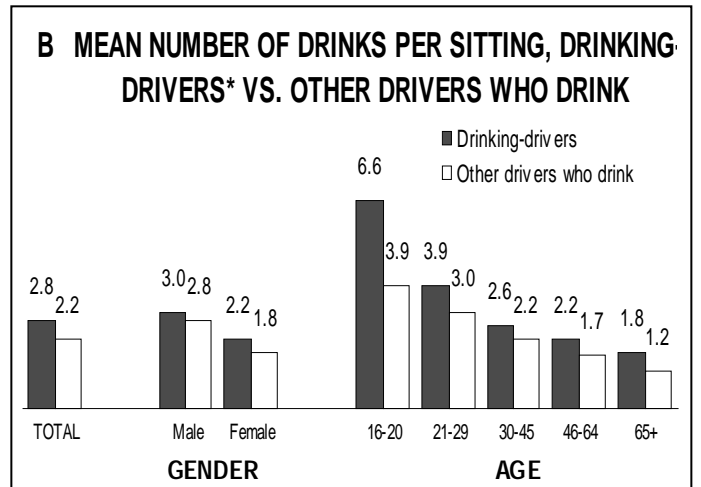
Those who first began drinking alcohol at age 21 or older are more likely to be infrequent drinkers (43% drink once a month or less) than those who began drinking at 19-20 (36%) or at 18 or younger (37%). [Figure 3-C]

Similarly, those who began drinking at age 18 or younger tend to consume more drinks per sitting (2.9 drinks) than do those who began drinking at age 21 or older (1.9 drinks). [Figure 3-D]

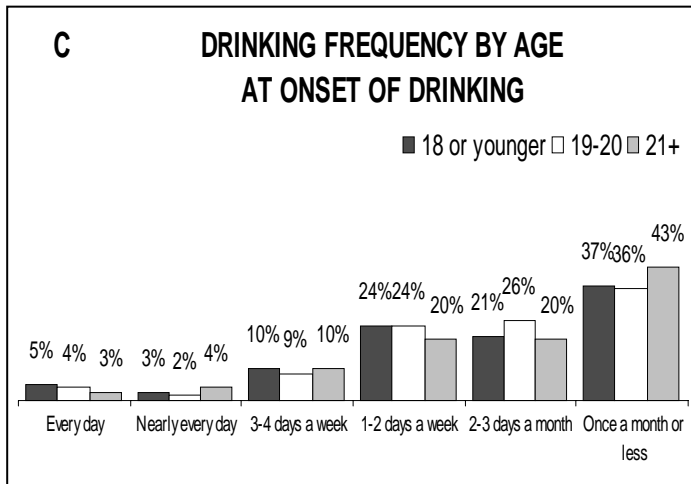
**FIGURE 3: FREQUENCY AND AMOUNT OF DRINKING FOR DRINKER-DRIVERS VS. OTHERS WHO DRINK AND AGE AT ONSET OF DRINKING**



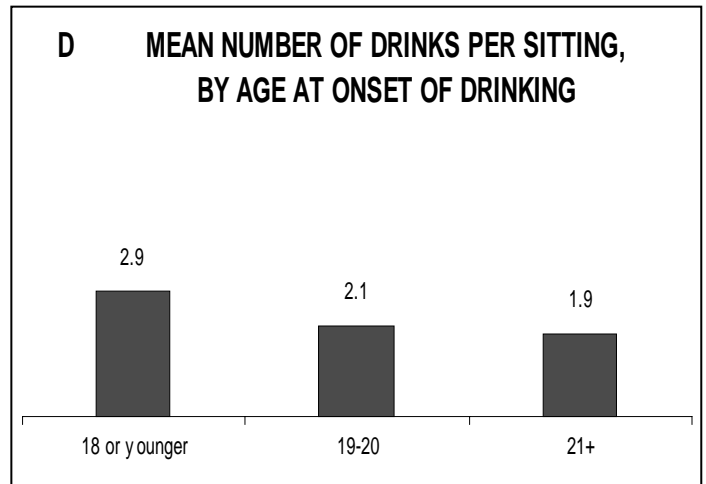
Q15: During the last 12 months, how often did you usually drink any alcoholic beverages, including beer, light beer, wine, wine coolers, or liquor? Would you say you usually drank alcoholic beverages...?



Q18: When you drink [alcoholic beverage drunk most often] about how many [drinks] do you usually drink per sitting?



Q15/19a: During the last 12 months, how often did you usually drink any alcoholic beverages, including beer, light beer, wine, wine coolers, or liquor? Would you say you usually drank alcoholic beverages...?; How old were you when you just started drinking alcohol?



Q15/19a: During the last 12 months, how often did you usually drink any alcoholic beverages, including beer, light beer, wine, wine coolers, or liquor? Would you say you usually drank alcoholic beverages...?; How old were you when you just started drinking alcohol?

	Total	Male	Female	16-20	21-29	30-45	46-64	65+
Drinking drivers	1300	823	477	80	257	473	367	117
Other drivers who drink	2195	868	1327	308	344	726	557	251
18 or younger at onset	2054	1104	950	381	367	763	410	126
19-20 at onset	519	263	256	27	96	167	157	72
21+ at onset	1010	355	655	0	153	292	370	188

## **Characteristics of the Most Recent Driving After Drinking Occasion**

---

In order to obtain the most accurate estimates of self-reported drinking-driving occasions, it is important to ask about the experience individuals are most likely to remember. To this end, drinker-drivers were asked detailed questions about their “most recent” drinking-driving experience. Although the most recent occasion may not be reflective of the typical trip for any one individual, in aggregate, information on the most recent trip provides us with a representation of drinker-drivers as a whole.

### **Location of Most Recent Drinking Occasion**

Restaurants and bars/taverns are the origin for the largest proportion of drinking-driving trips, with about one-half of drinker-drivers reporting drinking at one of these locations and then driving within two hours of that consumption. Other people’s homes and the drinker-driver’s own home are the starting point for about one in three of the most recent drinking-driving trips. [Figure 4-A]

### **Length of Time Drank on Most Recent Occasion**

On average, drinker-drivers consumed their alcoholic beverages over a period of four hours on their most recent occasion of drinking-driving. Males consumed their drinks over a shorter period of time on average than did females (3.8 hours compared to 5.0 hours). The length of time one takes to consume one’s drinks prior to a drinking-driving occasion is lowest for very young and old drinker-drivers. [Figure 4-B]

### **Time Between Last Drink and Driving Start on Most Recent Occasion**

Drinker-drivers typically began driving within about 43 minutes of finishing their last drink. Females wait an average of about nine minutes longer than do males before driving. Those age 30-45 report the longest period between their last drink and the start of their driving trip, averaging about 46 minutes prior to driving. [Figure 4-C]

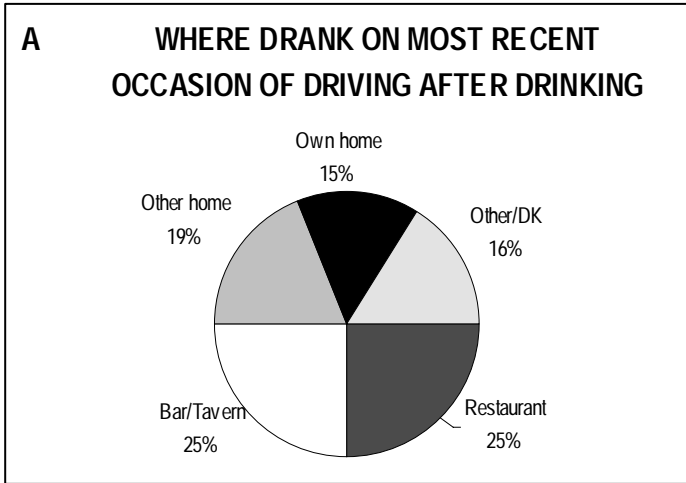
### **Self-Reported Status in Relation to Legal Limit on Most Recent Drinking-Driving Occasion**

About one in ten past-year drinker-drivers perceive that they were over the legal limit for operating a motor vehicle the last time they drove after consuming alcohol. [Figure 4-D] About 46% of those under the legal drinking age of 21 think that they were well over the limit on their last trip.

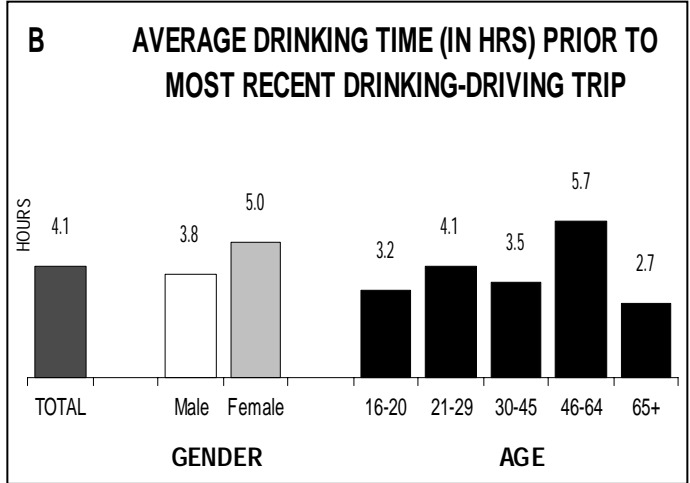
### **Seatbelt Usage on Most Recent Occasion**

Nearly all drinker-drivers reported they were wearing their seatbelt on their most recent drinking-driving occasion (90%). Drinking-drivers age 30 and older were more likely to have been wearing a seatbelt than those under age 30. [Figure 4-E]

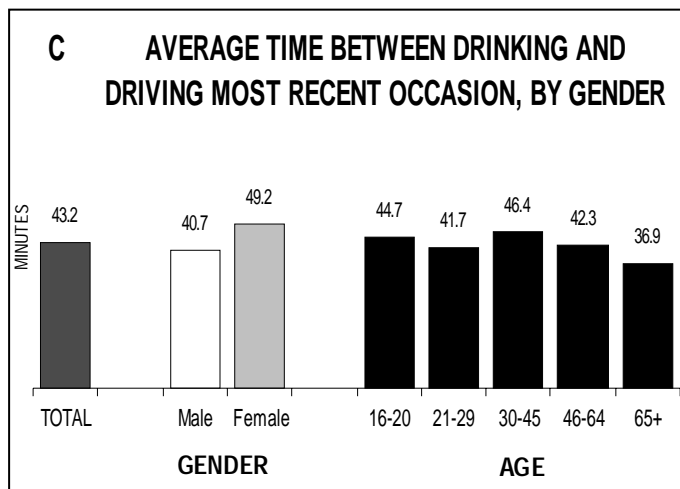
**FIGURE 4: MOST RECENT DRIVING AFTER DRINKING OCCASION**



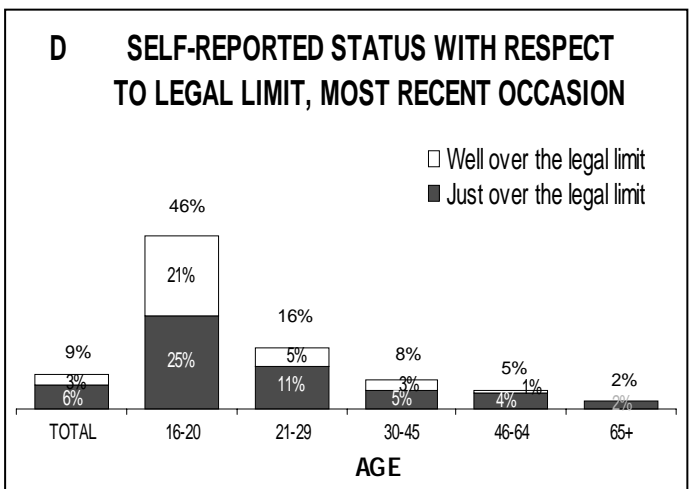
Q37: Where did you drink on that occasion?  
[Base: Drove after drinking, past year]



Q39: Over what length of time (in hours) did you have those drinks? [Base: drove after drinking, past year\*\*]



Q41: How long (in minutes) after your last drink did you start driving?  
[Base: Drove after drinking, past year\*\*]

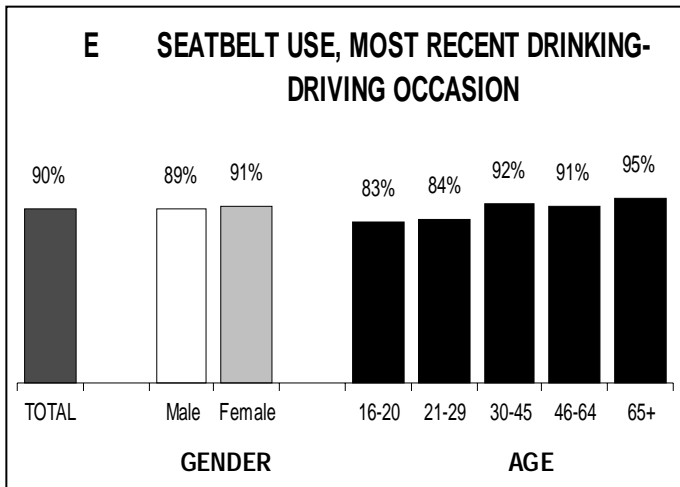


Q49: On this most recent occasion, ... were you well below the limit for drinking and driving, just below, just over, or well over the legal limit? [Base: drove after drinking, past year\*\*]

\*\*Sample bases for this page:

	Total	Male	Female	16-20	21-29	30-45	46-64	65+
Total drove after drinking 1+ time in past year	1244	787	457	77	249	455	347	109

**FIGURE 4: MOST RECENT DRIVING AFTER DRINKING OCCASION (continued)**



Q43a: Were you wearing a seatbelt on this occasion?  
 [Base: Drove after drinking, past year]

\*\*Sample bases for this page:

	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>16-20</u>	<u>21-29</u>	<u>30-45</u>	<u>46-64</u>	<u>65+</u>
Total drove after drinking 1+ time in past year	1244	787	457	77	249	455	347	109



## **Characteristics of the Most Recent Drinking-Driving Occasion** (continued)

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### **Number of Passengers on Most Recent Occasion**

Just over half (51%) of drinker-drivers have other passengers in the car with them during these trips. Minors (under age 21) are most likely to drive with more than one passenger with 25% doing so. The number of passengers on a drinking-driving trip has direct impact on the number of persons affected by drinking-driver trips. [Figure 5-A]

### **Involving Passengers Under Age 15**

About one in seventeen (6%) drinker-drivers drove with one or more persons under age 15 on their most recent drinking driving trip. Persons age 30-45 are the most likely to have driven with a child, with about 9% doing so. [Figure 5-B]

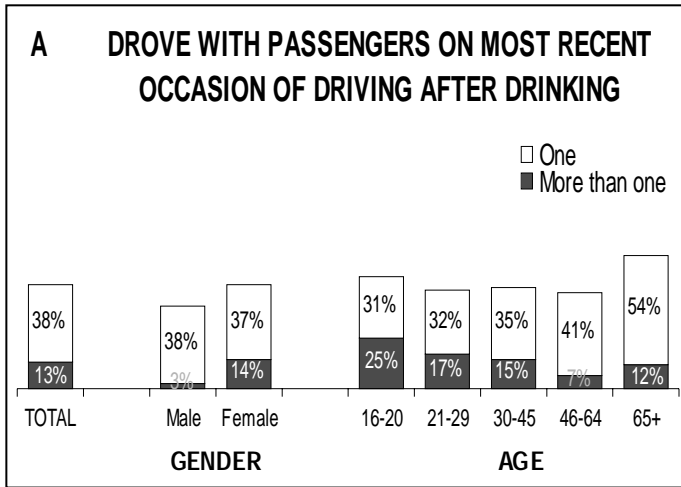
### **Estimated Drinking-Driving Trips Involving Children**

An estimated 24-71 million drinking-driving trips are made each year with children under age 15 in the vehicle. Persons age 30-45 make most of these drinking-driving trips which include children. [Figure 5-C]

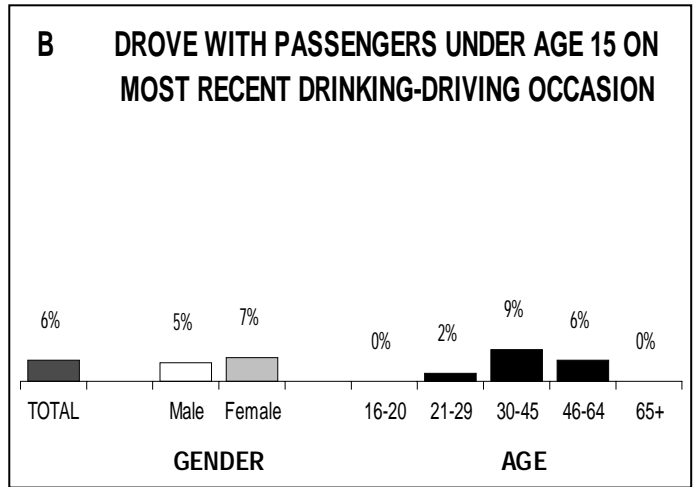
### **Lowering BAC Limit if Drive With Children**

Slightly more than three in four (76%) persons of driving age agree that the legal BAC should be lower (stricter) for people who drive with children in their car. Drinker-drivers are less likely to agree that this should happen, but about six in ten still agree. Seven in ten (70%) of those whose most recent drinking-driving episode involved children feel that the legal limit should be stricter. [Figure 5-D]

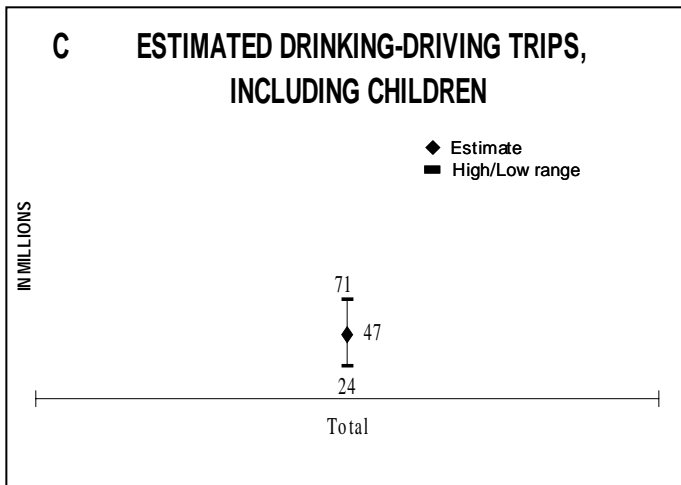
**FIGURE 5: INVOLVING OTHERS IN DRINKING-DRIVING OCCASIONS**



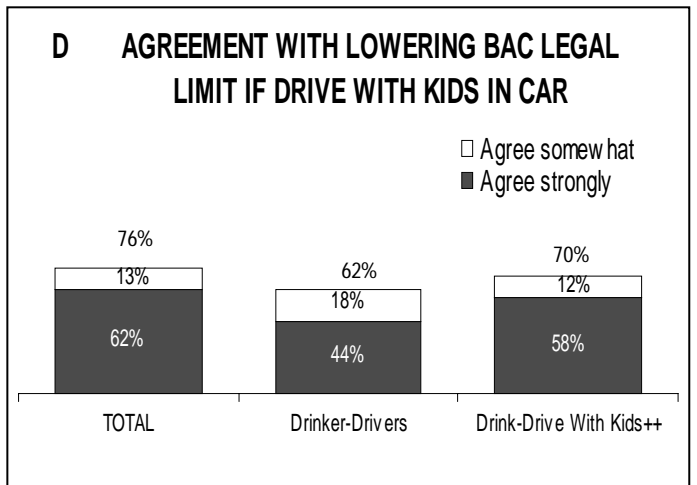
Q44: How many people other than your self were in the car with you? % One or more person [Base: Drove after drinking, past year]



Q44a: How many of these passengers were under age 15? % One or more person [Base: Drove after drinking, past year\*\*]



Q35: In the past 30 days, how many times have you driven within two hours after drinking any alcohol? [Base: Drove after drinking, past year with children under age 15 n=56]



Q104a: The legal blood alcohol limit should be lower (stricter) for people who drive with children in their car. [Base: Total respondents n=6002, drinker-drivers n=1244; with kids n=56]

\*\*Sample bases for this page:

	Total	Male	Female	16-20	21-29	30-45	46-64	65+
Total drove after drinking past year	1244	787	457	77	249	455	347	110

## **Characteristics of the Most Recent Drinking-Driving Occasion** (continued)

---

### **Number of Drinks on Most Recent Occasion**

On average, drinker-drivers consumed about 2.6 alcoholic beverages on their most recent drinking-driving occasion. Males consumed slightly more drinks on average than did females (2.8 drinks compared to 2.1 drinks for females). The number of drinks consumed prior to a drinking-driving trip decreases steadily with age, with those over age 45 consuming two or fewer drinks on average. [Figure 6-A]

### **Number of Drinks by Those 16-20**

While relatively smaller proportions of drivers under age 21 drive within two hours of consuming alcohol (relative to older drivers) these younger drivers are a problem in alcohol-related crashes as they consume considerably more alcohol per sitting than do older drivers. Those under age 21 drank an average of 5.1 drinks on their most recent drinking-driving occasion, while 21- to 29-year-olds report consumption of about 3.4 drinks. In contrast, those age 46 or older consumed an average of two or fewer drinks on their last drinking-driving occasion.

### **Estimated BAC Levels on Most Recent Occasion**

To obtain impairment severity estimates of drinking-driving trips, Blood Alcohol Concentration (BAC) levels were estimated for the most recent drinking-driving occasion of each person who had driven within two hours of alcohol consumption in the past year (see page 4).

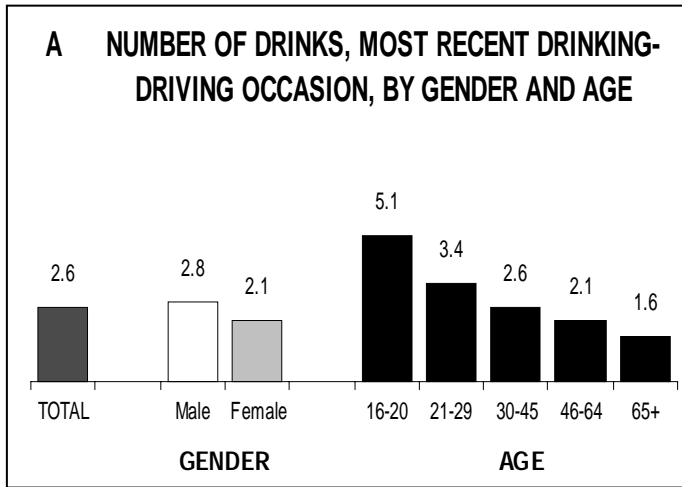
The average calculated BAC level among past-year drinker-drivers was .03 for the most recent drinking-driving occasion. Males' and females' average BAC was the same (.03) for the most recent trip. Average estimated BAC levels decline with age. BAC levels are highest among those age 16-20, with an average BAC among this group of .08. [Figure 6-B]

BAC levels are highest for persons who drank at a friend's home and then drove (BAC .04 average) and for those who drank at a bar or tavern (BAC .03). [Figure 6-C]

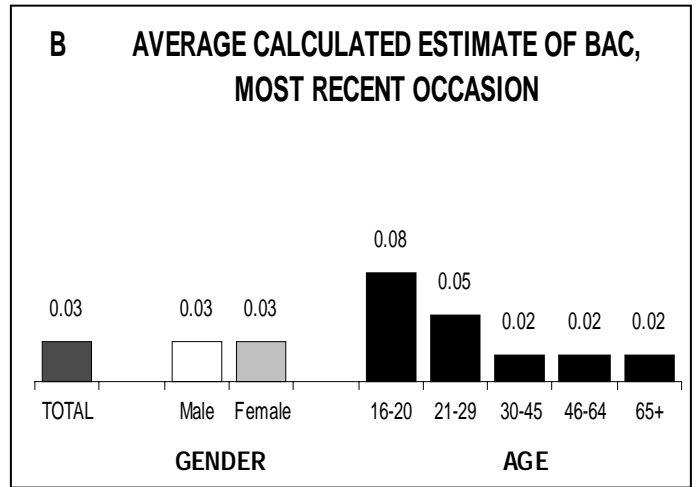
Drinker-drivers generally underestimated their own BAC level in relation to the legal limit. Persons who deemed themselves to be "well over the legal limit" were estimated to have an average BAC of .10, whereas persons who felt they were just over the limit were at .08 and those who thought they were at the limit or just below the limit were at .04. [Figure 6-D]

Overall, the vast majority (76%) of drinker-drivers are well below the legal BAC limit for adults when they drive within two hours of consuming alcohol. One in ten (10%) drive with BAC levels between .05 and .079. About one in seventeen (6%) drinker-drivers take trips with a BAC at or above .08. [Figure 6-E]

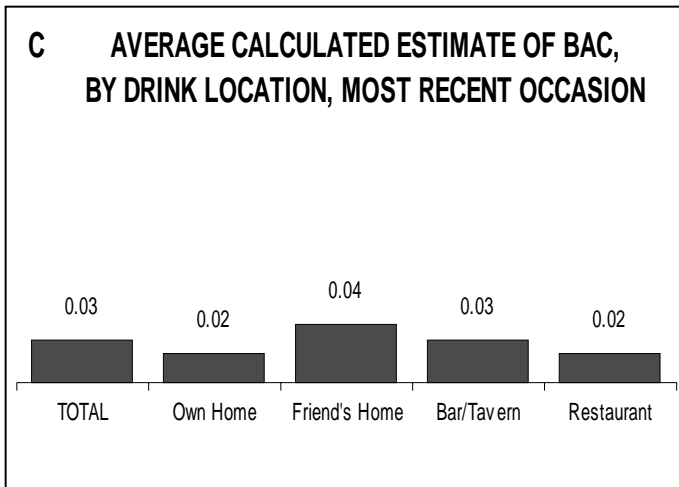
**FIGURE 6: CALCULATED ESTIMATE OF BAC (BLOOD ALCOHOL CONCENTRATION) FOR MOST RECENT DRINKING-DRIVING OCCASION**



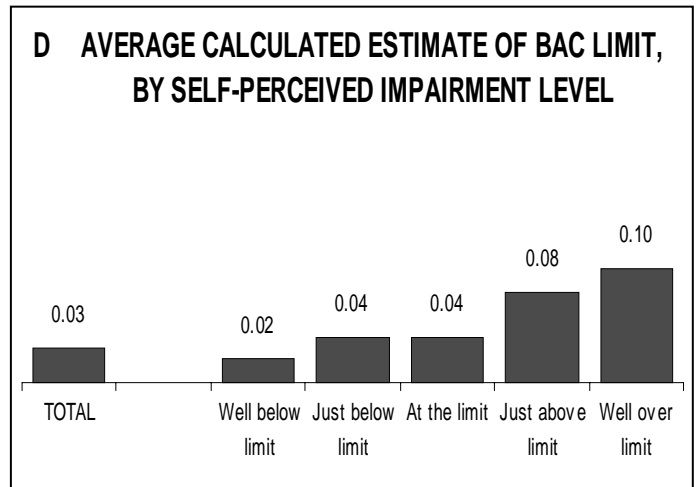
Q38: How many drinks did you have on that occasion?  
[Base: Drove after drinking, past year\*\*]



Q38/41/39: On this most recent occasion, ...how many drinks did you have? How long after your last drink did you start driving? Over what time period did you have those drinks? Gender, Age and Weight [Base: drove after drinking, past year\*\*]



Q37: Where did you drink on that occasion?  
[Base: Drove after drinking, past year\*\*]



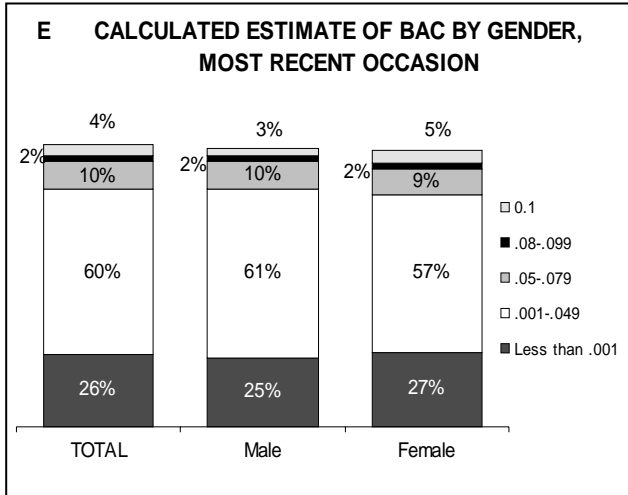
Q49: On this most recent occasion, ... were you well below the limit for drinking and driving, just below, just over, or well over the legal limit? [Base: drove after drinking, past year\*\*]

BAC (blood alcohol concentration) calculated using NHTSA BAC estimation formula using gender, weight, number of drinks consumed, length of time drinking, and length of time between last drink and driving.

\*\*Sample bases for this page:

Total drove after drinking past year	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>16-20</u>	<u>21-29</u>	<u>30-45</u>	<u>46-64</u>	<u>65+</u>
	1244	787	457	77	249	455	347	110
	<u>Well below limit</u>	<u>Just below limit</u>	<u>Just at limit</u>	<u>Just over limit</u>	<u>Well over limit</u>			
	710	333	23	100	62			

**FIGURE 6: CALCULATED ESTIMATE OF BAC (BLOOD ALCOHOL CONCENTRATION) ON MOST RECENT DRINKING-DRIVING OCCASION (continued)**



Q38: How many drinks did you have on that occasion?  
 [Base: Drove after drinking, past year\*\*]

BAC (blood alcohol concentration) calculated using NHTSA BAC estimation formula using gender, weight, number of drinks consumed, length of time drinking, and length of time between last drink and driving.

\*\*Sample bases for this page:

	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>16-20</u>	<u>21-29</u>	<u>30-45</u>	<u>46-64</u>	<u>65+</u>
Total drove after drinking past year	1244	787	457	77	249	455	347	110



## **Estimated Total Drinking-Driving Trips by Calculated BAC Level**

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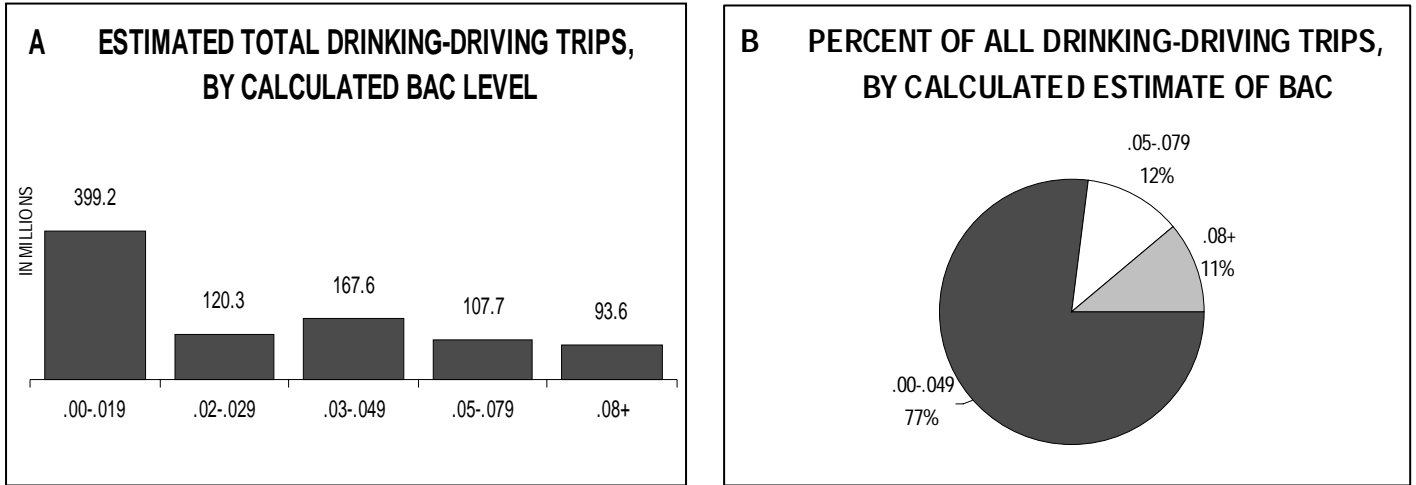
### **Total Drinking-Driving Trips by Estimated BAC**

The vast majority of drinking-driving trips are made by persons with estimated BAC levels below .05. However, an estimated 93.6 million ( $\pm 40$  million) drinking-driving trips were made in 1999 by drivers with estimated BAC levels of .08 or greater. An estimated 108 million ( $\pm 42$  million) trips were made by drivers impaired at a BAC of .05 to .079. [Figure 7-A] Again, these figures are estimates and offer an approximation of the magnitude of impaired-driving trips. The error range around the trip estimates for each BAC level appear at the bottom of Figure 7.

### **Percent of All Trips by Estimated BAC Level**

While only about 6% of drinker-drivers operated a motor vehicle with a BAC level of .08 or higher [Figure 6-D], about one out of every nine (11%) drinking-driving trips is estimated to be made by a driver with a BAC level of .08 or greater. An additional estimated 12% of drinking-driving trips are made at BAC between .05 and .079. [Figure 7-B]

**FIGURE 7: ESTIMATED TOTAL DRINKING-DRIVING TRIPS BY CALCULATED BAC LEVEL**



*Drinking-driving trips calculated per the manner described on page 10. BAC estimate calculated per definition on page 5.*

\*A drinking-driving "trip" is defined as an occasion when a driver drove within two hours after drinking any alcohol.

BAC (blood alcohol concentration) calculated using NHTSA BAC estimation formula using gender, weight, number of drinks consumed, length of time drinking, and length of time between last drink and driving.

Sample bases for this page:

	BAC <u>.00-.019</u>	BAC <u>.02-.029</u>	BAC <u>.03-.049</u>	BAC <u>.05-.079</u>	BAC <u>.08+</u>
Total Population	630	159	190	117	89
Error range for total number of trips by estimated BAC level (in millions of trips)	<u>+57</u>	<u>+27</u>	<u>+45</u>	<u>+42</u>	<u>+40</u>



## Identifying Problem Drinkers

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### Defining CAGE Measures

A series of questions was asked of people who drank alcohol in the past year to help identify problem drinking. This series of four questions is represented by the acronym “CAGE” (Ewing, 1998) with each letter representing one of the four questions: “Have you felt you should cut down on your drinking?” (“C” for “cut down”); “Have people annoyed (“A”) you by criticizing you about your drinking?; “Have you felt bad or guilty (“G”) about your drinking?; “Have you had a drink first thing in the morning to steady your nerves or get rid of a hangover?” (“E” for “eye-opener”).

### Differences by Gender and Age

Males are more likely than females to say “yes” on each of the CAGE measures. About one in four males feel that they should cut down on their drinking, 8% are annoyed by others’ criticism of their drinking, and 8% have felt bad or guilty about their drinking. Only 2% of the drinking public has had a drink first thing in the morning to steady their nerves or get rid of a hangover. [Figure 8-A]

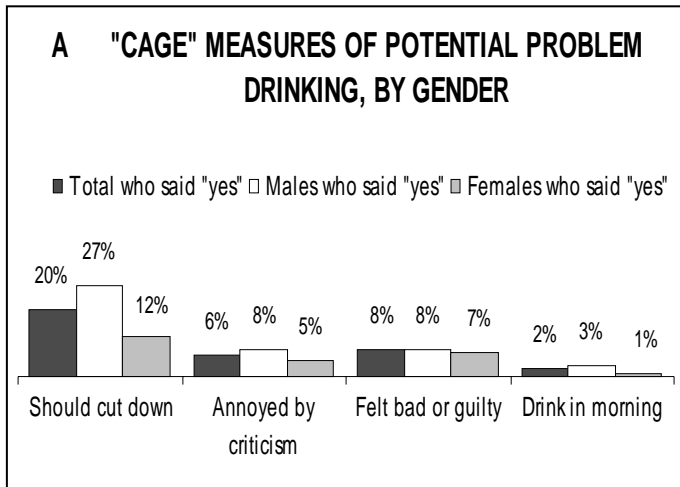
Those under age 21 are generally most likely to say yes to the CAGE measures, and agreement generally decreases with age. [Figure 8-B]

### Identifying Heavy and Binge Drinkers

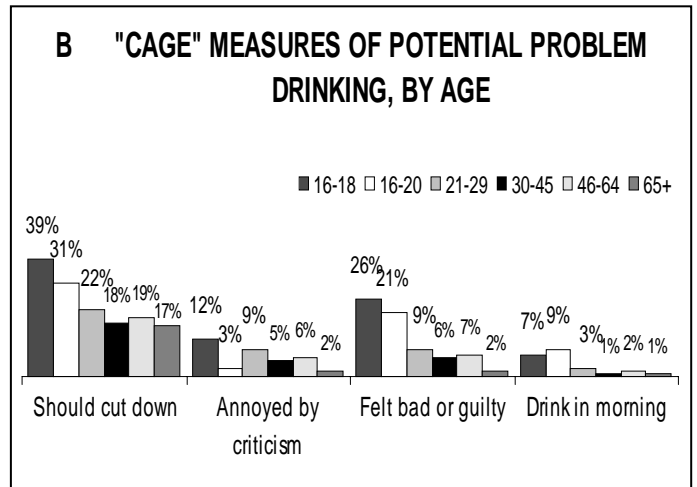
One in five (19%) persons of driving age has consumed five or more drinks in a single day during a typical 28-day period. Males (27%) and persons under age 30 (34%) are the most likely to report this type of binge drinking. [Figure 8-C]

About 7% of those age 16 or older report consuming five or more drinks on four or more days of a typical 30-day month. Males (11%) and persons under age 30 (17%) are more likely to report four or more days of heavy drinking. [Figure 8-D]

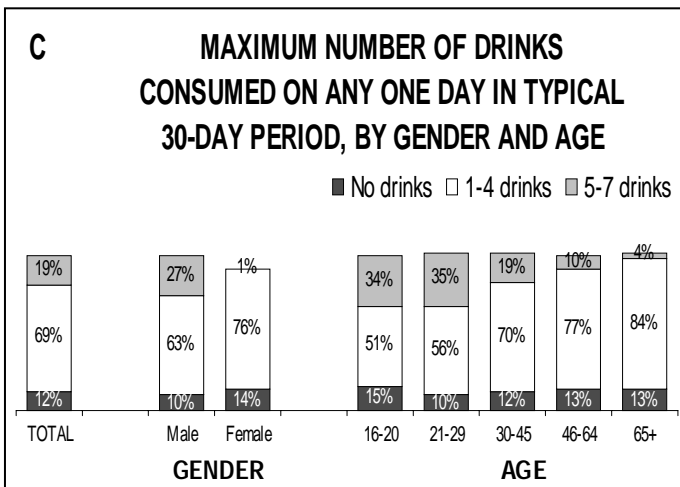
**FIGURE 8: IDENTIFYING PROBLEM DRINKERS**



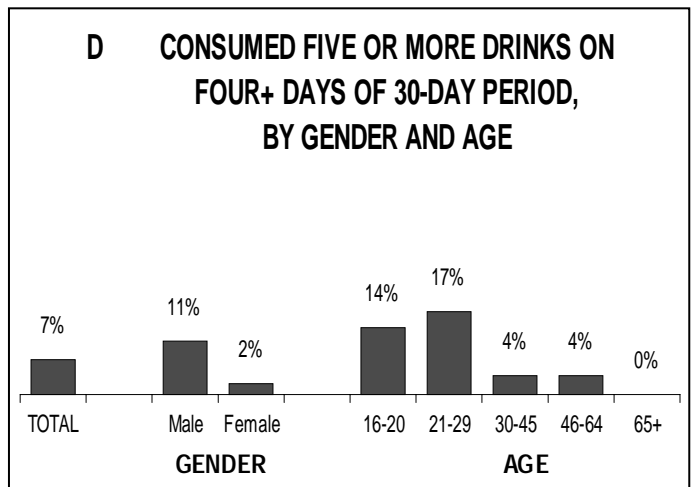
Q26: Have you felt you should cut down on your drinking? ("C")  
 Q27: Have people annoyed you by criticizing your drinking? ("A")  
 Q28: Have you felt bad or guilty about your drinking? ("G")  
 Q29: Have you had a drink first thing in the morning to steady your nerves or get rid of a hangover? ("E")  
 [Base: Drank alcohol in past year, n=3613, male n=1737, female n=1876]



Q26: Have you felt you should cut down on your drinking? ("C")  
 Q27: Have people annoyed you by criticizing your drinking? ("A")  
 Q28: Have you felt bad or guilty about your drinking? ("G")  
 Q29: Have you had a drink first thing in the morning to steady your nerves or get rid of a hangover? ("E")  
 [Base: Drank alcohol in past year, total n=3613]



Q25: What was the maximum number of drinks you had in any one day?  
 [Base: Drank alcohol in past year, n=3613]



Q23: Of the remaining days, on how many days did you have five or more drinks?  
 [Base: Drank alcohol in past year, n=3613]

\*Drinking-drivers: Drove within two hours after drinking in the past year.

\*\*Sample bases for this page:

	Total	Male	Female	16-18	19-20	21-29	30-45	46-64	65+
Drank alcohol past year	3613	1737	1876	275	139	618	1229	943	394

## **Identifying Problem Drinkers (continued)**

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### **Defining Problem Drinkers**

For this analysis “problem drinkers” were defined as expressing agreement (“yes”) to two or more of the four CAGE measures, or having consumed five or more drinks on four or more days in a typical 28-day period, or consumed nine or more drinks (eight for females) on at least one day in a typical 28-day period.

Overall, about 11% of the drinking public age 16 or older can be classified as a “problem drinker.” This is true of 27% of past year drinker-drivers and 11% of other drivers who drink alcohol.

Three of four (75%) problem drinkers are male. While 21- to 29-year-olds make up 15% of the driving age public, they account for 36% of all problem drinkers. Those age 16-20 are also over-represented among problem drinkers. These youth are 9% of the driving age public, but 16% of problem drinkers. [Figure 9-A]

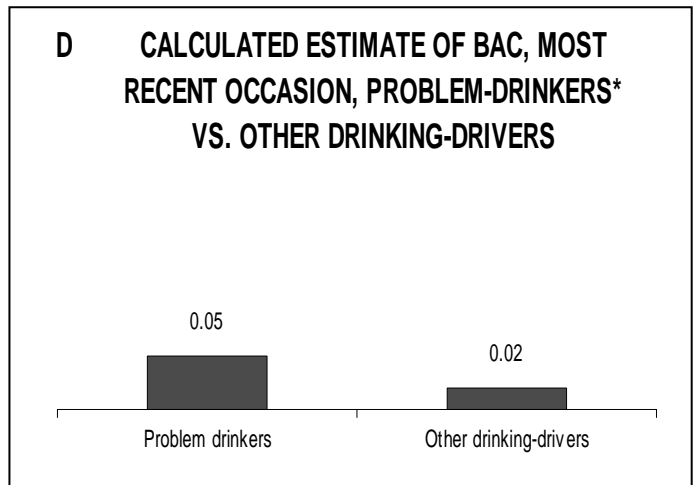
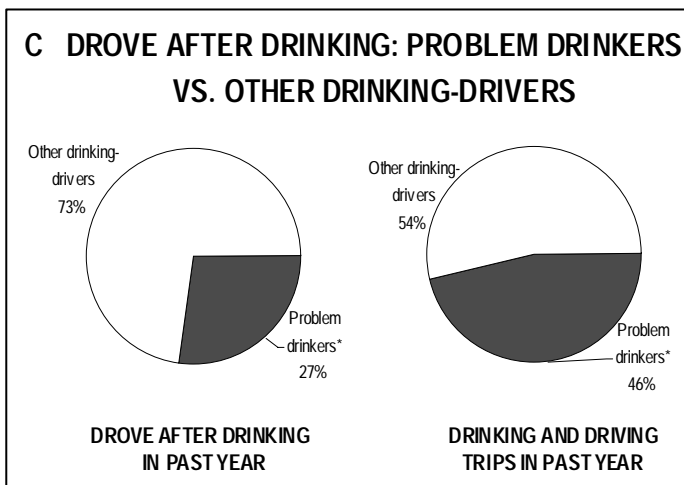
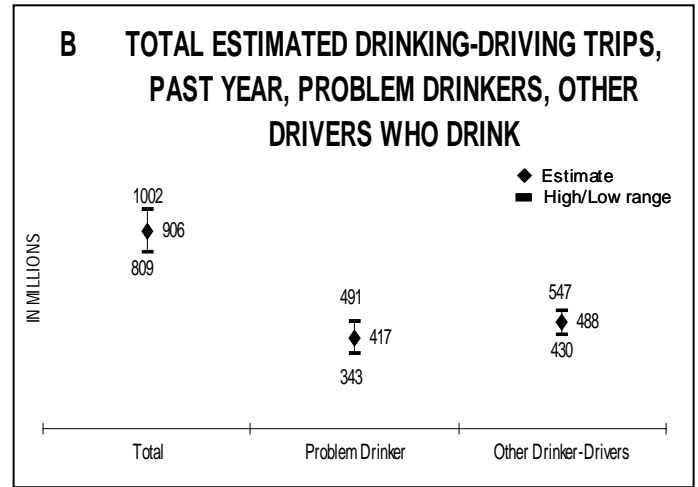
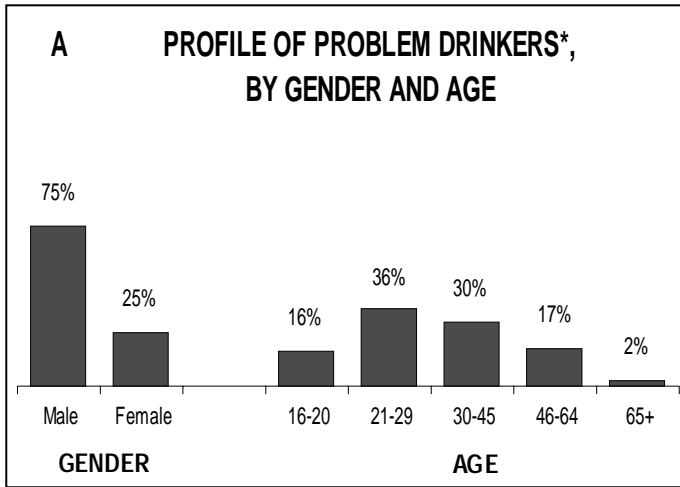
### **Problem Drinkers Contribution to Drinking-Driving Trips**

While problem drinkers make up about 27% of all past-year drinker-drivers, they account for about 46% of all trips (or between 343 and 491 million drinking-driving trips) in 2001. Other drivers who drink made between 430 and 547 million trips. [Figure 9-B]

### **Estimated Calculated BAC Level of Problem Drinkers vs. Other Drinking Drivers**

Problem drinkers are estimated to drive with BAC levels of more than twice that of other drinking-drivers. On their most recent drinking-driving trip, problem drinkers were estimated to have a calculated BAC level of about .05 as compared to a calculated BAC level of about .02 for other drivers who drink alcohol. [Figure 9-D]

**FIGURE 9: PROBLEM DRINKERS**



Q33: In the past 12 months, have you ever driven a motor vehicle within two hours after drinking alcoholic beverages? ["Yes" = drinking-drivers]

Q34: About how many times in the past 12 months would you say that you have driven within two hours after drinking any alcohol? [each time = 1 "trip"]

\*"Problem drinkers" are defined as those who meet at least ONE of the following three conditions:

- (a) said "yes" to two or more of the "CAGE" measures
  - (b) consumed five or more drinks on four or more days in a typical four-week period
  - (c) for females, consumed eight or more drinks on a given day in the past four weeks, or for males, consumed nine or more drinks on a given day in the past four weeks
- (Ewing, 1984; Skinner and Holt, 1987)

Sample bases for this page:  
 Total drinker-drivers n=1244  
 Problem drinkers n=321  
 Other drinker-drivers n=923

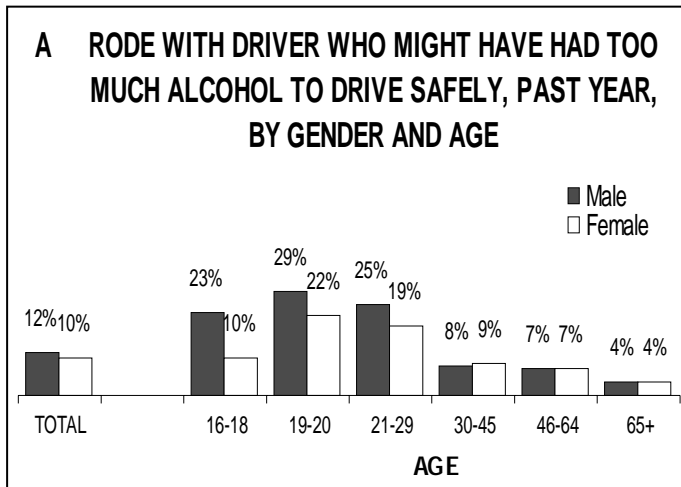
## **Riding With Unsafe Drivers**

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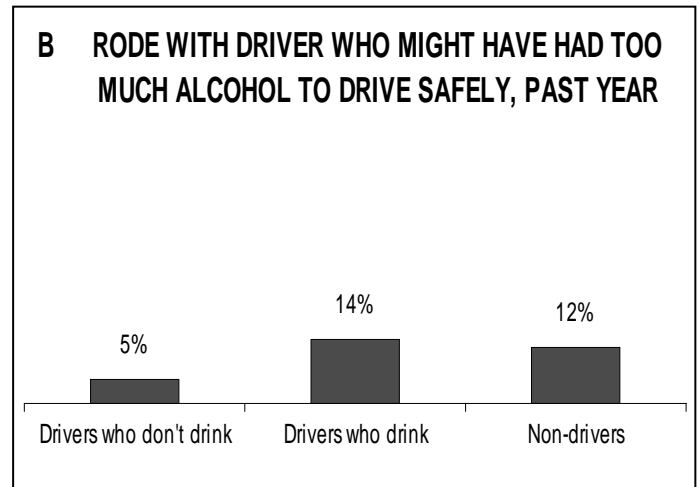
Approximately one in ten persons age 16 or older has ridden with a driver they thought may have consumed too much alcohol to drive safely. Approximately equal proportions of males and females have ridden with a potentially unsafe driver. Those under age 30 are most likely to have been a passenger with someone they thought might have drunk too much to drive safely (about 21%). Riding with a potentially unsafe driver decreases consistently with age. [Figure 10-A]

Drivers who drink report being the passenger in a vehicle with a driver who may have consumed too much alcohol to drive safely are nearly three times as likely as drivers who do not drink. About one of seven (14%) drivers who drink have ridden with a driver who may have consumed too much as compared to just 5% of drivers who do not drink. [Figure 10-B] This is likely a function of drinking in groups (especially among younger drivers) and then designating one of those drinkers to drive.

**FIGURE 10: RIDING WITH UNSAFE DRIVERS**



Q57: In the past 12 months, did you ever ride in a motor vehicle with a driver you thought might have consumed too much alcohol to drive safely? [Base: all respondents]



Q57: In the past 12 months, did you ever ride in a motor vehicle with a driver you thought might have consumed too much alcohol to drive safely? [Base: drivers who don't drink n=2157, drivers who drink n=3498, non-drivers n=347]

A drinking-driving "trip" is defined as an occasion when a driver drove within two hours after drinking any alcohol.

\*Sample bases for this page:

	Total	16-18	19-20	21-29	30-45	46-64	65+
Total	6002	660	241	804	1753	1615	906
Male	2607	327	115	365	786	670	336
Female	3395	333	126	439	967	945	570

## **Driving When Thought Over Legal Limit**

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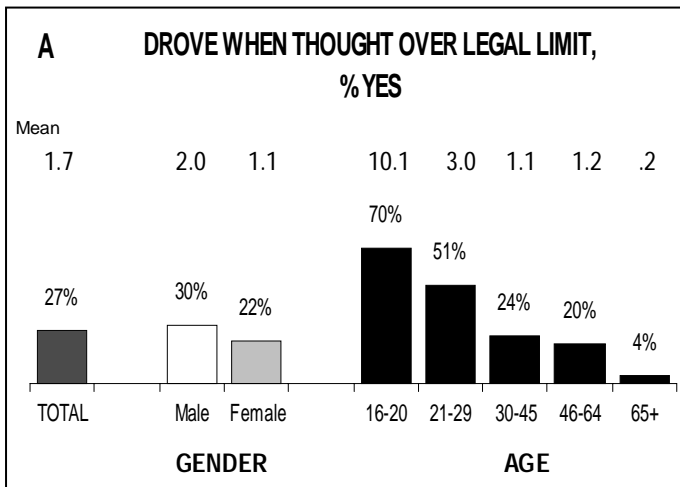
### **Drove When Thought Over Legal Limit**

More than one in four (27%) drinker-drivers report that they drove at least once when they thought they were over the legal limit. Males (30%) are more likely than females (22%) to have driven when they thought they were over the legal limit. Seven of ten (70%) persons under age 21 report such activity. The proportion of person who drove when they thought they were over the legal limit declines with age. [Figure 11-A]

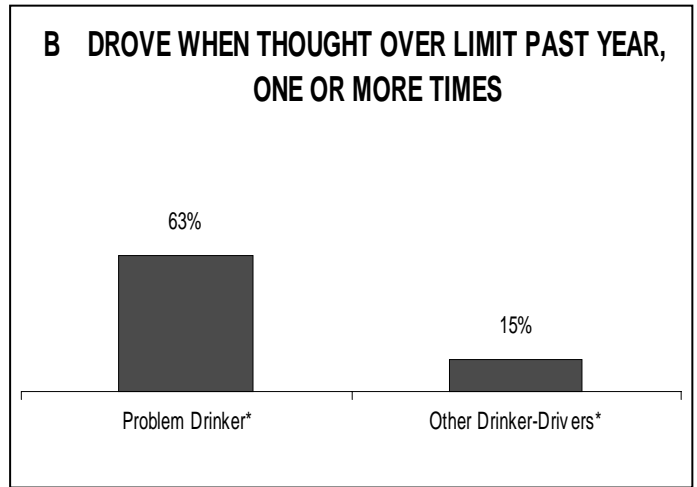
Problem drinkers are more than four times as likely as other drinker-drivers to have driven when they thought they were over the legal limit. [Figure 11-B]

Those driving when they thought they were over the legal limit report consuming an average of more than six drinks. Minors report consuming the greatest number of drinks, averaging about nine drinks before driving. [Figure 11-C]

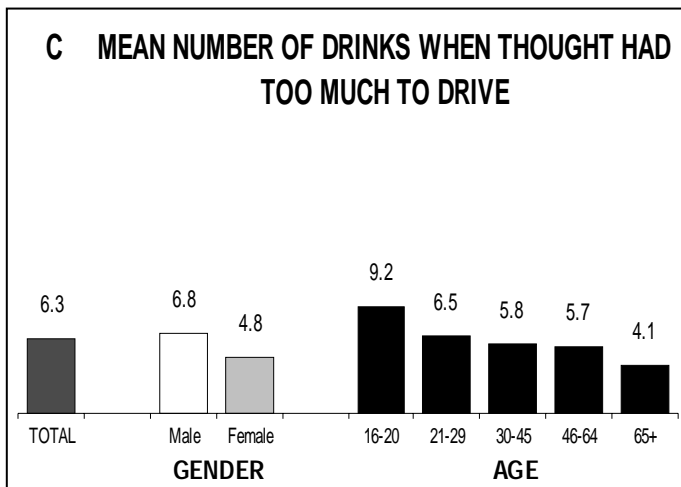
**FIGURE 11: DRIVING WHEN THOUGHT OVER LEGAL LIMIT**



Q52: About how many times in the PAST 12 MONTHS did you drive when you thought you were over the legal limit for alcohol? [Base: drinking drivers\*]



Q52: About how many times in the PAST 12 MONTHS did you drive when you thought you were over the legal limit for alcohol? [Base: drinking drivers\*]



Q53: Thinking about the most recent occasion when you have drank enough to place you over the legal limit, whether or not you drove, how many drinks did you have?

[Base: thought over the legal limit for alcohol]

\*Sample bases for this page:

	Total	Male	Female	16-20	21-29	30-45	46-64	65+
Total drove after drinking past year	1244	787	457	77	249	455	347	110
Problem drinker	321							
Other drinker-driver	923							
Total thought over the legal limit for alcohol	356	243	113	51	108	123	63	8**

\*\*Note: Very small sample size, interpret with extreme care



## **Chapter 2: Perceptions of Drinking and Driving as a Problem**

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In addition to measuring drinking and driving behaviors, this study examines the driving age public's perceptions on a number of topics related to drinking and driving. Changes in these perceptions can eventually lead to personal changes in drinking and driving behaviors (both improvements and declines) and in actions toward others. This section provides feedback on perceptions of the following issues:

- Relative importance of drinking and driving to other major issues in the United States
- How much drinking and driving by others is a threat to self and family's personal safety
- The importance of reducing drinking and driving and support for zero tolerance
- Drinker-drivers as alcoholics or problem drinkers
- Whether people should not be allowed to drive if they drink any alcohol
- The number of drinks a person could drink before he/she should not drive

## **The Importance of Reducing Drinking and Driving**

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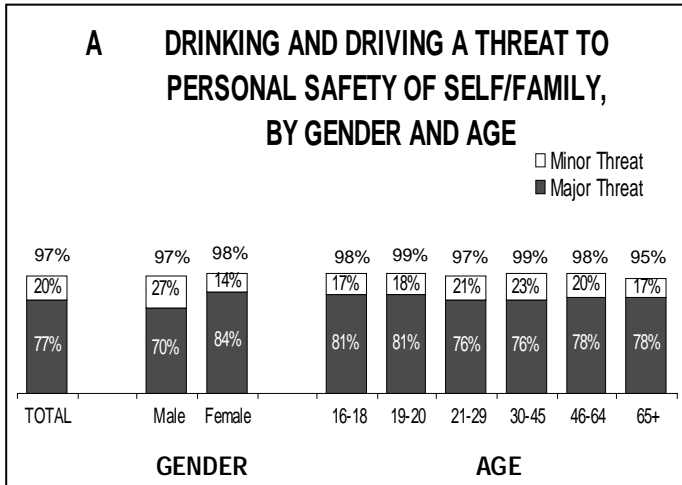
The driving age public sees drinking and driving as a serious problem that needs to be dealt with. More than three in four (77%) persons see drinking and driving of others as a major threat to the personal safety of themselves and their family. [Figure 12-A] The majority of all age groups and both males and females hold this belief.

More than eight in ten (84%) persons of driving age believe that drinking and driving by people convicted of multiple drinking and driving offenses are a major threat to their personal safety. [Figure 12-B] At least eight in ten males, females, and all age groups hold this belief.

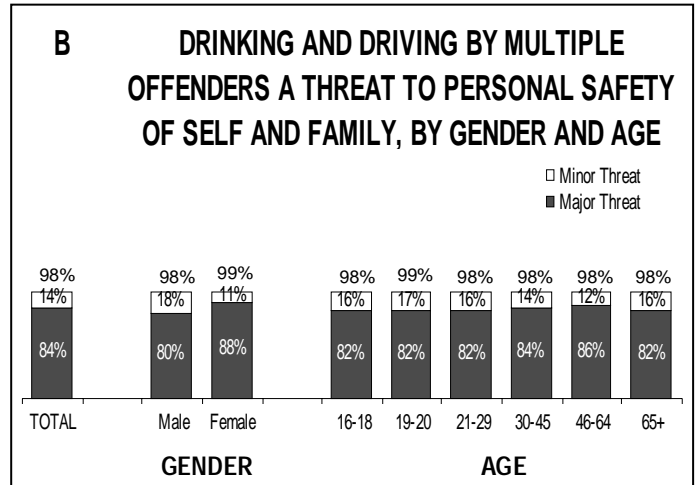
About one in twenty-five (4%) persons of driving age see “drunk driving” as the most important problem facing the country today. While issues such as terrorism (29%), the economy (16%), moral decline (10%), general crime and violence (7%), and drugs (5%) rate higher than drunk driving in the minds of the majority of the general public, drunk driving rates ahead of issues such as healthcare, poverty/hunger, and foreign affairs. [Figure 12-C]

Two-thirds (66%) of persons of driving age feel that reducing drunk driving is extremely important in terms of where tax dollars should be spent. An additional 27% feel it is somewhat important. Females are much more likely to feel that reducing drunk driving is extremely important. [Figure 12-D] Not surprisingly, drinker-drivers are much less likely to feel that reducing drunk driving is extremely important (48%) than are other drivers who also sometimes drink, but have not driven within two hours of consuming alcohol (65%).

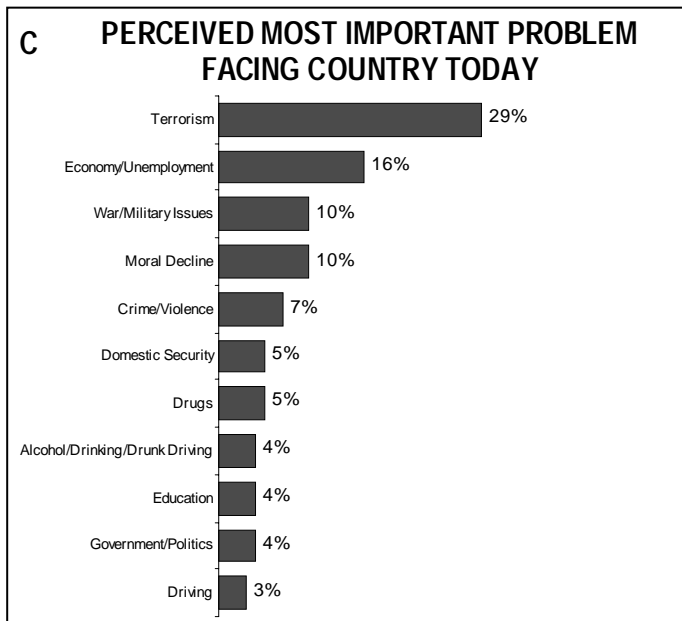
**FIGURE 12: THE IMPORTANCE OF REDUCING DRINKING AND DRIVING**



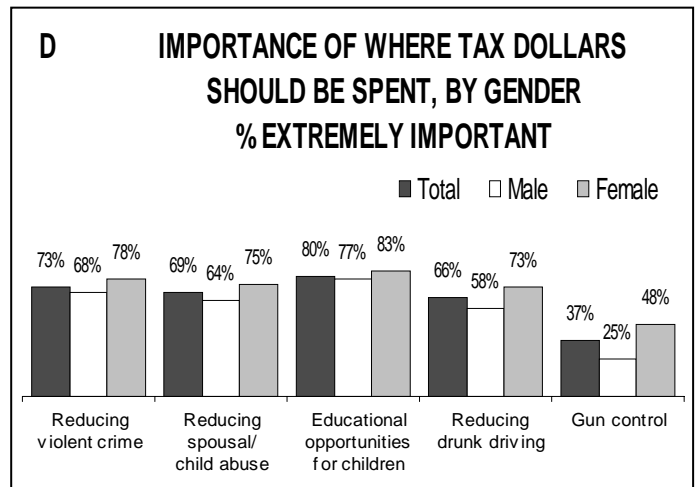
Q103: In your opinion, how much is drinking and driving by people a threat to the personal safety of you and your family? [Base: all respondents n=6002]\*\*



Q110a: In your opinion, how much is drinking and driving by people CONVICTED OF MULTIPLE DRINKING AND DRIVING OFFENSES a threat to the personal safety of you and your family? [Base: all respondents n=6002]\*\*



Q5: What do you think is the most important issue facing this country today? [Base: all respondents n=6002]



Q56: Please tell me if you think this is extremely important, somewhat important, not very important, or not at all important in terms of where tax dollars should be spent. [Base: all respondents n=6002]

\*\*Sample bases for this page:

	Total	16-18	19-20	21-29	30-45	46-64	65+
Total	6002	660	241	804	1753	1615	906
Male	2607	327	115	365	786	670	336
Female	3395	333	126	439	967	945	570

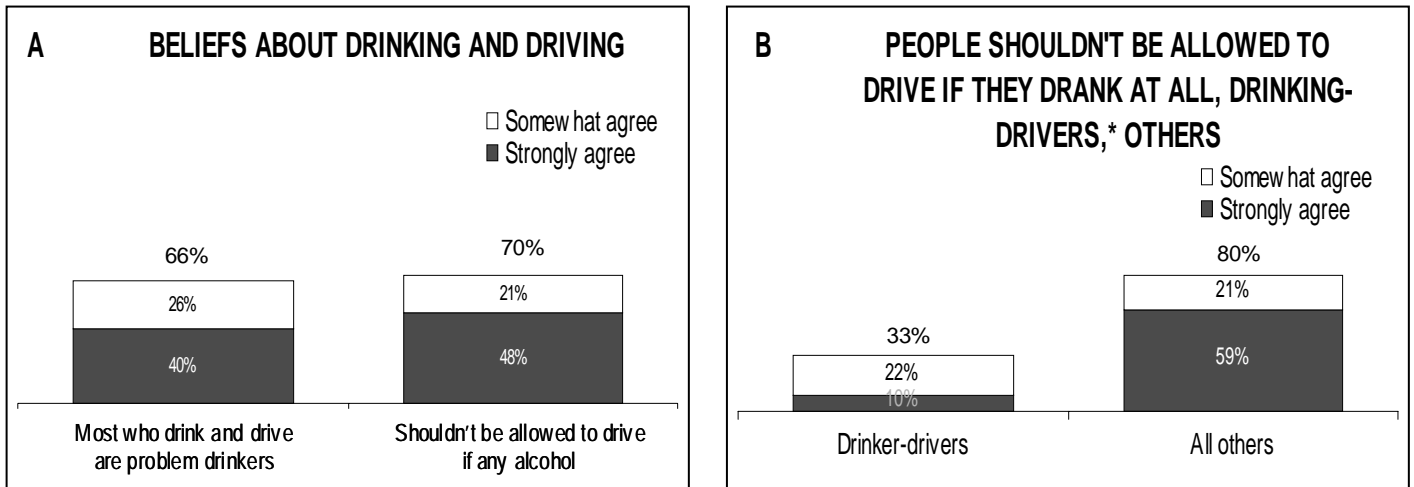
## Support for Zero Tolerance

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The majority of the driving age public is supportive of “zero tolerance” for drinking and driving for drivers of all ages. About 48% strongly agree that people should not be allowed to drive if they have consumed any alcohol at all, and an additional 21% somewhat agree with this statement. [Figure 13-A] Past-year drinker-drivers are significantly less likely than others to agree with this “zero tolerance” perspective. [Figure 13-B]

It is useful to note that while 10% of drinker-drivers strongly agree that people should not be allowed to drive if they have consumed any alcohol, all of these persons report that they have done so in the past year.

**FIGURE 13: SUPPORT FOR ZERO TOLERANCE**



Q104a: For [each of] the following statements, please tell me whether you strongly agree, somewhat disagree, or strongly disagree. People should not be allowed to drive if they have been drinking any alcohol at all. Most people who drive after drinking too much are alcoholics or problem drinkers.

[Base A: total respondents n=6002; Base B: drinker-drivers n=1300, Others n=4702]

\*Drinking-drivers are defined as those who have driven within two hours of drinking any alcohol.

## **Number of Drinks Before One Should Not Drive**

---

Drivers who drink were asked to estimate the number of alcoholic beverages they could drink in two hours to reach the point where they should not drive. Two-thirds (67%) of drivers who consume alcohol feel that they should not drive if they have had two or fewer drinks within a two-hour period. More than one-third (36%), place their personal limit (after which they should not drive) at one or fewer drinks. [Figure 14-A] The average 170-pound male would be at about a .03 BAC after consuming 2 drinks within two hours.

### **Differences by Gender and Age**

Male drivers age 16-18 who drink alcohol perceive their personal limit to be much higher than do older adults or their female counterparts. Males age 16-18 say they could drink up to an average of more than three drinks (3.3) within a two-hour period before they reach the level at which they should not drive, compared to 1.5 drinks for women age 16-18. In contrast, older males generally consider their safe limit to be no more than three drinks, while females put their limit at about two drinks on average. [Figure 14-B]

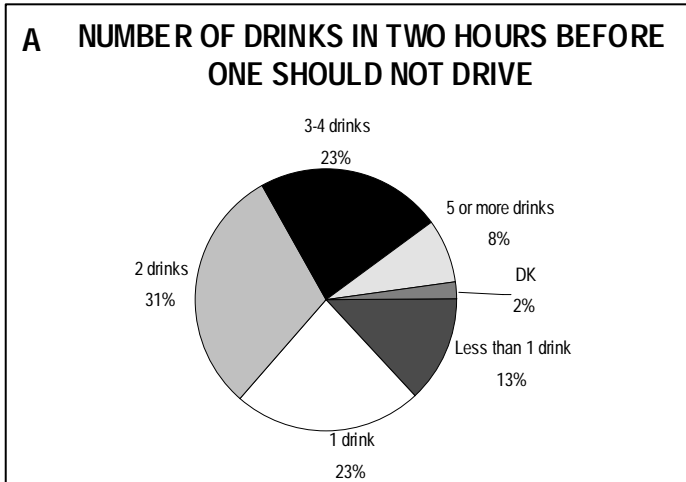
### **BAC Equivalents to Personal Limits by Age and Gender**

When these perceived self-limits are viewed in terms of the estimated resulting BAC level if a person of average weight for that gender and age group drank the reported number of drinks, those under age 21 would be near a BAC level of .09. Males under age 21 would be at .09 while females would be at .10 BAC. [Figure 14-C] Males and females in their 20s would be at a .06 BAC. Older persons perceive their personal limit of alcohol before they should not drive at a level that would put them at a BAC level of .03 on average.

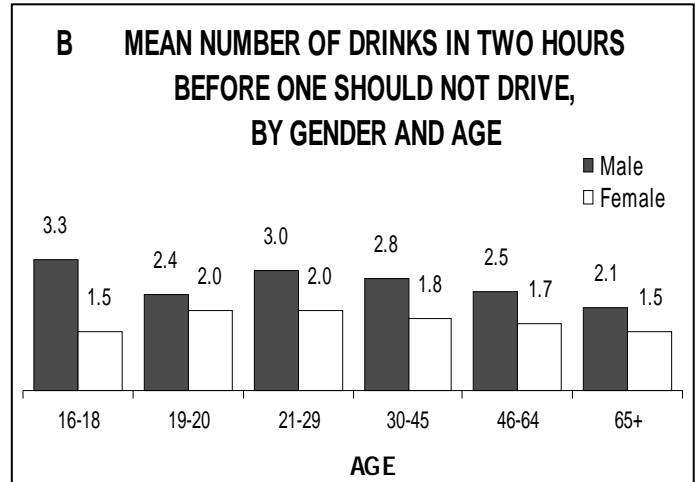
### **Drinker-Drivers vs. Other Drivers Who Drink**

Drinker-drivers feel they can drink up to about three drinks in two hours before they should not drive. Other drivers who drink feel their safety limit is just under two alcoholic drinks. [Figure 14-D]

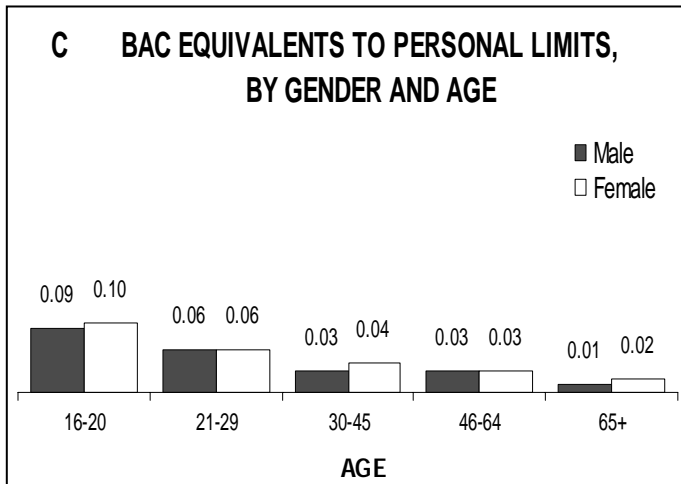
**FIGURE 14: NUMBER OF DRINKS BEFORE ONE SHOULD NOT DRIVE**



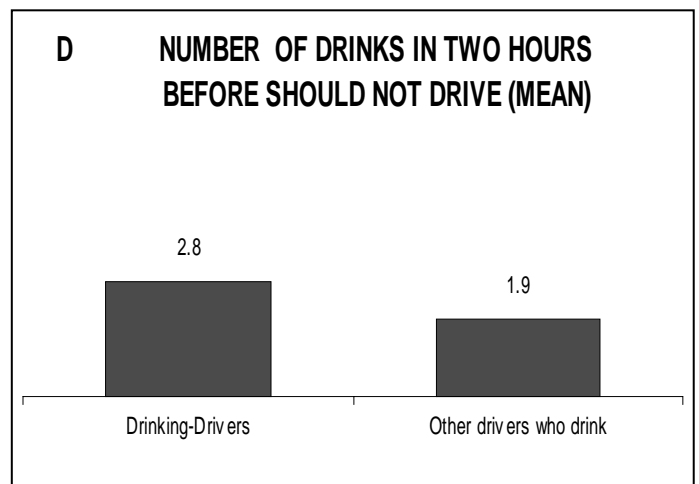
Q31: How many [drinks of alcoholic beverage drunk most often] could you drink in two hours before you should not drive?  
[Base: drivers who drink\*\*]



Q31: How many [drinks of alcoholic beverage drunk most often] could you drink in two hours before you should not drive?  
[Base: drivers who drink\*\*]



Q31: How many [drinks of alcoholic beverage drunk most often] could you drink in two hours before you should not drive? (BAC level was calculated using average reported personal limit and average body weight for each age and gender category)  
[Base: drivers who drink\*]



Q31: How many [drinks of alcoholic beverage drunk most often] could you drink in two hours before you should not drive?  
[Base: drinking-drivers n=1300, other drivers who drink n=2195]

\*Drinking-drivers: Drove within two hours after drinking in the past year.

\*\*Sample bases for this page: Drivers who drink

	<u>16-18</u>	<u>19-20</u>	<u>21-29</u>	<u>30-45</u>	<u>46-64</u>	<u>65+</u>
Male	136	67	294	588	427	173
Female	121	64	307	611	497	195





## **Chapter 3: Prevention and Intervention to Reduce Drinking and Driving**

---

This section considers actions people can take to reduce drinking and driving trips for themselves and others. Drinking-driving trips can be reduced through several methods, including prevention actions before an occasion that averts planned drivers from drinking alcoholic beverages at the event, and prevention actions to avert planned drinkers from driving. Such trips can also be reduced through the intervention actions by those who suspect that another person has already consumed too much alcohol to drive safely and halting the unsafe driving behavior.

Specifically, this section covers the following topics:

- Avoiding driving when a person has had too much alcohol to drive safely
- Actions to avoid driving after consuming too much alcohol to drive safely
- Concerns and actions as host of a social event to prevent guests from driving home impaired
- Use of designated drivers
- Intervention with friends who may not be safe to drive

## **Avoided Driving After Drinking Too Much**

---

### **Drinker-Drivers vs. Other Drivers Who Drink**

Half (50%) of all past-year drinker-drivers have avoided driving a motor vehicle at least once because they felt they may have drunk too much to drive safely. This includes 80% of problem-drinkers and 40% of non-problem drinker-drivers. [Figure 15-A]

### **Gender and Age Differences**

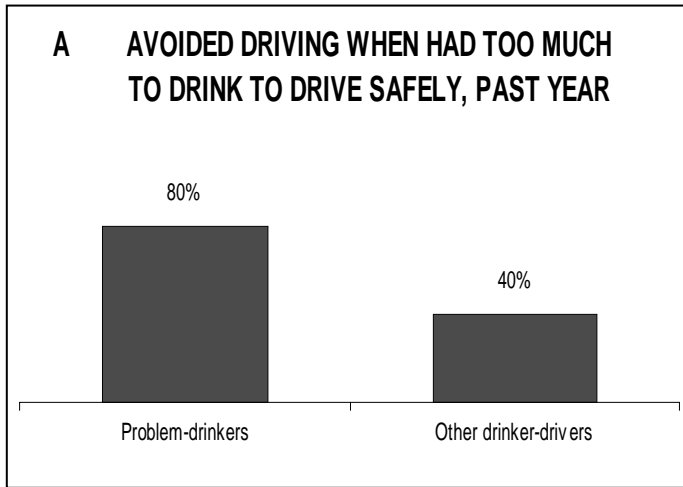
Males are more likely to have deliberately avoided driving when they thought they had too much to drink (52%) than are females (47%). Minors under age 21 are most likely to have avoided driving after drinking. Avoidance of driving after thinking one had drunk too much drops off sharply after age 30, and continues to decrease consistently with age. [Figure 15-B] This may be because older respondents are drinking less and are not putting themselves in a position where they have drunk too much.

### **Actions to Avoid Driving After Drinking Too Much**

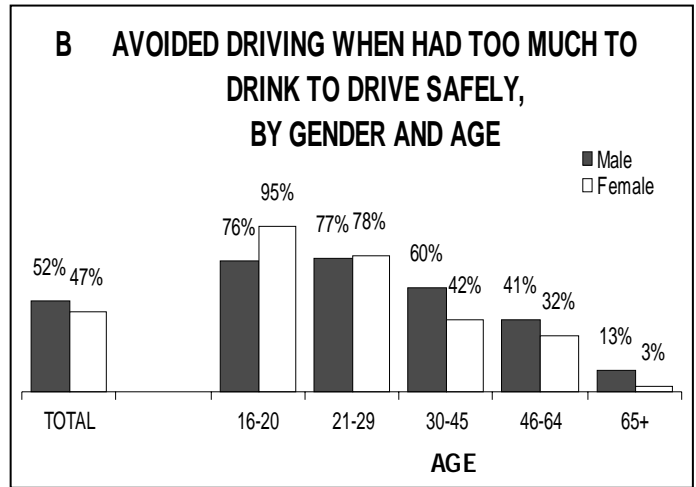
More than six in ten (63%) of those who avoided driving after drinking too much did so by riding with another driver. About 13% stayed the night to avoid driving after drinking. [Figure 15-C] Staying overnight to avoid driving after drinking was used by about 46% of those under age 21, and decreases steadily with age. [Figure 15-D]

Over half (53%) of adults age 16 or older say they frequently plan ahead before going to an event to avoid drinking and driving afterward. Women are more likely to engage in this planning (59%) than are men. Those under age 30 are more likely to plan ahead (58%) than are adults 30 or older, and this planning decreases with age. [Figure 15-E]

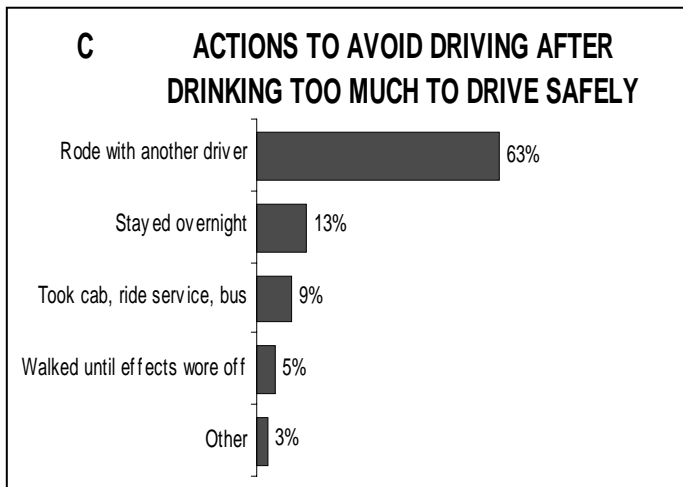
**FIGURE 15: AVOIDED DRIVING AFTER DRINKING TOO MUCH**



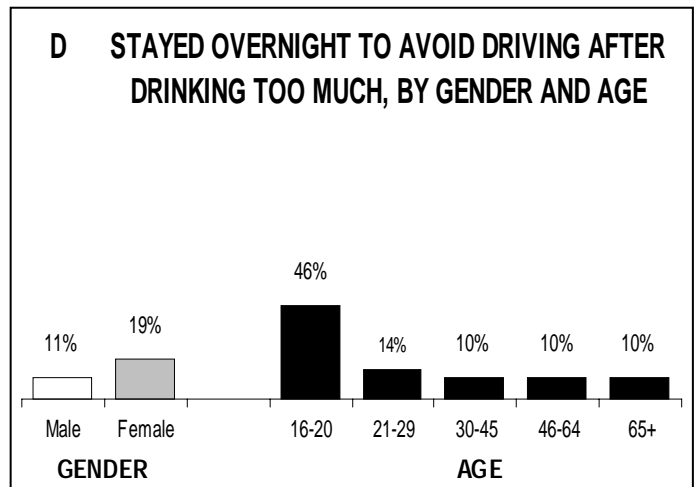
Q54: In the past 12 months, have you ever deliberately avoided driving a motor vehicle because you felt you probably had too much to drink to drive safely? % Yes  
 [Base: problem-drinkers n=321, other drinker-drivers n=923]



Q54: In the past 12 months, have you ever deliberately avoided driving a motor vehicle because you felt you probably had too much to drink to drive safely? % Yes  
 [Base: drove after drinking past year n=1244]



Q56: On the most recent time that you deliberately avoided driving after drinking, how did you do it?  
 [Base: avoided driving after drinking, past year, total n=653]

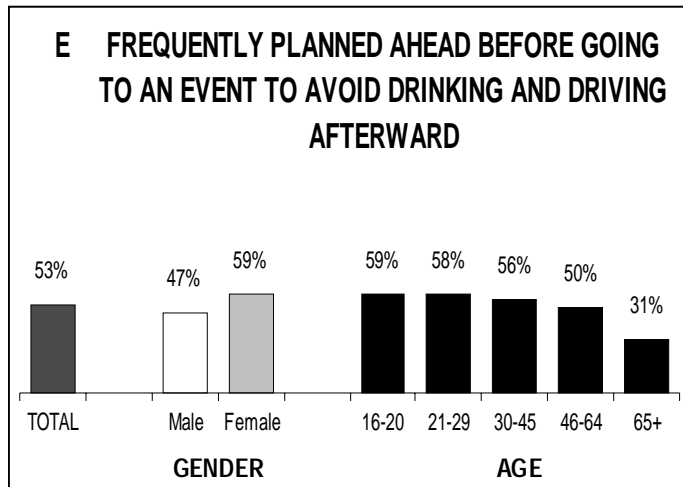


Q56: On the most recent time that you deliberately avoided driving after drinking, how did you do it?  
 [Base: avoided driving after drinking, past year n=653]

\*\*Sample bases for this page: Drove after drinking past year

	Total	16-18	19-20	21-29	30-45	46-64	65+
Total	6002	660	241	804	1753	1615	906
Male	2607	327	115	365	786	670	336
Female	3395	333	126	439	967	945	570

**FIGURE 15: AVOIDED DRIVING AFTER DRINKING TOO MUCH (continued)**



*Q70a: How often did you plan ahead before going to an event to avoid drinking and driving afterward?*

*[Base: drinkers who have the opportunity to plan ahead before going to an event n=2835]*

\*Drinking-drivers are defined as those who have driven within two hours of drinking any alcohol.

## **Social Pressure to Drink More Than Planned**

---

### **Did Not Want to Stop Drinking**

About 12% of those age 16 and older say they were in a situation in the past year where they drank more than they planned to because they were having such a good time that they did not want to stop drinking. Males were more than twice as likely as females to have experienced this, and adults in their 20s were more likely (26%) than other age groups to have consumed more alcohol than they anticipated because they were having a good time and did not want to stop.

[Figure 16-A]

### **Had to Drink Because Everyone Else Was**

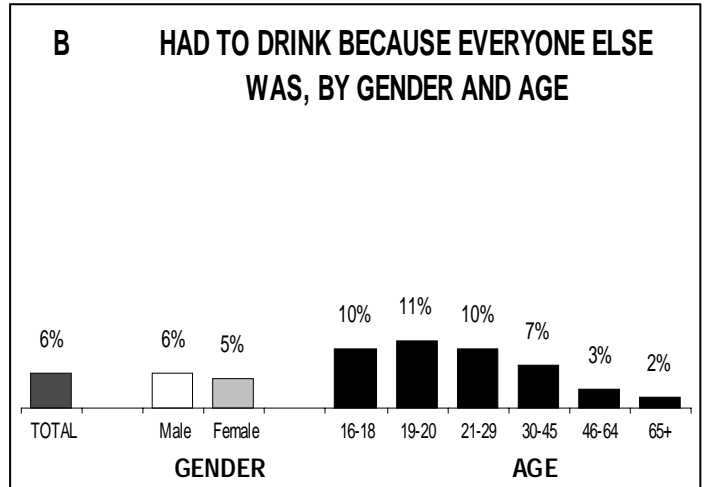
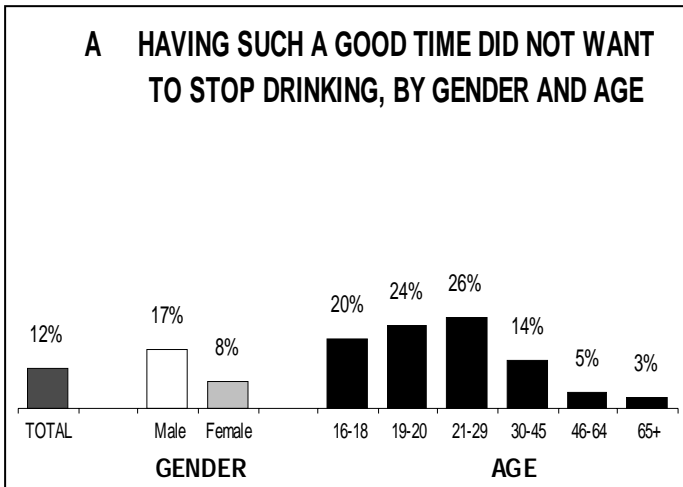
Only about 6% of those age 16 and older say they were in a situation in the past year where they drank more than they planned to because of social pressures in which everyone else was drinking. There was no difference by gender, and adults under age 30 were more likely to drink more than intended due to these social pressures (10%) than were adults over age 30 (about 4%).

[Figure 16-B]

### **Did Not Realize Intoxicated Until Later**

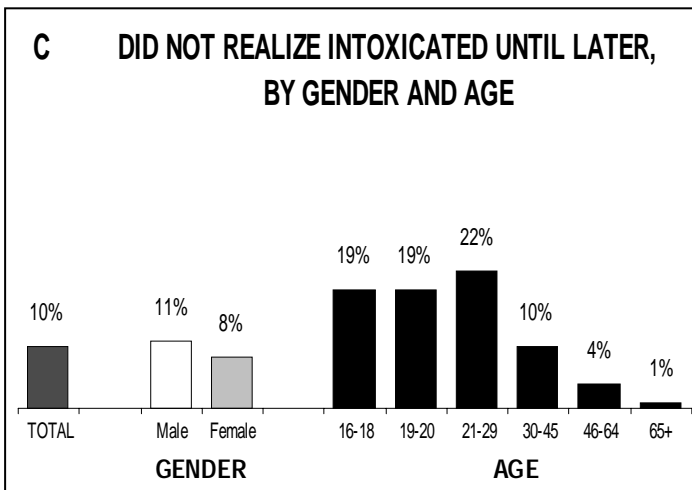
One in ten of those age 16 and older say they were in a situation in the past year where they drank more than they planned to because they did not realize they were intoxicated until later. Males were slightly more likely than females to have experienced this, and adults in their 20s were more likely (22%) than other age groups to have consumed more alcohol than they anticipated because they did not realize they were intoxicated. [Figure 16-C]

**FIGURE 16: SOCIAL PRESSURES TO DRINK MORE THAN PLANNED**



*Q102a: In the last year, were you ever in any of the following situations where you were encouraged to drink more than you had planned to drink? How about any situations where you were having such a good time that you didn't want to stop drinking?*  
 [Base: all respondents n=6002]

*Q102a: In the last year, were you ever in any of the following situations where you were encouraged to drink more than you had planned to drink? How about any situations where you felt you had to drink because everyone else was?*  
 [Base: all respondents n=6002]



*Q102a: In the last year, were you ever in any of the following situations where you were encouraged to drink more than you had planned to drink? How about any situations where you did not realize you were intoxicated until later?*  
 [Base: all respondents n=6002]

\*\*Sample bases for this page:

	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>16-20</u>	<u>21-29</u>	<u>30-45</u>	<u>46-64</u>	<u>65+</u>
Total Population	6002	2607	3395	901	804	1753	1615	906

## **Concerns and Actions by Hosts to Prevent Guest From Driving Impaired**

---

### **Hosting a Social Event and Served Alcohol**

About 48% of those age 16 and older have hosted a social event in the past year at which they served alcohol. [Figure 17-A] Adults between 19 and 29 years of age are the most likely to have hosted such events (56%). While minors should not be able to legally purchase alcohol, 40% of those under age 21 report that they held an event in the past year where they served alcohol.

### **Hosts' Concern Over Having Guests Driving Home Impaired**

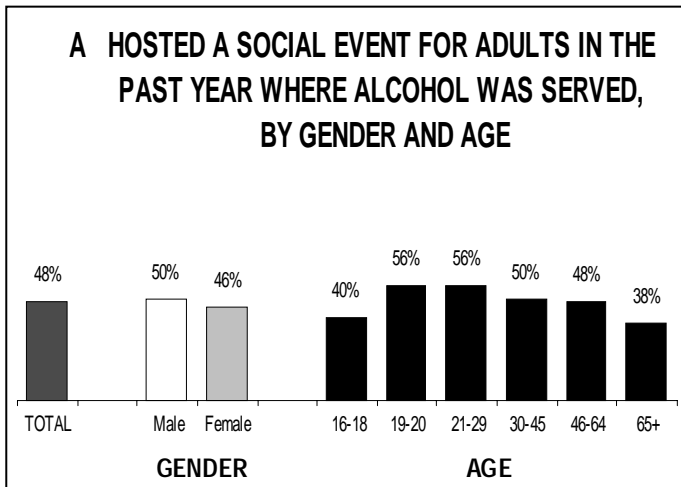
About seven in ten (71%) of all hosts who held an event at which they made alcohol available were very or somewhat concerned about having guests drive home impaired. Concerns were highest among hosts under age 21, of whom 84% expressed concern. Reports of concern about having guest drive home impaired diminish with the age of the host. [Figure 17-B]

### **Actions Taken by Hosts**

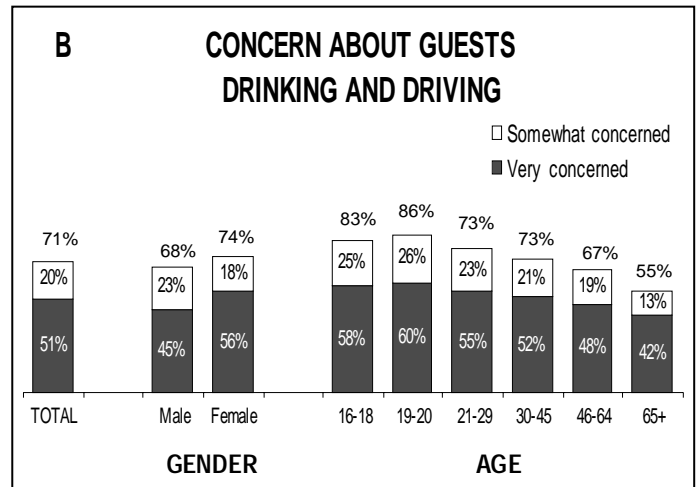
About 82% of those who served alcohol at a social event said they took some action to prevent guests from driving home impaired. Having someone else take the potentially impaired guest home (30%) and having guests who may have been too impaired to drive safely spend the night (28%) are the most cited preventive actions taken by hosts. Additionally, 11% say they drove the guest home themselves. About 11% of hosts served less alcohol at their event or limited serving hours, while 6% reported they served food to help avert potential drinking-driving problems with guests. [Figure 17-C]

Preventive actions were more likely to be taken by females and by younger hosts. The pattern of taking actions, which declines with age, follows the pattern of declining concern about guests drinking and driving by age. [Figure 17-D]

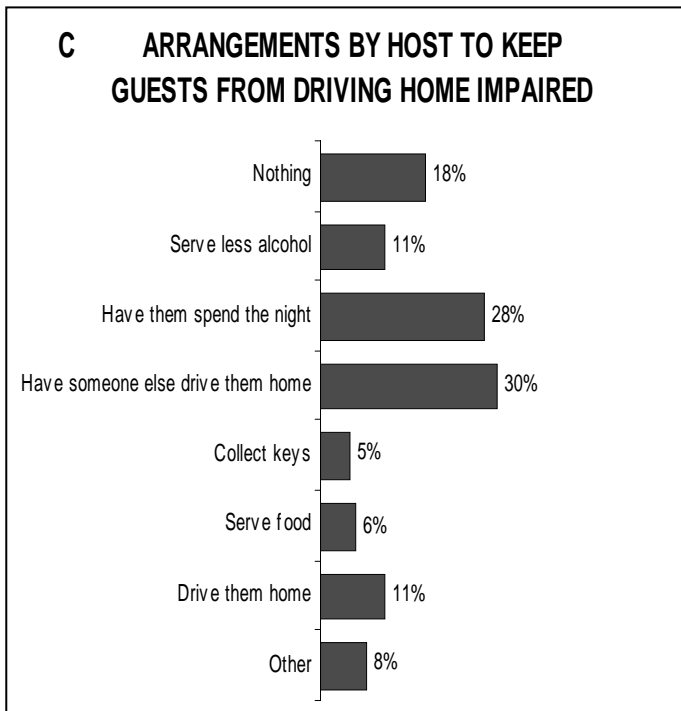
**FIGURE 17: CONCERNS AND ACTIONS BY HOSTS TO PREVENT GUESTS FROM DRIVING IMPAIRED**



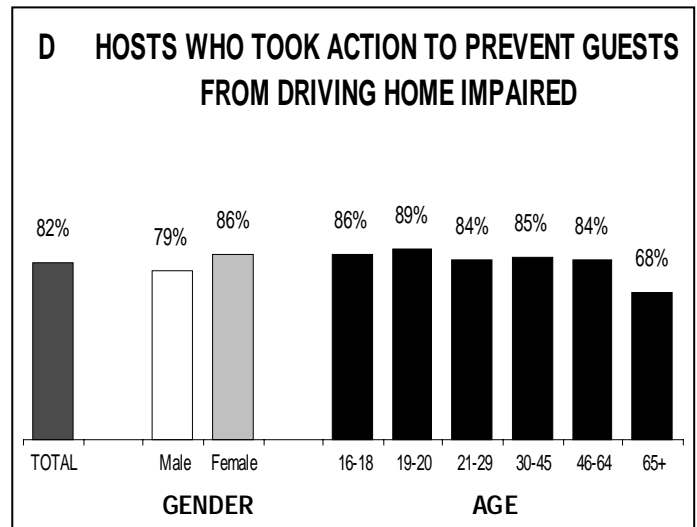
Q87: If you hosted a social event in the past year for adults in which you served alcoholic beverages, how concerned were you about having guests from your party drive home impaired? – Yes hosted party. [Base: all respondents n=6002]



Q87: If you hosted a social event in the past year for adults in which you served alcoholic beverages, how concerned were you about having guests from your party drive home impaired? – Yes hosted party. [Base: hosted a social event in past year and served alcohol n=2700]



Q95: What, if anything, did you do to keep guests from driving home impaired? [Base: hosted a social event and served alcohol n=2700]



Q95: What, if anything, did you do to keep guests from driving home impaired? [Base: hosted a social event and served alcohol]

\*\*Sample bases for this page:

	Total	Male	Female	16-18	19-20	16-20	21-29	30-45	46-64	65+
Total Population	6002	2607	3395	--	--	901	804	1753	1615	906
Hosted a social event and served alcohol	2700	1258	1442	228	123	--	425	883	722	308



## Designated Drivers

---

### Riding With a Designated Driver

One in three (33%) persons of driving age have ridden with a designated driver in the past year. Riding with a designated driver is more common among males than females, and is most prevalent among those under age 30. [Figure 18-A]

### Being the Designated Driver

About four of ten drivers have acted as the designated driver for others in the past year. Those age 19-20 were much more likely to have been a designated driver than other drivers. The practice of acting as the designated driver decreases with age. [Figure 18-B]

### Number of Drinks for Designated Drivers

On average, past-year designated drivers average less than one-half of a drink before driving, with 85% reporting less than one drink consumed. [Figure 18-C]

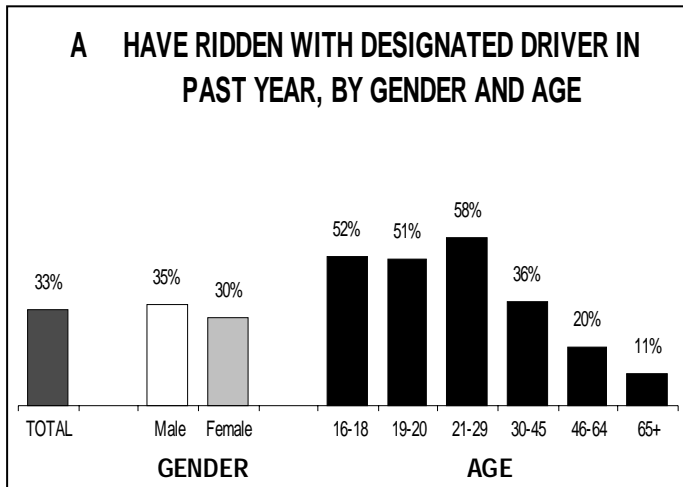
The actual experience with designated drivers closely matches the public perception of the number of allowable drinks for a designated driver. Two-thirds feel that a designated driver should only consume less than one drink. An additional 19% feel that one drink is acceptable for a designated driver. [Figure 18-D]

### Timing of Decision to Have or Be a Designated Driver

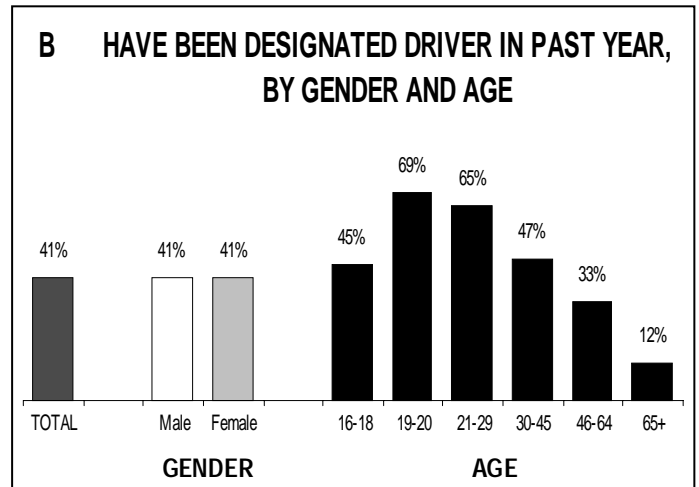
While most adults who have ridden with a designated driver in the past year made the decision to have a designated driver before they began drinking, 7% made this decision after consuming alcohol. Adults age 16-18 were most likely to have made this choice after beginning to drink (12%). [Figure 18-E]

Among those who were the designated driver, 15% were designated as such after they had begun drinking. Again, adults age 16-18 were more likely to be named as the designated driver after consuming alcohol (26%) than were older designated drivers. [Figure 18-F]

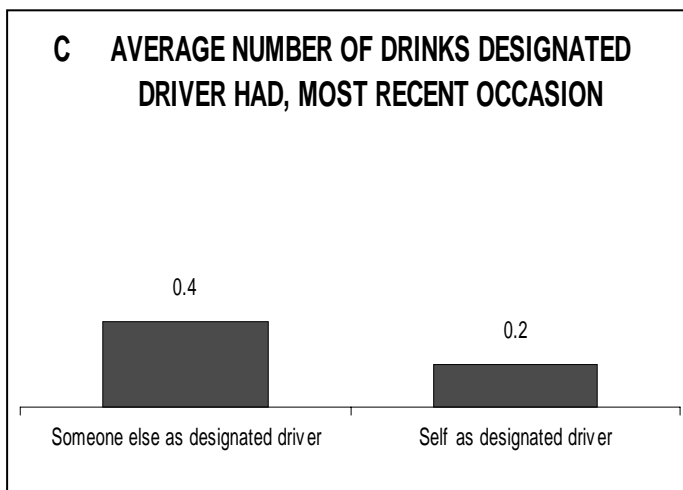
**FIGURE 18: DESIGNATED DRIVERS**



Q61: In the past year, have you ridden anywhere with someone else who agreed to be the designated driver?  
[Base: all respondents\*\*]

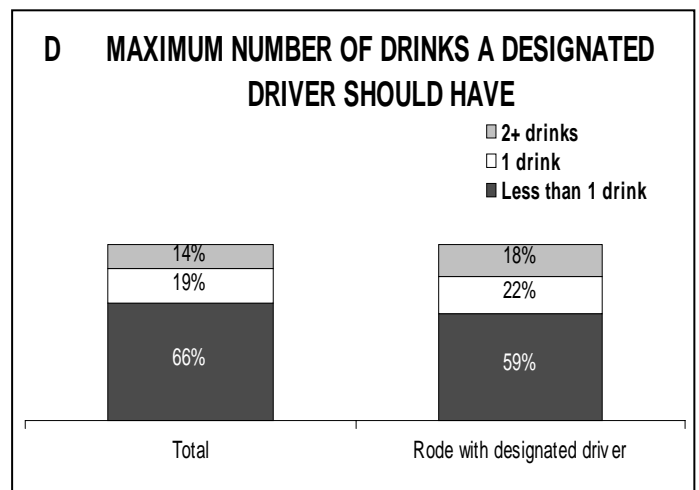


Q64b: Have you been a designated driver for other passengers in the past year?  
[Base: all respondents\*\*]



Q62: On the most recent occasion that you rode somewhere with a designated driver, how many drinks did the designated driver have before driving, if any?  
[Base: rode with designated driver past year, n=1990]

Q66: On the most recent occasion that you were the designated driver, how many drinks did you have before driving, if any?  
[Base: have been designated driver past year n=2496]

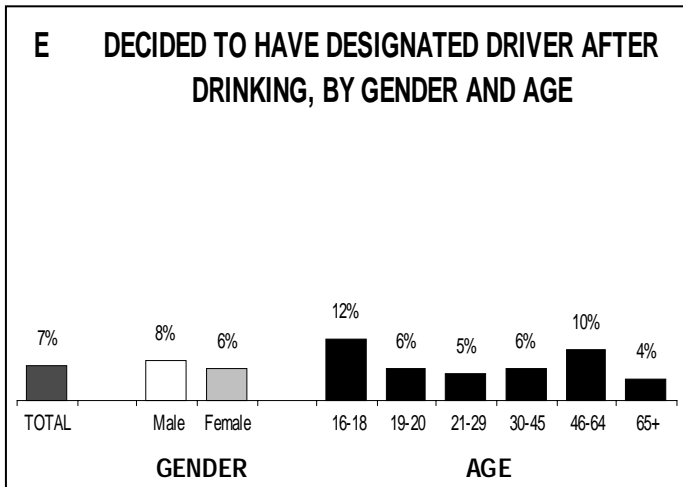


Q65: What is the maximum number of drinks a person should have if he or she is the designated driver?  
[Base: total n=6002, rode with designated driver n=1990]

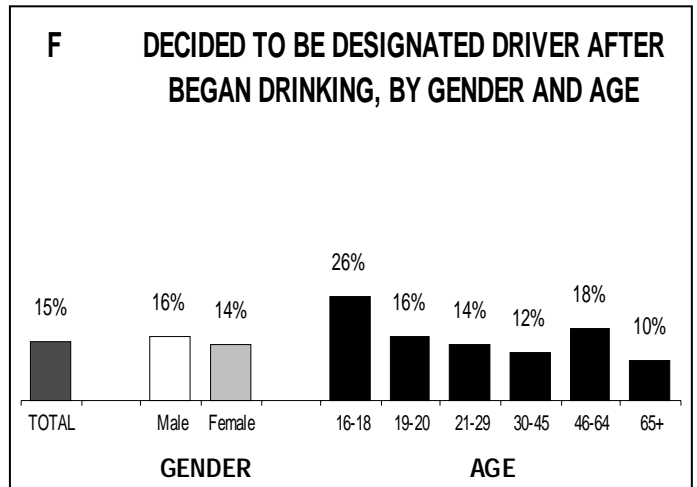
\*\*Sample bases for this page:

	Total	16-18	19-20	21-29	30-45	46-64	65+
Total	6002	660	241	804	1753	1615	906
Male	2607	327	115	365	786	670	336
Female	3395	333	126	439	967	945	570

**FIGURE 18: DESIGNATED DRIVERS (continued)**



*Q63: Did the decision to have a designated driver for this occasion take place before or after you and your companions had been drinking?*  
 [Base: rode with designated driver past year\*]



*Q63: Did the decision to have a designated driver for this occasion take place before or after you and your companions had been drinking?*  
 [Base: have been designated driver past year\*]

\*Sample bases for this page:

	<u>Total</u>	<u>16-18</u>	<u>19-20</u>	<u>21-29</u>	<u>30-45</u>	<u>46-64</u>	<u>65+</u>
Total	6002	660	241	804	1753	1615	906
Male	2607	327	115	365	786	670	336
Female	3395	333	126	439	967	945	570



## **Intervention With Friends Who May Not Be Safe to Drive**

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### **Been With Friend Who May Have Drank Too Much to Drive Safely**

About three in ten persons (31%) age 16 or older have been in a situation of being with a friend who had too much to drink to drive safely. They report an average of 1.5 such experiences over the past year. This circumstance has occurred much more often for those under age 30, with the greatest exposure occurring for 21 to 29-year-olds. Those age 21-29 report an average of 3.6 occurrences in the past year of being with a friend who may have consumed too much to drive safely. Few adults over age 30 report more than one such occurrence. [Figures 19-A and 19-B]

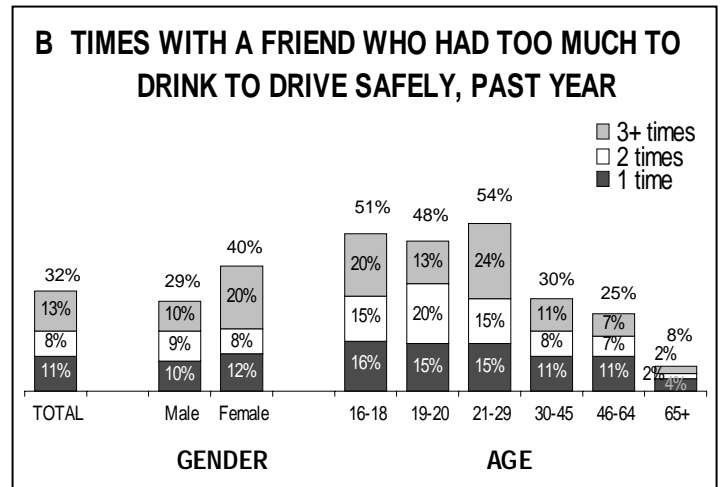
### **Intervention With Friend Who May Have Drank Too Much to Drive Safely**

Eighty percent of those who were with a friend who may have had too much to drink to drive safely tried to stop that friend from driving on the most recent occasion. In about 75% of the cases where intervention took place, the potentially impaired friend did not drive. Attempted intervention is higher among females than males, and is high among all age groups. [Figures 19-C and 19-D]

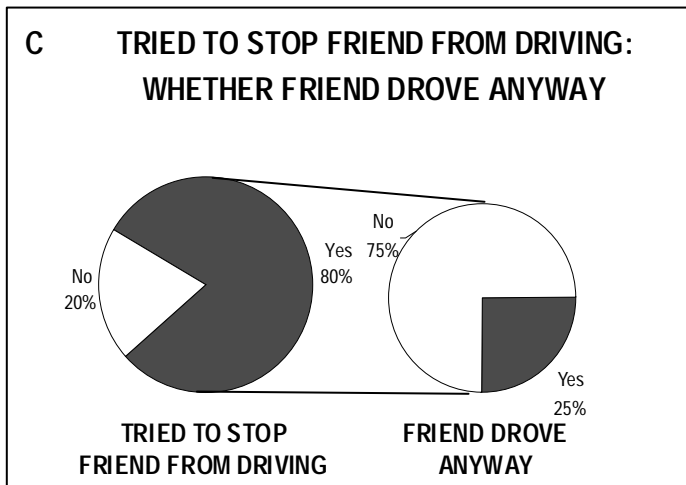
**FIGURE 19: INTERVENTION WITH FRIENDS WHO MAY NOT BE SAFE TO DRIVE**



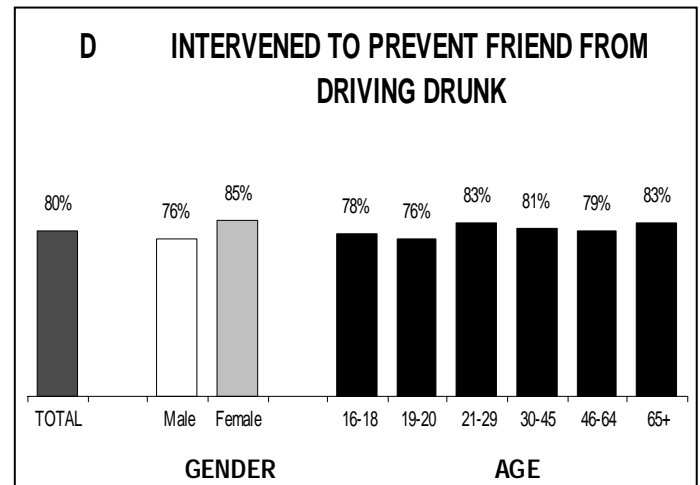
Q96: In the last year, how many times were you in a situation where you were with a friend who had too much to drink to drive safely?  
[Base: all respondents\*]



Q96: In the last year, how many times were you in a situation where you were with a friend who had too much to drink to drive safely?  
[Base: all respondents\*]



Q100: Think of the most recent time you were in this situation. Did you do something to stop them from driving?  
[Base: with a friend who had too much to drink to drive safely, one or more times in past year n=1928]



Q100: Think of the most recent time you were in this situation. Did you do something to stop them from driving?  
[Base: with a friend who had too much to drink to drive safely, one or more times in past year n=1928]

Q102: Did they drive anyway?  
[Base: tried to stop friend from driving n=1560]

\*Sample bases for this page:

	Total	Male	Female	16-18	19-20	21-29	30-45	46-64	65+
Total Respondents	6002	2607	3395	660	241	804	1753	1615	906
Friend had too much to drink	1928	888	1040	317	146	412	611	378	61
Tried to stop friend from driving	1560	679	881	244	115	355	498	301	45

## **Chapter 4: Enforcement of Drinking and Driving Laws**

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For law enforcement to be effective as a preventive measure, those who would potentially exhibit the undesired behavior must believe the threat of detection and enforcement. This section examines the driving age public's experiences with, and perceptions of, enforcement and punishment for drinking and driving violations.

Specifically it covers the following topics:

- Past two-year drinking and driving violations and arrests
- Perceptions of the being stopped by police driving after drinking
- Perceptions of punishments for drinking-driving violations
- Attitudes about current drinking-driving violation penalties
- Perceptions and use of sobriety checkpoints
- Awareness and feeling of appropriateness of open-container laws





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## **Drinking and Driving Violations and Arrests**

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### **Stopped/Arrested for Drinking and Driving Violation**

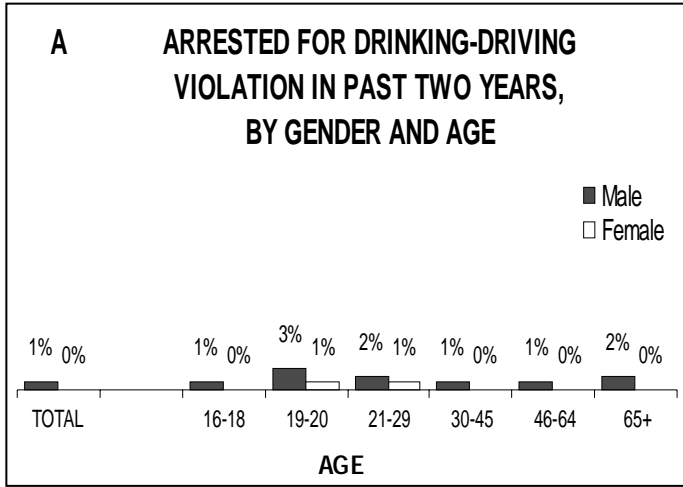
About 1% of the driving age public report being arrested for a drinking and driving violation in the past two years. Males are more than twice as likely as females to be arrested for drinking and driving violations, with the gender gap even larger for those age 19-20. [Figure 20-A]

### **Drinker-Drivers and Violations**

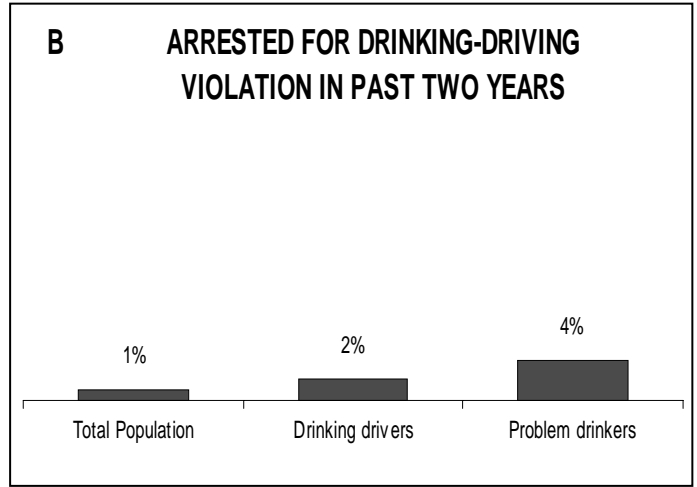
About 2% of drinker-drivers have been arrested in the past two years for a drinking and driving violation. Twice as many (4%) “problem drinkers” have been arrested for a drinking and driving violation. [Figure 20-B]

The vast majority of those who have been arrested for drinking and driving violations have only been arrested once in the past two years (83%). An additional 9% have been arrested twice, with the average number of arrests at 1.6. [Figure 20-C]

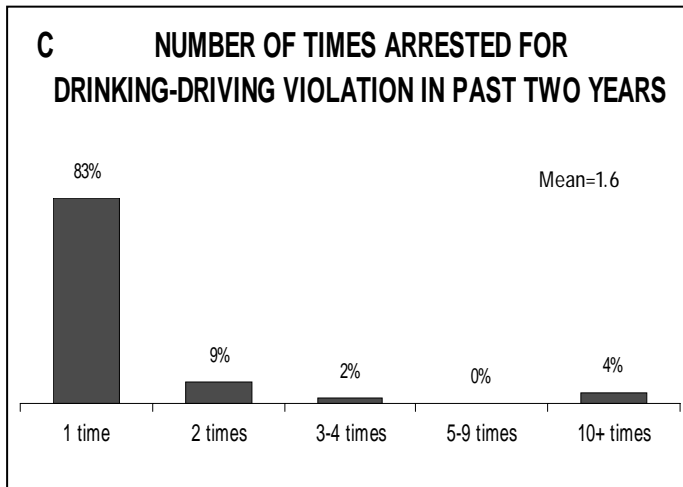
**FIGURE 20: DRINKING AND DRIVING VIOLATIONS AND ARRESTS**



Q113: Have you been arrested for a drinking and driving violation in the past two years?  
 [Base: all respondents\*\*]



Q113: Have you been arrested for a drinking and driving violation in the past two years?  
 [Base: all respondents; drinking driver n=1300, problem drinkers n=639]



Q114: How many times in the past two years?  
 [Base: Been arrested for drinking-driving violation n=56]

\*Sample bases for this page:

	Total	16-18	19-20	21-29	30-45	46-64	65+
Total	6002	660	241	804	1753	1615	906
Male	2607	327	115	365	786	670	336
Female	3395	333	126	439	967	945	570

## **Perceptions About Likely Drinking-Driving Outcomes**

---

### **Likelihood of Being Stopped by Police**

Overall, nearly six in ten (57%) of the driving age public believes that they would likely be stopped by the police for driving after having too much to drink. Ten percent (10%) feel this outcome is almost certain, 15% feel this is very likely, and 32% say it is somewhat likely.

[Figure 21-A]

### **Percent of Impaired Drivers Who Will Get Stopped by Police and Get in Crash**

On average, the driving age public believes that the police will stop about 32% of all alcohol-impaired drivers. In contrast, they believe that 44% of them will have a crash. Females feel that a larger proportion of impaired drivers will both get stopped by police and get in a crash. Those under age 21 also perceive a greater likelihood of both outcomes than do older adults.

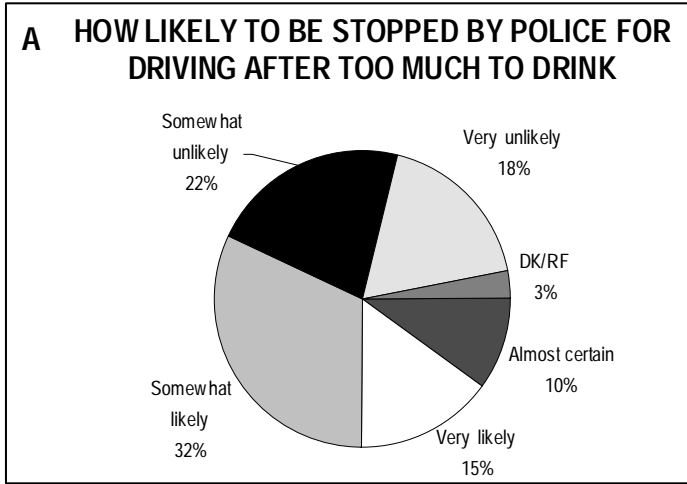
[Figure 21-C]

### **Perceptions of Drinker-Drivers and Other Drivers Who Drink**

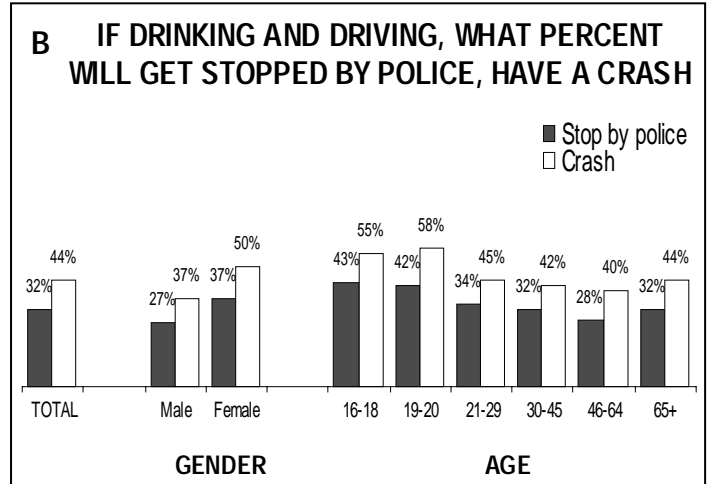
Past-year drinker-drivers perceive a much lower risk of drinking and driving than other drivers who drink alcohol (but not within two hours of driving). Drinker-drivers feel that about one in four (24%) of impaired drivers will get stopped while other drivers who drink believe a police stop will occur 32% of the time. Those who do not drink and drive feel that about 42% of impaired-drivers will be involved in a crash; those that are drinker-drivers believe that 29% will.

[Figure 21-C]

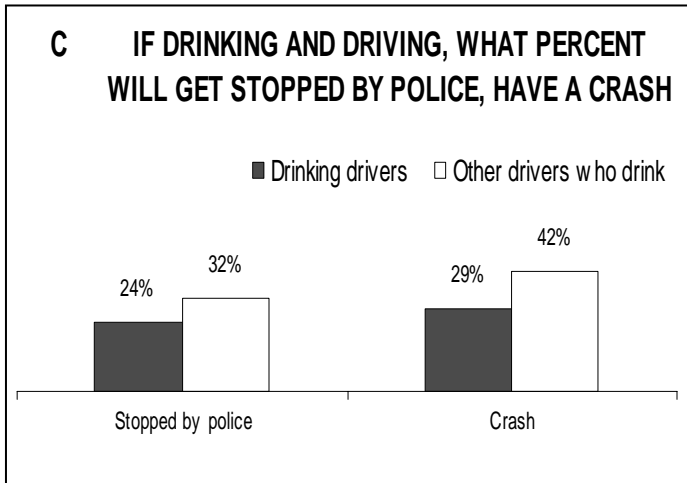
**FIGURE 21: PERCEPTIONS ABOUT LIKELY DRINKING-DRIVING OUTCOMES**



Q106: How likely are you to be stopped by a police officer for driving after you have had too much to drink?  
 [Base: all respondents n=6002]



Q105a: In your opinion, what percent of drivers who are impaired by alcohol (and then drive) will get stopped by the police or have a crash? [Base: all respondents\*\*]



Q105a: In your opinion, what percent of drivers who are impaired by alcohol (and then drive) will...  
 A. Get stopped by the police?  
 B. Have a crash?  
 [Base: drinking-drivers n=1300, other drivers who drink n=2195]

\*Drinking-drivers: Drove within two hours after drinking in the past year.

\*\*Sample bases for this page:

	Total	Male	Female	16-18	19-20	21-29	30-45	46-64	65+
Total Respondents	6002	2607	3395	660	241	804	1753	1615	906

## **Perceptions of Likely Punishment for Drinking-Driving Violations**

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### **Likelihood of Being Arrested if Caught Drinking and Driving**

Nearly four in ten (39%) persons of driving age feel that arrest is almost certain if one is stopped for a drinking and driving violation. [Figure 22-A] An additional 26% feel that such an outcome would be very likely. Drivers under age 19 are much more likely to feel that one would be arrested (73%). [Figure 22-C]

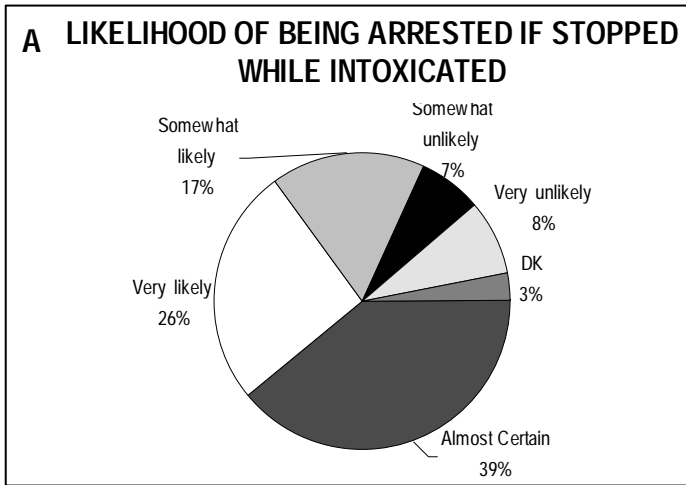
### **Perceived Severity of Punishment for Drinking and Driving**

More than six in ten (62%) of those 16 and older believe that a conviction is almost certain (37%) or very likely (25%) once arrested for a drinking and driving violation. [Figure 22-B] Those under age 21 are most likely to perceive a conviction would be forthcoming (72%). [Figure 22-C]

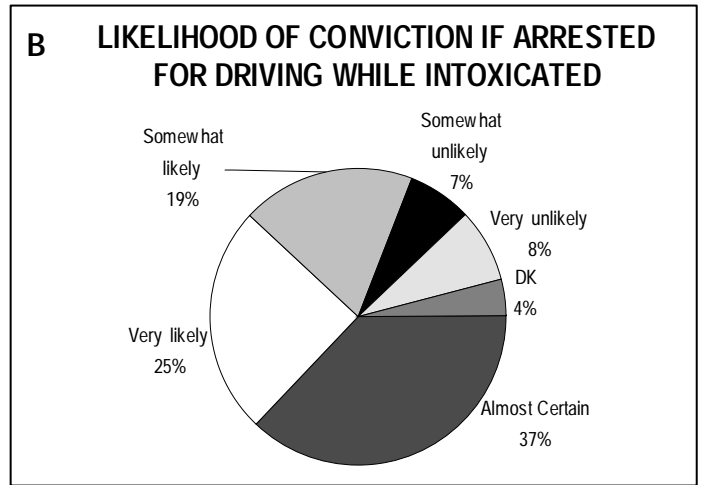
### **Most Likely Outcome for First-Time Drinking-Driving Violation**

Drivers have a variety of perceptions about the likely outcome the first time someone is stopped while intoxicated. Nearly half (46%) believe that the person will get a fine if they are stopped. Slightly over four in ten (41%) say that the person's license will be suspended or restricted. One in five (20%) feel the person will go directly to jail. One in eight (12%) believe the driver will need to take a DWI class. Probation (10%), reprimands (8%), community service (7%), treatment programs (4%), and being arrested or convicted (4%) are felt to be less likely outcomes if one is stopped for driving while intoxicated. [Figure 22-D]

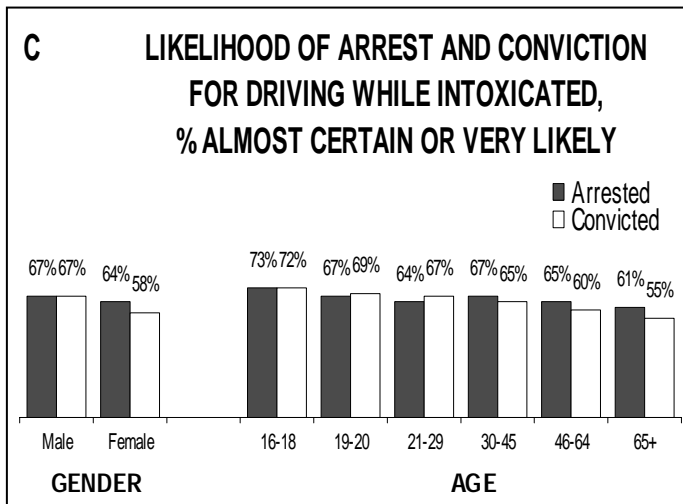
**FIGURE 22: PERCEPTIONS OF LIKELY PUNISHMENT FOR DRINKING-DRIVING VIOLATIONS**



Q108: If a police officer stops you while you are intoxicated, how likely would it be that you would be arrested?  
[Base: all respondents n=6002]

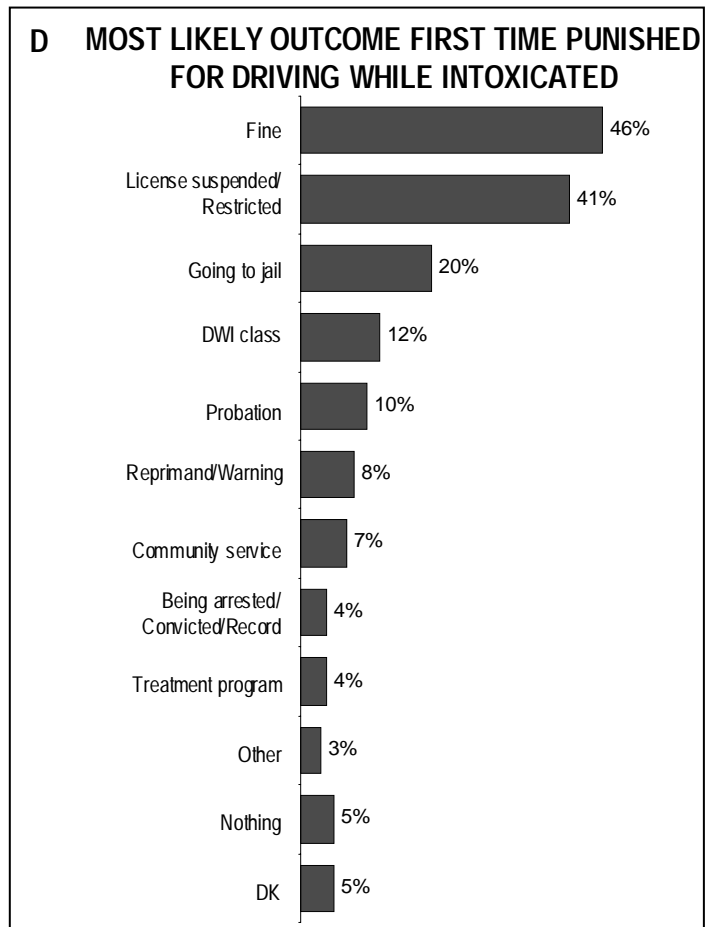


Q109: If you were arrested for driving while intoxicated, what is the likelihood that you would be convicted of that offense?  
[Base: all respondents n=5733]



Q108: If a police officer stops you while you are intoxicated, how likely would it be that you would be arrested?  
[Base: all respondents n=6002]

Q109: If you were arrested for driving while intoxicated, what is the likelihood that you would be convicted of that offense?  
[Base: all respondents n=6002]



Q110: What would most likely happen to a driver the first time he was punished for drunk driving? [Base: all respondents n=6002, three responses allowed]

\*Drinking-drivers: Drove within two hours after drinking in the past year.

\*\*Sample bases for this page:

	Total	Male	Female	16-18	19-20	21-29	30-45	46-64	65+
Total Respondents	6002	2607	3395	660	241	804	1753	1615	906

## **Attitudes About Drinking-Driving Penalties**

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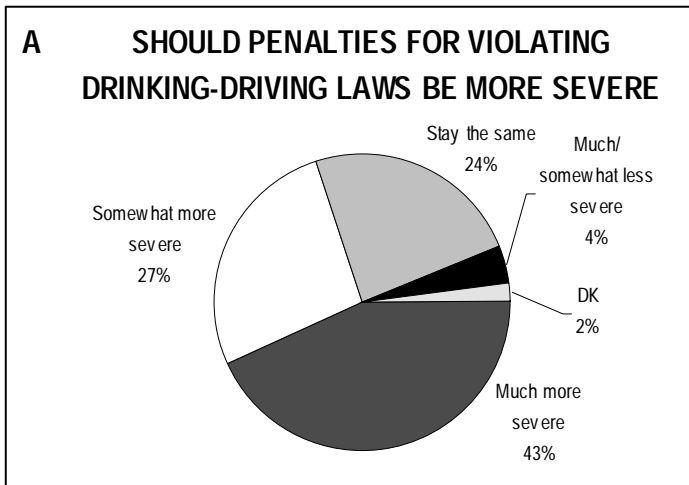
### **Perceptions About Severity of Drinking-Driving Laws**

The driving age public supports increased penalties for drinking and driving. More than four in ten (43%) feel penalties for violators should be much more severe, while 27% think they could be somewhat more severe. [Figure 23-A]

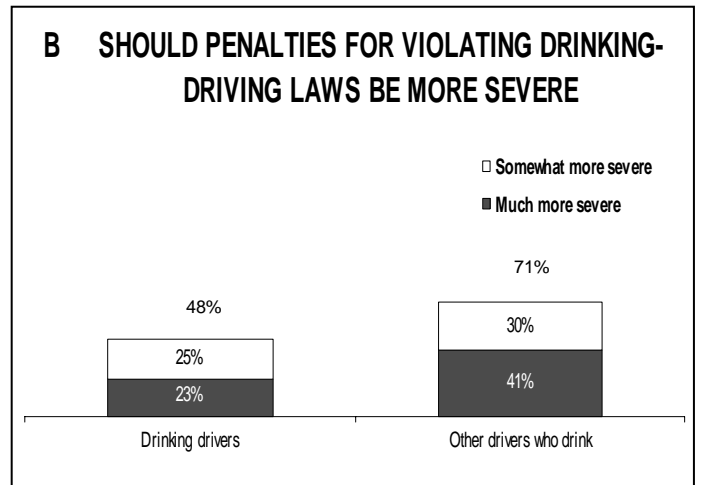
### **Drinking-Drivers vs. Other Drivers Who Drink**

Drinking-drivers are less supportive of increasing the severity of punishments for drinking and driving. Fewer than one in four (23%) agree that penalties should be much more severe as compared to 41% of other drinking drivers who feel this way. [Figure 23-B]

**FIGURE 23: ATTITUDES ABOUT DRINKING-DRIVING PENALTIES**



*Q116: In your opinion, should the penalties that are given out to drivers who violate the drinking and driving laws be...?*  
 [Base: all respondents n=6002]



*Q116: In your opinion, should the penalties that are given out to drivers who violate the drinking and driving laws be...?*  
 [Base: Drinking drivers n=1300, Other drivers who drink n=2195]



## **Perceptions and Use of Sobriety Checkpoints**

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Sobriety checkpoints are sometimes used by police to check drivers for alcohol impairment. Checkpoints are used as both a deterrent to potential drinker-drivers and as a means of intervention to get impaired drivers off the road before a crash occurs.

### **Seen a Sobriety Checkpoint, Past Year**

Almost one-third (32%) of all persons age 16 or older have seen a sobriety checkpoint in the past year. Males (37%) are more likely to have seen these checkpoints than females (29%). The likelihood of seeing a sobriety checkpoint decreases with age. [Figure 24-A]

### **Frequency of Sobriety Checkpoints**

About 18% of the driving age public have been through at least one sobriety checkpoint in the past year, with half of these going through at least two checkpoints. [Figure 24-B]

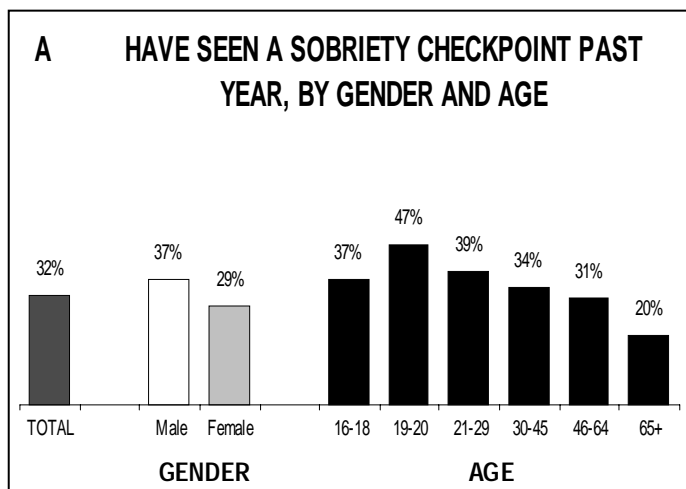
### **Recommended Frequency of Sobriety Checkpoint Use**

More than six in ten (62%) adults of driving age endorse more frequent use of sobriety checkpoints. Only 8% feel that less frequent use is warranted. [Figure 24-C]

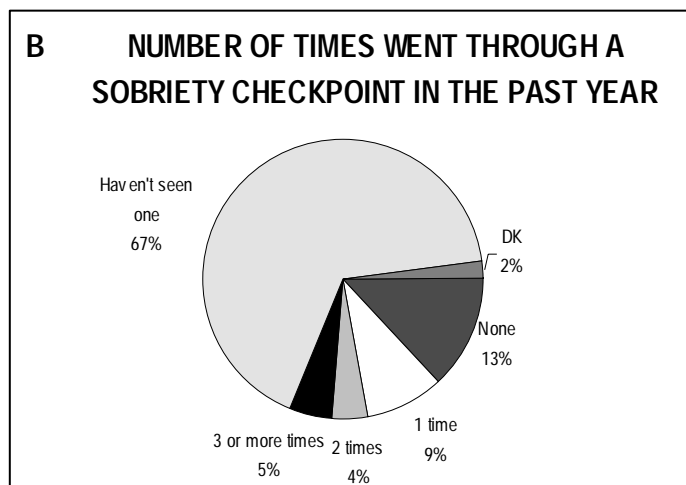
### **Drinking-drivers vs. Other Drivers Who Drink**

Consistent with perceptions about other forms of enforcement and penalties, drinking-drivers are much less likely than other drivers who drink to feel that sobriety checkpoints should be used more frequently. Just 45% of drinker-drivers feel they should be used more frequently compared to 62% of other drivers who drink. [Figure 24-D]

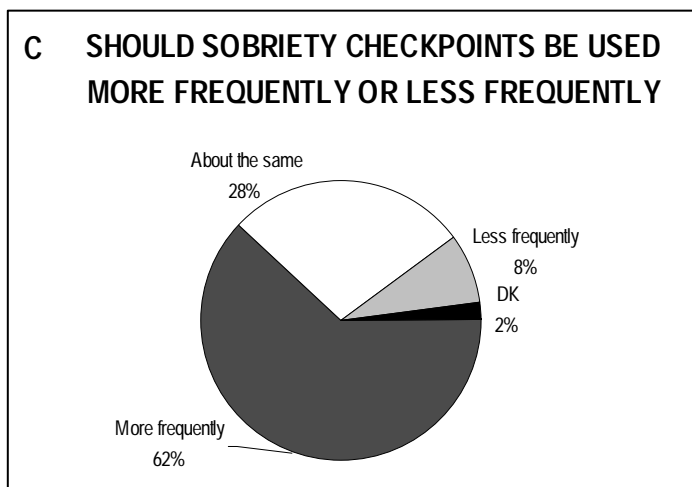
**FIGURE 24: PERCEPTIONS AND USE OF SOBRIETY CHECKPOINTS**



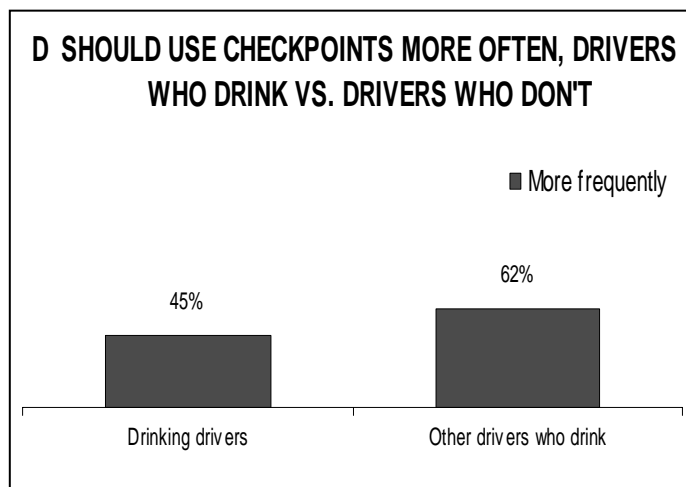
Q120: In the past 12 months, have you seen a sobriety checkpoint – where drivers are stopped briefly by police to check for alcohol-impaired driving?  
 [Base: all respondents\*\*]



Q120/121: In the past 12 months, have you seen a sobriety checkpoint – where drivers are stopped briefly by police to check for alcohol-impaired driving? How many times have you been through a checkpoint in the last 12 months?  
 [Base: all respondents n=6002]



Q122: Do you think sobriety checkpoints should be used more frequently, about the same as they are now, or less frequently?  
 [Base: all respondents n=6002]



Q122: Do you think sobriety checkpoints should be used more frequently, about the same as they are now, or less frequently?  
 [Base: drove within two hours of drinking n=1300, other drivers who drink n=2195]

\*\*Sample bases for this page:

	Total	Male	Female	16-18	19-20	21-29	30-45	46-64	65+
Total	6002	2607	3395	660	241	804	1753	1615	906

## **Open Container Laws**

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### **Knowledge of Open Container Law**

The vast majority (88%) of persons of driving age believe that their state has an open container law, whereby it is illegal to have an open container of alcohol inside the car while someone is driving. There are few differences in this perception by gender or age, though the youngest drivers age 16-18 (84%) are slightly less likely to believe their state has this law. [Figure 25-A]

### **Belief That State Should Have Open Container Law**

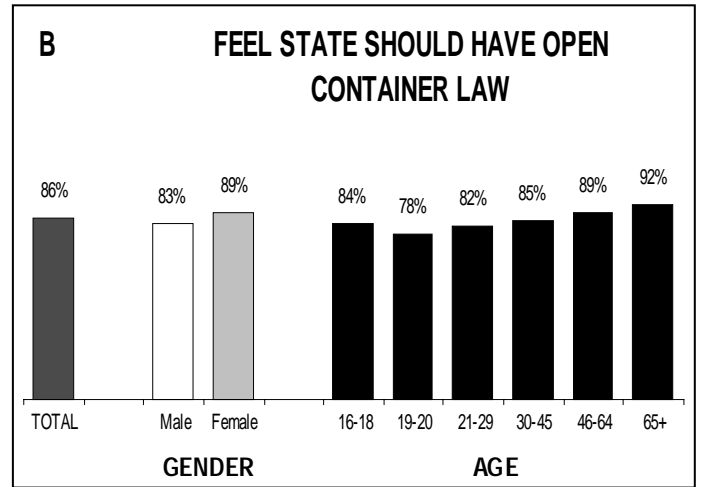
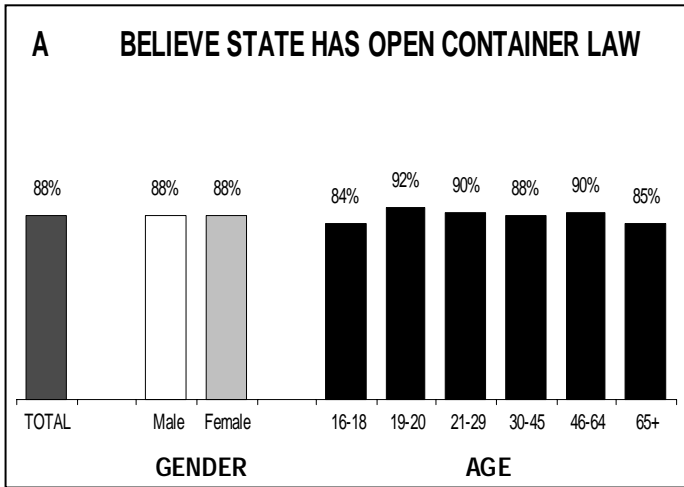
Nearly nine of ten (86%) persons of driving age believe that their state should have an open container law. Females are more likely to believe that such a law should be in place (89% of females as compared to 83% of males). Persons over age 45 are also more likely to feel their state should have an open container law. [Figure 25-B]

### **Knowledge of Open Container Law, by State**

As can be seen in Figure 25-C, the public's knowledge of their state's open container law varies greatly by state. At the time of the survey, 33 states and the District of Columbia were in full compliance of the open-container law. Knowledge among these states of the law ranged from 100% in North Dakota to 78% in Arizona.

Persons in North Dakota, Oklahoma, South Carolina, and Ohio are most likely to know that their state has an open container law (more than 95% in each of these states that were in full compliance with the law). Of the remaining 30 states that were in full compliance at the time of the study, only five states had knowledge levels of less than 85%: Kentucky (82%), Pennsylvania (82%), Florida (81%), New Jersey (81%), and Arizona (78%). In contrast, seven of the 17 states that have no statewide law had more than 85% of their residents believing they have an open-container law in their state: Indiana (92%), Massachusetts (90%), Missouri (89%), Tennessee (88%), Alaska (86%), Vermont (86%), and Virginia (86%). [Figure 25-C]

**FIGURE 25: OPEN CONTAINER LAWS**



Q116a: To the best of your knowledge, does your state have any law that makes it illegal to have an open container of alcohol inside the car while someone is driving?  
 [Base: all respondents\*\*]

Q116b: Do you think your state SHOULD have this type of open container law?  
 [Base: all respondents\*\*]

**C BELIEVE STATE HAS OPEN CONTAINER LAW BY STATE**

North Dakota*	100%	Texas*	90%	Idaho*	85%
Oklahoma*	99%	NewHampshire*	89%	Colorado	85%
South Carolina*	97%	Missouri	89%	West Virginia	85%
Ohio*	96%	New Mexico*	89%	Louisiana++	84%
Kansas*	95%	Iowa*	89%	Washington	83%
Michigan*	94%	Alabama*	88%	Pennsylvania*	82%
Minnesota*	94%	Nevada*	88%	Delaware	82%
North Carolina*	94%	Hawaii*	88%	Kentucky*	82%
Utah*	93%	Tennessee	88%	Florida*	81%
Washington*	92%	South Dakota*	88%	New Jersey*	81%
Wisconsin*	92%	Nebraska*	87%	Mississippi++	80%
Indiana	92%	Maine*	86%	Connecticut++	80%
Illinois*	91%	Rhode Island*	86%	Wyoming++	80%
California*	91%	Alaska	86%	Arkansas	79%
Oregon*	91%	Virginia	86%	Arizona*	78%
Massachusetts	90%	Georgia*	86%	Maryland	77%
New York*	90%	Vermont	86%	Montana	71%

\*States in full compliance of open-container law  
 ++States with no open-container law

\*\*Sample bases for this page:

	Male	Female	16-18	19-20	21-29	30-45	46-64	65+
Total	2607	3395	660	241	804	1753	1615	906

## **Chapter 5: Knowledge and Awareness of Blood Alcohol Concentration (BAC) Levels and Legal Limits**

---

The amount of alcohol in a person's body can be measured in terms of the "Blood Alcohol Concentration" or BAC level. At the time the survey was administered, most states set the BAC limit at .10, while the limit in 29 states plus the District of Columbia have .08 per se law. Public sentiment generally supports the .08 BAC initiative.

This section examines the driving age public's awareness and perceptions on the following BAC level topics:

- Awareness and knowledge of BAC levels and the legal limit for their states
- Knowledge of amount of alcohol to reach the BAC legal limit
- Acceptance of .08 BAC legal limits



## **Awareness and Knowledge About BAC Levels and Legal Limits**

---

### **Have Heard of BAC Levels**

More than four out of five (83%) persons of driving age have heard of blood alcohol concentration (BAC) levels. Males (85%) are somewhat more likely to have heard of BAC levels than have females (82%). Persons under age 30 are more likely than older persons to have heard of these levels with 77% of those age 65 or older aware. [Figure 26-A]

### **Awareness Among Drinking-Drivers**

Drinking-drivers are more likely to be aware of BAC levels than other persons, with 89% awareness. [Figure 26-B]

### **Knowledge of State's BAC Legal Limit**

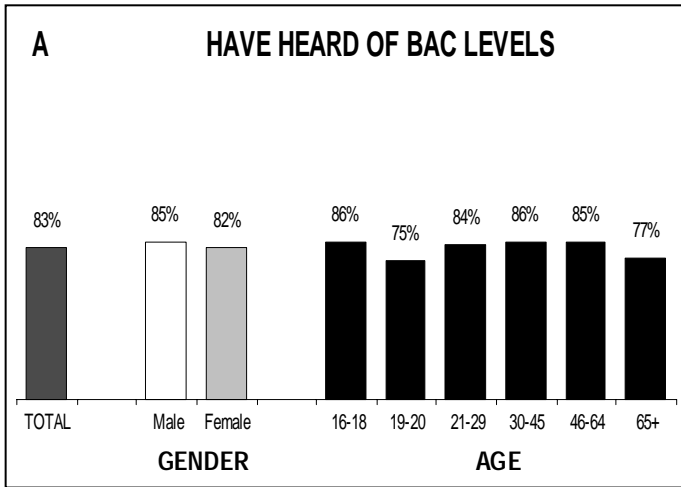
About six in ten (61%) of the driving age public thinks that they know the BAC legal limit for their state. However, just over half (56%) of those who thought they knew the level were able to give the correct BAC legal limit for their state. Therefore, just 34% of persons of driving age who know their state's BAC limit. [Figure 26-C]

Persons living in the 34 states with a .10 BAC legal limit<sup>1</sup> at the time of the study were less likely to correctly know the legal limit in their state than those persons living in states with a .08 limit. Less than one-quarter (22%) of those in .10 BAC-limit states correctly named the legal limit in their state. In contrast, 30% of persons in .08 states were aware of their state's limit. [Figure 26-D]

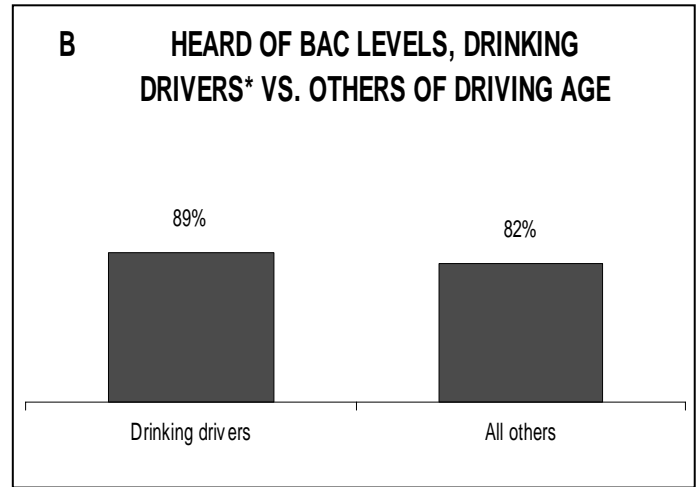
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<sup>1</sup> As of August 2001, 29 states and D.C. had .08 per se laws and 22 states had .10 per se laws.

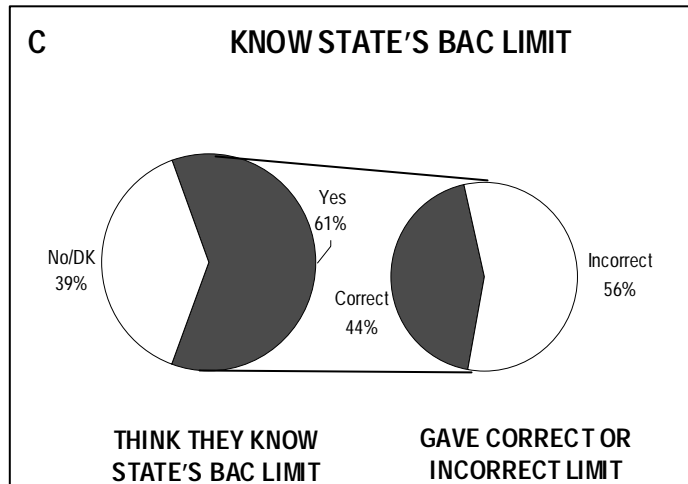
**FIGURE 26: AWARENESS AND KNOWLEDGE ABOUT BAC LEVELS AND LEGAL LIMITS**



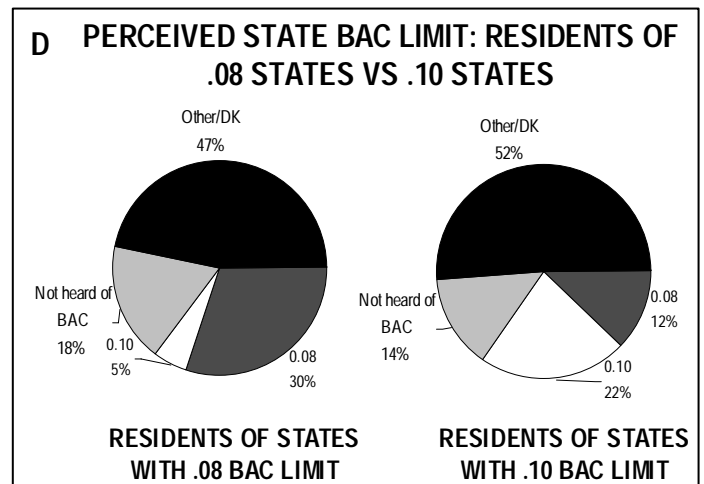
Q123: The amount of alcohol in a person's body can be measured in terms of the "Blood Alcohol Concentration," which is often called the BAC level. Have you heard of blood alcohol concentration?  
 [Base: all respondents n=6002]



Q123: The amount of alcohol in a person's body can be measured in terms of the "Blood Alcohol Concentration," which is often called the BAC level. Have you heard of blood alcohol concentration BAC levels?  
 [Base: drinking-drivers\* n=1300, all others n=4702]



Q125: To the best of your knowledge, what is the specific BAC limit for your state?  
 [Base: Pie 1=All respondents Pie 2= Respondents who thought they knew state's BAC limit; answers were compared with actual BAC limits for each respondent's state of residence n=3657]



Q125: To the best of your knowledge, what is the specific BAC limit for your state?  
 [Base: respondents in .08 and .10 BAC states; answers were compared with actual BAC limits for each respondent's state of residence; .08 states n=3439, .10 states n=2563]

\*Sample bases for this page:

	Total	Male	Female	16-20	21-29	30-45	46-64	65+
Total	6002	2607	3395	901	804	1753	1615	906



## **BAC Limits for Drivers Under Age 21**

---

All 50 states and the District of Columbia have laws that prohibit the purchase and public possession of alcoholic beverages by persons under the age of 21. At the time this survey was administered, all states and the District of Columbia had set “zero-tolerance” laws for persons under age 21. For this question, “zero tolerance” means any measurable amount of alcohol or a maximum of .02 BAC while driving.

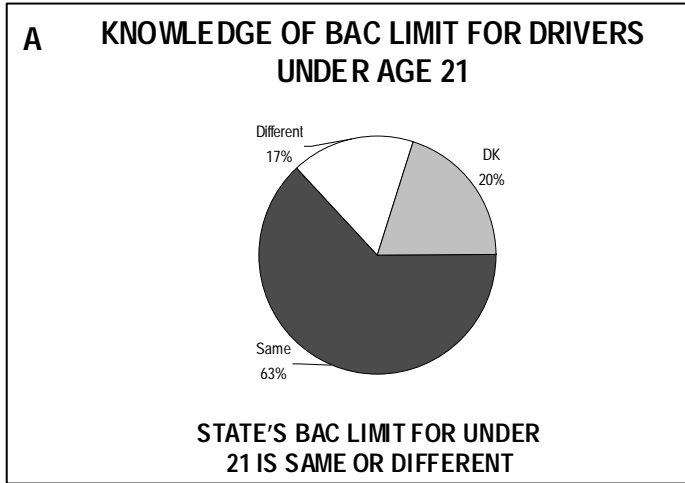
### **Knowledge of BAC Limit for Minors**

One in five (20%) of the driving age public does not know if their state has a different BAC level for drivers under the age of 21. Only about one in six (17%) thinks the legal limit for those under 21 is different for those over 21. Again, all states and the District of Columbia had zero tolerance laws for those under age 21 at the time of survey administration. [Figure 27-C]

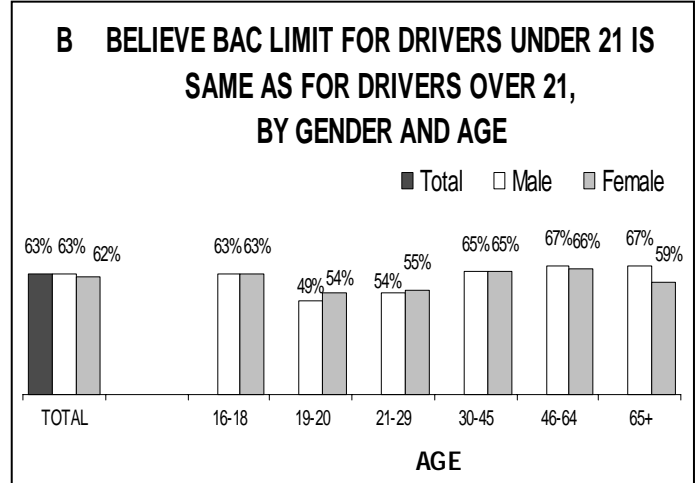
### **Believe BAC Limit for Drivers Under 21 Is Same as 21 and Older**

More six in ten (63%) believe that the BAC limit for drivers under age 21 is the same as that for drivers over 21. Persons age 19-20 are least likely to believe that the BAC limit for underage drinkers is the same as for those age 21 and older. Education is clearly necessary to convey information about zero tolerance laws for those under 21 to the general population and especially to those under age. [Figure 27-D]

**FIGURE 27: BAC LIMITS FOR DRIVERS UNDER AGE 21**



Q130a: In your state, is the legal limit the same for drivers under 21?  
[Base: all respondents n=6002]



Q130a: In your state, is the legal limit the same for drivers under 21?  
[Base: all respondents n=6002]\*\*

\*\*Sample bases for this page:

	Total	16-18	19-20	21-29	30-45	46-64	65+
Total	6002	660	241	804	1753	1615	906
Male	2607	327	115	365	786	670	336
Female	3395	333	126	439	967	949	570

## **Knowledge of Amount of Alcohol to Reach BAC Limit**

---

### **Number of Beers in Two Hours to Reach Legal Limit**

Those who thought they knew their state's BAC limit were asked how many beers in a two-hour period it would take to just reach their state's legal limit (either .08 or .10). The driving age public generally underestimates the number of drinks it takes to reach the BAC level in their state.

Fifty-five percent (55%) of males and 73% of females believe that it would take three or fewer beers within two hours for a person about their size to reach the state's limit regardless of whether it is a .08 or .10 limit state. An additional 23% of males and 12% of females feel that the limit would be reached at four beers.

The general public underestimates the number of drinks to reach the legal BAC limit. Studies have shown that it would take an average 170-pound male more than four drinks within a two-hour period to reach a level of .08, while it would take more than three drinks in two hours for a 137-pound woman to reach a .08 BAC level. Yet, just 43% of males and 21% of women feel that it would take four or more beers to reach this BAC limit. [Figure 28-A]

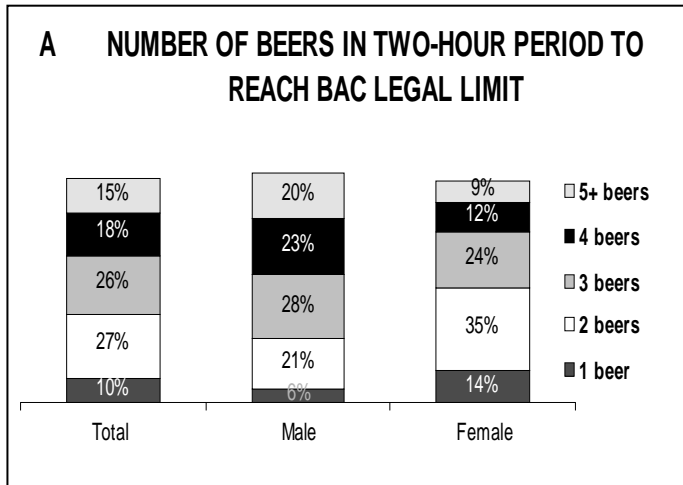
About four of ten (41%) persons living in .08 BAC-limit states believe they would reach their state's limit with two or fewer drinks in two hours, while 35% of those in .10 BAC-limit states feel this number of drinks would get them to the legal limit. [Figure 28-B]

### **Number of Drivers Who Would Be Dangerous With BAC at Legal Limit**

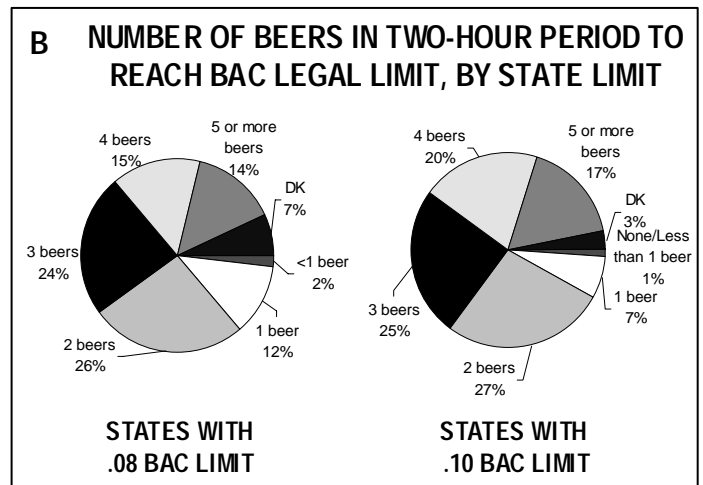
Slightly more than six in ten of the driving age public (61%) thinks that all or most drivers would be dangerous with a BAC at the legal limit. [Figure 28-C] This includes those who (incorrectly) believe that it would take three or fewer drinks to reach the limit.

Persons age 16-18 are much less likely than older persons to feel that all drivers would be dangerous at their state's legal limit. Only 18% of these minors believe a person would be dangerous at the BAC limit. Males are less likely than females to feel people would be dangerous at the limit. [Figure 28-D]

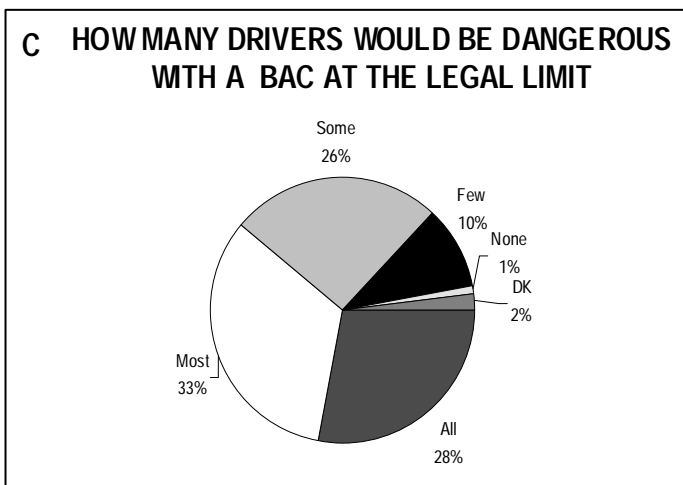
**FIGURE 28: KNOWLEDGE OF AMOUNT OF ALCOHOL TO REACH BAC LIMIT**



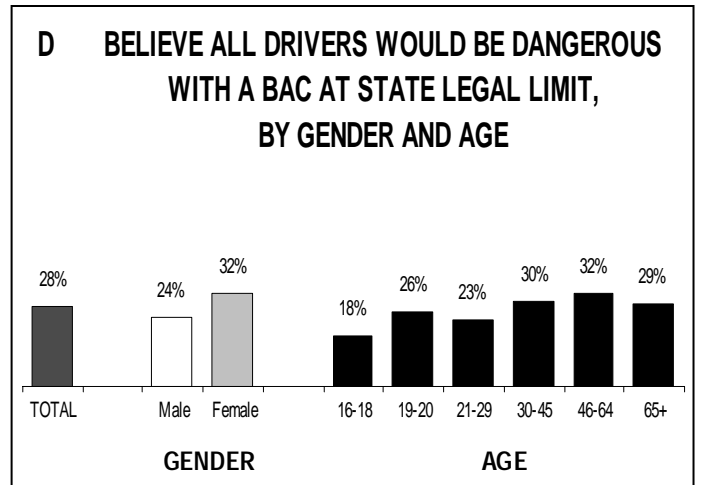
Q126: How many beers would a person about your size have to drink in a two-hour period to just reach the legal limit?  
 [Base: believe they know the state's BAC limit n=3657, male n=1686, female n=2950]



Q126: How many beers would a person about your size have to drink in a two-hour period to just reach the legal limit?  
 [Base: believe they know the state's BAC limit n=3655, .08 states n=2166, .10 states n=1489]



Q127: In your opinion, how many drivers would actually be dangerous drivers with a BAC at the legal limit?  
 [Base: all respondents n=6002]



Q127: In your opinion, how many drivers would actually be dangerous drivers with a BAC at the legal limit?  
 [Base: all respondents n=6002]

## Acceptance of .08 BAC Limit

---

A series of questions has been asked since 1997 to get a better understanding of the driving age public's perceptions and acceptance of .08 BAC limits. Persons living in .08 BAC-limit states who had heard of BAC levels were asked if the BAC limit in their state should stay at its current level, or be raised (made looser) to .10. Those living in .10 BAC-limit states were asked if their state's level should be lowered (made stricter) to .08, or stay at the current level.

### Views Toward the Raising/Lowering of State's BAC Limit

A majority of those aware of BAC levels support a BAC limit of .08 or stronger. About two-thirds (64%) of those age 16 and older who have heard of BAC levels feel that their state's BAC level should be .08. About 88% of these residents in current .08 states feel that the limit should remain at .08 (75%), or be made even stricter (13%), while about half (53%) of those in .10 BAC-limit states feel that the limit should be lowered to .08. [Figure 29-A]

### By Age

There are no substantial differences in views toward raising or lowering the BAC limit by age group. About two-thirds of those in all age groups support a BAC limit of .08. [Figure 29-B]

### By Gender

Females are more likely to say the BAC limit should stay at .08 or be made stricter than are males with 67% of females, versus 60% of males supporting a .08 limit. [Figure 29-C]

### Drinker-Drivers

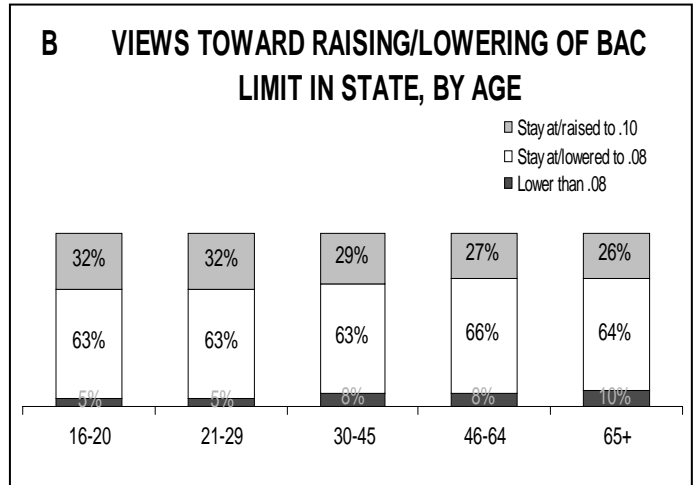
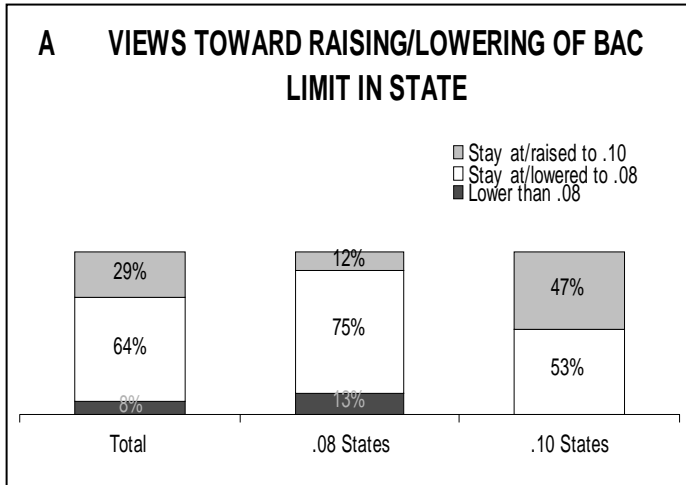
Support for .08 BAC limits is higher among persons of driving age who do not drive within two hours of consuming alcohol. While 56% of drinker-drivers feel their state limit should be .08, 64% of non-drinker drivers support .08 BAC. [Figure 29-D]

### State Support

There is a great deal of variance in support of a .08 or stricter BAC limit by state with generally high levels of support among those in states with current .08 BAC limits and lower support among all .10 states. Virtually all persons of driving age who are aware of BAC limits in Utah (96%), New Hampshire (93%), and Washington (93%) support .08 or stricter (current .08 BAC-limit states). At the other end of the support continuum, just 38% in South Dakota and just 31% in North Dakota support .08 BAC for their state (current .10 BAC-limit states).

Among those who have heard of BAC limits, support for .08 BAC limits is at least 75% in all states that had .08 BAC legal limits at the time of the survey administration. [Figure 29-E]

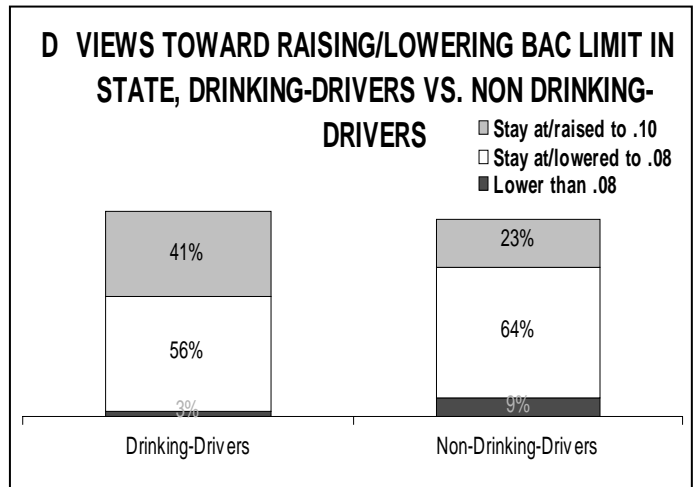
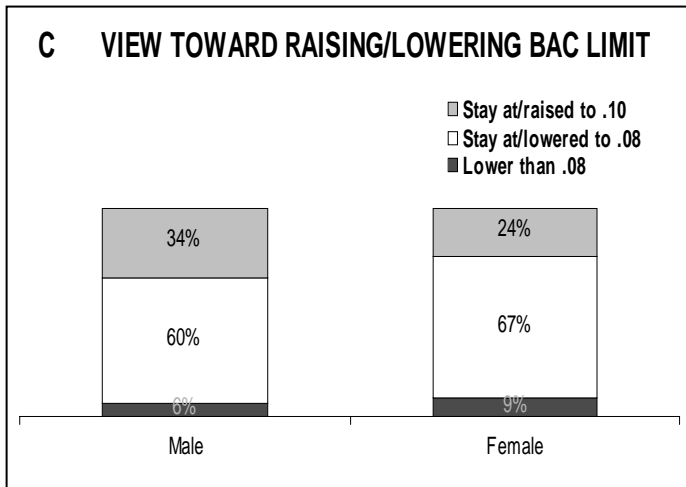
**FIGURE 29: ACCEPTANCE OF .08 BAC LIMIT**



Q130f: The BAC limit in your state is currently .08. In your opinion, should the BAC level in your state be raised, that is made looser to a level of .10, or should it stay at its current level of .08?

Q130e: The BAC limit in your state is currently .10. In your opinion, should the BAC level in your state be lowered, that is made stricter to a level of .08, or should it stay at its current level of .10?

[Base: heard of BAC levels, total n=5798, .08 states n=3469, .10 states n=2343]



[Base: specified in the chart and heard of BAC levels male n=2334, female n=3139]

[Base: specified in the chart and heard of BAC levels Drinking-Drivers n=1287, Non-Drinking-Drivers n=4675]

Q130f: The BAC limit in your state is currently .08. In your opinion, should the BAC level in your state be raised, that is made looser to a level of .10, or should it stay at its current level of .08?

Q130e: The BAC limit in your state is currently .10. In your opinion, should the BAC level in your state be lowered, that is made stricter to a level of .08, or should it stay at its current level of .10?

**FIGURE 29: ACCEPTANCE OF .08 BAC LIMIT (continued)**

<b>E VIEWS TOWARD RAISING/LOWERING BAC LIMIT IN STATE, BY GENDER</b>							
<b>STATES WITH 71% OR HIGHER SUPPORT FOR .08 OR STRICTER SUPPORT</b>		<b>STATES WITH 51% TO 70% SUPPORT FOR .08 OR STRICTER SUPPORT</b>		<b>STATES WITH 50% OR LESS SUPPORT FOR .08 OR STRICTER SUPPORT</b>			
UT*	96%	VT*	86%	WV	60%	PA	50%
NH*	93%	AK*	85%	NV	58%	MN	48%
WA*	93%	DC*	85%	TN	53%	CO	47%
OR*	91%	MD*	85%	DE	53%	MA	47%
ME*	90%	FL*	84%	CT	51%	OH	46%
AL*	89%	IN*	84%	IA	51%	MI	45%
HI*	89%	NE*	84%	MS	51%	MT	45%
ID*	89%	TX*	83%			LA	44%
KY*	89%	GA*	81%			NJ	44%
NM*	89%	IL*	80%			WI	41%
VA*	89%	KS*	79%			NY	40%
AZ*	88%	AR*	77%			SC	40%
CA*	88%	RI*	77%			WY	40%
NC*	88%	MO*	75%			SD	38%
OK*	87%					ND	31%

\*State with .08 limit





## **Chapter 6: Motor Vehicle Crash and Injury Experience**

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NHTSA's goal is to reduce the fatalities, injuries, and costs associated with alcohol-related motor vehicle crashes. The costs to society associated with injuries and disabilities from such crashes are estimated in the billions of dollars. As such, understanding the crash experience of non-fatal accidents is an important piece in comprehending the overall picture. This section examines experiences in motor vehicle crashes as both a passenger and a driver, specifically it covers the following topics:

- Involvement in a motor vehicle crash with the past two years as a driver
- Consumption of alcohol by respondent as a driver prior to a crash
- Resulting injuries from a crash as the driver
- Involvement in a motor vehicle crash in the past two years as a passenger
- Consumption of alcohol by a driver prior to the crash
- Resulting injuries from a crash as a passenger



## **Involvement in Motor Vehicle Crash, Past Year**

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### **Involved in Vehicle Crash as Driver, Past Two Years**

About one in six (16%) drivers were involved in a motor vehicle crash in the past two years while driving a motor vehicle. Motor vehicle crashes were more likely to be reported by drivers under age 30. Above age 30, the likelihood of a motor vehicle crash declines steadily with age. [Figure 30-A]

### **Consumption of Alcohol Prior to Crash, Crashes as a Driver**

The driver had consumed alcohol within two hours prior to driving in about 2% of the reported past-year motor vehicle crashes. Males and drivers under age 21 were more likely to have consumed alcohol prior to their crash. [Figure 30-B]

### **Injury Experienced in Motor Vehicle Crash as the Driver, Past Two Years**

Four percent of all drivers have been involved in a motor vehicle crash as the driver, which resulted in an injury to the driver or a passenger. Those age 21-29 are more likely to have been the driver in an injury crash. [Figure 30-C]

### **Passenger in Vehicle Crash, Past Two Years**

About 4% of the driving age public has been involved in a motor vehicle crash as a passenger in the past two years. Youths under age 21 are much more likely than other drivers to have been a passenger in a vehicle crash in the past two years. [Figure 30-D]

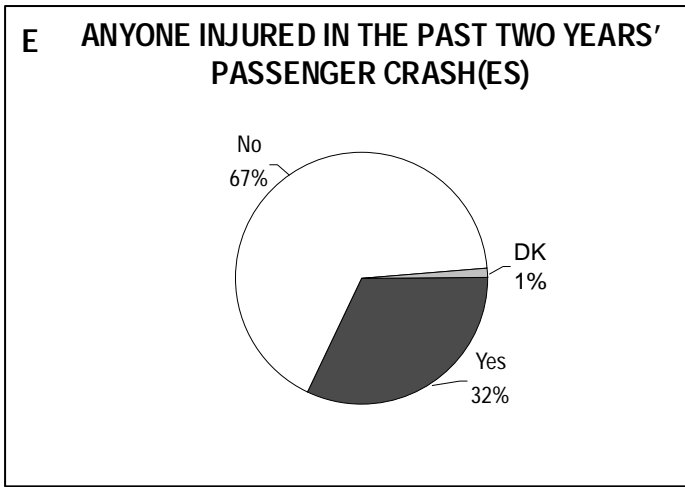
### **Injury Experience in Motor Vehicle Crash as a Passenger, Past Year**

An injury was sustained by one or more persons in about 32% of the motor vehicle crashes in which the driving age public was involved in the past year. [Figure 30-E]

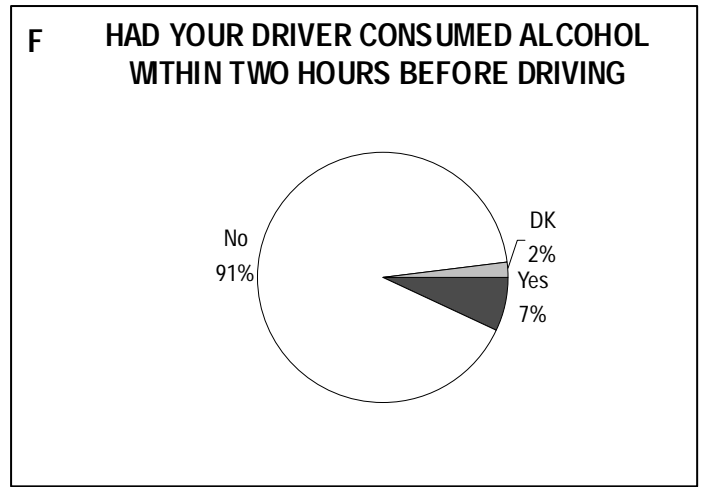
### **Consumption of Alcohol Prior to Crash, Crashes as a Passenger**

The driver had consumed alcohol within two hours prior to driving in about 7% of the motor vehicle crashes where a person of driving age was involved as a passenger. [Figure 30-F]

**FIGURE 30: INVOLVEMENT IN MOTOR VEHICLE CRASH, PAST TWO YEARS (continued)**



*Q137: Was anyone injured (in any of those crashes)?*  
[Base: involved in a crash as a passenger, past two years n=271]



*Q138: Had your driver consumed alcohol within two hours before getting behind the wheel?*  
[Base: involved in a crash as a passenger, past two years n=271]

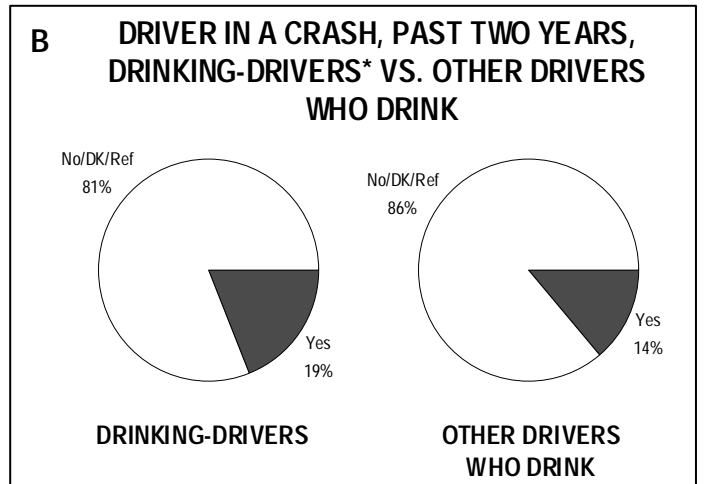
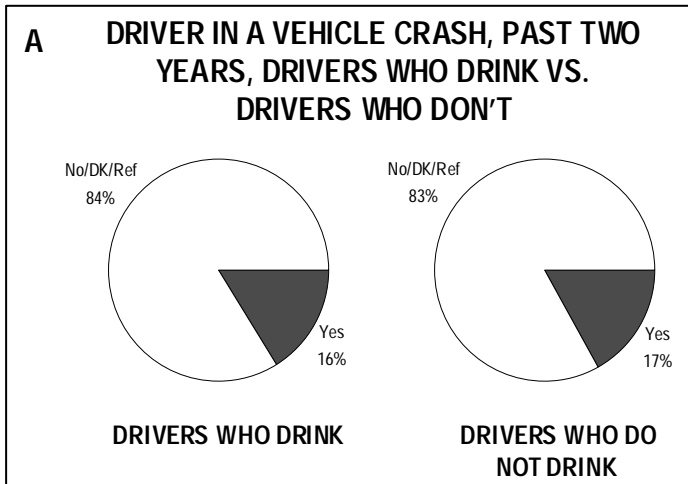
## **Crash Experience of Drivers Who Drink, Drivers Who Do Not Drink, and Drinking-Drivers**

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Drivers who drink are just as likely to have been involved in a motor vehicle crash in the past two years than have drivers who do not drink. About 16% of drivers who drink have been involved in a crash in the past two years as compared to 17% for drivers who do not drink. [Figure 31-A]

Drinking-drivers are more likely to report involvement in motor vehicle crashes in the past two years than other drivers who drink (but not within two hours of driving). [Figure 31-B]

**FIGURE 31: CRASH EXPERIENCE OF DRIVERS WHO DRINK, DRIVERS WHO DO NOT DRINK, AND DRINKING-DRIVERS\***



Q131a: In the past two years, have you been involved in a crash while driving a motor vehicle in which there was damage to your vehicle or another vehicle?

[Base: drivers who drink n=3495, drivers who do not drink n=2151]

Q131a: In the past two years, have you been involved in a crash while driving a motor vehicle in which there was damage to your vehicle or another vehicle?

[Base: drinking-drivers n=1300, other drivers who drink n=2195]

\*Drinking-drivers: Drove within two hours after drinking in past year.

## **Chapter 7: Effectiveness of Strategies to Reduce or Prevent Drunk Driving**

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While many actions could be taken to reduce or prevent drunk driving, strategies and programs that do not have the support of the general public will not be accepted and embraced and ultimately may fail.

This section assesses the driving age public's perception of the effectiveness of the following strategies:

- Increasing law enforcement
- Reducing places that sell alcohol
- Increasing the cost of alcohol
- Making sellers more legally responsible
- Providing alternate transportation options
- Limiting certain types of alcohol advertising
- Making alcohol treatment programs more available





## **Perceived Effectiveness of Strategies to Reduce Drunk Driving**

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The driving age public was asked to rate the effectiveness of seven specific strategies in reducing or preventing drunk driving.

Of the seven strategies rated, providing people who have drunk too much an alternate to self-driving is perceived to be the most effective. Six in ten (60%) believe this strategy would be very effective.

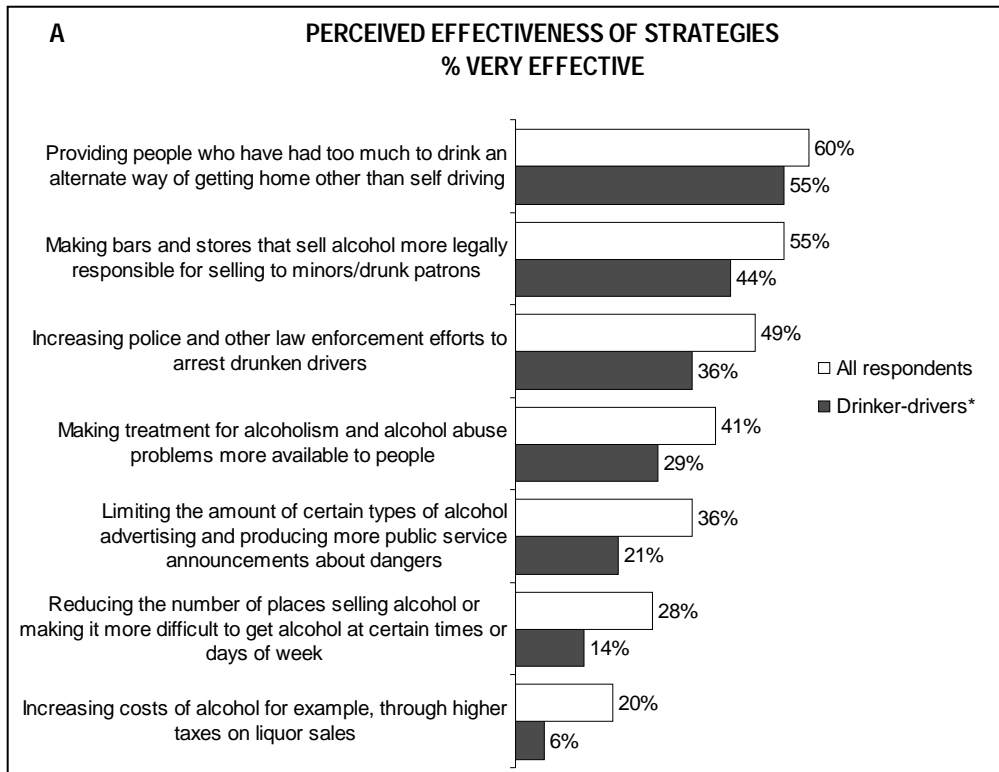
More than half (55%) feel that making bars and stores that sell alcohol more legally responsible for selling to minors and drunk patrons would be an effective strategy.

Other key strategies would be to increase law enforcement efforts to arrest drunk drivers (49%) and to make treatment for alcoholism/alcohol problems more available (41%).

Other strategies such as limiting certain types of alcohol advertising (36%), reducing the number of places selling alcohol (28%), and increasing the cost of alcohol (20%) are viewed as effective strategies to reduce drunk driving by smaller proportions of the driving public.

Drinker-drivers are less likely to believe that these potential strategies would be very effective. Providing alternate ways of getting home is the one strategy a majority of drinker-drivers feel could be very effective. [Figure 32-A]

**FIGURE 32: PERCEIVED EFFECTIVENESS OF STRATEGIES TO REDUCE DRUNK DRIVING**



*Q139: In your opinion, how effective do you think each of the following strategies would be?  
 [Base: all respondents n=6002, drinker-drivers n=1300]*

\*Drinker-drivers: Drove within two hours after drinking in past year.

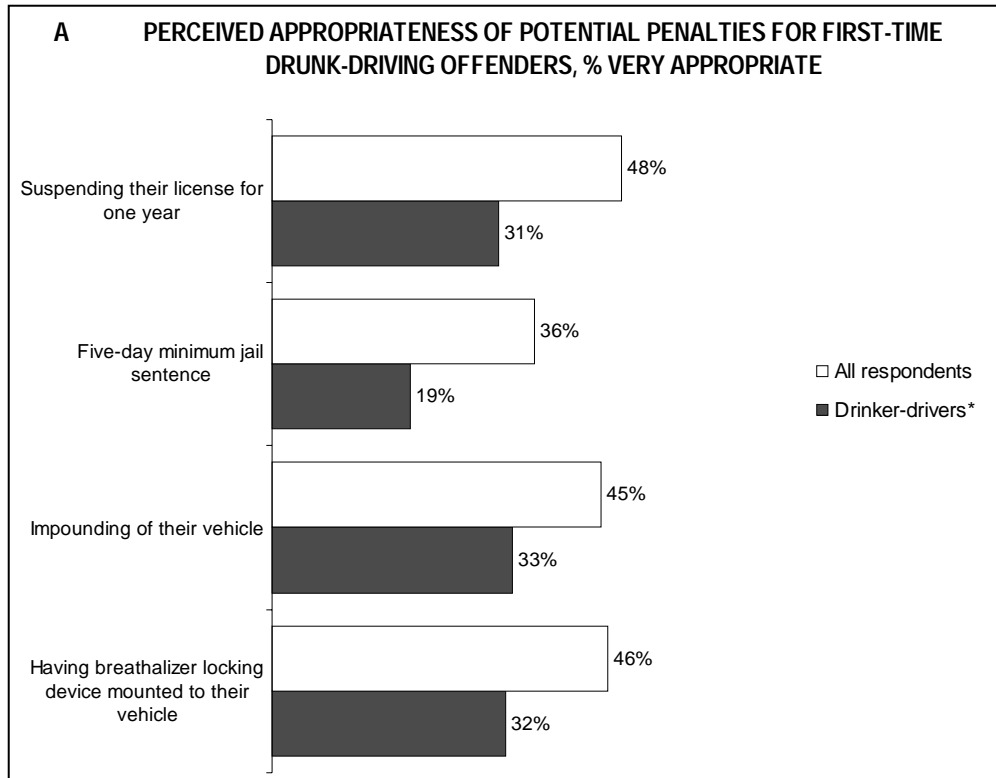
## **Perceived Appropriateness of Potential Penalties for First-Time Drunk-Driving Offenders**

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The driving age public was asked to rate the appropriateness of four potential penalties for first-time drunk-driving offenders.

The most appropriate penalties were perceived to be suspending the offender's license for one year (48% very appropriate), having a breathalyzer locking device mounted to their vehicle (46%), and impounding their vehicle. Fewer felt that a five-day minimum jail sentence was appropriate (36%). Fewer drinker drivers felt each of the penalties was appropriate, and only one in five felt the jail sentence was appropriate (19%). [Figure 33-A]

**FIGURE 33: PERCEIVED APPROPRIATENESS OF POTENTIAL PENALTIES FOR FIRST-TIME DRUNK-DRIVING OFFENDERS**



*Q140: How appropriate do you feel that the following penalties are for first time drinking and driving violation offenders?  
 [Base: all respondents n=6002, drinker-drivers n=1300]*

\*Drinking-drivers: Drove within two hours after drinking in past year.

# Racial and Ethnic Group Comparisons

## **Chapter 8: Combined data from 1997, 1999 and 2001**

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While global programs and strategies can be useful in reducing drinking-driving episodes and the resulting crashes, one of NHTSA's goals is to identify differences in behaviors and attitudes among racial and ethnic groups so that specific actions can be taken to address the individual needs of different groups.

Data were combined from the past three study administrations (1997, 1999, and 2001) to achieve sufficient sample sizes to examine differences by racial and ethnic groups.

This section provides comparisons among Non-Hispanic Whites, Non-Hispanic Blacks, Asians, American Indians/Eskimos, and Hispanics in the following topics:

- Prevalence and frequency of past-year and past-month drinking and driving behavior
- Estimates of total drinking and driving trips
- Estimate of BAC for most recent drinking-driving occasion
- A profile of problem drinkers
- Riding with potentially unsafe drivers
- Attitudes regarding drinking and driving and the support for zero tolerance
- The number of drinks before one should not drive
- Those who avoided driving after drinking too much
- Use of designated drivers
- Personal responsibility to intervene
- Drinking and driving violations and arrests
- Perceptions of likely outcomes if drinking and driving
- Perceptions and experiences with sobriety checkpoints
- Awareness and knowledge about BAC levels and legal limits
- Acceptance of .08 BAC limit
- Involvement in vehicle crash, past two years



## **Past Year Drinking and Driving Behavior**

---

### **Drove Within Two Hours of Consuming Alcohol, by Race/Ethnicity**

While 22% of the general driving age public reports having driven within two hours of consuming alcohol in the past year, this varies considerably by racial group. Asian (11%) and Hispanic (13%) persons are much less likely to have one or more drinking-driving episodes in the past year. Non-Hispanic Whites (25%) and American Indians/Eskimos (18%) report higher prevalence.

Males are more than two and one-half times as likely to report such behavior as females, with 33% of males and 12% of females reporting at least one past-year drinking-driving trip. The pattern of males being at least two to four times more likely than females to report driving within two hours of drinking is found across most racial and ethnic groups. However, American Indian/Eskimo males are seven times as likely as their female counterparts to report this behavior. [Figure 34-A]

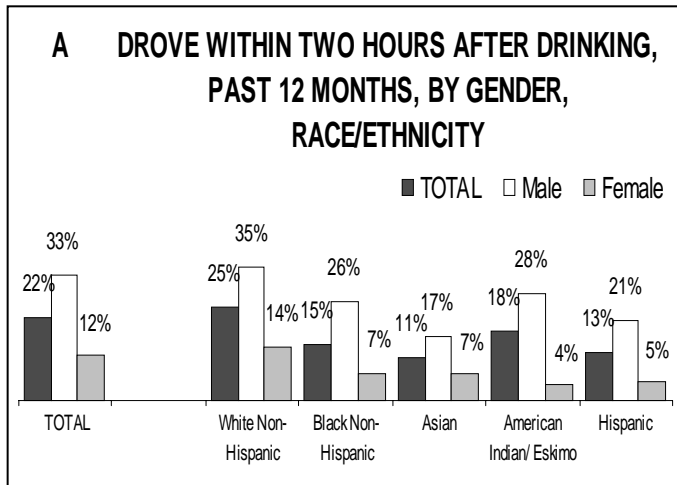
Persons in their 20s are the most likely to have driven within two hours of consuming alcohol in the past year, with more than one-third of those in this age group reporting such behavior. Non-Hispanic Whites (35%) and American Indians/Eskimos (33%) age 21-29 report the highest prevalence of this behavior, with about one-third driving within two hours of drinking. [Figure 34-B]

Across most racial lines, relatively small proportions of persons age 16-20 report driving within two hours of consuming alcohol, with the highest prevalence among persons in their 20s, tapering off gradually as one ages. However, among Hispanics, drinking-driving behavior increases with age, with 46-64 year olds exhibiting the largest tendencies to drink and drive. [Figure 34-B]

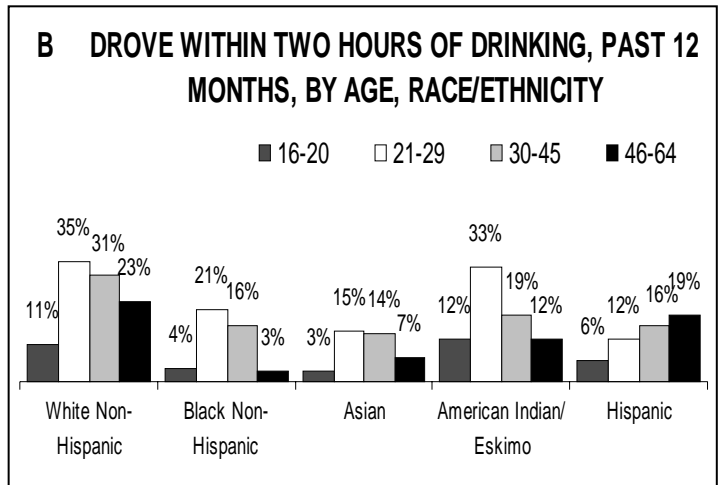
While one of the goals of this study is to obtain past-year estimates of drinking and driving behaviors, the accuracy of specific recall of drinking-driving trips over shorter periods is generally more reliable, particularly for behaviors that occur frequently. Thus, past 30-day drinking driving trips were also measured.

About one in eight persons age 16-64 has driven within two hours of drinking alcohol within the past 30 days. Relative to reported past-year behavior, slightly more than one-half of all past-year drinker-drivers have made at least one drinking-driving trip within the past 30 days. Similar patterns are found to past year drinking-driving behavior by age, race, and gender. [Figures 34-C, 34-D]

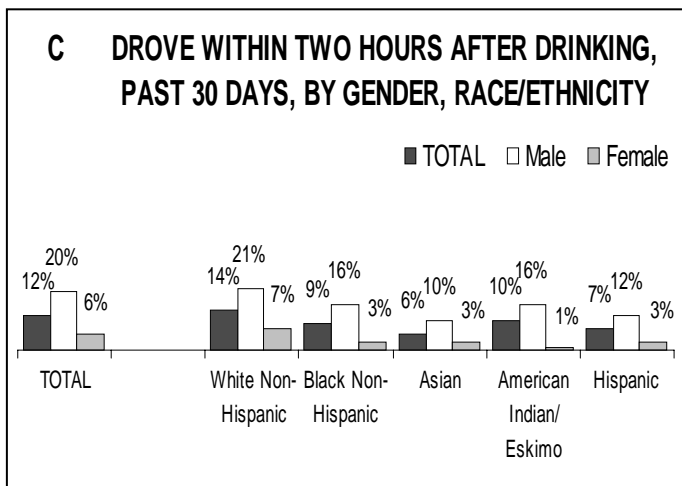
**FIGURE 34: PAST-YEAR AND PAST-MONTH DRINKING AND DRIVING BEHAVIOR**



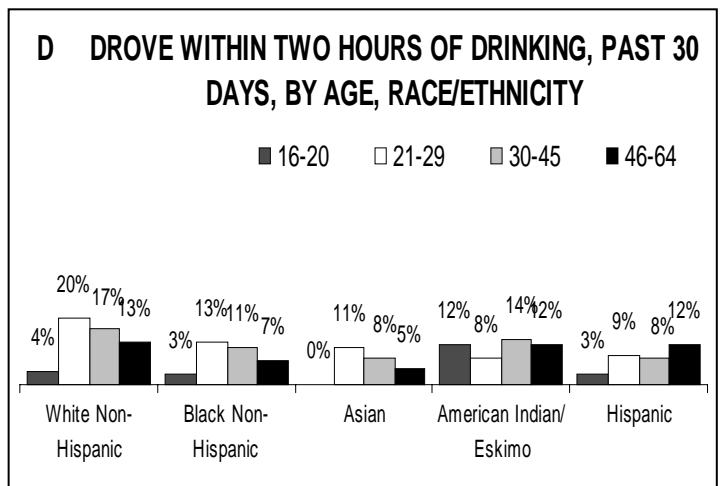
Q33: In the past 12 months, have you ever driven a motor vehicle within two hours after drinking alcoholic beverages?  
% One time or more [Base: All respondents]



Q33: In the past 12 months, have you ever driven a motor vehicle within two hours after drinking alcoholic beverages?  
% One time or more [Base: All respondents]



Q35: In the past 30 days, how many times have you driven within two hours after drinking any alcohol?  
% One time or more [Base: All respondents]



Q35: In the past 30 days, how many times have you driven within two hours after drinking any alcohol?  
% One time or more [Base: All respondents]

\*\*Sample bases for this page: (1997, 1999, 2001)

	Total	White Non-Hispanic	Black Non-Hispanic	Asian	American Indian/Eskimo	Hispanic
Total Population	15139	12204	1202	348	244	945
Drove after drinking past year	3419	2961	174	60	42	143



## Past Year Drinking and Driving Behavior-continued

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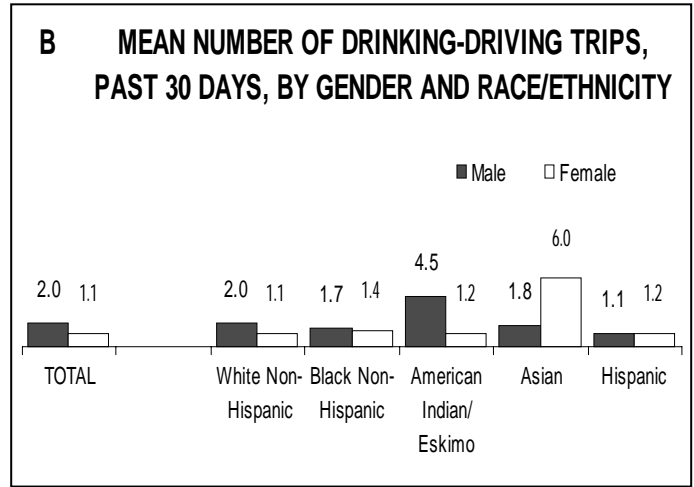
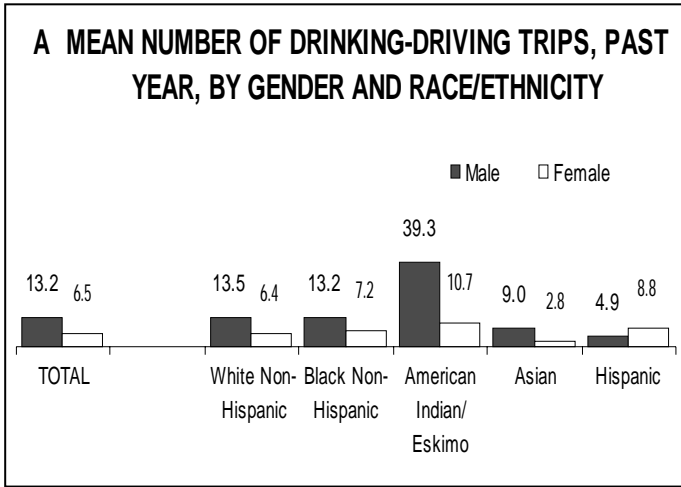
### Frequency of Past-Year and Past-Month Drinking-Driving Trips

Those who report past-year drinking-driving trips average about 11 such trips each year. Males are not only more likely to report drinking-driving behavior, but those who do drink and drive do so two times as often as females. Males report an average of 13.2 drinking-driving trips as compared to 6.5 average trips by female drinker-drivers. [Figure 35-A]

Males of all racial groups report about twice as many episodes as their female counterparts. Hispanics however, exhibit opposite behavior with female Hispanics making almost twice the number of drinking-driving trips as males.

While the sample sizes are small, it appears that American Indian/Eskimo males report significantly higher past-year (39.3) and past-month (4.5) drinking-driving trips than their female counterparts (10.7 and 1.2 mean trips respectively). Asian males report about three times as many past-year drinking-driving trips as Asian women, and three times as many past-month drinking-driving trips. Once again, sample sizes are small. [Figures 35-A, 35-B]

**FIGURE 35: PAST-YEAR AND PAST-MONTH DRINKING AND DRIVING BEHAVIOR**



Q33: How many times in the past 12 months, have you driven within two hours after drinking any alcohol?  
 [Base: Drove after drinking, past year\*\*]

Q35: In the past 30 days, how many times have you driven within two hours after drinking any alcohol?  
 [Base: Drove after drinking, past year\*\*]

\*\*Sample bases for this page: (1997, 1999, 2001)

	Total	White Non-Hispanic	Black Non-Hispanic	Asian	American Indian/Eskimo	Hispanic
Total Population	15139	12204	1202	348	244	945
Drove after drinking past year	3419	2961	174	60	42	143

## National Estimates of Total Drinking-Driving Trips

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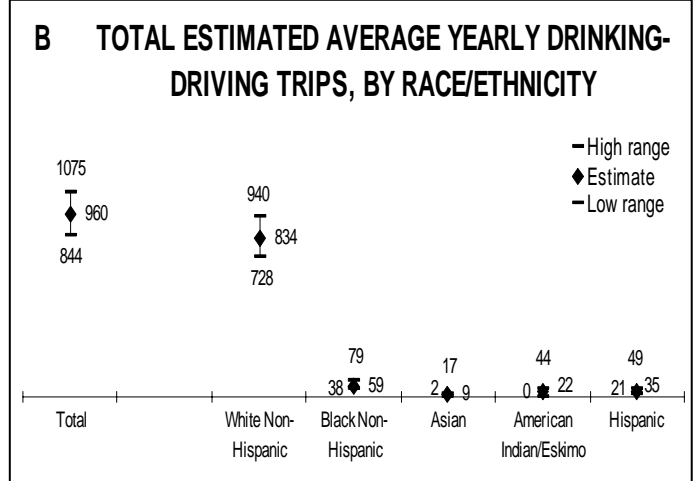
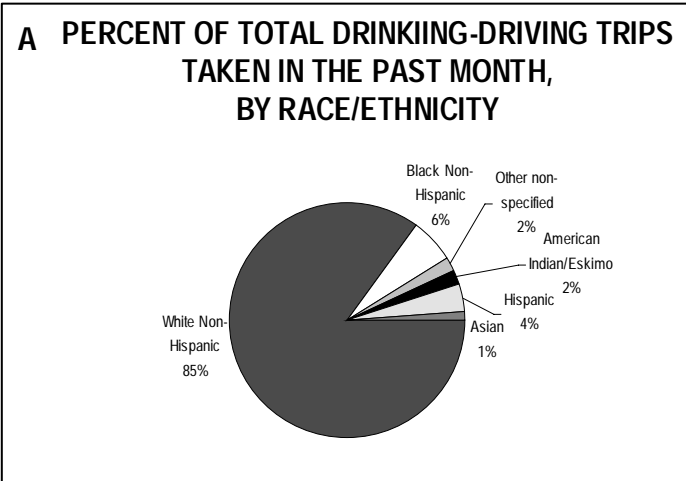
### Percent of Past-Month Drinking-Driving Trips by Race/Ethnicity

Non-Hispanic White drinker-drivers account for the vast majority of all past-month drinking-driving trips, making 85% of all monthly trips. This is a disproportionately high share as this group accounts for just 76% of the total 16-64 year old population. In contrast, Non-Hispanic Blacks and Hispanics report disproportionately lower shares of drinking and driving trips with Non-Hispanic Blacks reporting just 6% of all past-month drinking-driving occasions and Hispanics making 4%, while these groups account for 10% and 9% of all drivers 16-64 respectively. [Figure 36-A, 36-C]

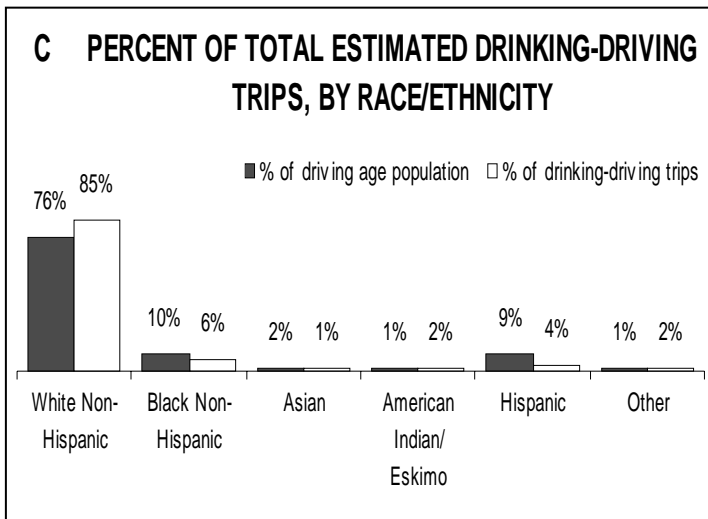
It is important to note that the total trip data presented here may not reflect the true number of alcohol-impaired driving trips made each year for a number of reasons: people may not be able to accurately recall the number of such trips, the previous month may not be indicative of the respondent's total year drinking-driving trips, and people may under-report such behavior if they feel it is socially desirable to do so. This analysis is meant to provide an approximation of the range of possible drinking-driving trips by race/ethnicity. It shows the estimated number of trips and the likely high and low number based on the error range of the estimate.

Overall, drinker drivers age 16 or older made between an estimated 844 million to 1.1 billion drinking-driving trips in the past year between 1997 and 2001 (an estimated 960 million trips with an error range of plus or minus 115 million trips). Non-Hispanic Whites made about 834 million (or 85%) of these total trips, Non-Hispanic Blacks account for about 59 million trips, while those of American Indian/Eskimo descent make an estimated 22 million trips annually, (about 2% of all drinking-driving trips). American Indians/Eskimos make up just 1% of persons age 16 or older.

**FIGURE 36: NATIONAL ESTIMATES OF TOTAL DRINKING AND DRIVING TRIPS**



Q35: In the past 30 days, how many times have you driven within two hours after drinking any alcohol?



\*A drinking-driving trip is defined as an occasion when a driver drove within two hours after drinking any alcohol.

\*\*Sample bases for this page: (1997, 1999, 2001)

	Total	White Non-Hispanic	Black Non-Hispanic	Asian	American Indian/Eskimo	Hispanic
Drove after drinking past year	3271	2835	163	58	39	138

Total drinking-driving trips were estimated by multiplying the number of drinking-driving trips in the past 30 days by 12 to yield a yearly estimate for each respondent. Total trips were summed across all respondents and data were projected to the total U.S. population age 16 or older.

## **Characteristics and BAC Estimates of the Most Recent Drinking-Driving Occasion**

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### **Number of Drinks per Sitting**

On average, men who drink alcohol report that they consume nearly three alcoholic beverages in a typical sitting, compared to women who consume just shy of two drinks. Differences between gender are more prevalent among those of American Indian/Eskimo (5.2 vs. 1.9 drinks), Asian (3.2 vs. 1.7), and Hispanic descent (3.4 vs. 2.1). [Figure 37-A]

### **Number of Drinks on Most Recent Occasion**

When the most recent drinking-driving occasion is considered, drinker-drivers report consuming about 2.6 alcoholic beverages, with persons of Hispanic (3.5 drinks on average), Asian and American Indian/Eskimo background (3.3) consuming more drinks on average than either Non-Hispanic White (2.6) or Non-Hispanic Black (2.5) drinker-drivers. [Figure 37-B]

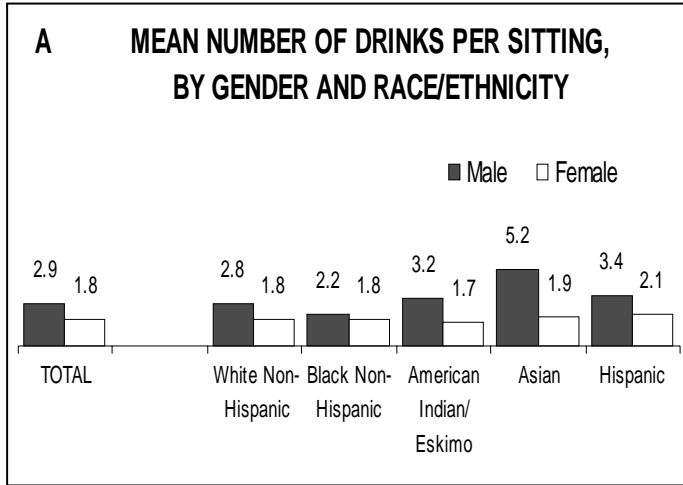
### **Estimated BAC Levels on Most Recent Occasion**

To obtain impairment severity estimates of drinking-driving trips, Blood Alcohol Concentration (BAC) levels were estimated for the most recent drinking-driving occasion of each person who had driven within two hours of alcohol consumption in the past year.

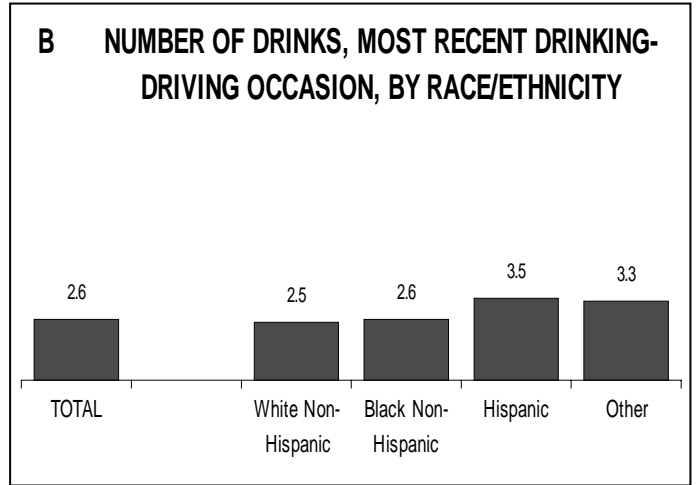
While Non-Hispanic White drivers make more trips within two hours of consuming alcohol than do those of other racial/ethnic groups, Non-Hispanic White drivers who make trips do so at lower average BAC levels than other drinker-drivers. The average calculated BAC level among past-year drinker-drivers was .03 for the most recent drinking-driving occasion. Mean BAC levels for the most recent trip were slightly higher for Non-Hispanic Black and Hispanic drinker-drivers who had mean BAC levels of .04 as compared to Non-Hispanic White drinker-drivers at .03 BAC. [Figure 37-C]

Overall, the vast majority (85%) of drinker-drivers are well below the legal BAC limit for adults when they drive within two hours of consuming alcohol, as they average BAC levels below .05. About one in ten (9%) drive with BAC levels between .05 and .079. About 6% of drinker-drivers undertake these trips with a BAC at or above .08. One in five (21%) Non-Hispanic Black drinker-drivers have BAC levels approaching the legal limit, with 21% driving with BAC levels of .05 or higher (5% with BAC of .08 or higher). Hispanics (12%) and Non-White or Non-Black races (10%) are most likely to drive with BACs of .08 or higher with about one in ten drinker-drivers making trips at this level. [Figure 37-D]

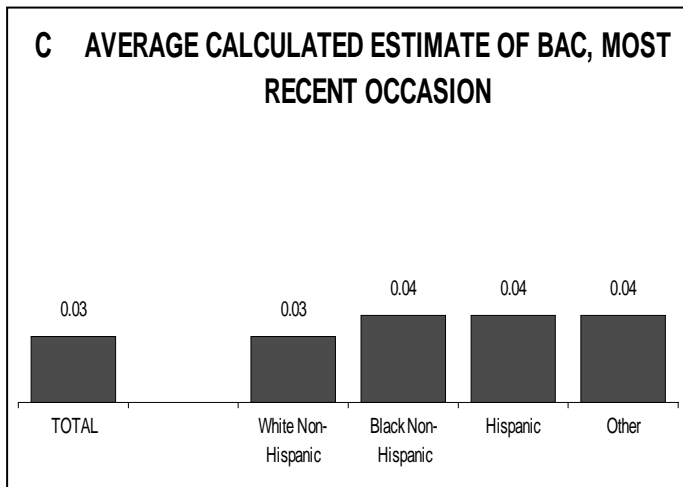
**FIGURE 37: CHARACTERISTICS OF MOST RECENT DRINKING-DRIVING OCCASION**



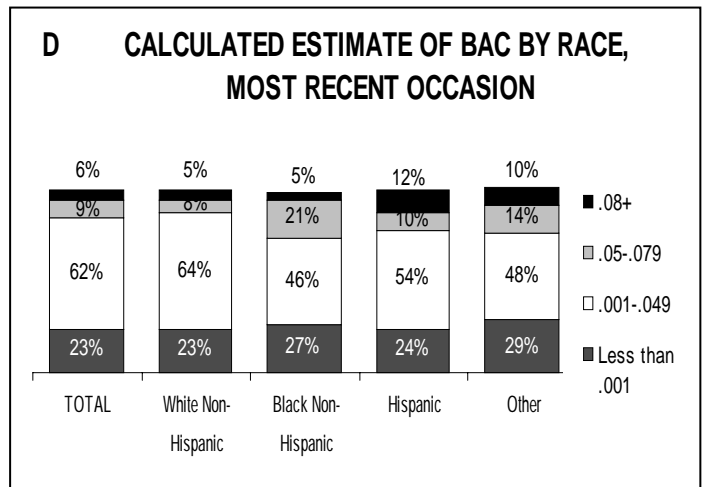
Q18: When you drink (alcoholic beverage drunk most often) about how many (drinks) do you usually drink per sitting?  
[Base: Drinkers]



Q38: On this most recent occasion, how many drinks did you have?  
[Base: Drove after drinking past year\*\*]



Q38/41/39: On this most recent occasion, how many drinks did you have? How long after your last drink did you start driving? Over what time period did you have those drinks? Gender, Age, and Weight  
[Base: drove after drinking, past year\*\*]



BAC (blood alcohol concentration) calculated using NHTSA BAC estimation formula using gender, weight, number of drinks consumed, length of time drinking, and length of time between last drink and driving.

\*\*Sample bases for this page:

	Total	White Non-Hispanic	Black Non-Hispanic	Asian	American Indian/Eskimo	Hispanic
Drinkers	9271	7721	580	186	133	529
Drove after drinking past year	3419	2961	174			143

## Identifying Problem Drinkers

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As described in Chapter 1, “problem drinkers” were defined as expressing agreement (“yes”) to two or more of the four CAGE measures, or having consumed five or more drinks on four or more days in a typical 28-day period, or consumed nine or more drinks (eight for females) on at least one day in a typical 28-day period.

Overall, about 11% of the drinking age public (age 16 and over) can be classified as a “problem drinker,” which relates to approximately 27% of past-year drinkers. While sample sizes are small, it appears that American Indians/Eskimos are more likely to be classified as problem drinkers (59%), while Non-Hispanic Whites and Blacks are least likely to be (26%). [Figure 38-A]

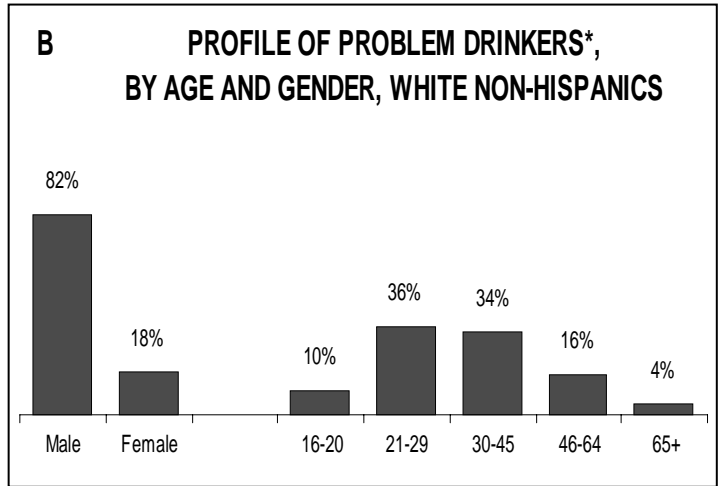
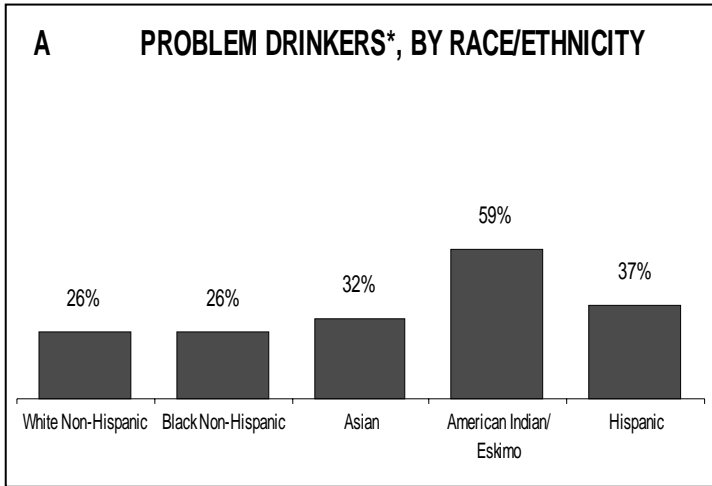
Males make up more than three quarters of the problem drinkers in each racial/ethnic group. Non-Hispanic Black females make up a relatively larger proportion of problem drinkers (23%) than is true of females in other groups (average of 15% are problem drinkers).

Problem drinkers of Non-Hispanic Black or Asian/American Indian/Eskimo descent are more likely to be age 30-45, while Hispanic problem drinkers are more likely to be in their 20s. [Figures 38-B and 38-E]

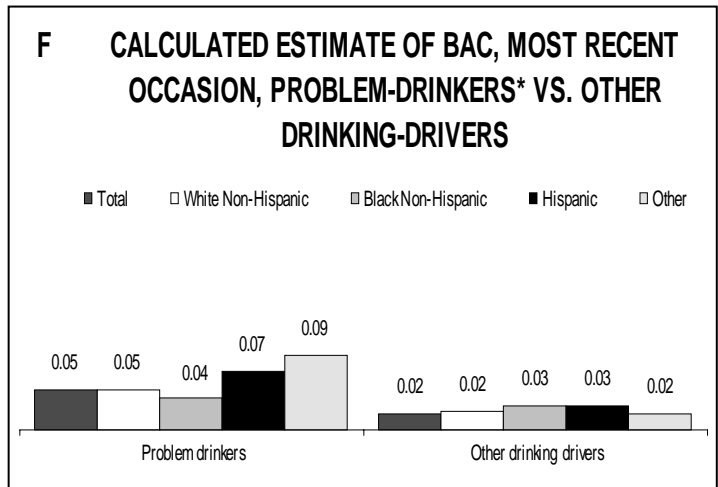
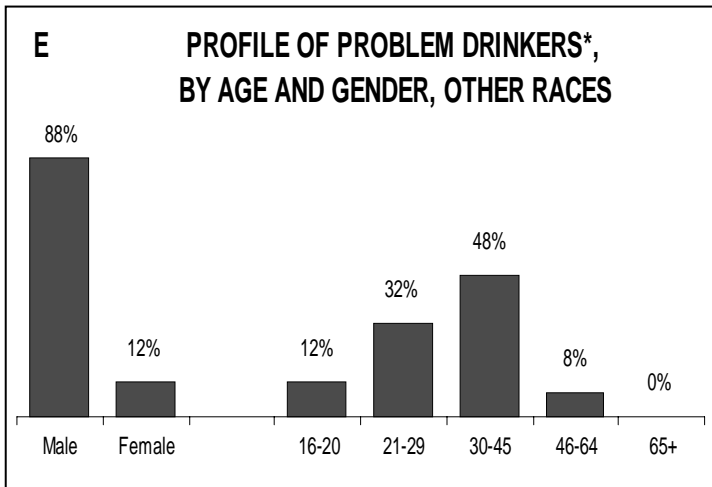
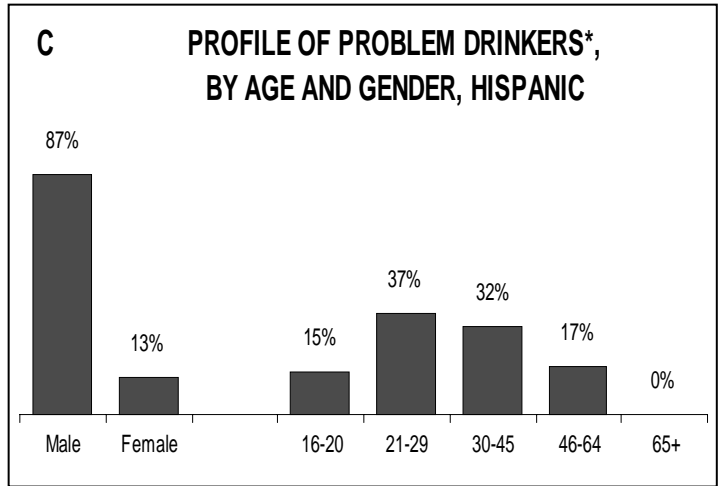
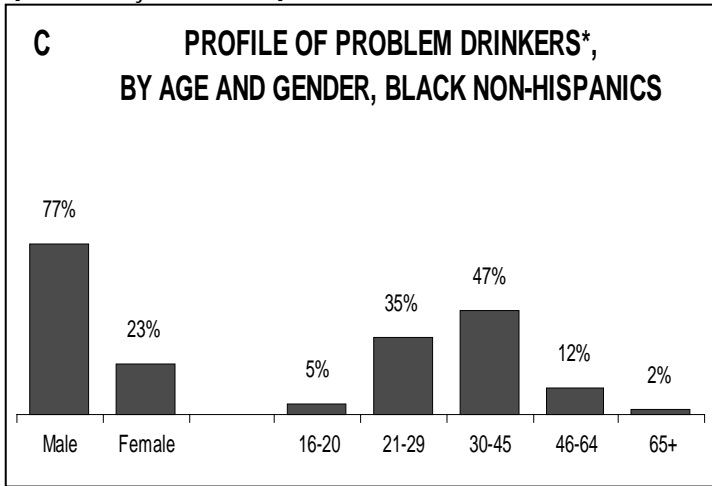
### Estimated Calculated BAC Level of Problem Drinkers vs. Other Drinking Drivers

Overall, problem drinkers are estimated to drive with BAC levels of more than twice that of other drinking-drivers. On their most recent drinking-driving trip, problem drinkers were estimated to have a calculated BAC level of about .05 as compared to a calculated BAC level of about .02 for other drivers who drink alcohol. While the sample sizes are small, this pattern is even more profound among Hispanics (.07 BAC for problem drinkers) and those of other racial origins (Asian, American Indian Eskimo with .09 BACs) but does not emerge among Non-Hispanic Blacks. [Figure 38-F]

**FIGURE 38: PROBLEM DRINKERS**



[Base: Past year drinkers\*\*]



\*\*Sample bases for this page: (1997, 1999, 2001)

	Total	White Non-Hispanic	Black Non-Hispanic	Asian	American Indian/Eskimo	Hispanic	Other
Past year drinkers	4111	3390	245	104	70	155	--
Problem drinkers	1132	885	68	--	--	98	74
Other drinker-drivers	2354	2092	111	--	--	82	69



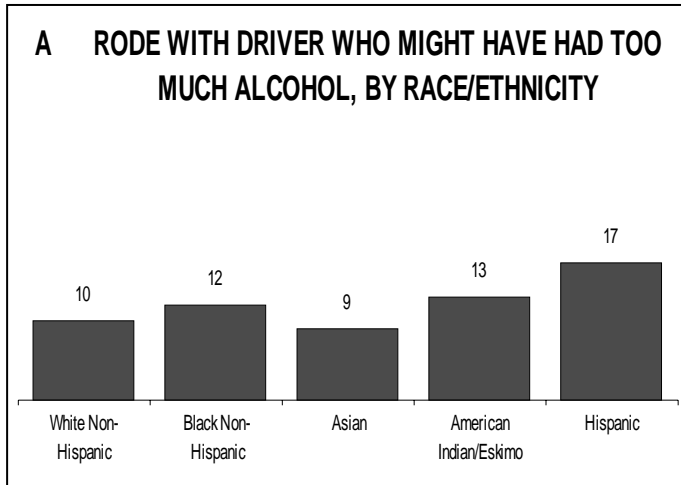
## **Riding With Unsafe Drivers**

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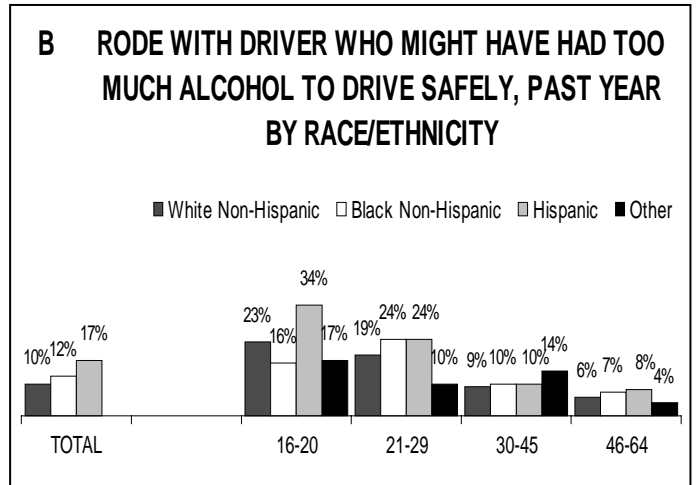
About one in ten persons (11%) age 16-64 has ridden with a driver they thought may have consumed too much alcohol to drive safely. Persons of Hispanic descent are nearly twice as likely to report riding with an unsafe driver (19%). Those of Non-Hispanic White and Asian descent are the least likely (9% each). [Figure 39-A]

Persons of Hispanic, Non-Hispanic White, and Non-Black racial descent who are 16-20 years of age are more likely to have ridden with an unsafe driver than older members of these racial groups. Non-Hispanic Blacks in their 20s are more likely to have ridden with unsafe drivers than their older or younger counterparts.

**FIGURE 39: RIDING WITH UNSAFE DRIVERS**



Q57: In the past 12 months, did you ever ride in a motor vehicle with a driver you thought might have consumed too much alcohol to drive safely?  
 [Base: All respondents\*\*]



Q57: In the past 12 months, did you ever ride in a motor vehicle with a driver you thought might have consumed too much alcohol to drive safely?  
 [Base: All respondents]

\*\*Sample bases for this page: (1997, 1999, 2001)

	White Non-Hispanic	Black Non-Hispanic	Asian	American Indian/Eskimo	Hispanic	Other
Total	12204	1202	348	244	945	--
Drove with unsafe driver	1144	133	33*	38*	151	--
16-20	231	19*	--	--	47	20*
21-29	272	40	--	--	53	23*
30-45	370	41	--	--	38*	28*
46-64	200	23*	--	--	10*	7*

\*Note: Very small sample size, interpret with caution.

## **Attitudes About Drinking and Driving and Zero Tolerance**

---

### **Drinking and Driving as a Threat to Personal Safety**

While virtually all people (97%) regardless of race or ethnic background feel that drinking and driving by others is a threat to their and their family's personal safety, those of Non-Hispanic Black (89%) and Hispanic (88%) descent are most likely to see such behavior as a *major* threat. [Figure 40-A]

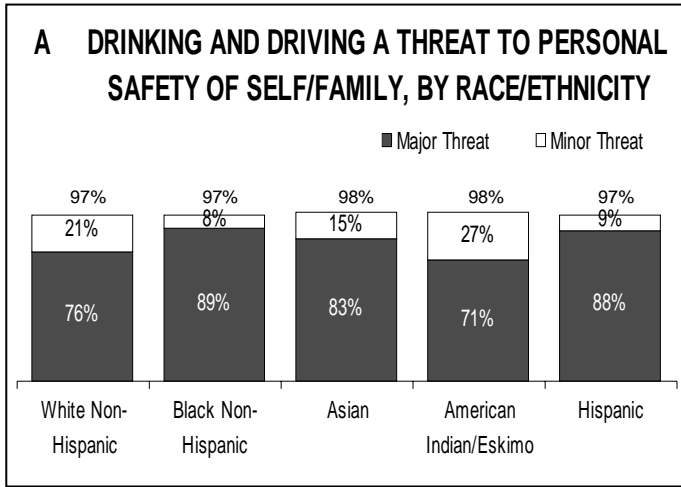
### **Most People Who Drive After Drinking Too Much Are Problem Drinkers**

About half (49%) of all Non-Whites strongly agree that most people who drive after drinking too much are problem drinkers. In contrast, just 35% of Non-Hispanic Whites age 16 or older feel this strongly. More than seven of ten Non-Whites at least somewhat agree with this characterization. While just 62% of Non-Hispanic Whites would take this extreme a view of drinker-drivers. [Figure 40-B]

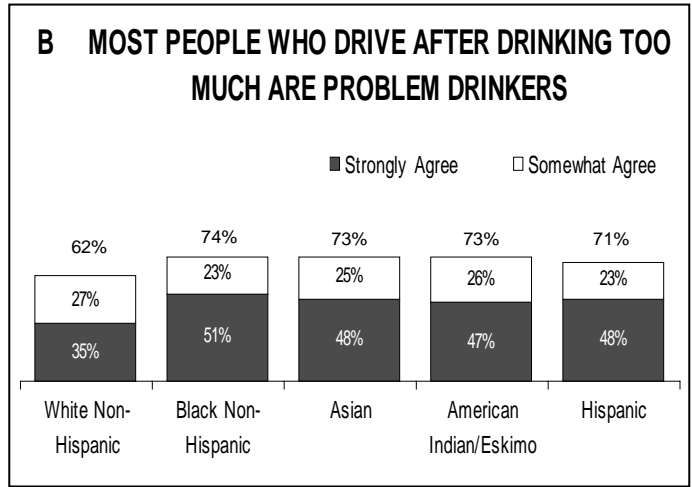
### **People Should Not Be Allowed to Drive if Any Alcohol**

Zero tolerance, measured in this study as the belief that persons of any age should not drive if any alcohol has been consumed, is most strongly supported by those of American Indian/Eskimo (65%) and Hispanic (64%) background, with almost two-thirds strongly supporting this. Just as Non-Hispanic Whites are less likely than others to believe that those who drink too much and drive are problem drinkers, they are also more likely to be tolerant of some alcohol consumption prior to driving. [Figure 40-C]

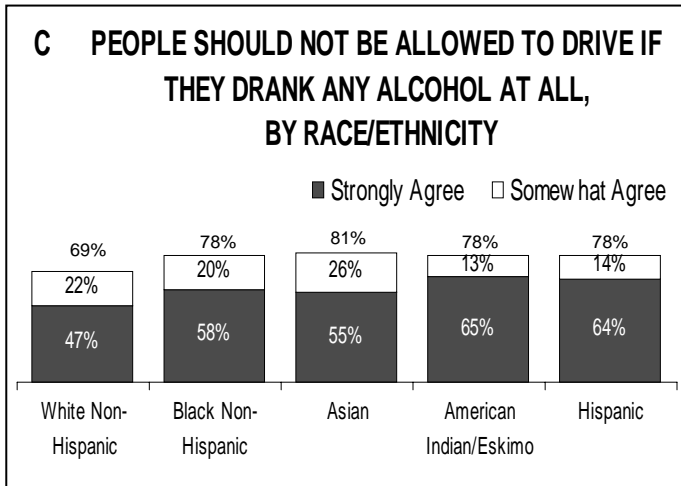
**FIGURE 40: ATTITUDES ABOUT DRINKING AND DRIVING AND SUPPORT FOR ZERO TOLERANCE**



Q103: In your opinion, how much is drinking and driving by other people a threat to the personal safety of you and your family?  
[Base: All respondents\*\*]



Q104a: Most people who drive after drinking too much are alcoholics or problem drinkers?  
[Base: All respondents]



Q104a: People should not be allowed to drive if they have been drinking any alcohol at all?  
[Base: All respondents]

\*\*Sample bases for this page: (1997, 1999, 2001)

	White Non-Hispanic	Black Non-Hispanic	Asian	American Indian/Eskimo	Hispanic
Total	12204	1202	348	244	945

## **Number of Drinks Before One Should Not Drive**

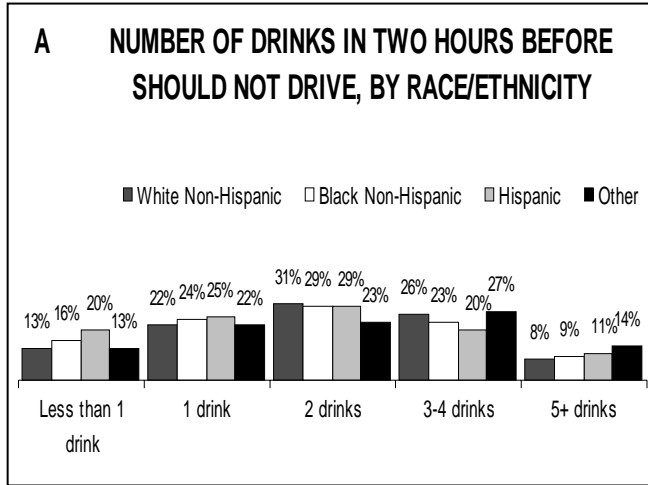
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### **Number of Drinks Before One Should Not Drive**

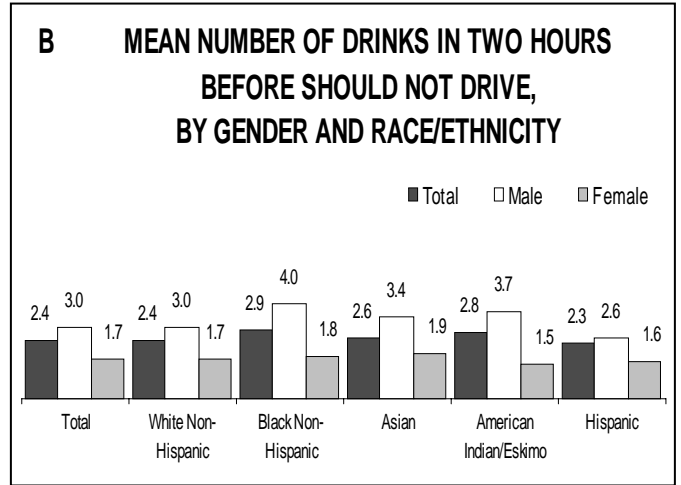
Despite high levels of support for zero tolerance of drinking and driving, the majority of Non-Hispanic Whites (53%), Non-Hispanic Blacks (53%), and Hispanics (54%) feel they personally could consume one or two drinks over two hours and still drive. In contrast, a plurality of other races, primarily Asian and American Indian/Eskimo, are most likely to put their limit at three or more drinks within two hours (41% do so). Hispanic drivers who drink are most likely to put their limit at one drink or less (45% vs. 36% of other groups). [Figure 41-A]

On average, drivers who drink feel they can consume about 2.4 alcoholic beverages within two hours before they should not drive. Males feel they can consume almost twice as many drinks as their female counterparts (3.0 vs. 1.7). Non-Hispanic Black and American Indian/Eskimo drivers who drink feel they can consume a greater number of drinks on average (2.9 and 2.8 average drinks respectively). The higher perceived personal limit among these groups is driven by male drinkers who drive, with Non-Hispanic Black males reporting an average personal limit of 4.0 drinks, while American Indian/Eskimo males say they can drink 3.7 drinks on average and drive more than twice what their female counterparts report. [Figure 41-B] Using NHTSA's formula for BAC calculation, consumption of four alcoholic drinks within two hours of driving would put the average 170-pound male at a BAC level of about .06. Female drivers who drink report an average personal limit of 1.5 drinks among American Indians/Eskimos and 1.9 drinks among Asian females.

**FIGURE 41: NUMBER OF DRINKS BEFORE ONE SHOULD NOT DRIVE**



Q31: How many (drinks of alcoholic beverage drunk most often) could you drink in two hours before you should not drive?  
 [Base: drivers who drink\*\*]



Q31: How many (drinks of alcoholic beverage drunk most often) could you drink in two hours before you should not drive?  
 [Base: drivers who drink]

\*\*Sample bases for this page: (1997, 1999, 2001)

	Total	White Non-Hispanic	Black Non-Hispanic	Asian	American Indian/Eskimo	Hispanic
Total	8731	7339	502	173	129	480
Male	4255	3527	228	95	69	282
Female	4476	3812	274	78	60	198

## **Avoided Driving After Drinking Too Much Alcohol**

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### **Avoided Driving When Had Too Much to Drink to Drive Safely**

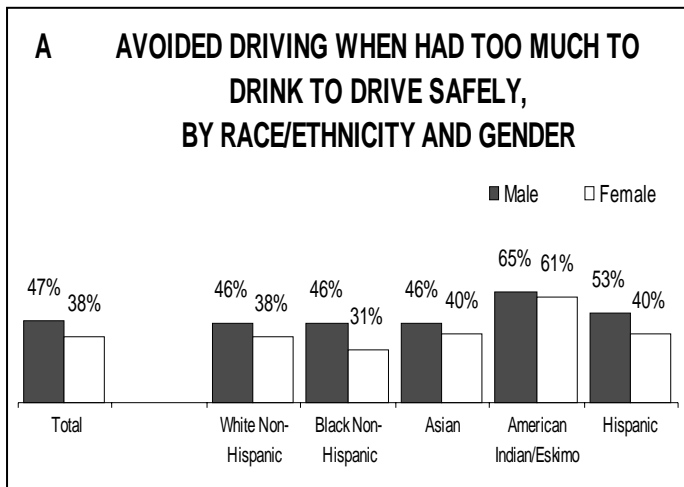
Slightly more than four in ten drivers who drink report that they have deliberately avoided driving a motor vehicle after feeling they had too much to drink to drive safely, with males being nearly 25% more likely to have done so than females (38%). Both males (65%) and females (61%) of American Indian/Eskimo descent are more likely than persons of other racial groups to have avoided driving after drinking too much. Hispanic males (53%) are slightly more likely to have done so than males overall. [Figure 42-A]

### **How Avoided Driving**

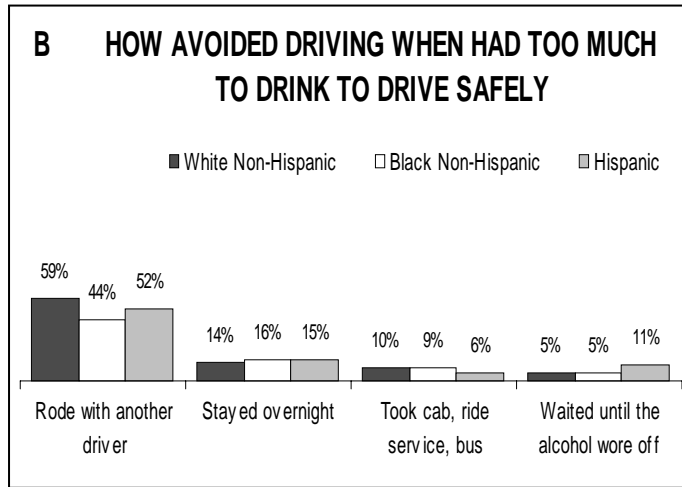
Riding with another driver is the most employed action to avoid driving once one felt they had too much to drink to drive safely, with more than half those who have taken any avoidance action naming this. Non-Hispanic Whites are most likely to use this tactic (59%). Hispanics who took some action to avoid driving were twice as likely than their Non-Hispanic White or Non-Hispanic Black counterparts to report waiting for the alcohol to wear off before they drove (11% vs. 5%), and were less likely to have taken a transportation service. [Figure 42-B]

Persons under age 21 are most likely to have avoided driving when have consumed too much alcohol by staying overnight with likelihood to do so diminishing significantly with age. About one-third of persons under age 21 who took some tactic chose this one. About one in five Non-Hispanic Black persons age 21-45 also has employed this avoidance behavior. [Figure 42-C]

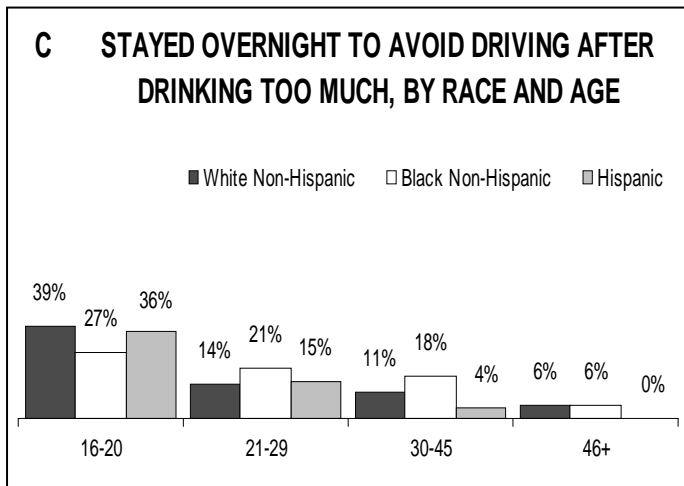
**FIGURE 42: AVOIDED DRIVING AFTER DRINKING TOO MUCH**



Q54: In the past 12 months, have you ever deliberately avoided driving a motor vehicle because you felt you probably had too much to drink to drive safely?  
 [Base: drivers who drink\*\*]



Q56: On the most recent time that you deliberately avoided driving after drinking, how did you do it?  
 [Base: avoided driving after drinking, past year\*\*]



Q56: On the most recent time that you deliberately avoided driving after drinking, how did you do it?  
 [Base: avoided driving after drinking, past year\*\*]

\*\*Sample bases for this page: (1997, 1999, 2001)

	White Non-Hispanic	Black Non-Hispanic	Asian	American Indian/Eskimo	Hispanic
Drivers who drink:					
Male	2892	191	69	51	207
Female	2813	200	47	46	140
Avoided driving after drinking:					
Total	3149	190			227
16-20	380	15*	--	--	53
21-29	852	55	--	--	85
30-45	1286	81	--	--	75
46+	631	39*	--	--	14*

\*Note: Very small sample size interpret with caution



## Designated Drivers

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### Riding With Designated Drivers

One of three (33%) persons of driving age have driven with a designated driver at least once in the past year, with men slightly more likely than women to have done so. Asian females (37%) are more likely than women of other racial or ethnic groups (31% on average) to have driven with a designated driver and do so at levels equal to their male counterparts. [Figure 43-A]

### Being a Designated Driver

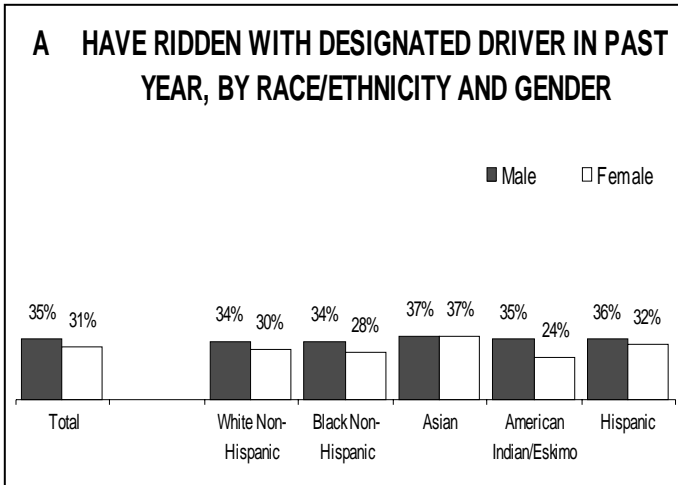
Four of ten drivers say they personally have been a designated driver for others in the past year. American Indian/Eskimo males (51%) are most likely to have acted in this capacity. Hispanic (45%) and Non-Hispanic Black (44%) males are also more likely than Non-Hispanic White (40%) or Asian (38%) males to have been a designated driver. [Figure 43-B]

### Alcoholic Drinks by Designated Drivers

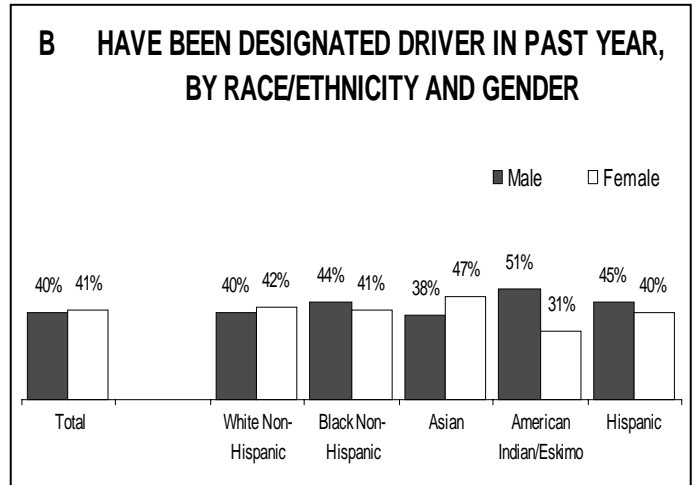
A majority feel that a driver should have less than one drink if he or she is a designated driver. American Indians/Eskimos are most likely to have a tolerance of less than a drink (79%), while Asians (50%) are most likely to believe a drink or more is acceptable. [Figure 43-C]

Those who have been or have driven with a designated driver report that on average the designated driver consumed an average of less than one-half (.40) drinks prior to driving. Designated drivers reported personally consuming slightly more alcohol as the designated driver, than those reporting alcoholic consumption for other drivers. Self-reporting of drinking may be considered a more accurate measure than are estimates of others. [Figure 43-D]

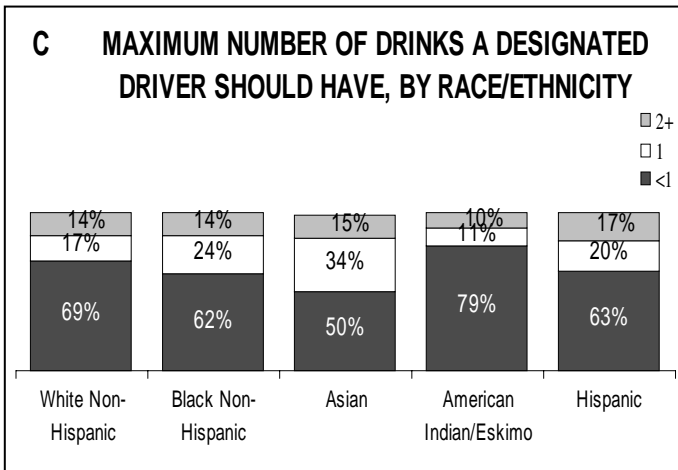
**FIGURE 43: DESIGNATED DRIVERS**



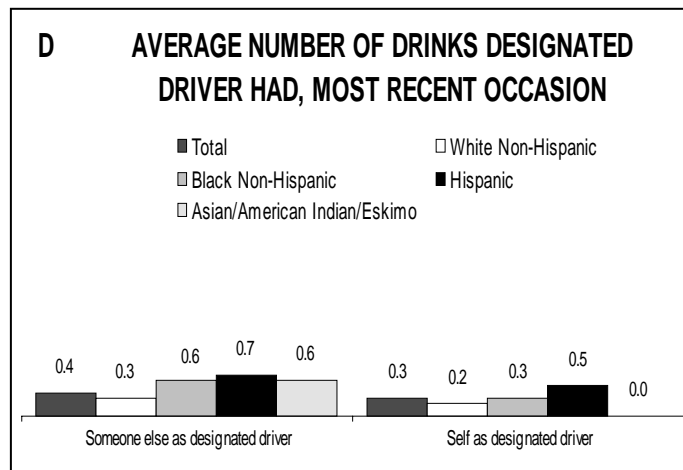
Q61: In the past year, have you ridden with someone who agreed to be the designated driver? %1 or more.  
 [Base: all respondents\*\*]



Q64b: Have you been a designated driver for other passengers in the past year?  
 [Base: drivers]



Q66: What is the maximum number of drinks a person should have if he or she is the designated driver?  
 [Base: drivers]



Q62: On the most recent occasion that you rode somewhere with a designated driver, how many drinks did the designated driver have before driving, if any?  
 [Base: rode with designated driver in past year]  
 Q65: On the most recent occasion that you were the designated driver, how many drinks did the designated driver have before driving?  
 [Base: Designated drivers]

\*\*Sample bases for this page: (1997, 1999, 2001)

	White Non-Hispanic	Black Non-Hispanic	Asian	American Indian/Eskimo	Hispanic
Total	12204	1202	348	244	945
Male	5296	440	159	117	429
Female	6867	753	187	127	510
Designated driver	4922	469	201	130	537
Rode with designated driver	3896	352	112	83	337

## **Intervention With Those Who May Not Be Safe to Drive**

---

### **Times With a Friend Who Had Too Much Alcohol to Drive Safely**

About three in ten (31%) persons of driving age have been in a situation with a friend who had had too much to drink to drive safely at least once in the past year. Hispanics (36%) and American Indians/Eskimos (35%) report the highest prevalence of this occurrence. Males report having been in such a situation 2.0 times, while females report 1.5 episodes in the past year. American Indian/Eskimo males report being in this situation much more frequently than others. [Figure 44-A]

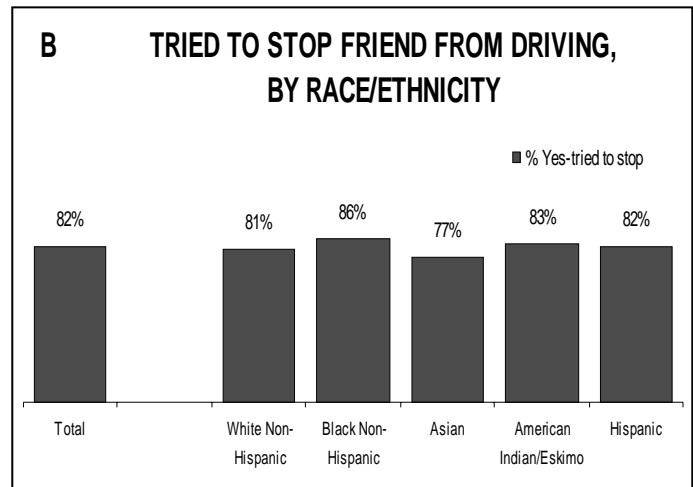
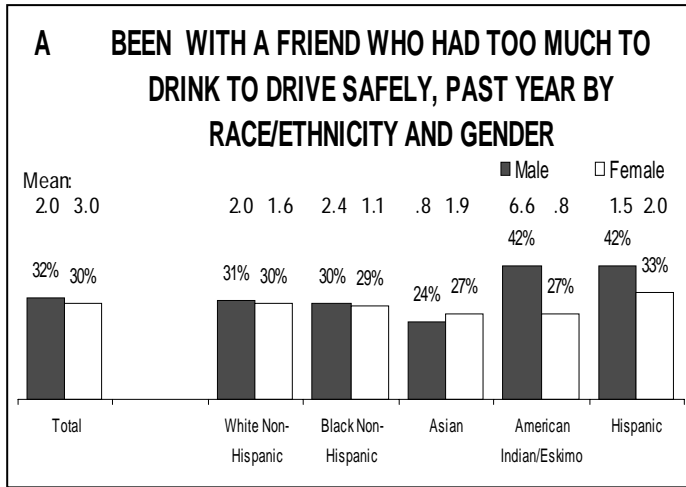
### **Attempted Intervention**

About eight of ten (82%) people in a situation where a friend may have drunk too much to drive safely say they tried to stop him or her from driving. Non-Hispanic Blacks were most likely to attempt intervention (86%) while Asians (77%) were least likely to try. [Figure 44-B]

### **Success of Intervention**

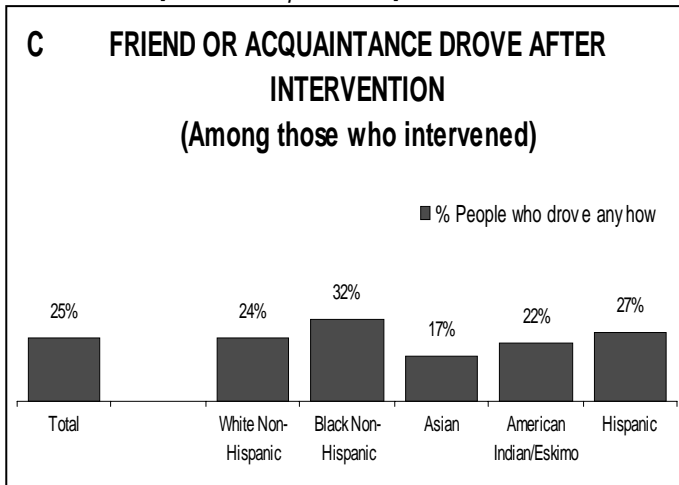
Three of four (75%) attempting intervention report success in their actions, with Non-Hispanic Blacks reporting the least success (32% said the friend still drove) and Asians the greatest success (83% say the friend did not drive). [Figure 44-C]

**FIGURE 44: INTERVENTION WITH FRIENDS WHO MAY NOT BE SAFE TO DRIVE**



Q96: In the last year, how many times were you in a situation where you were with a friend who had too much to drink to drive safely? % 1 or more. [Base: all respondents\*\*]

Q100: Think of the most recent time you were in this situation. Did you do something to stop them from driving? [Base: with friend needing intervention]



Q102: Did they drive anyhow? [Base: tried to intervene]

\*\*Sample bases for this page: (1997, 1999, 2001)

	White Non-Hispanic	Black Non-Hispanic	Asian	American Indian/Eskimo	Hispanic
Total	12160	1202	344	241	939
Male	5284	443	158	117	429
Female	6876	759	186	124	510
With a friend needing intervention	3022	316	106	91	347
Tried to intervene	3740	260	88	75	291

## **Drinking and Driving Arrests**

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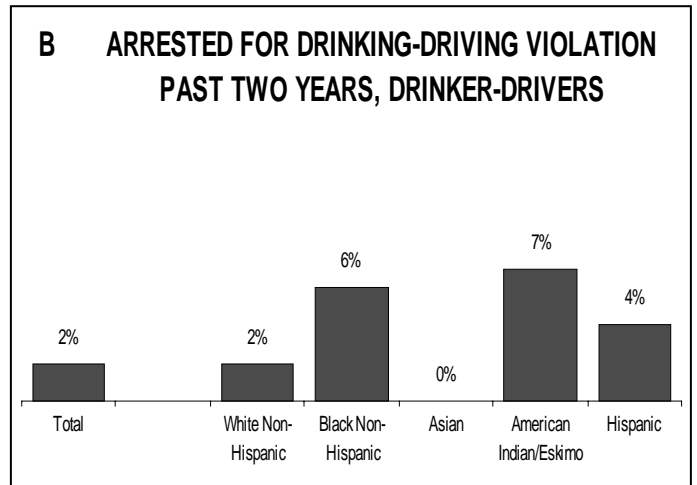
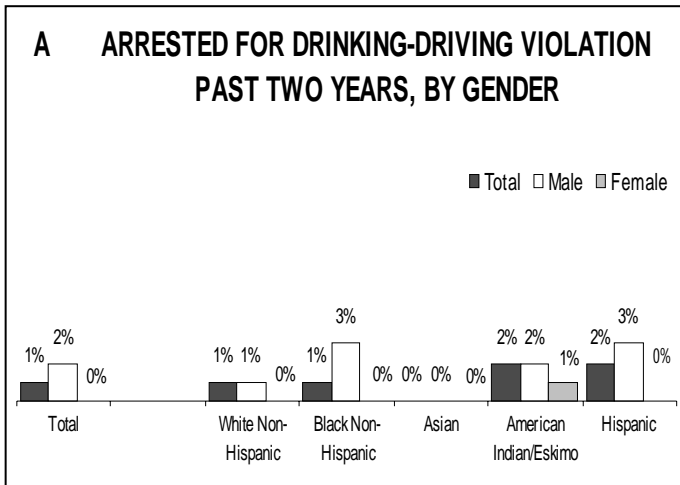
### **All Persons of Driving Age**

Non-Hispanic Blacks and Hispanic males report a much higher prevalence of arrest for drunk driving violations as do Non-Hispanic Whites or Asians. It should be noted that they do so at lower estimated BAC levels, while Non-Hispanic Whites report driving within two hours of consuming alcohol at much higher rates than do persons of other racial and ethnic groups. Asian persons are least likely to have been arrested for such a violation. [Figure 45-A]

### **Drinking-Drivers**

Two percent (2%) of past-year drinker-drivers report having been arrested for a drunk driving violation. Non-Hispanic Black drinker-drivers (6%) and those of American Indian/Eskimo descent (7%) were most likely to have been arrested. These groups also report the highest average BAC levels. [Figure 45-B]

**FIGURE 45: DRINKING AND DRIVING ARRESTS**



Q113: Were you arrested for a drinking and driving violation in the past two years?  
 [Base: 1999 and 2001 all respondents\*\*]

Q113: Were you arrested for a drinking and driving violation in the past two years?  
 [Base: Drinker-drivers]

\*\*Sample bases for this page: (1999, 2001)

	Total	White Non-Hispanic	Black Non-Hispanic	Asian	American Indian/Eskimo	Hispanic
Total	11129	8999	827	282	210	656
Male	4812	3927	301	124	97	295
Female	6317	5072	526	158	113	361
Drinker-drivers	2455	2123	123	49	36	91

## **Perceptions About Likely Drinking-Driving Outcomes and Perceived Effectiveness of Laws/Penalties**

---

### **Likelihood of Being Stopped/Arrested for Drinking and Driving**

Non-Hispanic Whites are least likely to feel that one would be certain or very likely to be stopped by police for driving while intoxicated, with just 22% feeling this way as compared to more than one-third of other persons. Hispanics are most likely to believe such an outcome would be very likely or certain with 43% seeing this outcome as likely. [Figure 46-A]

Despite differences in opinion on getting stopped, once stopped, those of different racial groups are about as likely (65% overall) to feel that an arrest is very likely or almost certain. Hispanics (75%) are slightly more likely to feel such a person would be arrested, while Asians are slightly less likely to feel this way (61%). [Figure 46-B]

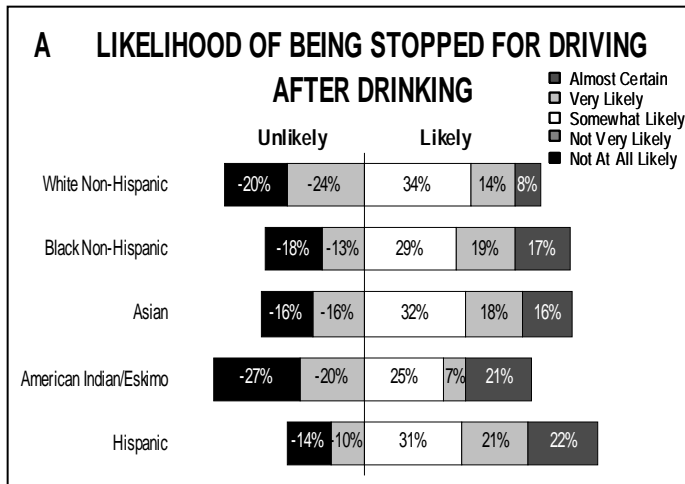
### **Likelihood of Being Stopped by Police vs. Crash**

Persons of driving age, regardless of racial/ethnic background, feel that a larger proportion of people who are impaired and drive will have a crash (43%) than will get stopped by the police (31%). Non-Hispanic Whites believe significantly fewer people will be stopped by police or have a crash as do other persons. Those of Non-White descent feel that more than half of impaired drivers will have a crash, while they feel more than four of ten will be stopped by police. Hispanics are more likely to think both outcomes are likely. [Figure 46-C]

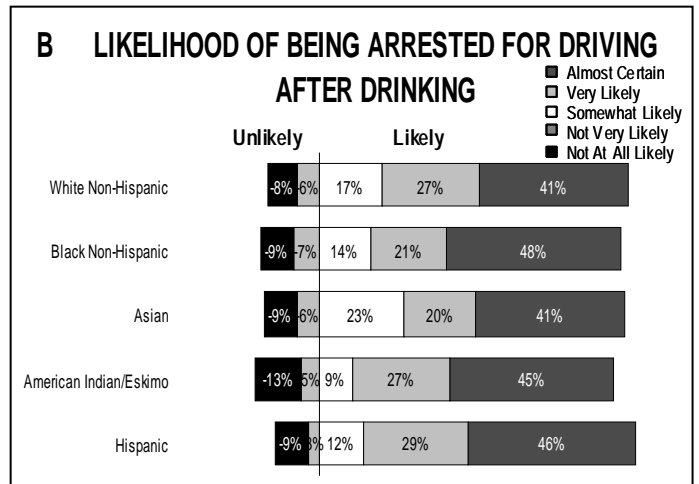
### **Perceptions of Current Laws and Penalties**

White Non-Hispanics are least likely to feel that the penalties for violating drinking-driving laws should be much more severe than others of driving age (42% compared to 51% of others). [Figure 46-D]

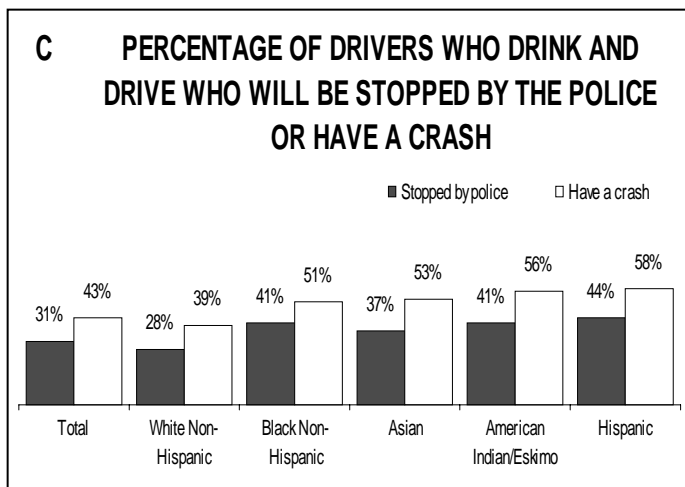
**FIGURE 46: PERCEPTIONS ABOUT LIKELY DRINKING-DRIVING OUTCOMES**



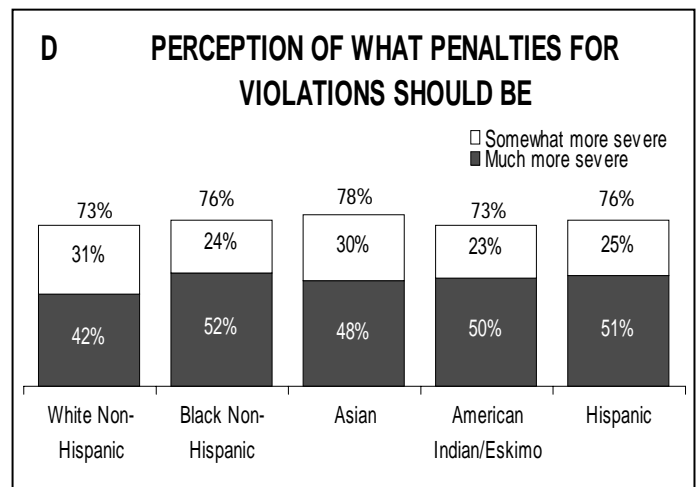
Q106: How likely are you to be stopped by police for driving after you have had too much to drink?  
[Base: all respondents\*\*]



Q108: How likely are you to be arrested by police for driving after you have had too much to drink?  
[Base: all respondents]



Q105a: About what percent of drivers who are impaired by alcohol (and then drive) will be stopped by police/have a crash?  
[Base: all respondents]



Q116: In your opinion, should the penalties that are given out to drivers who violate the drinking and driving laws be...?  
[Base: all respondents]

\*\*Sample bases for this page: (1997, 1999, 2001)

	Total	White Non-Hispanic	Black Non-Hispanic	Asian	American Indian/Eskimo	Hispanic
Total	15047	12129	1192	348	244	941



## **Perceptions and Participation of Sobriety Checkpoints**

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### **Have Seen Checkpoint Past Year**

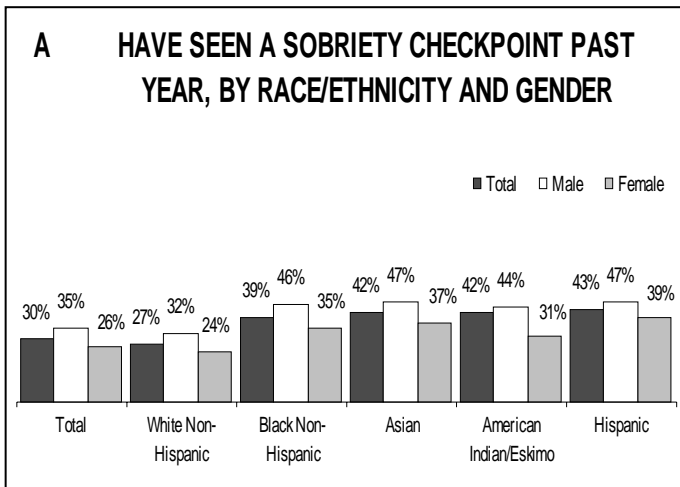
Three of ten (30%) persons of driving age have seen a sobriety check point in the past year. Non-Hispanic Whites are least likely to have seen a sobriety checkpoint with just 27% reporting a sighting as compared to four in ten or more persons of other racial and ethnic groups. Males are more likely to have seen a checkpoint than females of all racial/ethnic groups. [Figure 47-A]

Sightings of sobriety checkpoints are highest among persons under age 30 and decline with age. Nearly one-third of drivers over age 45 have seen a checkpoint in the past year compared to just 21% of Non-Hispanic White drivers of this age. [Figure 47-B]

### **Perceptions Frequency of Use**

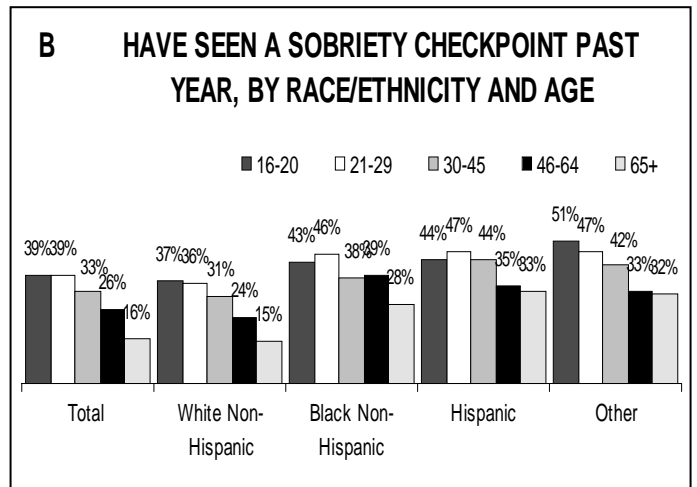
While Non-Hispanic Whites of driving age are less likely to have seen a sobriety checkpoint than other persons, they are just as likely to believe they should be used more frequently than others. Nearly two-thirds (64%) of those age 16 or older feel sobriety checkpoints should be used more frequently, with females of all racial/ethnic groups much more likely than their male counterparts to feel this way. [Figure 47-C]

**FIGURE 47: PERCEPTIONS AND USE OF SOBRIETY CHECKPOINTS**

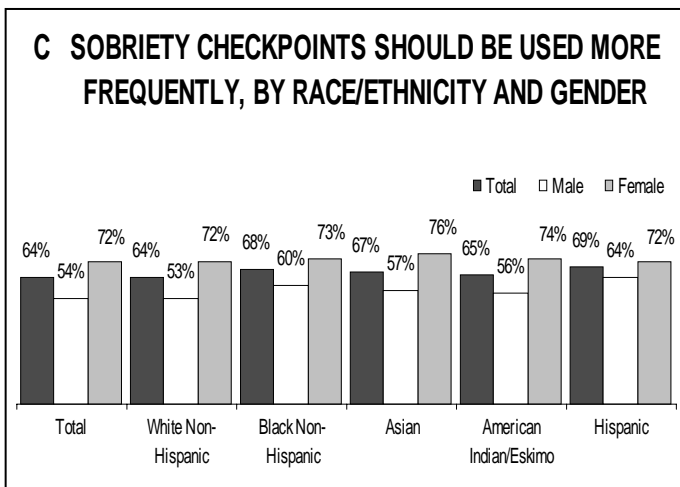


Q120: In the past 12 months, have you seen a sobriety checkpoint?

[Base: All respondents\*\*]



Q120: In the past 12 months, have you seen a sobriety checkpoint?  
[Base: All respondents]



Q122: Do you think sobriety checkpoints should be used more frequently, about the same as they are now, or less frequently?

[Base: all respondents]

\*\*Sample bases for this page: (1997, 1999, 2001)

	Total	White Non-Hispanic	Black Non-Hispanic	Other Race	Asian	American Indian/Eskimo	Hispanic
Male	6546	5309	443	--	160	117	431
Female	8593	6895	759	--	188	127	514
16-20	1489	1089	131	92	--	--	177
21-29	2142	1564	209	79	--	--	115
30-45	4833	3844	411	236	--	--	342
46-64	4136	3533	315	132	--	--	156
65+	2362	2139	120	54	--	--	49

## Awareness and Knowledge of BAC Levels and Legal Limits

---

### Heard of BAC Levels

Non-Hispanic White (86%) and American Indian/Eskimo (91%) persons of driving age are most likely to say they have heard of BAC levels. Hispanics are least likely to say they are aware of BAC limits with less than two-thirds (64%) reporting awareness. [Figure 48-A]

### Knowledge of BAC Limit

While more than eight of ten profess awareness of BAC limits, just over one in four (26%) can correctly name their state's BAC limit. Knowledge is highest among those of American Indian/Eskimo descent (37%) and lowest among Non-Hispanic Blacks (12%). In general, persons living in .08 states regardless of racial or ethnic background, are more knowledgeable of their state's limits as compared to those in .10 states, suggesting that the public awareness and education campaigns put into place by states during the period of .08 BAC limit adoption had an impact. [Figure 48-B] Few Hispanics (8%) living in .08 states correctly name their state's BAC limit, though those in .10 per se states are more knowledgeable (29%).

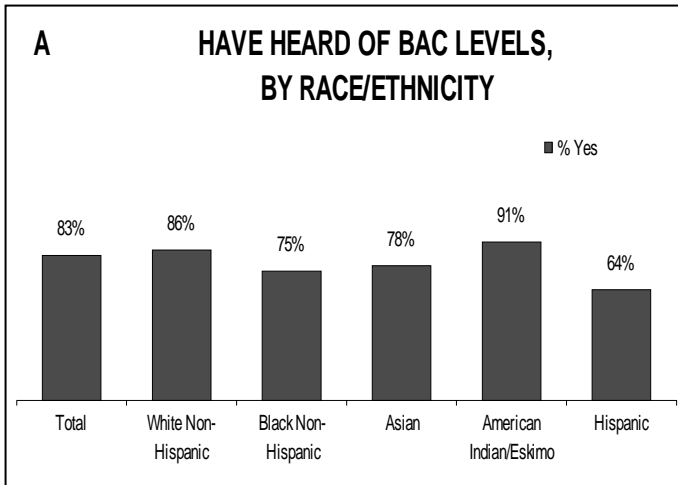
### Number of Beers to Reach BAC Limit

About six in ten (61%) people of driving age believe that it would take three or more beers within two hours to reach their states BAC limit reporting an average of 3.2 beers. Non-Hispanic Blacks believe that it would take closer to four beers (3.7 on average) while those of Hispanic, American Indian/Eskimo, or Asian descent believe they would reach the limit with fewer than three beers in two hours. [Figure 48-C] While on average, Asians report lower average body weights and American Indians/Eskimos slightly higher than average weights. On average, all people underestimate the number of beers it takes to reach .08 BAC. According to NHTSA BAC calculations, it would take the average 180-pound male about 5 drinks in two hours on an empty stomach to reach a BAC of .08 and about 3.5 for the average 150 pound female (actual average of survey respondents).

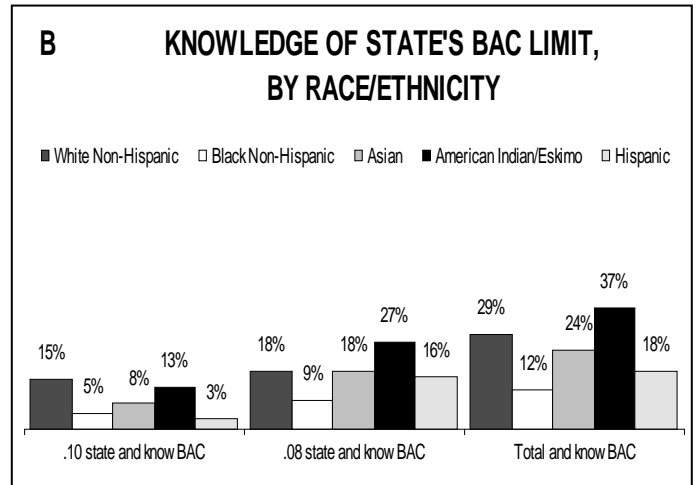
### How Many Dangerous at Legal BAC Limit

Slightly more than six in ten (62%) persons of driving age feel that all or most drivers would be dangerous with a BAC at the legal limit. Those of American Indian/Eskimo descent are much more likely to believe that *all* such drivers would be dangerous at the legal limit (40% as compared to 29% overall). [Figure 48-D]

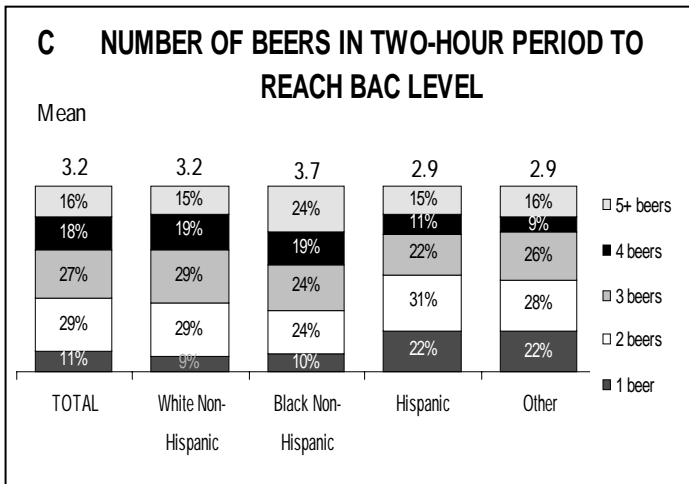
**FIGURE 48: AWARENESS AND KNOWLEDGE ABOUT BAC LEVELS AND LEGAL LIMITS**



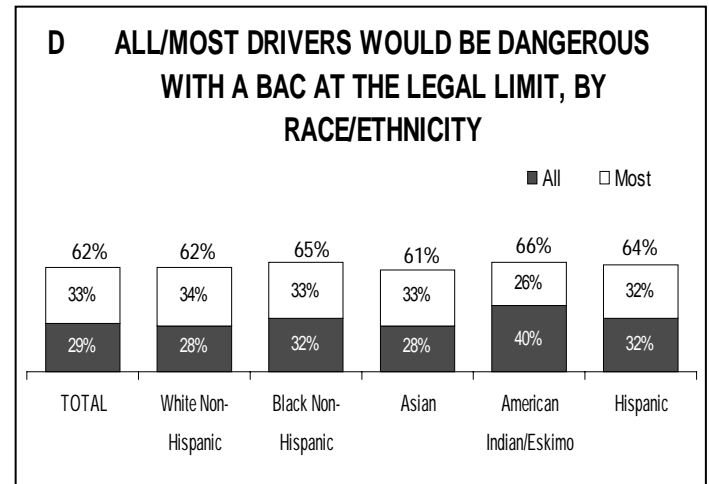
Q123: The amount of alcohol in a person's body can be measured in terms of the "Blood Alcohol Concentration," which is often called the BAC level. Have you heard of blood alcohol concentration of BAC levels?  
 [Base: all respondents\*\*]



Q125: To the best of your knowledge, what is the specific BAC limit for your state?  
 [Base: respondents who thought they knew state's BAC limit; answers were compared with actual BAC limits for each respondent's state of residence]



Q126: How many beers would a person about your size have to drink in a two-hour period to just reach the legal limit?  
 [Base: all respondents]



Q127: In your opinion, how many drivers would actually be dangerous drivers with a BAC at the legal limit?  
 [Base: all respondents]

\*\*Sample bases for this page: (1997, 1999, 2001)

	Total	White Non-Hispanic	Black Non-Hispanic	Asian	American Indian/Eskimo	Hispanic
Total	15139	12204	1202	348	244	945
.08	6613	5107	532	235	113	541
.10	8526	7097	670	113	131	404

## Acceptance of .08 BAC Limit

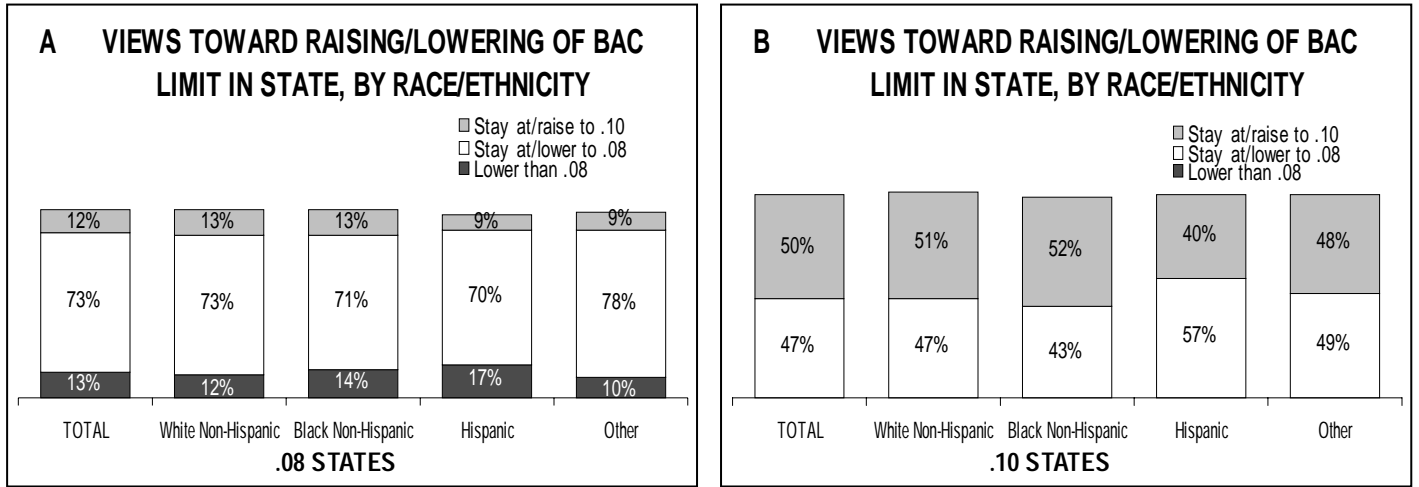
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### Views Toward Raising/Lowering of BAC Limit in State

There is a strong support among persons of all racial/ethnic groups to have a .08 per se BAC limit in all states. More than eight of ten persons currently residing in .08 states believe the state's limit should either stay at .08 (73%) or be lowered even further (13%). Just over one in ten would like to see it raised to .10. Those of Hispanic background are slightly more likely to want to see it lowered below .08 (17% would). [Figure 49-A]

Nearly one of every two (47%) persons in .10 states would favor lowering their state's BAC limit to .08. Again, Hispanics are most supportive of lowering the BAC limit (57%), while Non-Hispanic Blacks are less likely to want it lowered (43%). [Figure 49-B]

**FIGURE 49: ACCEPTANCE OF .08 BAC LIMIT**



Q130f: The BAC limit in your state is currently .08. In your opinion, should the BAC level in your state be raised, that is made looser to a level of .10 or should it stay at its current level of .08? Q130e: The BAC limit in your state is currently .10. In your opinion, should the BAC level in your state be lowered, that is made stricter to a level of .08 or should it stay at its current level of .10?  
 [Base: heard of BAC levels]

\*\*Sample bases for this page: (1997, 1999, 2001)

	Total	White Non-Hispanic	Black Non-Hispanic	Hispanic	Other
Total	12826	10426	939	749	593
.08 States	5870	4560	445	460	349
.10 States	6956	5886	494	289	244

## **Involvement in Motor Vehicle Crashes**

---

### **Involved in Crash While Driving**

About one in six (16%) drivers have been involved in a crash as a driver in the past two years. Asian drivers are most likely to have been involved (22%). [Figure 50-A]

### **Involved in Crash While Driving – Drinking-Drivers**

Drivers who have driven within two hours of consuming alcohol are more likely than other drivers to have been involved in a motor vehicle crash in the recent past. Hispanic drinker-drivers are least likely to have been involved in a crash in the past two years with just 15% reporting a motor vehicle crash. Drinking-drivers of American Indian/Eskimo or Asian descent are almost twice as likely as others drinker-drivers to have been in a crash, with 37% reporting a crash. [Figure 50-B]

### **Passenger in Vehicle Crash**

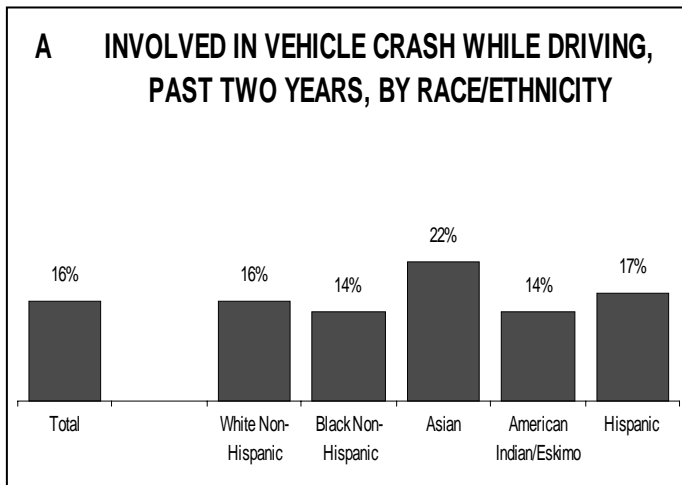
Reports of experiences of vehicle crashes as a passenger are much less prevalent than those as a driver, with just 4% saying they have been in a vehicle crash as a passenger in the past two years. Asians are almost three times more likely to have been in a crash as a passenger. Non-Hispanic Blacks are also more likely than average to have been a passenger in a motor vehicle crash with 7% having such an experience. [Figure 50-C]

### **Alcohol Involved in Crash**

Three percent (3%) of those involved in a motor vehicle crash as a driver report that they had consumed alcohol prior to their crash. However, alcohol was reportedly involved around one in ten motor vehicle crashes of Hispanics (9%) or those of American Indian/Eskimo or Asian descent (12%).

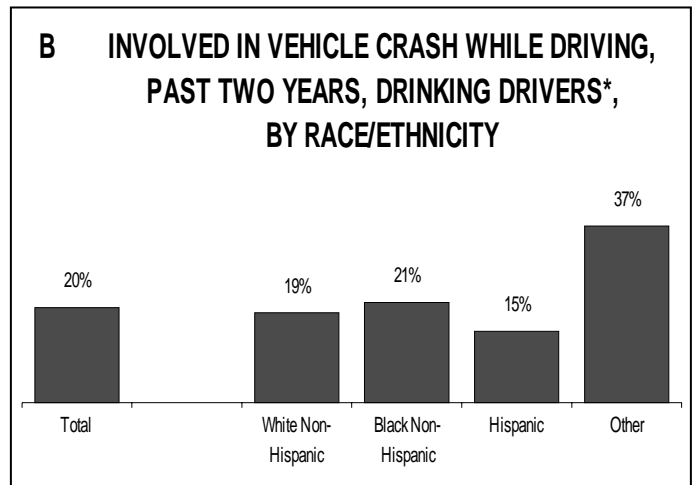
One in ten persons involved in a motor vehicle crash as a passenger report that alcohol had been consumed by the driver within two hours of driving. There is no substantial variance by race of the passenger. [Figure 50-D]

**FIGURE 50: INVOLVEMENT IN MOTOR VEHICLE CRASH, PAST TWO YEARS**



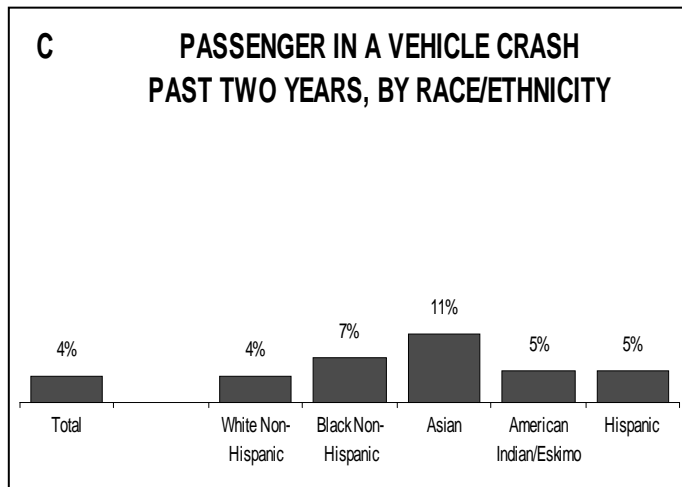
Q131a: In the past two years, have you been involved in a crash while driving a motor vehicle?

[Base: 1999 and 2001 data: drivers\*\*]



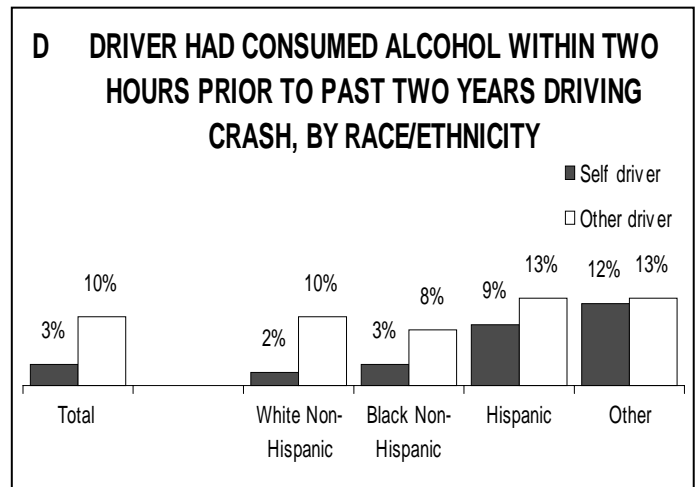
Q131a: In the past two years, have you been involved in a crash while driving a motor vehicle?

[Base: 1999 and 2001 data: drinking drivers\*]



Q135a: In the past two years, have you been in a crash where you were a passenger?

[Base: 1999 and 2001 data: all respondents\*\*]



Q134/138: Had you/your driver consumed alcohol within two hours prior to the crash?

[Base: 1999 and 2001 data: involved in a crash as a passenger or driver, past two years\*\*]

\* Drinking drivers: drove within two hours after drinking alcohol

\*\*Sample bases for this page: (1999, 2001)

	Total	White Non-Hispanic	Black Non-Hispanic	Other	Asian	American Indian/Eskimo	Hispanic
Drivers	10773	8779	766	--	271	203	605
Involved in crash while driving	1312	1081	88	71	--	--	72
Passenger in crash	464	337	49	32	--	--	46
Drinking-drivers*	2427	2123	123	90	--	--	91



# Trends: 1991, 1993, 1995, 1997, 1999, and 2001

## Chapter 9: Trends in Drinking and Driving Attitudes and Behaviors: Trend Data from the Biennial Studies Conducted 1991, 1993, 1995, 1997, 1999, and 2001

---

This 2001 survey marks the sixth in a series of biennial drinking and driving attitudes and behavior tracking surveys conducted by NHTSA. These studies of the driving age public provide NHTSA with continuing feedback on the changes in attitudes and behaviors related to drinking and driving. As the sixth measurement in the series, the 2001 data allow for continuing examinations of statistical trends. All changes reported as differences in this section are statistically significant. Significant differences were tested between two survey years or groups of years using a statistical test of independence, and with an analysis of variance test (ANOVA) to test trends over three or more periods.

This section presents trend data for measures that were included in the previous versions of this survey. Substantial changes in the survey instrument were made between the 1991 and 1993 administrations, with the addition of several key survey items. Thus, some tables in this section show data only for 1993, 1995, 1997, 1999, and 2001. Also, changes were made in 1999 to some questions which were previously trended, such that trends can only be made between 1999 and 2001.

Key topics addressed here include the following:

- Drinking and driving occurrences in the past year and the past 30 days
- Estimates of total drinking and driving trips
- Estimated BAC on most recent drinking-driving trips (1995 to 2001 only)
- Riding with a driver who may have consumed too much alcohol to drive safely
- Riding with and being a designated driver
- Attitudes about drinking and driving
- Perceptions about enforcement and penalties for drinking and driving
- Opinions about severity and effectiveness of drinking and driving laws and penalties
- Opinions about the use of sobriety checkpoints
- Awareness and knowledge of BAC limits
- Measures of potential problem drinking and estimates of problem drinkers

The 1991 baseline measure included only persons age 16-64, rather than all persons age 16 and older. In order to provide accurate comparisons to the baseline, results presented in this section are for only those age 16-64, unless otherwise noted. Since the population base differs from that presented earlier in this report for 2001, some survey results will not match those presented earlier for the full population age 16 and older.

## **Trends in Past-Year Drinking and Driving**

---

### **Drove Within Two Hours After Drinking Alcoholic Beverages**

#### *Total Population, Age 16-64*

After a decrease in the proportion of the driving age population 16-64 who drove within two hours of consuming alcohol was found in waves three and four (relative to the first two administrations), the prevalence of drinker-drivers remains at levels similar to those found in 1991, 1993, and 1999.

Overall, 23% of the driving age population age 16-64 has driven within two hours of consuming alcoholic beverages. This is a significant increase from the 20% measured in 1995, and simulates the 23% measured in 1999, the 24% measured in 1993, and the 23% found in 1991. [Figure 51-A]

#### *Gender Differences, Age 16-64*

After a significant decrease in drinking and driving incidence among men in 1995 from previous levels in 1993 and 1991 (28% versus 34% and 32% respectively), the proportion of males who drove within two hours of drinking alcoholic beverages climbed back up from 1995 levels to 31% in 1997, to 32% in 1999, and holds steady at 33% in 1999. [Figure 51-B]

After a small increase in drinking and driving incidence rate among females in 1993, this behavior stabilized at about 12% in 1995 and 1997. The 14% incidence rate measured in 2001 and 1999 is a directional, but not significant increase over the 1997 measure.

#### *Age Differences, Age 16-64*

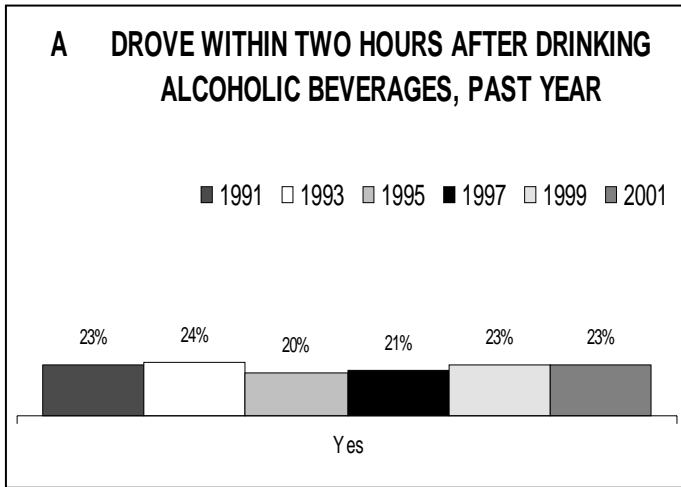
There are no significant changes from 1999 in the percentage of those who drove within two hours of drinking among age groups. [Figure 51-C]

#### *Average Number of Times Drove After Drinking in Past Year, Age 16+*

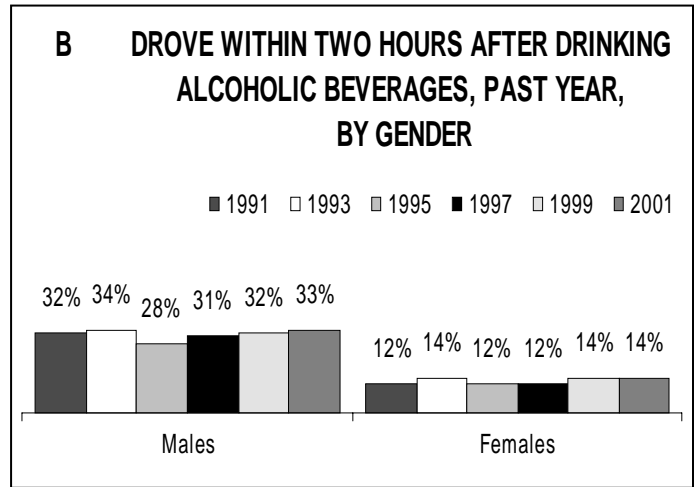
Among those of age groups who have driven within two hours of drinking in the past year, the average number of times they have done so has decreased significantly from an average of 13.4 annual drinking-driving trips in 1993 to a current level of 11.4 average trips per drinker-driver in 2001. [Figure 51-D]

Past-year drinking and driving trips has increased among 16- to 20-year-olds since 1999 but is not as high as levels seen in 1995. These persons reported an average of about 12 episodes per year in 1993 and 1995, while an average of about seven annual trips were reported in 1997, four trips in 1999, and 10 trips in 2001. In contrast, the average number of drinking and driving occasions has decreased among 21-29 year olds (about 10 trips on average compared to about 15 trips in 1999).

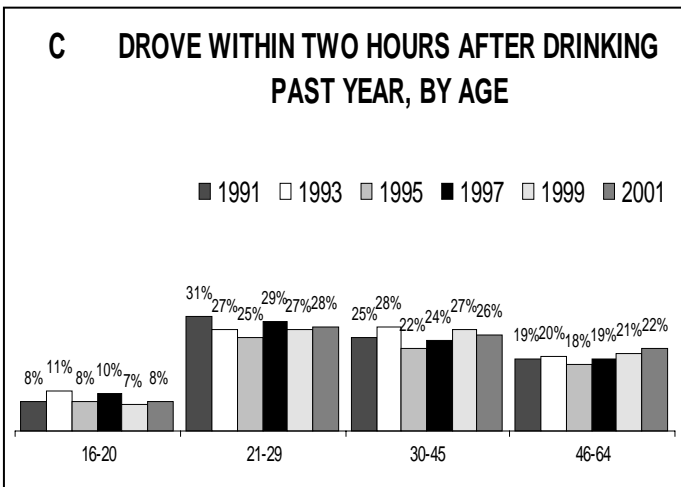
**FIGURE 51: TRENDS IN PAST-YEAR DRINKING AND DRIVING**



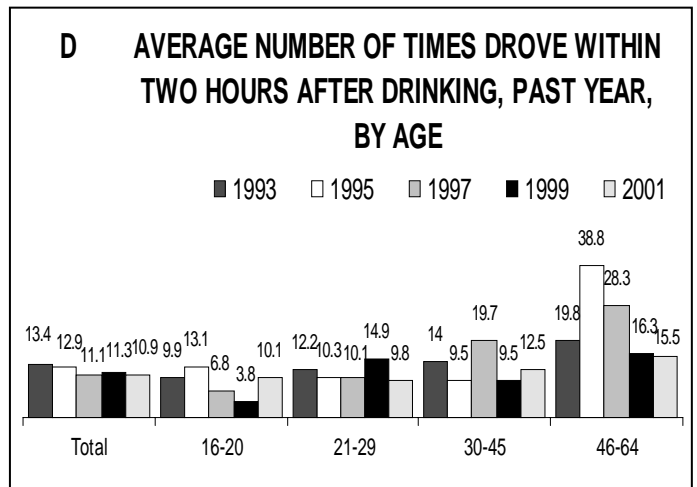
Q33: In the past 12 months, have you ever driven a motor vehicle within two hours after drinking alcoholic beverages?  
[Base: all respondents age 16-64\*]



Q33: In the past 12 months, have you ever driven a motor vehicle within two hours after drinking alcoholic beverages?  
[Base: all respondents age 16-64\*]



Q33: In the past 12 months, have you ever driven a motor vehicle within two hours after drinking alcoholic beverages?  
[Base: all respondents age 16-64\*]



Q34: How many times in the past 12 months have you ever driven within two hours after drinking alcohol?  
[Base: drivers aged 16-64 who drove within two hours after drinking in the past year]

A chart showing sample bases for figures on this page can be found at the end of this section

\*Calibrated data 1991-1997



## **Trends in Past Month Drinking and Driving**

---

### **Drove Within Two Hours After Drinking Alcoholic Beverages in Past Month**

Drivers age 16-64 who drove within two hours of consuming alcohol in the past year (drinker-drivers) were asked how many times they had done so in the past 30 days. The 30-day measure is used since recall of the time period is likely to be more accurate than that for past the year.

### **Total Drivers Who Drank Any Alcohol, Age 16-64**

The proportion of drinkers who drive, who have driven within two hours of consuming alcoholic beverages in the past 30 days, decreased significantly between 1991 and 1995, from about 26% to 21%. The trend has leveled off since 1997 with 19% of 16- to 64-year-old drivers who drink reporting driving after drinking in the past-month in 2001. [Figure 52-A]

### **Average Number of Past-Month Drinking-Driving Trips, Age 16-64**

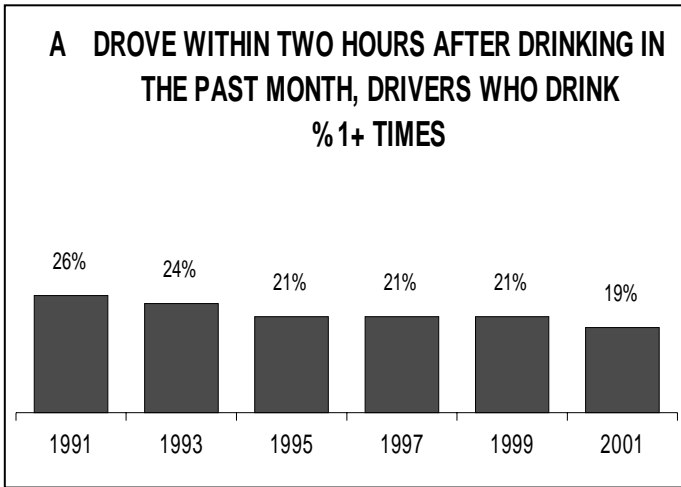
The average number of past-month drinking-driving trips among drivers who had driven within two hours of drinking alcohol in the past year declined significantly from 1991 to 1995, from an average of about 2.3 trips in 1991 to 1.9 average trips in 1995. The average number of trips declined again in 1997 to 1.7 and has remained consistent since 1997 (1999 and 2001 measures are not statistically different from the 1995 measure). [Figure 52-B]

### **Average Number of Past-Month Drinking-Driving Trips, Gender and Age Differences**

The average number of past-month drinking-driving trips declined significantly from 1991 levels among both males and females. Males declined from 2.6 average trips in 1991 to 2.3 trips in 1993, and again to 2.1 trips in 1997 and to 1.9 trips in 1999. The current level of 1.8 average trips by males is similar to levels seen in 1999 (1.9). Females showed a significant drop between 1991 and 1993 from 2.0 to 1.0 average trips. This level of about one trip per month has remained statistically consistent since 1993. [Figure 52-C]

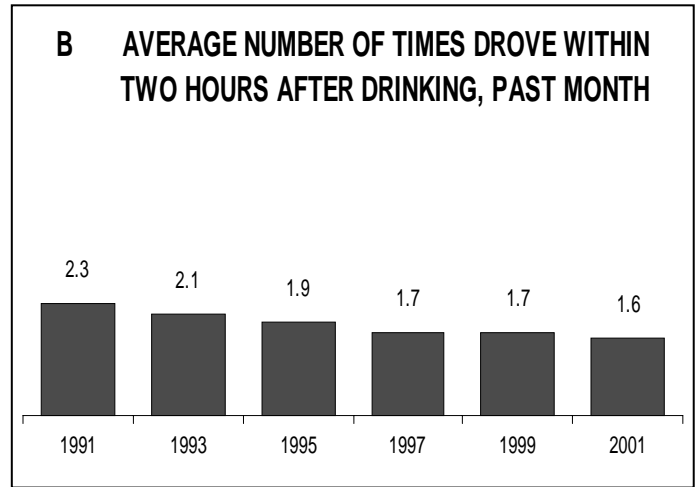
Past-month drinking-driving trips declined significantly since 1991 among drinking-drivers over age 20. However, while drinking-drivers age 16-20 showed a decrease in the number of past-month trips between 1993 and 1999, currently they are back to levels seen in 1991 (1.6 average trips). The 46- to 64-year-old group has shown a consistent decline from a high of 2.5 average monthly drinking-driving trips in 1991 to 1.6 in 1997. The 1.8 average trips in 2001 is not significantly higher than that of 1997. Those age 21-45 have also reduced these trips overall since 1991. [Figure 52-D]

**FIGURE 52: TRENDS IN DRINKING AND DRIVING, PAST MONTH**



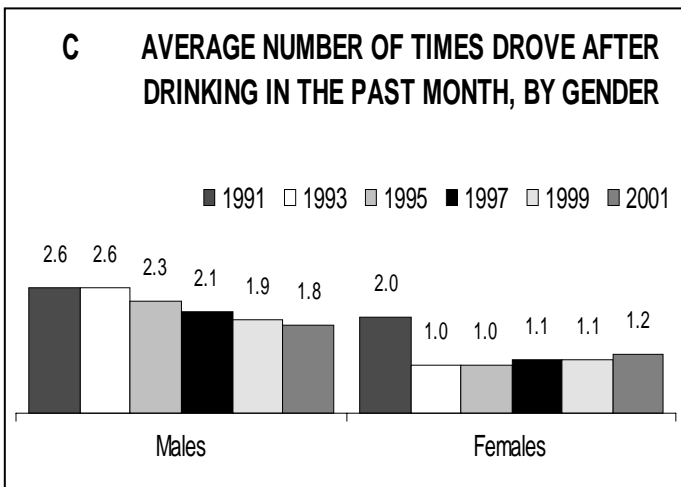
Q35: In the past 30 days, how many times have you driven a motor vehicle within two hours after drinking alcoholic beverages? % one or more times.

[Base: drivers age 16-64 who drank alcohol in past year]



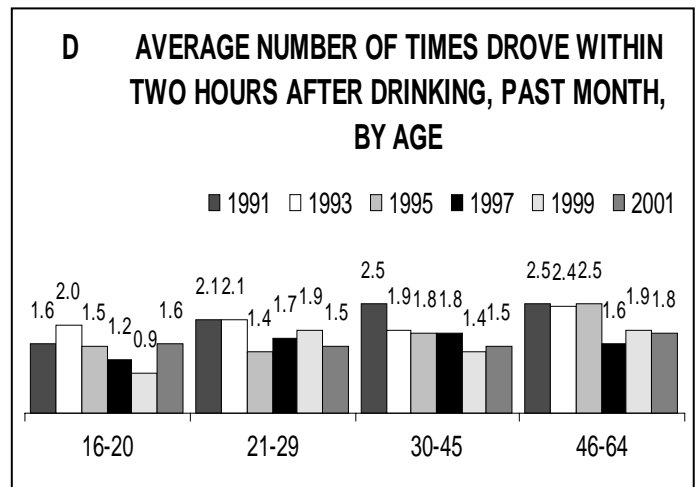
Q35: In the past 30 day, how many times have you driven a motor vehicle within two hours after drinking alcoholic beverages?

[Base: drivers age 16-64 who drank alcohol in past year]



Q35: In the past 30 days, how many times have you driven a motor vehicle within two hours after drinking alcoholic beverages?

[Base: drivers age 16-64 who drank alcohol in past year]



Q35: In the past 30 days, how many times have you ever driven within two hours after drinking alcoholic beverages?

[Base: age 16-64 who drove after drinking in the past year]

A chart showing sample bases for figures on this page can be found at the end of this section.

## National Estimates of Total Drinking-Driving Trips

---

Estimates of total drinking driving trips based on self-reported data were performed to estimate the total drinking-driving trips for the driving public. For the purposes of this analysis, alcohol-impaired driving was defined as any positive response to the question “In the PAST 30 DAYS how many times have you driven a motor vehicle within two hours after drinking alcoholic beverages?”

### Calculation of Drinking-Driving Trips

As the past 30-day measure was felt to be more reliable than the self-reported past 12-month measure, the total number of drinking-driving trips was calculated for each respondent by multiplying the self-reported number of trips in the past month by 12 to obtain a yearly total. The number of trips was summed across respondents and is reported by age and gender in Figure 52.

It is important to note that the total trip data presented here may not reflect the true number of alcohol-impaired driving trips made each year for a number of reasons: people may not be able to accurately recall the number of such trips, the previous month may not be indicative of the respondent’s total year drinking-driving trips, and people may under-report such behavior if they feel it is socially desirable to do so. This analysis is meant to provide an approximation of the range of possible drinking-driving trips by gender and age.

### Trends in Total Drinking-Driving Trips, Total Persons Age 16 and Older

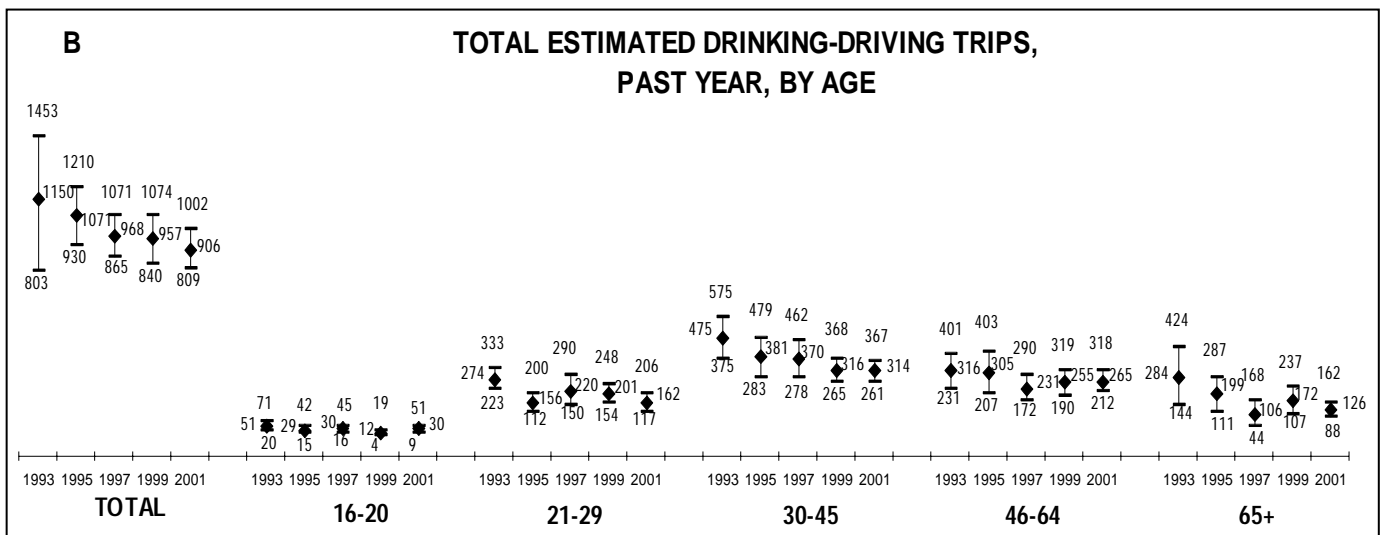
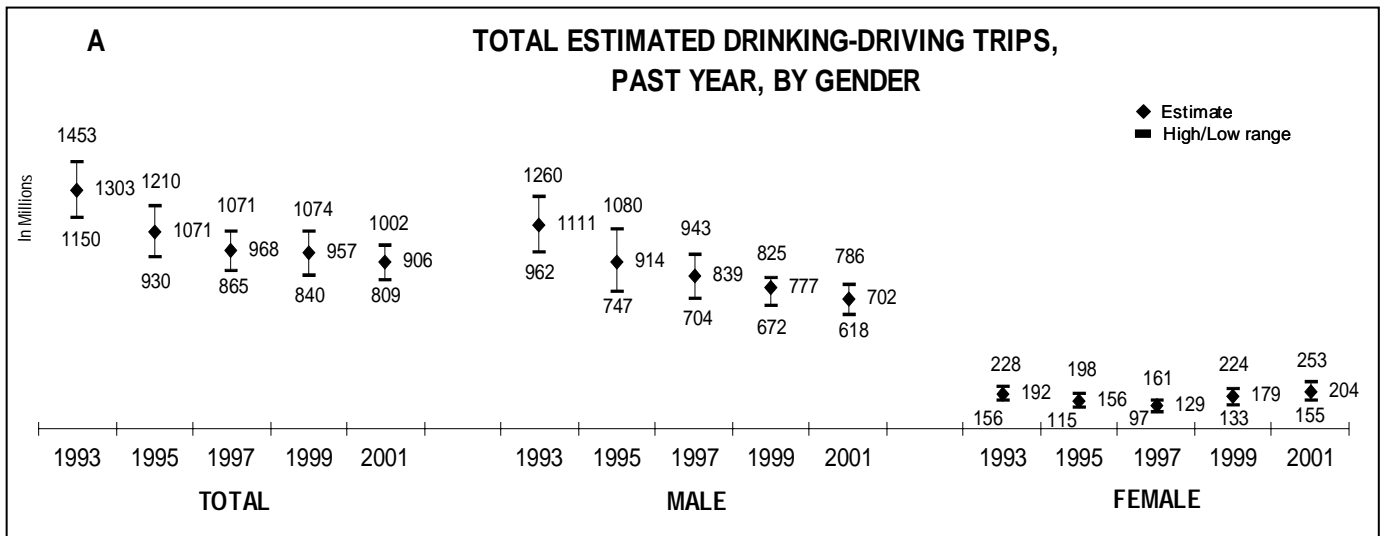
Overall, the total estimated number of driving trips made by drivers who drove within two hours of consuming alcohol continues to decline. Drivers who have consumed alcoholic beverages within two hours of starting their driving trip made an estimated 906 million ( $\pm 97$  million) driving trips in 2001, significantly lower than that for 1993 of about 1.3 billion ( $\pm 153$  million) drinking-driving trips. The error ranges for each year by gender and age appear at the bottom of Figure 53.

It should be noted that the sample sizes for those under age 21 and 65 and older are very small, resulting in large error ranges. The error range for 2001 trip estimates of 16- to 20-year-olds is  $\pm 21$  million trips, (around the estimated 30 million trips) while trips by those age 65+ could vary  $\pm 37$  million trips from the 126 million trips shown in Figure 53-B.

While total drinking-driving trips have declined for males since 1993, females continue to report an increasing number of total trips in 2001 than in 1999 or 1997. Total trips have declined among all groups since 1993, dropping most significantly among 21-29 year olds (from 278 million to 162 million trips).

EDITOR’S NOTE: While past month trips were thought to be a more accurate representation than past 12 month recall, the reader is cautioned that a seasonal bias is possible in such reporting. If the past year measure were used rather than the past month (projected out for 12 months), the total number of trips would be approximately 872 million rather than 906 million trips.

**FIGURE 53: NATIONAL ESTIMATES OF TOTAL YEARLY DRINKING-DRIVING TRIPS**



\*Total drinking-driving trips were estimated by multiplying the number of drinking-driving trips in the past 30 days by 12 to yield a yearly estimate for each respondent. Total trips were summed across all respondents and data were projected to the total U.S. population age 16 or older.

Error range for total number of trips by gender and age (in millions):

	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>16-20</u>	<u>21-29</u>	<u>30-45</u>	<u>46-64</u>	<u>65+</u>
2001	±97	±84	±49	±21	±45	±53	±53	±37
1999	±117	±107	±46	±7	±47	±52	±64	±65
1997	±158	±153	±41	±22	±73	±142	±61	±51
1995	±140	±166	±41	±13	±44	±98	±98	±88
1993	±153	±149	±36	±18	±55	±100	±85	±101



## **Calculated Estimate of BAC Most Recent Occasion**

---

### **Average Number of Drinks on Last Drinking-Driving Occasion**

Drinker-drivers averaged 2.7 alcoholic drinks on their most recent drinking and driving occasion. This average number of drinks remains steady compared to 1999 and earlier years. There are no changes in the number of drinks consumed by gender. Persons age 16-20 continue to report consuming the largest number of drinks per episode than other drinker-drivers, though this average has dropped to 5.1 drinks from a high of 6.3 in 1999. [Figure 54-A]

The number of drinks consumed decreases with age consistently across all measurements since 1995.

### **Length of Time Between Drinking and Driving**

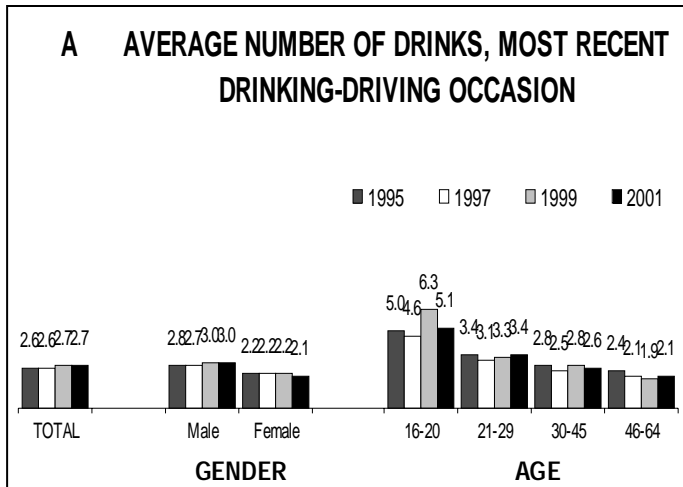
Drinker-drivers begin driving an average of about 44 minutes after their last drink, with women waiting about 7 minutes longer than their male counterparts. Time waited before driving is consistent between 2001 and 1999. [Figure 54-B]

### **Estimated Calculated BAC of Most Recent Occasion**

Drinker-drivers average a blood alcohol concentration (BAC) level of about .03 on their most recent drinking-driving occasion (see page 4 for calculation). This is slightly lower than the .04 BAC estimated in 1999, but is consistent with BAC levels in 1995 and 1997. [Figure 54-C]

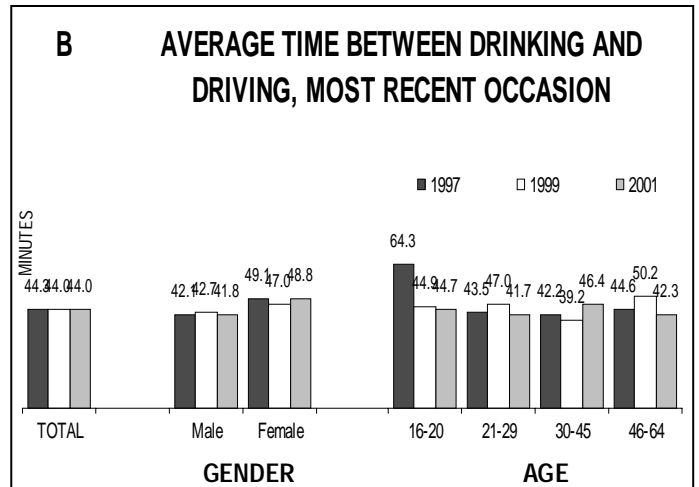
The average calculated BAC has decreased since 1999 among 16-20 year olds (.08 BAC as compared to .12) and remains consistent for other age groups. [Figure 54-D]

**FIGURE 54: TRENDS IN CALCULATED ESTIMATE OF BAC MOST RECENT OCCASION**



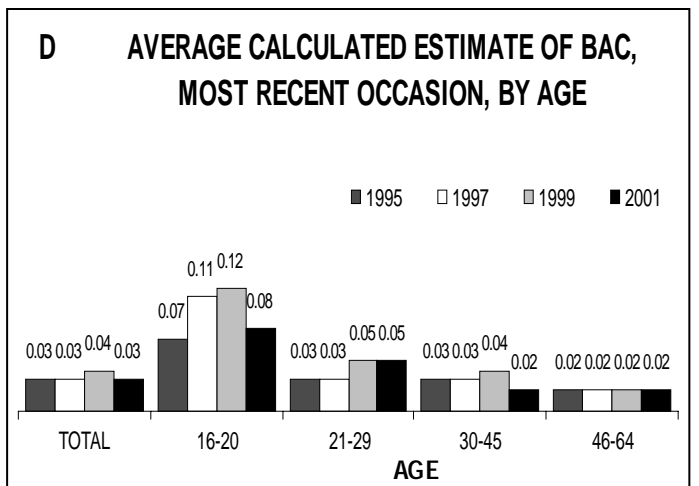
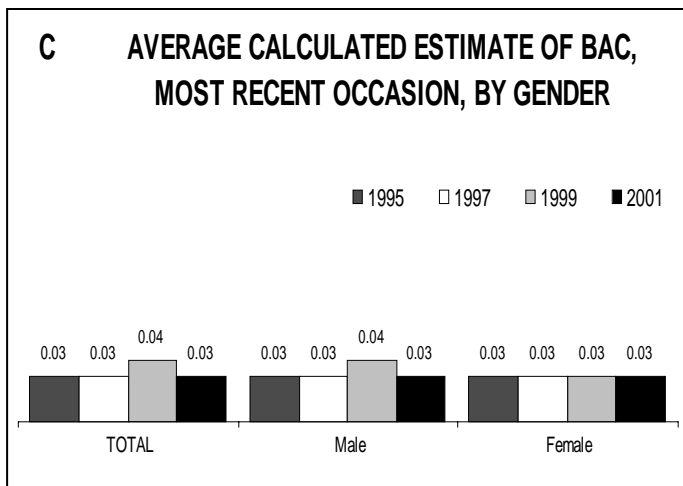
Q38: How many drinks did you have on that (most recent) occasion?

[Base: drinker-driver's age 16-64]



Q41: How long after your last drink did you start driving?

[Base: drinker-driver's age 16-64]



BAC calculated using NHTSA BAC estimation formula using gender, weight, number of drinks consumed, length of time drinking, and length of time between last drink and driving.

A chart showing sample bases for figures on this page can be found at the end of this section.

## **Experience as Passenger of Potentially Unsafe Drinking-Driver, Past Year**

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### **Rode With Driver Who Consumed Too Much Alcohol to Drive Safely**

#### *Total Population, Age 16-64*

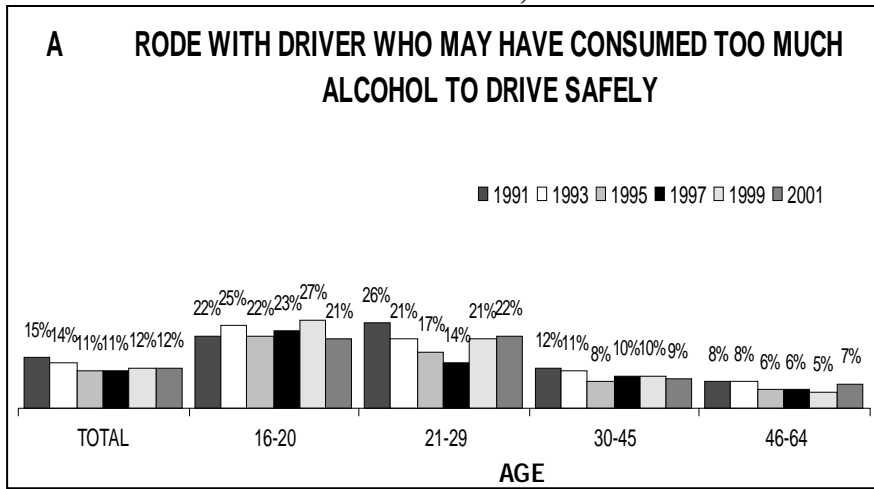
The proportion of persons age 16-64 who have ridden with someone in the past year who they thought may have had too much alcohol to drive safely has declined significantly since 1991, from about 15% to a level of 11% reported in both 1995 and 1997, and 12% in 1999 and 2001.

[Figure 55-A]

#### *Age Differences, Age 16-64*

The percentage of those who report being a passenger of a driver who may have consumed too much to drive safely has declined or remained consistent for all those age 30 or older across the six measures of the study. While reports of such behavior declined steadily among the 21- to 29-year-old group between 1991 and 1997, these persons reported a significant increase in this behavior in 1999, where they remain in 2001. Most other age groups have remained consistent over time.

**FIGURE 55: EXPERIENCE AS PASSENGER OF POTENTIALLY UNSAFE DRINKING-DRIVER, PAST YEAR**



Q57: In the past 12 months, did you ever ride in a motor vehicle with a driver you thought might have consumed too much alcohol to drive safely?  
 [Base: all respondents age 16-64]

A chart showing sample bases for figures on this page can be found at the end of this section.

## **Trends in Driving With and Being a Designated Driver**

---

### **Have Ridden With Designated Driver in Past Year, Age 16-64**

While the 1995 study showed a decline in the proportion of the driving age public age 16-64 who had ridden with a designated driver in the past year over the previous year, the measures from 1997, 1999, and 2001 show riding with a designated driver has risen back to its 1993 level among persons age 16-64. The 1997 increase over the 1995 survey holds for both males and females. Younger persons, particularly those age 21-29, continue to be significantly more likely than older persons to drive with a designated driver. [Figure 56-A]

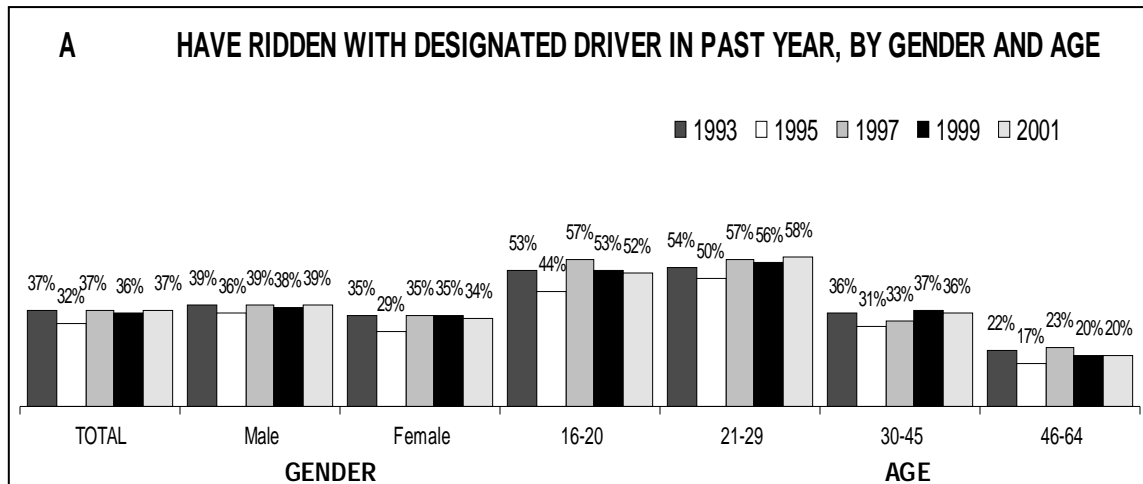
### **Have Been a Designated Driver in Past Year, Age 16-64**

A significantly greater percentage of 16- to 64-year-old drivers reported that they, themselves had been a designated driver in the past year in 1997 than was true in either 1993 or 1995. While the 2001 measure is below that of 1997, it is consistent with 1999 findings. In 2001, about 47% of all drivers age 16-64 report that they have been a designated driver at least once in the past year. This compares to 39% in 1995 and 42% in 1993. Reported levels of being a designated driver continue to decrease among those ages 16-20 since 1997 (55% as compared to 61% in 1999 and 76% in 1997). Those ages 21-29 are the most likely to report having been a designated driver in the past year. [Figure 56-B]

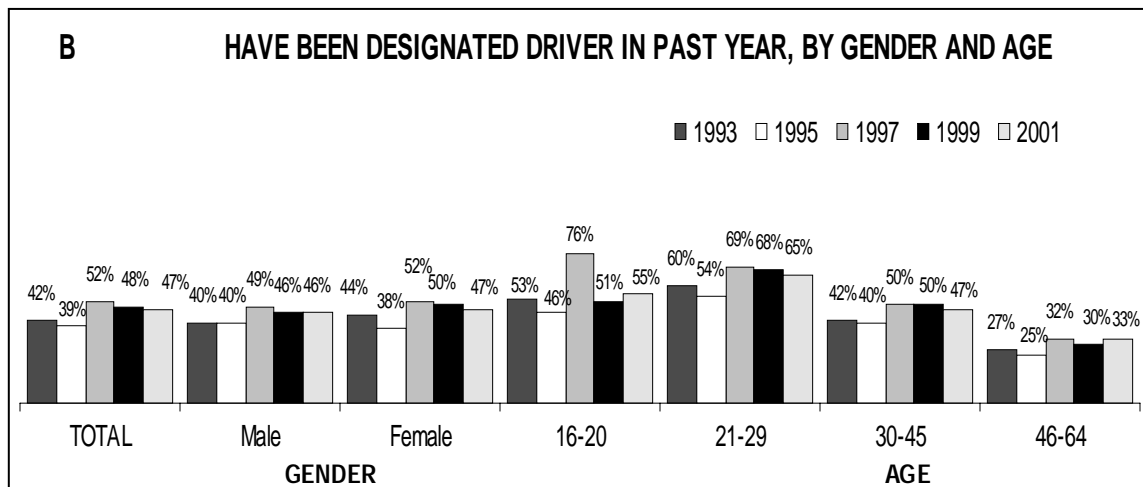
### **Maximum Number of Drinks a Designated Driver Should Have, Age 16-64**

The driving age public 16-64 years old believes that on average, a designated driver should consume no more than one-half of an alcoholic drink before driving. This belief is held by both males and females and across all age groups and remains consistent over time. [Figure 56-C]

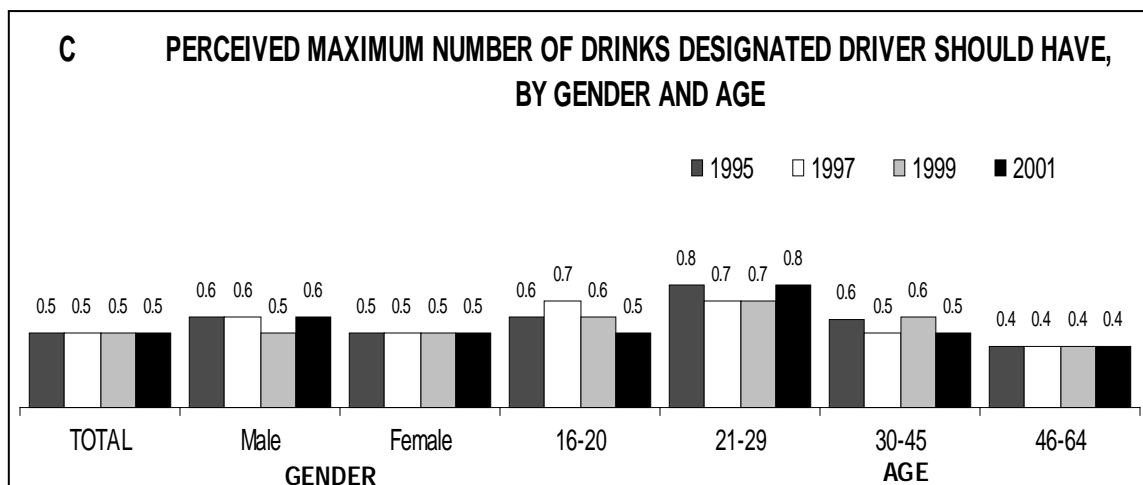
**FIGURE 56: TRENDS IN DRIVING WITH AND BEING A DESIGNATED DRIVER**



Q61: In the past 12 months, have you ever ridden anywhere with someone else who agreed to be the designated driver?  
 [Base: all respondents age 16-64]



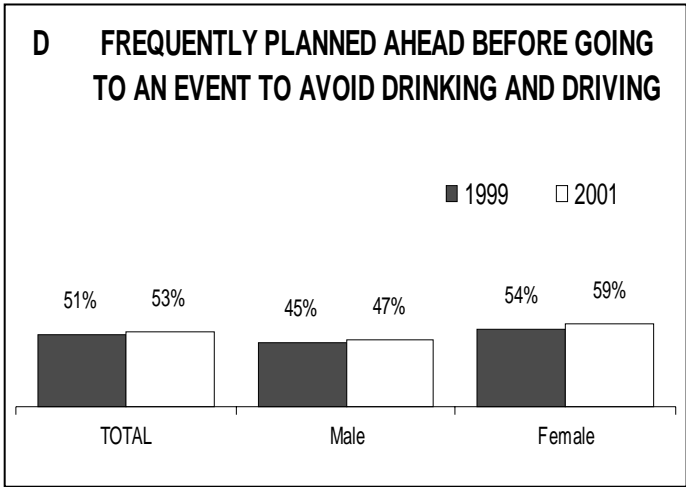
Q64b: In the past 12 months, have you ever been the designated driver when driving with others?  
 [Base: drivers age 16-64]



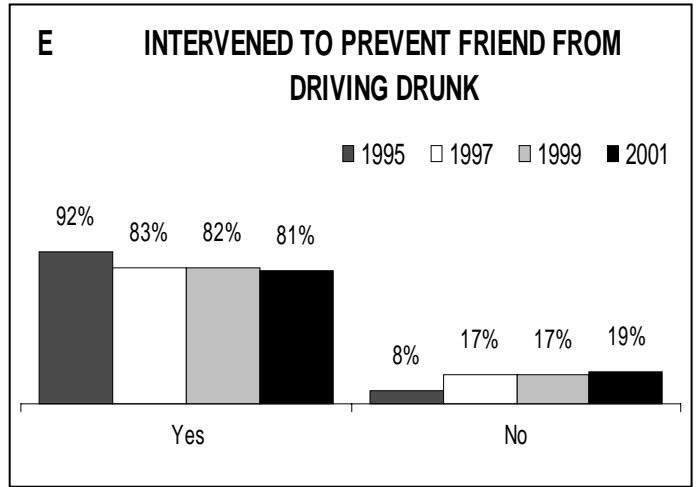
Q66: What is the maximum number of drinks a person should have if he or she is a designated driver?  
 [Base: all respondents age 16-64]

A chart showing sample bases for figures on this page can be found at the end of this section.

**FIGURE 56: TRENDS IN DRIVING WITH AND BEING A DESIGNATED DRIVER (continued)**



*Q70a: How often did you plan ahead before going to an event to avoid drinking and driving afterward?  
[Base: drinkers who had the opportunity to plan ahead]*



*Q100: Think of the most recent time you were in this situation. Did you do something to stop them from driving?  
[Base: with a friend who had too much to drink to drive safely, one or more times in past year n=1928]*

A chart showing sample bases for figures on this page can be found at the end of this section.

## **Trends in Attitudes About Drinking and Driving**

---

### **Perceptions of Drinking and Driving as a Threat to Personal Safety, Age 16-64**

Overall, 77% of those age 16-64 feel that drinking and driving is a major threat to the personal safety of themselves and their family, while an additional 21% see it as at least a minor threat. The proportion of those saying drinking and driving is a “major” threat has decreased significantly since 1999, and shows the lowest levels since the biennial surveys began. [Figure 57-A]

### **Drinking-Drivers Problem Drinkers, Age 16-64**

Nearly two-thirds (65%) of persons age 16-64 agree with the statement that most people who drive after drinking too much are alcoholics or problem drinkers. The proportion of people who “strongly agree” with this notion has increased significantly since 1991. The overall proportion of those who agree strongly with this view increased from 25% in 1991 and 1993 to 31% in 1995, 32% in 1997, 36% in 1999, and 37% in 2001. [Figure 57-B]

### **Should People Be Allowed to Drive if They Have Been Drinking at All, Age 16-64**

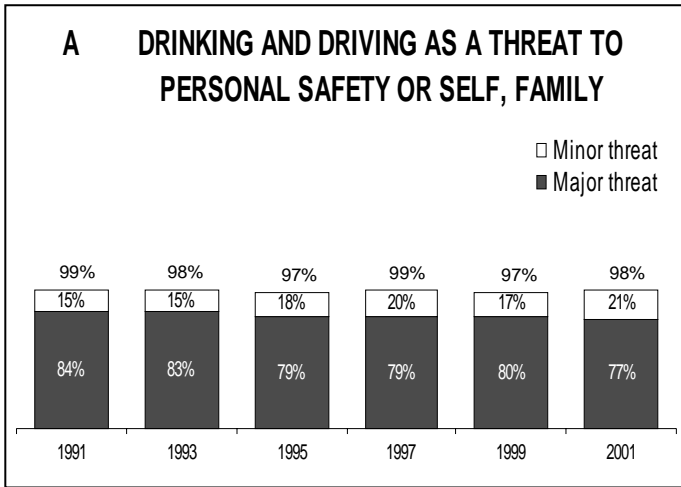
Overall, seven in ten (70%) of those age 16-64 agree with the view that people should not be allowed to drive if they have been drinking at all. Almost half (48%) strongly agree with this view, while about 22% say they agree somewhat. This proportion saying they agree strongly has increased significantly since the 1991 baseline when 43% strongly agreed. [Figure 57-C]

### **Number of Drinks in Two Hours Before One Should Not Drive**

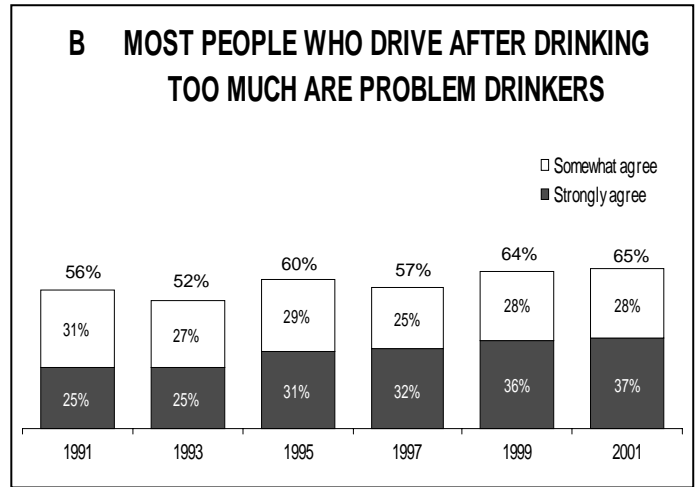
On average, drivers who drink alcohol feel that if they consume about two and one-quarter drinks in two hours prior to driving that they personally should not drive. Males feel they could consume almost one full drink more than their female counterparts. The average number of drinks before one should not drive declined significantly between 1995 and 1997 and has remained relatively stable since.



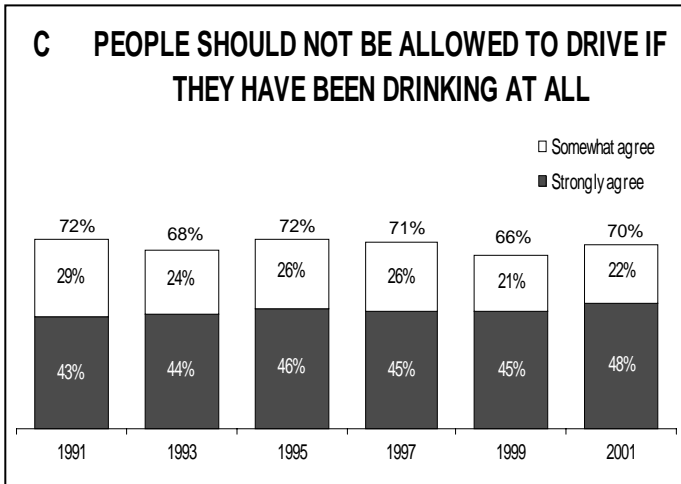
**FIGURE 57: TRENDS IN ATTITUDES ABOUT DRINKING AND DRIVING**



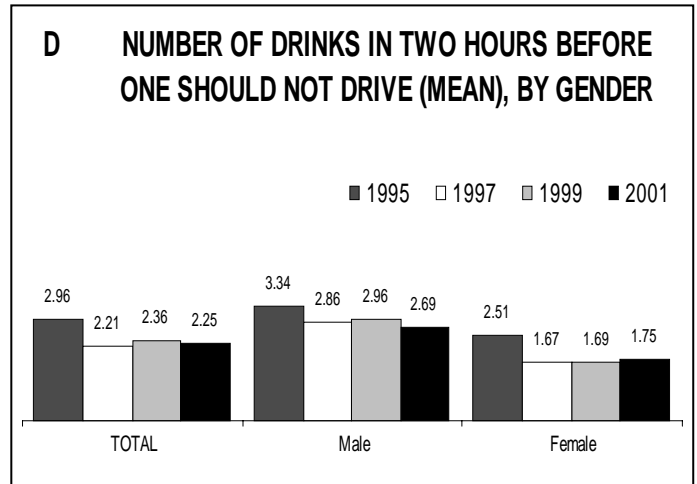
Q103: In your opinion, how much is drinking and driving by other people a threat to the personal safety of you and your family? Would you say it is a major threat, a minor threat, or not a threat?  
[Base: all respondents age 16-64]



Q104a: Most people who drive after drinking too much are alcoholics or problem drinkers.  
[Base: all respondents age 16-64]



Q104c: People should not be allowed to drive if they have been drinking at all.  
[Base: all respondents age 16-64]



Q31: How many [drinks of alcoholic beverage drunk most often] could you drink in two hours before you should not drive?  
[Base: drivers who drink]

A chart showing sample bases for figures on this page can be found at the end of this section.

## **Trends in Perceptions About Enforcement and Penalties**

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### **More Likely to Be Stopped by Police or Get in a Crash if Drinking and Driving? Age 16-64**

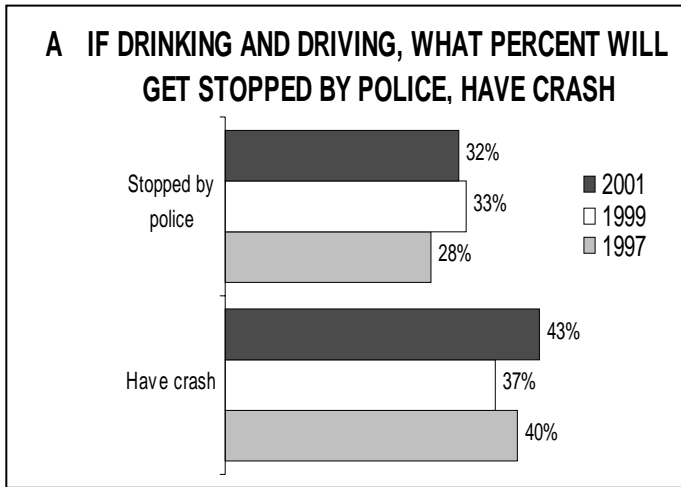
The driving age public 16-64 believes that about 32% of those who drink too much and then drive will be stopped by the police. In contrast, they believe that on average, 43% will get in a crash, representing a significant increase since 1999, when 37% believed a crash would occur.

[Figure 58-A]

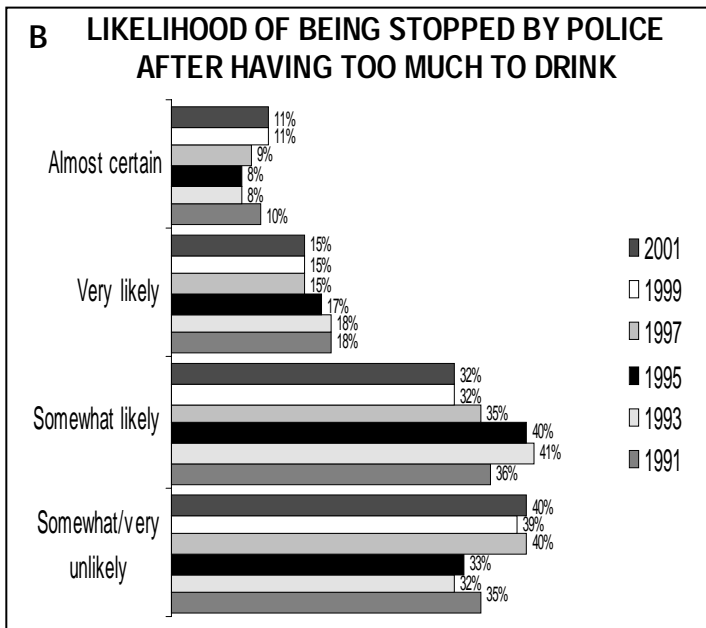
### **Likelihood of Being Stopped by Police if Driving After Too Much to Drink, Age 16-64**

Overall, 26% think that it is very likely to almost certain that they will get stopped by the police if they are driving after having too much to drink. An additional 32% feel it is somewhat likely that they would get stopped by police in this circumstance. The driving age public is becoming less likely to believe drinking-drivers will get stopped by the police. The proportion that says it is very or somewhat unlikely has increased from about 32% in 1993 to 40% in 1999. [Figure 58-B]

**FIGURE 58: TRENDS IN PERCEPTIONS ABOUT ENFORCEMENT AND PENALTIES**



*Q105a: Using a percentage scale from 0% to 100%, in your opinion, about what percentage of drivers who are impaired will get stopped by the police/have a crash?  
[Base: all respondents age 16-64]*



*Q106: How likely are you to be stopped by a police officer for driving after you have had too much to drink?  
[Base: all respondents age 16-64]*

A chart showing sample bases for figures on this page can be found at the end of this section.

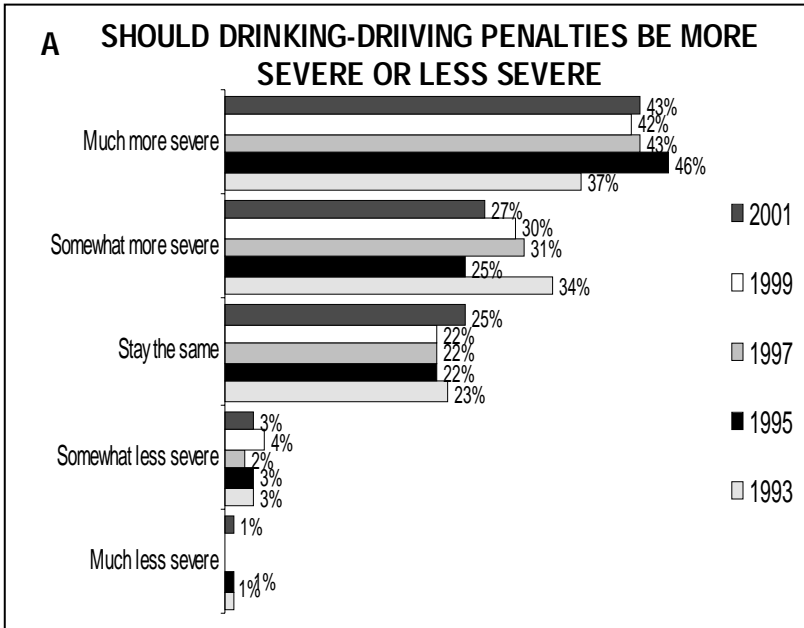
## **Trends in Perceptions About Severity of Laws and Penalties**

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### **Should Penalties Be More or Less Severe? Age 16-64**

While there was a large increase in the perception that penalties for those who violate drinking and driving laws should be more severe between 1993 and 1995, current sentiment since 1997 has about 43% feeling that drinking-driving penalties should be much more severe. The driving age public (16-64) continues to think laws should be somewhat more severe than was true in 1995. [Figure 59-A]

**FIGURE 59: TRENDS IN PERCEPTIONS ABOUT SEVERITY AND EFFECTIVENESS OF LAWS AND PENALTIES**



*Q116: In your opinion, should the penalties for violating drinking and driving laws be...?*  
 [Base: all respondents age 16-64]

A chart showing sample bases for figures on this page can be found at the end of this section.

## **Trends in Perceptions About Sobriety Checkpoints**

---

### **Have Seen a Sobriety Checkpoint, Past Year**

More than one-third (35%) of driving age public age 16-64 have seen a sobriety checkpoint in 2001. This is a significant increase from the 32% in 1995 and 1997 who say they saw such a checkpoint, but remains consistent with the 36% in 1999. Those age 30-45 are significantly less likely to have seen a checkpoint in 2001 (34%) than they were in 1999 (41%), but the 2001 estimate is consistent with 1995 and 1997 figures. Those age 46-64 are significantly more likely to have seen a checkpoint in 2001 than they were in 1995. [Figure 60-A]

### **Should Sobriety Checkpoints Be Used More or Less Frequently?**

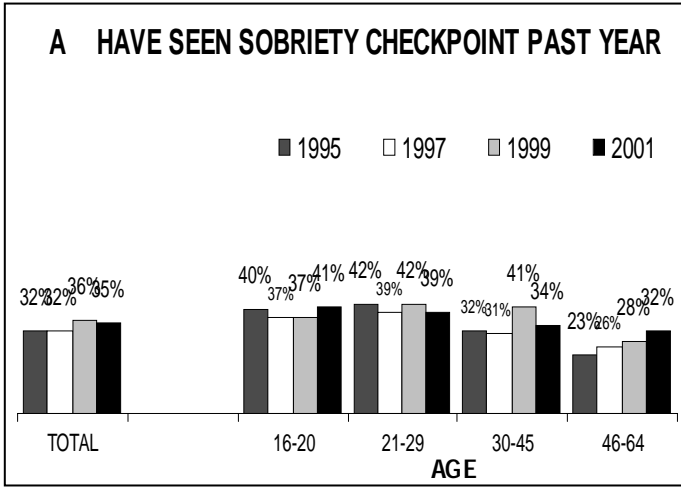
#### ***Total Persons, Age 16-64***

There is consistent support for more frequent use of sobriety checkpoints over the years since 1993. About 62% feel that sobriety checkpoints should be used more frequently. A greater proportion, however, now feel sobriety checkpoints should be used about the same amount (28%) compared to the 24% seen in 1993, 1995, and 1997. [Figure 60-B]

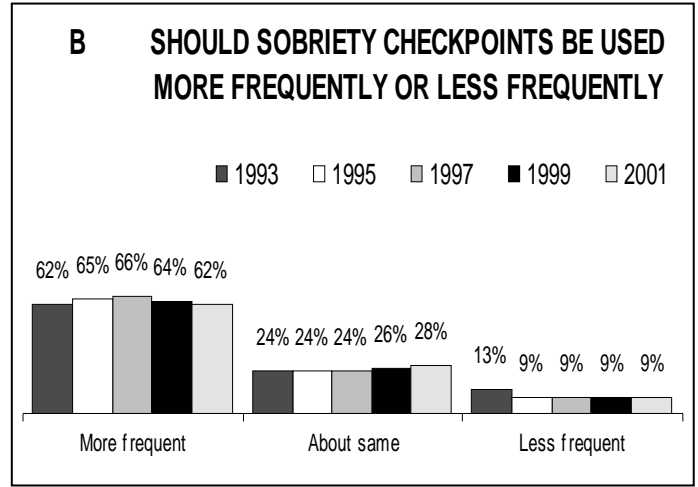
#### ***Drinking-Drivers, Age 16-64***

There continues to be a slow decline in the number of drinking-drivers age 16-64 who feel that checkpoints should be used more frequently. There is greater consistency among drivers who drink, but who have not driven within two hours of drinking, with the exception of 1997, when 70% who supported more frequent use of sobriety checkpoints. [Figure 60-C]

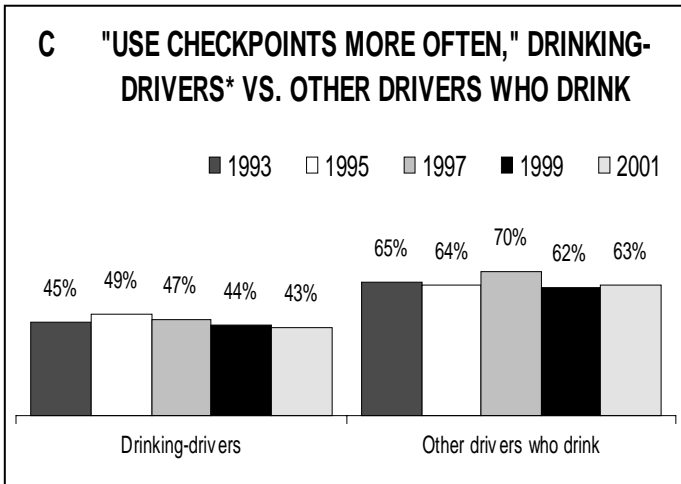
**FIGURE 60: TRENDS IN PERCEPTIONS ABOUT SOBRIETY CHECKPOINTS**



Q120: In the past 12 months, have you seen a sobriety checkpoint?  
 [Base: all respondents age 16-64]



Q122: Do you think sobriety checkpoints should be used more frequently, about the same as they are now, or less frequently?  
 [Base: all respondents age 16-64]



Q122: Do you think sobriety checkpoints should be used more frequently, about the same as they are now, or less frequently?  
 [Base: age 16-64 specified in the chart]

\*Drinking-drivers: Drove within two hours after drinking in the past year.

A chart showing sample bases for figures on this page can be found at the end of this section.

## **Trends in Awareness and Knowledge of BAC Levels and Legal Limits**

---

### **Awareness of BAC Levels**

About 85% of persons of driving age have heard of BAC (blood alcohol concentration) levels. This represents a significant increase in awareness from 1999 (80%) to 2001 (85%), but is consistent with 1997 levels of awareness (84%). [Figure 61-A]

### **Knowledge of State's BAC Limit**

Respondents were asked what they thought their state's BAC legal limit was. This answer was compared against the actual BAC limit for the respondent's state at the time of the study. There has been a significant increase in the observed knowledge level of states' BAC limit since 1995. In 1995, just one in five (20%) persons could correctly name the BAC limit in their state. This increased to 29% in 1997, remained at about 28% observed awareness in 1999, and remains at 28% in 2001. [Figure 61-B]

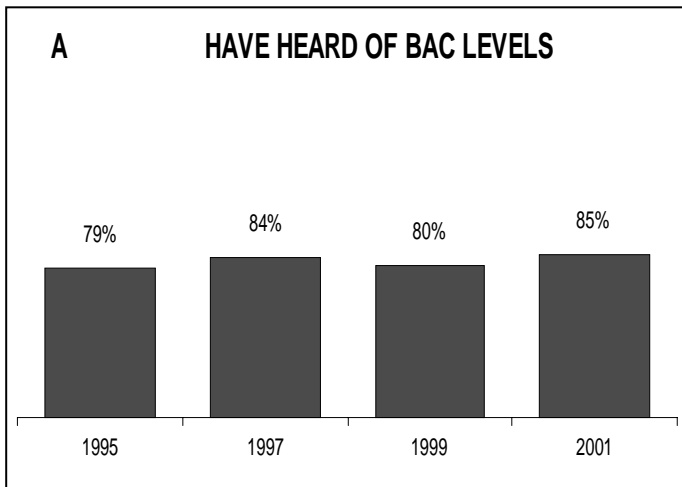
Knowledge continues to differ for those living in .08 and .10 states, likely due to the publicity surrounding the change to .08 BAC limits in some states. About one in three (32%) persons in .08 BAC states know their state's legal limit as compared to just 22% of those who live in .10 BAC states. [Figure 61-C]

### **Support for .08 BAC State Limit**

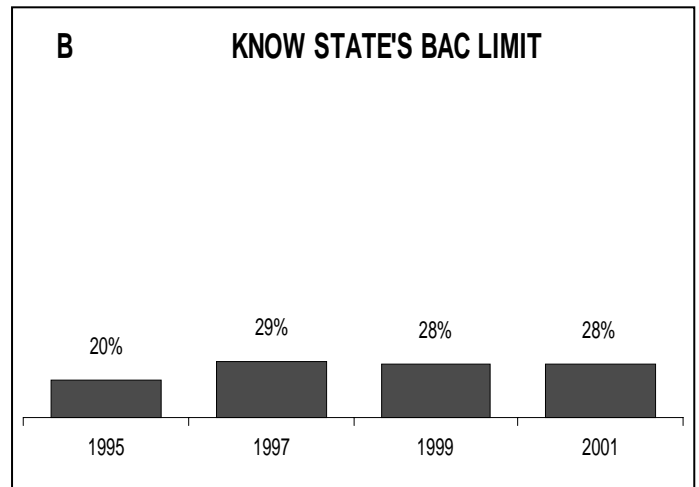
Support for a state BAC limit of .08 or lower has continued to increase since 1997. Currently 70% of the driving age public who have heard of BAC limits are in support of a .08 BAC for their state. This is up from 56% in 1997 and 68% in 1999. Support is greatest from residents in states with a current BAC of .08 (87% support this level). [Figure 61-D]



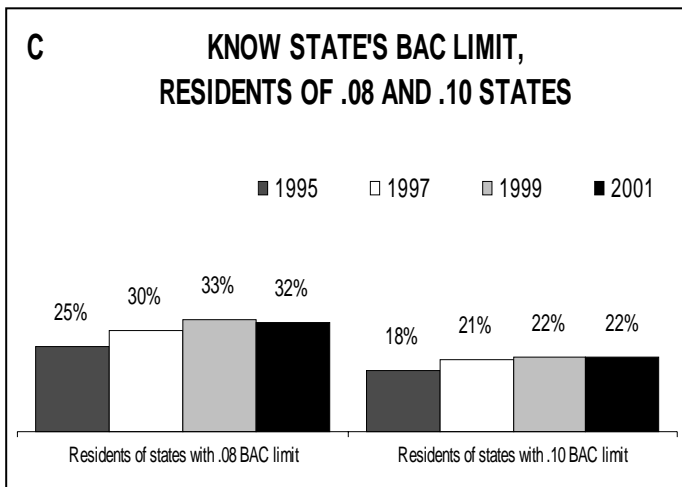
**FIGURE 61: TRENDS IN AWARENESS AND KNOWLEDGE OF BAC LEVELS AND LEGAL LIMITS**



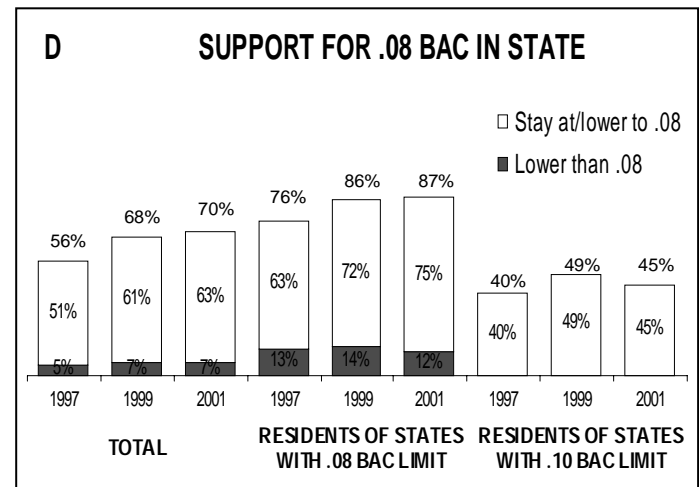
Q123: The amount of alcohol in a person's body can be measured in terms of "Blood Alcohol Concentration" which is often called BAC level. Have you heard of blood alcohol concentration or BAC levels?  
[Base: all respondents]



Q125: To the best of your knowledge, what is the specific BAC limit for your state at which a person would be considered legally intoxicated?  
[Base: all respondents' answers were compared with actual BAC limits for each respondent's state]



Q125: To the best of your knowledge, what is the specific BAC limit for your state at which a person would be considered legally intoxicated?  
[Base: all respondents' answers were compared with actual BAC limits for each respondent's state]



Q130e/f: The BAC limit in your state is currently [.10/.08] in your opinion, should the BAC in your state be [lowered to .08/stay at current .08 level]?

A chart showing sample bases for figures on this page can be found at the end of this section.

## **Trends in Indicators of Potential Problem Drinking**

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In 1993 a series of questions was added to the survey to help identify problem drinking. This series of four questions is represented by the acronym “CAGE” (Ewing, 1998): “Have you felt you should cut down on your drinking?” (“C” for “cut down”); “Have people annoyed (“A”) you by criticizing about your drinking?; “Have you felt bad or guilty (“G”) about your drinking?; “Have you had a drink first thing in the morning to steady your nerves or get rid of a hangover?” (“E” for “eye-opener”).

### **Should Cut Down on Drinking**

The percentage of the past-year drinkers (16-64) who feel they should cut down on their drinking increased between 1993 and 1995, from 12% to 18%, and has increased to 21% in 2001. [Figure 62-A]

### **People Annoyed About Drinking**

There was a significant increase in the percentage of past year drinkers who say they have been annoyed by people criticizing them about their drinking in 2001 to about 7% of all drinkers, up from 3% in 1999. The increases are primarily among females and those age 16-29. [Figure 85-B]

### **Felt Bad or Guilty About Drinking**

There was a significant decrease in the percentage saying they have felt bad or guilty about their drinking, from 10% in 1999 to 8% in 2001, which is now consistent with estimates in 1993 (7%), 1995 (7%), and 1997 (8%). Estimates broken out by gender and age are consistent with 1993, 1995, and 1997, but are lower than estimates in 1999. [Figure 62-C]

### **Had a Drink First Thing in the Morning**

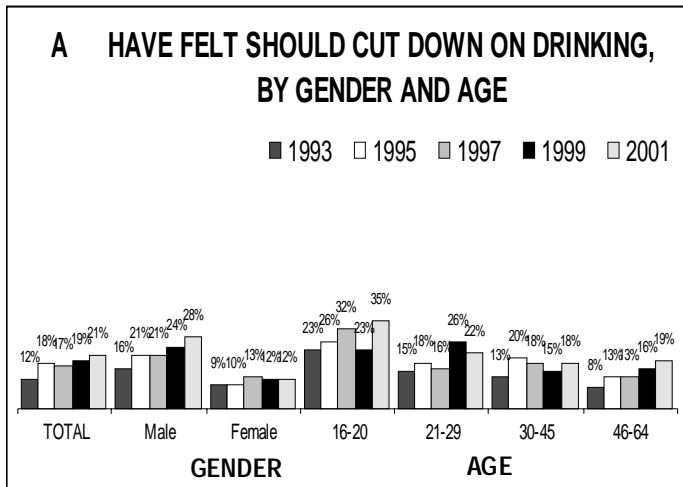
There were little or no change in the percentage saying they have had a drink first thing in the morning to steady their nerves or get rid of a hangover since 1999, but estimates have significantly increased since 1991, particularly among 16-20 year olds. [Figure 62-D]

### **Problem Drinkers**

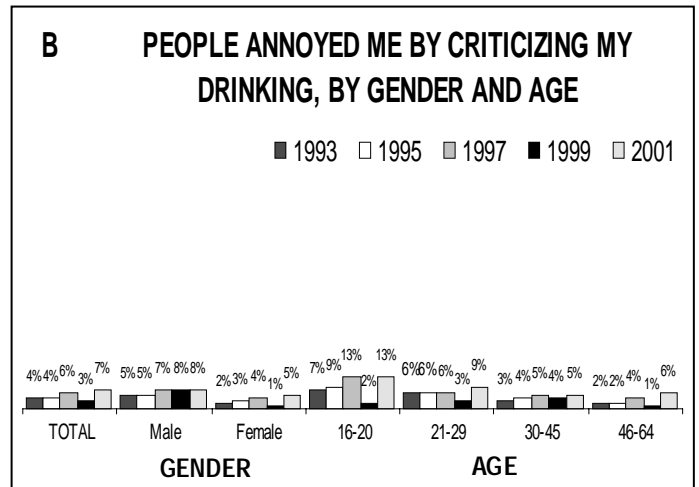
For this analysis, “problem-drinkers” were defined as expressing agreement (“yes”) to two or more of the four CAGE measures, or having consumed five or more drinks on four or more days in a typical 28-day period, or consumed nine or more drinks (eight for females) on at least one day in a typical 28-day period.

In 1993, just 12% of drinker-drivers were defined as problem drinkers. This increased to 18% in 1995 and 1997 and to 21% in 1999. Currently 29% of drinker-drivers (13% of the driving age public) are problem drinkers. [Figure 62-E] This is a potentially important finding because problem drinkers are over-represented in total trips, making 46% of all past-year drinking-driving trips.

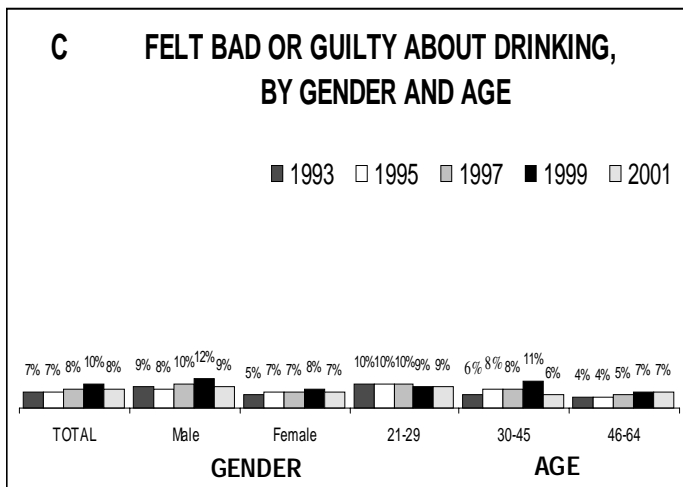
**FIGURE 62: TRENDS IN INDICATORS OF POTENTIAL PROBLEM DRINKING**



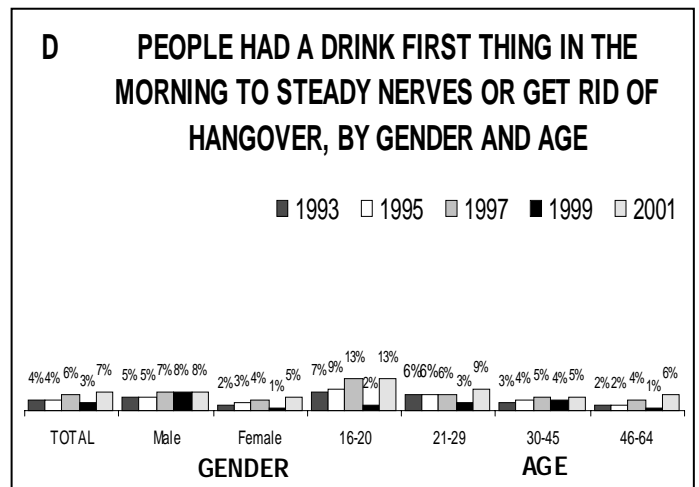
Q26: ...have you felt you should cut down on your drinking?  
[Base: drank alcohol, past year, age 16-64]



Q27: ...have people ever annoyed you by criticizing your drinking?  
[Base: drank alcohol, past year, age 16-64]

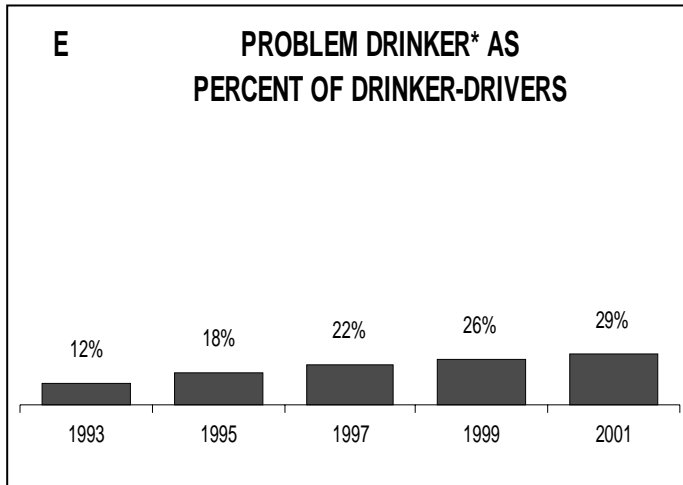


Q28: ...have you felt bad or guilty about your drinking?  
[Base: drank alcohol, past year, age 16-64]

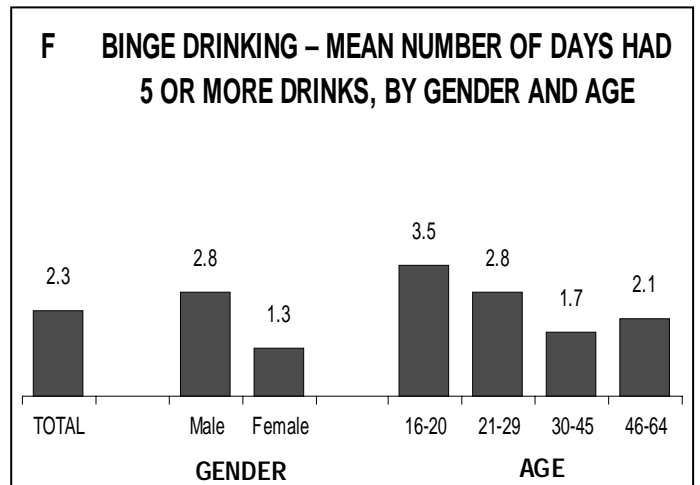


Q29: ...have you had a drink first thing in the morning to steady your nerves or get rid of a hangover?  
[Base: drank alcohol, past year, age 16-64]

**FIGURE 62: TRENDS IN INDICATORS OF POTENTIAL PROBLEM DRINKING (continued)**



[Base: drinker-drivers age 16-64]



Q23: Number of days out of typical 30-day month had five or more alcoholic drinks?

[Base: drank alcohol, past year, age 16-64]

\*"Problem drinkers" are defined as those who meet at least ONE of the following three conditions:

- (a) said "yes" to two or more of the "CAGE" measures
- (b) consumed five or more drinks on four or more days in a typical four-week period
- (c) for females, consumed eight or more drinks on a given day in the past four weeks, or for males, consumed nine or more drinks on a given day in the past four weeks

(Ewing, 1984; Skinner and Holt, 1987)

A chart showing sample bases for figures on this page can be found at the end of this section.

**FIGURE 63: UNWEIGHTED SAMPLE SIZES FOR FIGURES IN TRENDS SECTION**

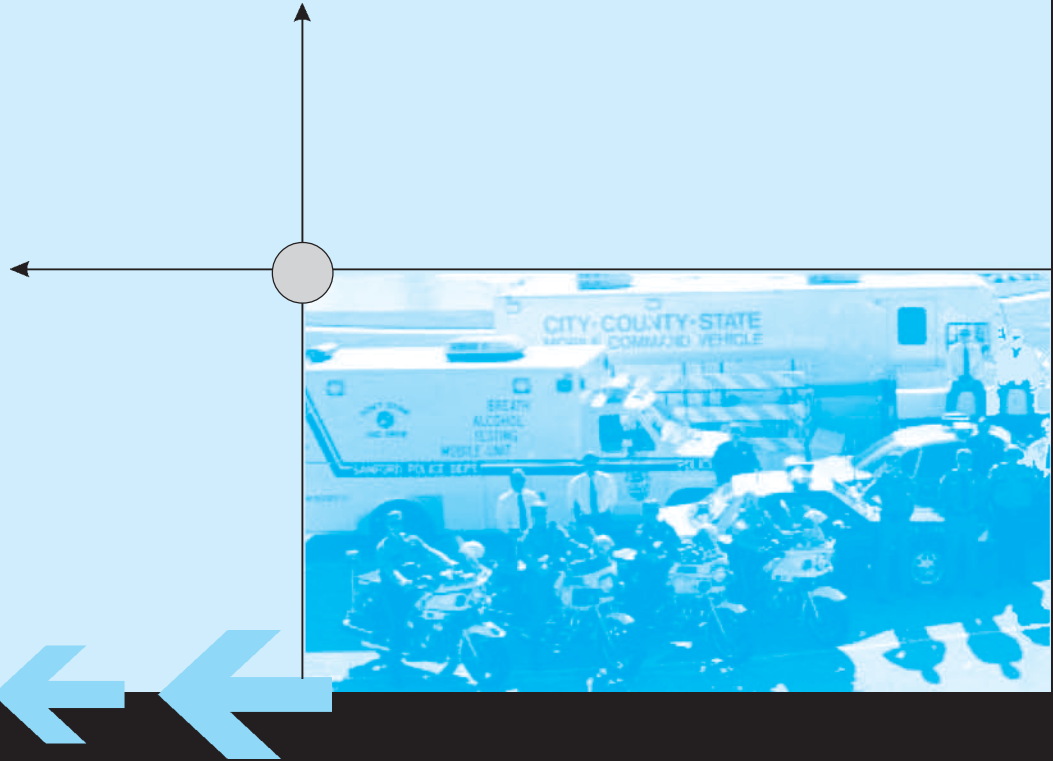
Table for Figures 33-44:

<b>TOTAL ADULTS 16-64</b>											
	Total 16-64	Gender		Age					Drinking -drivers	Other drivers who drink	Total drivers who drink
		Male 16-64	Female 16-64	16-20	21-29	30-45	46-64	65+			
1991	2406	1036	1370	268	583	928	627	0	642	692	1334
1933	3590	1812	1778	617	1183	1125	665	381	1048	1445	2493
1995	3471	1763	1708	946	527	1154	844	507	767	1159	1926
1997	3358	1500	1858	282	588	1412	1076	629	878	1336	2214
1999	4264	1906	2358	318	764	1691	1476	863	1062	1638	2700
2001	5073	2263	2810	901	804	1753	1615	906	1177	1935	2815

<b>TOTAL ADULTS 16-64, Drank Alcohol Past Year</b>											
	Total 16-64	Gender		Age					Drinking -drivers	Other drivers who drink	Total drivers who drink
		Male 16-64	Female 16-64	16-20	21-29	30-45	46-64	65+			
1991	1633	759	874	150	451	681	351	0	642	692	1578
1933	2493	1419	1243	331	915	832	415	166	1048	1445	2493
1995	2017	1419	1243	400	374	760	483	187	767	1159	1926
1997	2291	1120	1171	149	459	1019	664	277	878	1336	2214
1999	2770	1333	1445	154	579	1160	877	361	1062	1638	2700
2001	3204	1550	1654	414	618	1229	943	399	1177	1935	2815

<b>TOTAL ADULTS 16-64, Drove Within Two Hours of Drinking, Past Year</b>									
	Total 16-64	Gender		Age					
		Male 16-64	Female 16-64	16-20	21-29	30-45	46-64	65+	
1991	642	304	338	57	155	266	164	0	
1933	1048	722	326	83	414	390	161	68	
1995	767	529	238	87	167	320	193	56	
1997	878	568	292	34	200	400	244	79	
1999	1009	640	369	29	234	462	282	77	
2001	1177	730	447	80	257	473	367	117	

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