National Survey on Distracted Driving Attitudes and Behaviors – 2015

U.S. Department of Transportation
National Highway Traffic Safety Administration

NHTSA

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16. Abstract

The 2015 National Survey on Distracted Driving Attitudes and Behaviors (NSDDAB) is the third in a series of telephone surveys on distracted driving providing data to help further the understanding of driving behavior and to contribute to the development of countermeasures and interventions to reduce distracted driving on the nation's roadways. Specifically, the 2015 NSDDAB assessed the extent to which drivers are distracted by various activities; demographic and typological descriptions of drivers prone to distractions; the extent and frequency of cell phone use, texting, and use of mobile device "apps" while driving; attitudes and perceptions about distracted driving; knowledge of and attitudes toward measures to deter distracted driving; perceptions about the danger of distracted driving; exposure to the consequences of distracted driving; willingness to intervene when someone is distracted while driving; and changes and trends in distracted driving behaviors and attitudes since 2010. Like the previous studies conducted in 2010 and 2012, this survey yields national estimates of behaviors and attitudes toward distracted driving in the United States. The present study used a driver typology based on the pattern of responses across multiple distracted driving behavior questions. The cluster analysis identified two distinct groups of drivers with similar overall behavioral tendencies and, among those categorized, 42% are distraction-prone and 58% are distraction-averse. Driver type is a powerful predictor of norms and attitudes towards distracted driving behavior and sanctions for distracted driving.

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EXECUTIVE SUMMARY

The 2015 National Survey on Distracted Driving Attitudes and Behavior (NSDDAB) is the third telephone survey conducted by NHTSA to assess attitudes and self-reported behaviors related to distracted driving, cell phone use, and texting. The first NSDDAB was conducted in 2010 and the second was conducted in 2012. The 2015 survey was administered by Abt SRBI, a national survey research organization. The survey employed a partial overlapping dual-frame sample design of households with landline telephones as well as households that relied on cell phones, and collected data from drivers 16 and older. Because younger respondents tend to be underrepresented in landline telephone surveys, the survey included a landline telephone oversample of drivers 16 to 34. Interviewing began on January 20, 2015, and ended on April 14, 2015.

This report presents the survey findings from the 2015 NSDDAB. The data is weighted to yield national estimates. Readers are cautioned that some subgroup analyses are based on a smaller number of cases. A full description of the survey methodology and the questionnaire are presented in the appendices to this report.

Driver Characteristics

- **Driving Frequency.** More than 4 in 5 respondents (83%) drive every day or almost every day. Thirteen percent report driving a few days a week, while 4% drive a few days a month or less often.

- **Vehicle Type.** The majority of drivers (57%) report they most often drive a passenger car. Nineteen percent of respondents report driving an SUV, 15% report driving a pickup truck, and 7% report driving a van or a minivan most often.

- **Driver Type.** A driver typology based on the pattern of responses across 15 questions concerned with distracted driving classified all respondents into two distinct groups of drivers with similar overall behavioral tendencies. Of those respondents categorized, 42% were classified as distraction-prone drivers and 58% were classified as distraction-averse drivers.

Phone-Related Distracted Driving

- **Cell Phone Ownership.** Overall, 90% of respondents report owning some type of cell phone, and 94% of respondents who report driving every day state that they currently own a cell phone.

- **Talking on Cell Phone While Driving.** About 4 in 10 (42%) drivers report answering their cell phones when driving at least some of the time. Nearly 4 in 10 drivers (37%) report never answering their phones while driving. More than half of drivers (56%) who answer their phones while driving continue to drive while completing the conversation. Seventeen

percent report handing the phone to a passenger in the car, 14% of drivers inform the caller they will call them back, and 7% pull over to a safe location to continue the conversation. The majority of drivers who report accepting calls while driving indicated that the frequency with which they use cell phones when driving has not changed in the past 30 days (81%), 15% report a decrease, and 3% report an increase in their frequency of cell phone use. Of those who reported a decrease, 21% cited an increased awareness of safety as the reason for the change. One-third of drivers (34%) report that they are at least sometimes willing to make cell phone calls while driving. More than 4 in 10 respondents report that they are never willing to initiate a cell phone call while driving (44%).

- **Sending and Reading Text Messages and E-Mails While Driving.** Almost 1 in 10 respondents (9%) reported sending text messages or e-mails while driving at least sometimes, while 80% of respondents stated that they never do so. An additional 11% of respondents reported sending text messages or e-mails on rare occasions. Reading text messages or e-mails while driving was slightly more common, with 12% of respondents stating that they do so at least some of the time and three quarters (75%) stating that they never do so. Of drivers who send text messages or e-mails, 44% state that they wait until they reach a red light or stop sign to send the message. About 1 in 5 drivers (19%) report using a voice command feature to send a text message. Fourteen percent of drivers continue to drive when sending text messages. Less frequently, drivers report handing the phone to a passenger (11%), or pulling over to the side of the road (8%). The majority of drivers (71%) reported no changes in the frequency of sending text messages in the past 30 days, 25% reported a decrease, and 3% reported an increase. Reasons given by those who reported a decrease included an increased awareness of safety (26%), less use of cell phone or less people text them (19%), and driving less (9%).

- **Using a Smartphone App While Driving.** About 1 in 12 respondents (8%) stated they used apps at least sometimes while driving, not including navigation apps. Music/radio apps (e.g., Pandora) (41%), Facebook (12%), and Internet search engines (e.g., Chrome, Safari) (7%) were the most frequently cited apps. Respondents said that they were more likely to use a smartphone app while driving when they are in need of directions or other information (21%), for music/entertainment (12%), or when they are bored (11%). Nearly 6 in 10 respondents who use apps while driving (56%) believe that using a smartphone app while driving has no negative influence on their driving.

<u>Perceptions of Safety</u>

- **Perception of Safety When Driver Is Engaged in Distracting Activities**. When asked about their feelings concerning safety if they were a passenger in a car driven by a driver who was also doing various activities while driving, most respondents indicated they would feel very unsafe if the driver was watching a movie (97%), using a laptop computer (96%),

or sending text messages or e-mails (86%). A majority also reported that they would feel very unsafe if their drivers were reading e-mails or text messages (81%). Distraction-averse respondents were more likely than distraction-prone respondents to report feeling unsafe as passengers if their drivers were reading or sending text messages. Almost all distraction-averse drivers reported they would feel very unsafe as passengers if their drivers were reading (90%) or sending (93%) text messages, compared to 69% and 76%, respectively, of respondents classified as distraction-prone drivers. Sixty-three percent of respondents stated they would feel safe if the driver was talking to other passengers in the vehicle. Nearly half of respondents (47%) reported that they would feel safe if their drivers were talking on a cell phone with a hands-free device.

- **Likelihood of Saying Something to Drivers if They Are Engaged in Distracting Activities.** Respondents were asked how likely they would be to intervene if their drivers were engaged in a series of other activities while driving. Overall, 67% of respondents stated that they were at least somewhat likely to intervene if they were passengers in a car in which the driver was talking on a cell phone and holding the phone while driving. Respondents who were classified as distraction-averse were more likely to intervene than respondents classified as distraction-prone. Among those classified as distraction-averse, 53% stated they would very likely intervene compared to 37% of respondents who were classified as distraction–prone drivers. Overall, 87% of respondents indicated that they were at least somewhat likely to intervene if they were passengers in a car in which the driver was sending e-mails or text messages. There was almost no difference in the proportion of distraction-prone and distraction-averse drivers at least somewhat likely to intervene if a driver was sending e-mails or text messages.

- **Likelihood of Using Smartphone Apps That Disable Texting and Incoming Calls When Driving.** Nearly half of the respondents (46%) said that they would use an app to block phone calls and text messaging while driving. Female drivers (50%) and drivers 45-54 (52%) were the most likely to say that they would use an app that blocks phone calls and text messaging while driving. Drivers 21 to 24 were the most likely to state that they already use an app to block incoming calls and texts (3%).

<u>Distracted Driving Laws and Educational Messages</u>

- **Awareness of State Law Banning Talking and Texting on a Handheld Cell Phone While Driving.** Overall, more than half of respondents (57%) reported that their States have, or probably have, a law banning talking on a cell phone while driving, while 16% of respondents were unsure if their States have such a law. Regarding a texting ban, 76% reported that their States have, or probably have, a law banning texting or e-mailing on a cell phone while driving. Fourteen percent of respondents were unsure if their States have such a law. In States with laws banning cell phone use while driving, 83% of drivers were

aware of the law and 4% thought their States had no such law. In States without laws banning cell phone use while driving, 39% of drivers accurately stated that their States did not have a law banning cell phone use, while 29% incorrectly thought their States had such a law, when it did not. In States that ban sending or reading text messages and e-mails while driving, 64% of drivers knew about the law and 8% thought their States did not have a law. In States without laws that ban sending and receiving text messages and e-mails while driving, 25% were aware that their States did not have such a law, and 36% incorrectly thought their States had such a law, when it did not.

- **Chances of Receiving a Ticket for Distracted Driving.** Overall, slightly more than half of respondents in States with laws banning some form of cell phone use while driving thought a driver who regularly talks on a cell phone (54%) or frequently sends text messages or e-mails (56%) while driving was likely to get a ticket in the next 6 months. More than 4 in 10 respondents stated that it was unlikely that a driver would be ticketed for talking on a cell phone (43%) or sending text messages (42%) while driving. Distraction-averse drivers were more likely to report that a driver who regularly talks on a cell phone or sends text messages or e-mails was very likely to be ticketed. Drivers with less formal education were more likely to believe that the driver would be ticketed, while those with more formal education were more likely to believe that the driver would not be ticketed.

- **Support of a Law Banning Talking on a Handheld Cell Phone and Texting or E-Mailing While Driving.** Three out of 4 drivers support State laws banning talking on a handheld cell phone while driving (74%). An overwhelming majority (92%) support State laws that ban texting or e-mailing while driving.

- **Educational Messages.** Of all respondents, 71% had seen or heard a message discouraging distracted driving in the past 30 days. Drivers who drove every day were more likely than those who drove less frequently to report having seen or heard these messages. Respondents who were classified as distraction-prone (75%) were more likely than distraction-averse (67%) respondents to report hearing or seeing these messages. The most common sources of messages discouraging distracted driving were TV, print media, and radio with some respondents reporting seeing messages in more than one medium. More than half of respondents (68%) reported TV as a source of the message. Billboards were reported by 36% of respondents, and 26% of respondents stated that the radio was a source of the message.

- **Safe Driving Slogans.** More than half of respondents (51%) had heard or seen "It Can Wait" in the past 30 days. Over one quarter of respondents had heard "U Drive. U Text. U Pay." (28%) or "One Text or Call Could Wreck It All" (28%) within the past month.

Around 1 in 5 had heard "No Phone Zone" (22%), "On the Road, Off the Phone" (19%), or "Put It Down" (18%).

Crashes

- Seven percent of respondents were involved in a crash and 5% were involved in a near-crash in the past year. Of those, 14% reported being distracted at the time of their last crash. Younger respondents were more likely to report being distracted at the time of the crash or near-crash, with 27% of respondents 16 to 20, 18% of respondents 21 to 24, and 23% of respondents 25 to 34 reporting they were distracted when the crash or near-crash occurred.

Demographic Profile of Distraction-Prone and Distraction-Averse Drivers

- **Demographic Profile.** A driver typology based on the pattern of responses across 15 questions concerned with distracted driving classified all respondents into two distinct groups of drivers with similar overall behavioral tendencies. Of those respondents categorized, 42% were classified as distraction-prone drivers and 58% were classified as distraction-averse drivers. Drivers classified as distraction-prone tend to be younger, be more affluent, and have more formal education than distraction-averse drivers. More than half of drivers (58%) 44 and younger were classified as distraction-prone compared to 12% of drivers 65 or older. Over half of respondents with annual household incomes exceeding $100,000 were classified as distraction-prone (57%) compared to 32% of drivers with annual household incomes below $10,000. Among drivers without a high school degree, about a third was classified as distraction prone (34%), compared to 53% of drivers with a college degree and 46% of drivers who hold a graduate degree. There was no difference in the proportion of distraction-prone and distraction-averse drivers by gender.

Trends in Distracted Driving

- Although the rates of engaging in the various distracted activities while driving varied slightly from 2010 to 2015, there was little change in the proportion of respondents who reported these behaviors. About 1 in 3 respondents (29% in 2010, 31% in 2012, and 35% in 2015) stated they always talk to passengers while driving. In 2010 and 2012, 6% of drivers reported answering or making phone calls on all driving trips. Unlike the previous years, the 2015 survey separated making and answering phone calls. About 1 in 20 respondents stated that they always initiate (4%) or answer phone calls (10%) while driving. The proportion of drivers who always send or read text messages while driving remained about the same between 2010 and 2015. Approximately 1-2% of drivers report always sending or reading text messages or e-mails while driving.

- Respondents who said they at least rarely use their cell phones for text messaging were asked if the frequency with which they send and receive text messages or e-mails in the

past 30 days had changed. In all three surveys, most respondents reported that the rate at which they send electronic messages had stayed the same over the last 30 days (64% in 2010, 67% in 2012, and 71% in 2015). In 2010, 31% of respondents reported a decrease in the rate at which they send electronic messages. In 2012 and 2015, fewer respondents reported a decrease (27% and 25%, respectively). The percentage of respondents who reported an increase was 4% in 2010, 5% in 2012, and 3% in 2015.

- In all three surveys, respondents who reported sending or receiving fewer electronic messages while driving in the past 30 days were asked what caused this decrease. The most common answer from respondents in all three surveys was an increased awareness of safety (32% in 2010, 38% in 2012, and 26% in 2015), followed by a law that bans cell phone use (6% in 2010, 8% in 2012, and 4% in 2015).

- The proportion of respondents who said they would feel safe if their drivers were talking on a handheld cell phone while driving has decreased considerably between 2010 and 2015. In 2010, nearly one quarter of respondents (23%) said they would feel safe in this driving situation, while only 12% of respondents in 2012 and 10% of respondents in 2015 said they would feel safe if the driver was engaged in a phone conversation while holding a cell phone. Conversely, the proportion of respondents who would feel safe in a car operated by a driver using a hands-free device has increased over the years. Nearly one half of respondents in 2015 (47%) would feel safe if their drivers were using hands-free devices to make or answer phone calls while driving, compared to 40% of respondents in 2012 and 23% of respondents in 2010.

- The proportion of respondents involved in a crash or near-crash as a driver has decreased slightly between 2010 and 2015. In 2010, 14% of respondents indicated they had been involved in a crash or near-crash in the past year, compared to 12% of respondents in 2015. Although the proportion of respondents involved in a crash or near-crash has decreased over the past 5 years, 2015 respondents (13%) were about three times as likely as 2012 respondents (4%) and about twice as likely as 2010 respondents (6%) to say they were talking on the phone, sending or reading text messages or e-mails at the time of the crash or near-crash.

CHAPTER 1
INTRODUCTION

Background

NHTSA's mission is to save lives, prevent injuries, and reduce traffic-related health care and other economic costs. This includes promoting issues surrounding improved safety and responsible behavior among drivers. The increase in cell phone ownership and usage combined with the widespread availability of many other devices that can easily divert drivers' attention from the task of driving an automobile have made information on drivers' behaviors and attitudes toward distracted driving important to the safety of America's roadways.

Common activities that drivers engage in while driving include talking with other passengers, adjusting the car radio, making and receiving cell phone calls, and using a smartphone for driving directions.[1] In 2012, more than one quarter of drivers in the United States reported always or almost always answering a phone call while they driving (28%) and 6% said they always or almost always make a phone call while driving.[2]

The use of technological devices while driving has become a focus of distracted driving research. In particular, use of cell phones while driving has been of increasing interest in the past decade. Initially, it was thought that using hands-free devices would be safer than handling and manipulating the phone because this would eliminate a biomechanical (physical) distraction. However, studies comparing use of handheld and hands-free phones while driving indicate that the cognitive distraction of talking on the phone has a large effect on driving outcomes, and thus hands-free devices are no safer than handheld devices.[3] Even portable hands-free and vehicle-integrated hands-free cell phone use involved visual-manual tasks at least half of the time, which is associated with a greater crash risk.[4]

Driver distraction contributes to crash-related fatalities and injuries, particularly among drivers

[1] Schroeder P., Meyers M., & Kostyniuk L. (2013). *National survey on distracted driving attitudes and behaviors – 2012* (Report No. DOT HS 811 729). Washington, DC: National Highway Traffic Safety Administration. Available at www.nhtsa.gov/staticfiles/nti/pdf/811729.pdf

[2] Schroeder P., Meyers M., & Kostyniuk L. (2013). *National survey on distracted driving attitudes and behaviors – 2012* (Report No. DOT HS 811 729). Washington, DC: National Highway Traffic Safety Administration. Available at www.nhtsa.gov/staticfiles/nti/pdf/811729.pdf

[3] Young, K., & Regan, M. (2007). Driver distraction: A review of the literature. In I. J. Faulks, M. Regan, M. Stevenson, J. Brown, A. Porter, & J. D. Irwin (Eds.), *Distracted driving* (pp. 379-405). Sydney, New South Wales, Australia: Australasian College of Road Safety.

[4] Fitch, G. A., Soccolich, S. A., Guo, F., McClafferty, J., Fang, Y., Olson, R. L., … & Dingus, T. A. (2013, April). *The impact of handheld and hands-free cell phone use on driving performance and safety-critical event risk* (Report No. DOT HS 811 757). Washington, DC: National Highway Traffic Safety Administration.

under 30 who are overrepresented in distraction-affected fatal crashes.[5] A distraction-affected crash is any crash in which a driver was identified as distracted at the time of the crash. Overall, 10% of fatal crashes in the United States in 2015 involved driver distraction, and 14% of these fatal crashes involved reports of a cell phone as a distraction. A recent study suggested that the number of deaths from motor vehicle crashes in which the driver was texting or talking on the phone is underreported.[6] The underreporting of driver cell phone use and/or texting in crashes makes the distracted driving issue appear less significant than it actually is, and impedes efforts to make tougher distracted driving laws.

To better understand the attitudes and self-reported behaviors related to cell phone use, texting, and distracted driving, NHTSA conducted the National Survey on Distracted Driving Attitudes and Behaviors in 2010, 2012, and again in 2015. This report presents findings from the 2015 National Survey on Distracted Driving. Specifically, the 2015 NSDDAB assessed the extent to which drivers are distracted by various activities; demographic and typological descriptions of drivers prone to distractions; the extent and frequency of using cell phones and texting while driving; attitudes and perceptions about distracted driving; knowledge of and attitudes toward measures to deter distracted driving; perceptions about the danger of distracted driving; exposure to the consequences of distracted driving; willingness to intervene when someone is distracted while driving; and changes and trends in distracted driving behavior and attitudes since 2010.

Methodology

A total of 6,001 interviews were conducted among a nationally representative telephone sample of people 16 or older who had driven a motor vehicle. To account for the current shift to cell phone use and the underrepresentation of younger people in samples using landline telephones, a partial overlapping dual sampling frame of households with landline phones, and households that relied only or mostly on cell phones, together with a landline phone oversample of people 16 to 34 years old was used. In all, 3,372 interviews were completed with people from landline households, 2,128 interviews with people from cell-phone-only or cell-phone-mostly households, and an additional 501 interviews of people 16 to 34 were completed from the landline phone oversample. The samples were combined and weighted to produce national estimates of the target population within specified limits of expected sampling variability, from which valid generalizations can be made to the general population of drivers in the United States.

The interviews were conducted from January 20, 2015, to April 14, 2015. Appendix B contains the complete description of the methodology and sample dispositions, including information on the computation of weights.

[5] National Center for Statistics and Analysis. (2017, March). *Distracted driving 2015* (Traffic Safety Facts Research Note. Report No. DOT HS 812 381). Washington, DC: National Highway Traffic Safety Administration. Available at https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812381

[6] The National Safety Council. (2013). *Crashes involving cell phones: Challenges of collecting and reporting reliable crash data*. Itasca, IL: Author. Available at www.nsc.org/DistractedDrivingDocuments/NSC-Under-Reporting-White-Paper.pdf

The percentages presented in this report are weighted to accurately reflect the national population 16 or older. Unweighted sample sizes (Ns) are included so that readers know the exact number of respondents answering a given question, allowing them to estimate sampling precision.

Percentages for some items may not add to 100% due to rounding, or because the question allowed for more than one response. In addition, the number of cases involved in subgroup analyses may not sum to the grand total who responded to the primary questionnaire item being analyzed. Reasons for this include some form of non-response on the grouping variable (e.g., "Don't Know" or "Refused"), or use of only selected subgroups in the analysis.

All tests for statistical significance were performed using the chi-square test. An observed relationship is called statistically significant when the p-value for a chi-square test is less than or equal to 0.05.

For rounding purposes, all variables are rounded based on two decimal places. Any value that had a decimal of .50 or greater was rounded up and any value that had a decimal below .50 was rounded down. "Don't know" and "Refused" answers were coded as valid answers but were not reported in the figures and tables of this report unless the sample size was greater than 50.

CHAPTER 2
DESCRIPTION OF RESPONDENT POPULATION

To capture a sample of respondents representative of drivers 16 and older in the United States, a landline cross section sample, a landline oversample of respondents 16 to 34, and a cell phone sample were used (see Table 2-1). Of the 6,001 survey respondents, 3,372 (56%) were sampled from the landline cross section sample, 501 from the landline oversample (8%), and 2,128 from the cell phone sample (35%). The cell phone sample captured several groups often unreachable by landline phones. Drivers 20 and younger comprise 12% of the cell phone sample, and 22% of the cell phone sample are under 25. By contrast, 3% of respondents in the landline cross section sample are under 25. The landline oversample captured more respondents in the younger age groups, with 43% of respondents in the landline oversample being under 25.

Table 2-1: Demographics by Sample Type – Unweighted

	Cell Phone Sample (N=2,128)	Landline Cross Section (N=3,372)	Landline Oversample (N=501[7])	Total Sample (N=6,001)
Gender				
Female	44.3%	56.7%	56.3%	50.2%
Male	55.7%	43.3%	43.7%	49.8%
Age				
Mean	38.21	56.43	25.41	45.95
16 to 20	12.4%	1.8%	30.0%	8.2%
21 to 24	9.7%	1.0%	12.6%	5.9%
25 to 34	26.0%	4.0%	55.3%	17.0%
35 to 44	18.0%	14.7%	0.0%	15.9%
45 to 54	14.4%	23.3%	0.0%	17.9%
55 to 64	10.9%	22.9%	0.0%	15.9%
65 or older	7.1%	30.3%	0.0%	17.3%
2014 Household Income				
Less than $10,000	7.5%	3.8%	11.1%	5.9%
$10,000 to $14,999	5.5%	3.9%	9.5%	4.9%
$15,000 to $24,999	7.7%	7.4%	10.0%	7.7%
$25,000 to $49,999	20.8%	18.9%	17.4%	19.8%
$50,000 to $99,999	27.8%	28.3%	24.2%	27.9%
$100,000 to$149,999	11.2%	13.4%	6.3%	12.0%
$150,000 to $199,999	4.1%	4.7%	2.1%	4.3%
$200,000 or more	4.3%	4.6%	3.2%	4.4%

[7] There were 518 total respondents who completed the oversample survey, but 17 reported that they were older than 34. Those respondents older than 34 are not included in the analysis.

Table 2-1: Demographics by Sample Type – Unweighted (Continued)

	Cell Phone Sample (N=2,128)	Landline Cross Section (N=3,372)	Landline Oversample (N=501)	Total Sample (N=6,001)
Education				
No HS Degree	14.3%	8.9%	25.9%	12.2%
HS Graduate	25.3%	26.8%	27.0%	26.0%
Some College	32.8%	31.2%	29.1%	32.0%
College Graduate	15.6%	16.5%	10.1%	15.9%
Some Graduate School	1.7%	1.4%	1.6%	1.5%
Graduate Degree	9.6%	13.8%	5.8%	11.4%
Number of Children 15 or Younger in Household				
0	59.9%	73.1%	40.5%	65.2%
1 to 3	37.0%	24.5%	55.3%	31.9%
4 or More	2.3%	1.6%	3.2%	2.0%
Ethnicity				
Hispanic	15.5%	8.4%	31.1%	12.8%
Not Hispanic	83.8%	90.7%	67.9%	86.4%
Race/Ethnicity				
White	69.7%	79.6%	58.4%	73.8%
Black	11.9%	9.2%	12.6%	10.7%
Asian	5.5%	4.1%	4.4%	4.8%
American Indian/Alaska Native	2.0%	1.1%	4.2%	1.7%
Native Hawaiian or other Pacific Islander	1.6%	0.5%	1.5%	1.1%
(VOL) Hispanic	10.0%	4.5%	19.5%	7.8%
Other	0.4%	0.2%	0.0%	0.3%
Homeowner Status				
Own	58.2%	84.9%	55.8%	70.1%
Rent	33.6%	11.2%	29.5%	23.4%
Some Other Arrangement	6.9%	2.5%	12.1%	5.1%
Frequency of Driving				
Everyday	73.0%	61.7%	68.3%	67.8%
Almost Everyday	12.2%	18.3%	12.2%	14.9%
Few Days a Week	10.8%	16.2%	13.8%	13.3%
Few Days a Month	2.6%	3.1%	4.2%	2.9%
Few Days a Year	1.2%	0.5%	1.6%	0.9%
Primary Type of Vehicle				
Car	57.0%	56.1%	57.4%	56.6%
Van/Mini-Van	5.8%	8.9%	13.7%	7.4%
SUV	18.8%	19.0%	13.2%	18.7%
Pickup Truck	16.0%	14.8%	14.2%	15.4%
Other Truck	1.5%	0.6%	1.1%	1.1%
Motorcycle	0.4%	0.1%	0.0%	0.2%
Other	0.5%	0.4%	1.1%	0.5%

For the remainder of this report, all percentages that appear in figures and tables are based on the weighted data, unless otherwise noted.

CHAPTER 3
PHONE-RELATED DISTRACTED DRIVING

This chapter examines the use of cell phones for initiating and receiving calls, texting and e-mailing messages, and using smartphone applications. The reasons respondents gave for engaging in this behavior is also explored. Table 3-1 shows the proportion of respondents who own various devices that can distract drivers when operated while driving. Among these, ownership of cell phones is the highest at 90%.[8]

Table 3-1. Ownership of Electronic Devices and Connectivity

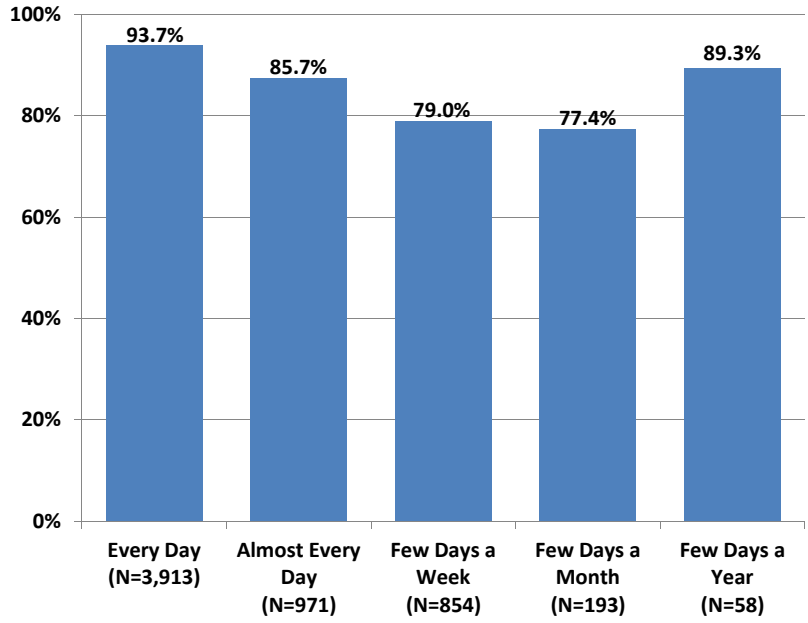
Q3. Do you currently own any of the following?	**Percent Yes**
A cell phone (any cell phone including smartphone)	90.3%
A 'smartphone' such as a Droid, iPhone, or Blackberry	66.4%
A portable music player, such as a CD player, iPod, or Zune	35.0%
A portable navigation system, such as TomTom or Garmin	32.0%
A navigation system built into the vehicle, such as Onstar or Sync	20.7%
*A Bluetooth or other hands-free device for your cell phone, such as one that plugs into the phone, works wirelessly, or works through your vehicle's car stereo	50.0%
****Q3a1.** Is the vehicle you drive most often equipped with built-in hands-free Bluetooth capability?	28.3%
****Q3a2.** Have you paired or "connected" your phone with the vehicle via Bluetooth?	24.3%

Base: All respondents
Unweighted N =6,001
*Only asked of respondents who reported owning a cell phone or smartphone
**Only asked of respondents who reported owning a Bluetooth or other hands-free device for their cell phones

[8] While 90.3% of respondents reported that they own "A cell phone," that percentage increases to 90.6% when respondents who reported owning "A 'smartphone' such as a Droid, iPhone, or Blackberry" are included.

Figure 3-1 shows the proportion of respondents who own cell phones by their frequency of driving. There was a statistically significant relationship between cell phone ownership and frequency of driving a vehicle where more frequent drivers were more likely to own cell phones. Respondents who drove every day, or almost every day, are more likely to own cell phones than respondents who drove less frequently, except for those who drove only a few days each year. Ownership of cell phones is 94% among those who drove every day, and 86% among those who drove almost every day. Cell phone ownership for those driving a few days a week is 79%. For those driving no more than a few days a month, cell ownership is 77%. Among those who drove least frequently (a few days a year), 9 in 10 owned a cell phone (89%).

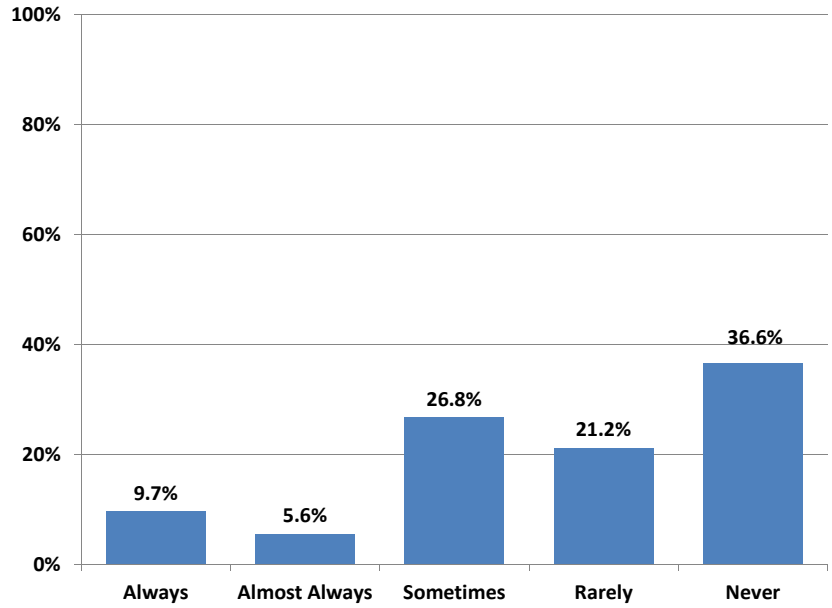
Figure 3-1
Cell Phone Ownership
by Frequency of Driving



Q1. How often do you drive a motor vehicle, regardless of whether it is for work or for personal use? Every day, almost every day, a few days a week, a few days a month, a few days a year, or do you never drive?
Q3. Do you CURRENTLY own any of the following devices? ($p<0.001$)
Base: All respondents
Unweighted N=See Figure

When asked how often they answer an incoming cell phone call when driving, 15% of respondents reported that they always or almost always answer the phone, and 27% reported that they sometimes answer an incoming call while driving. More than half (58%) of respondents said that they rarely (21%) or never (37%) answer the phone while driving.

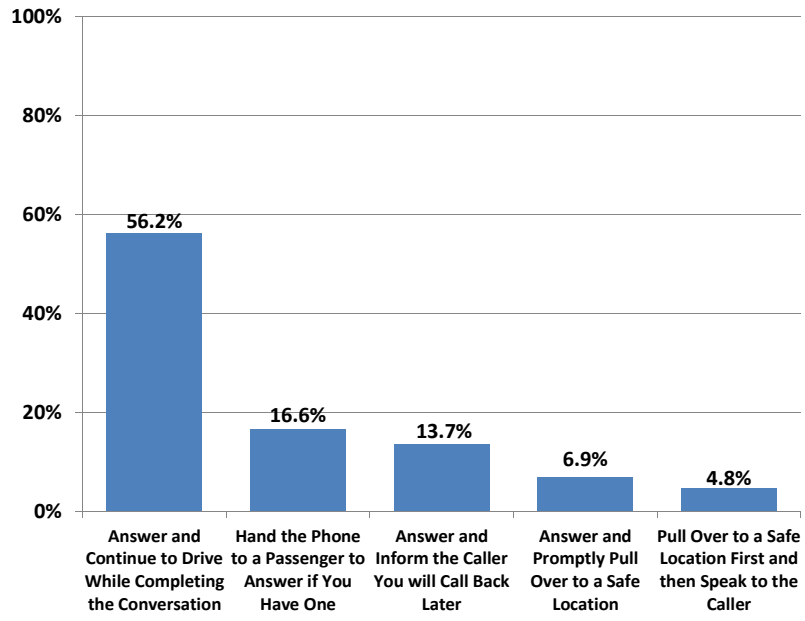
Figure 3-2
Answer Phone While Driving



Q4d. I'm going to read a list of common activities people do while driving. For each activity, I'd like you to tell me how often YOU do each while driving. For each, please tell me if you do the activity always, almost always, sometimes, rarely, or never? How often do you answer phone calls?
Base: All respondents
Unweighted N=6,001

More than half (56%) of respondents who reported answering an incoming phone call while driving stated that they usually continue to drive while completing the conversation. One in 7 (14%) drivers usually informs the callers they will call them back later, and 17% usually hand the phone to a passenger in the car. Only 7% of respondents state that they pull over to a safe location after answering the phone, while 5% report that they first pull over to a safe location and then answer the call.

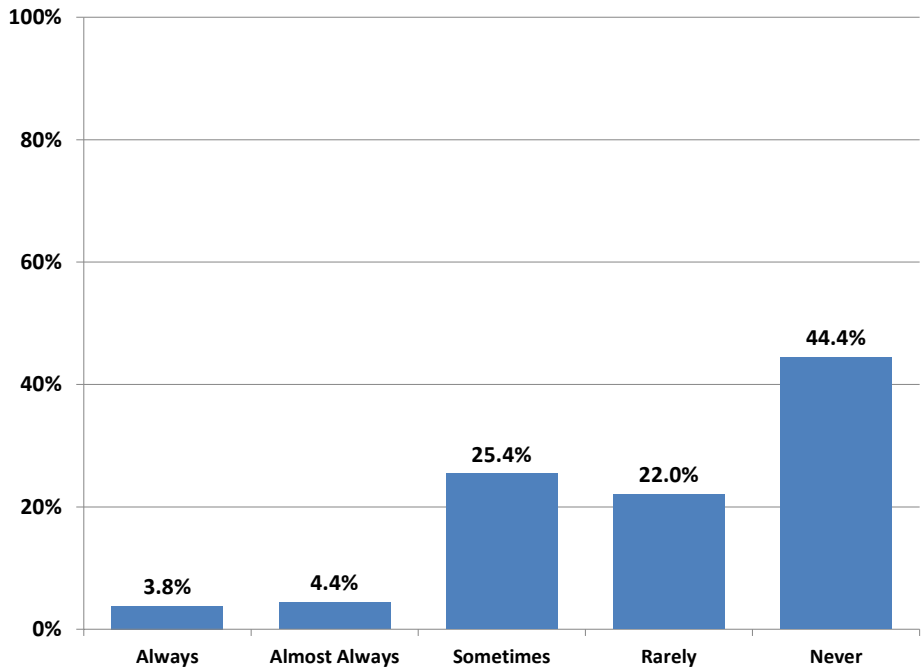
Figure 3-3
How Phone Calls Are Answered While Driving



Q5c. When you answer a call while driving, do you USUALLY…
Base: Respondents answering calls while driving at least rarely
Unweighted N=3,704

When asked how often respondents make a phone call while driving, nearly half of them (44%) stated that they never make a phone call when driving. Few respondents indicated that they always (4%) or almost always (4%) make a call while driving. One-quarter (25%) indicated that they sometimes make calls. More than 1 in 5 (22%) stated that they rarely do so.

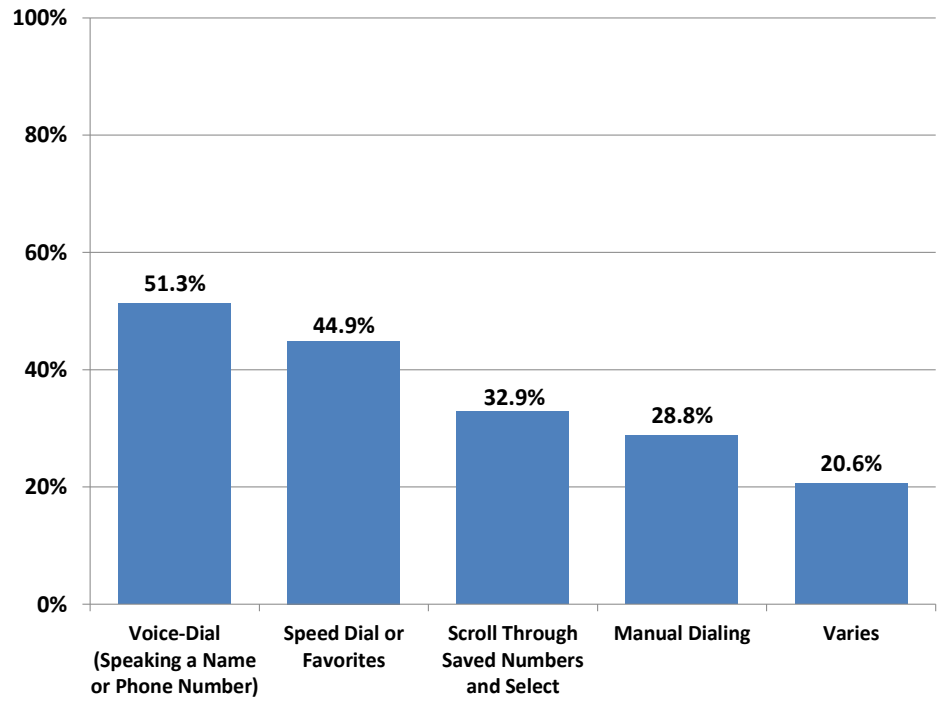
Figure 3-4
Make Phone Calls While Driving



Q4c. I'm going to read a list of common activities people do while driving. For each activity, I'd like you to tell me how often YOU do each while driving. For each, please tell me if you do the activity always, almost always, sometimes, rarely, or never? How often do you make phone calls?
Base: All respondents
Unweighted N=6,001

When asked how they make a call while driving, 51% of respondents report that they use voice dialing by saying the number or person's name aloud into the microphone of the cell phone or their in-vehicle system (e.g., Sync, Uconnect). About half mentioned using speed dial or the "favorites" function on their phones (45%), 33% mention selecting the number by scrolling through saved numbers, and 29% mention manual dialing. About 1 in 5 (21%) said that their method of dialing varies.

Figure 3-5
Method of Dialing Phone Number While Driving



Q6a. Which of the following ways do you usually MAKE a call while driving? Please answer Yes or No after I read each item.
Base: Respondents making calls while driving at least rarely
Unweighted N=3,168
Respondents offering more than one response: Unweighted N =1,574

As shown in Table 3-2, the most commonly mentioned location for keeping a cell phone in the vehicle while driving was the pocket or purse, mentioned by nearly half of respondents owning a cell or smartphone (44%). Cup holder or tray was the second most cited location (25%). The passenger seat (8%) and built-in enclosed storage spaces (7%) were mentioned by less than 1 in 10 respondents.

Use of the cell's speakerphone feature was cited most often (33%) as the method used to make or receive calls while driving, followed by use of a built-in car system (31%) or holding the phone in one's hand (29%). Another 1 in 5 mentioned using a hands-free earpiece such as a Bluetooth earpiece device (20%). Thirteen percent reported their usual method varied. Only 5% mentioned squeezing the phone between the ear and shoulder.

Table 3-2. Location of Phone in Vehicle and Method of Answering

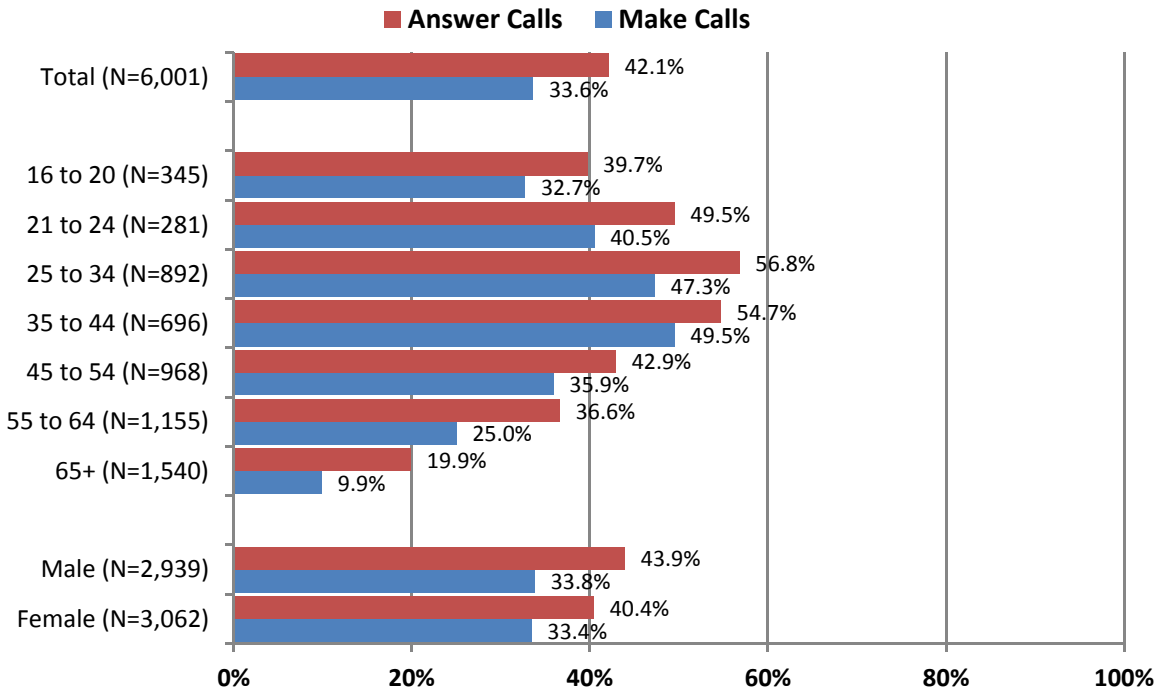
Q5. When not in use, where do you put your cell phone while driving? [9]	**Percent Yes**
Pocket or purse	44.4%
Cup holder or tray	24.5%
Passenger seat	7.7%
Built-in enclosed storage space	7.4%
Console	6.1%
Mount on dashboard	4.0%
Lap	3.2%
Attach to belt/waistband	1.8%
Glovebox	1.7%
Backseat	0.4%
In hand	0.1%
Q5a. Which of the following do you usually do when making or receiving a call while driving?	**Percent Yes**
Use the cell phone's speakerphone feature	32.5%
Use a built-in car system (OnStar, Sync, built-in Bluetooth)	31.1%
Hold the phone in your hand	29.2%
Use a hands-free earpiece	19.7%
It varies	13.1%
Squeeze the phone between your ear and your shoulder	4.9%

Base (Q5): Respondents owning a cell phone or smartphone
Unweighted N=5,593
Respondents offering more than one response: Unweighted N=302
Base (Q5a): Respondents making or answering calls while driving at least rarely
Unweighted N=3,865
Respondents offering more than one response: N=752

[9] Respondents volunteered the answers to this question and were not read any answer options.

Overall, more than a third of respondents said they at least sometimes answer (42%) or make (34%) calls while driving. Examining reports of answering and making calls while driving by shows that drivers 21 to 24, 25 to 34, and 35 to 44 were more likely to indicate that they answer or make phone calls while driving. More than half of respondents 25 to 34 (57%), and 35 to 44 (55%) stated that they answer calls while driving. These two groups were also the most likely to at least sometimes make phone calls while driving (47% and 50%, respectively). Among older drivers, nearly 1 in 5 drivers 65 and older said they at least sometimes answer calls (20%) while driving and 1 in 10 older drivers at least sometimes make calls (10%) while driving. While male and female drivers were equally likely to say they at least sometimes make phone calls while driving, male drivers (44%) were more likely to report answering phone calls when driving a vehicle than were female drivers (40%).

Figure 3-6
Answer or Make Phone Calls While Driving
by Age and Gender (% at Least Sometimes)



Q4c/Q4d. I'm going to read a list of common activities people do while driving. For each activity, I'd like you to tell me how often YOU do each while driving. For each, please tell me if you do the activity always, almost always, sometimes, rarely, or never?
Q4d. How often do you take calls?
D1. What is your age? ($p<0.001$)
SA3. Record gender from observation. ($p=0.048$)

Q4c. How often do you make phone calls?
D1. What is your age? ($p<0.001$)
SA3. Record gender from observation. ($p=0.008$)
Base: All respondents
Unweighted N=See Figure

As mentioned in Figure 3-6, significant gender and age differences were found in making or answering calls while driving. Tables 3-3 and 3-4 below provide age breakdowns by frequency of answering and making calls while driving. Drivers in the 21-to-24 (20%), 25-to-34 (22%), and 35-to-44 (21%) age categories were more likely to always or almost always answer calls while driving than were drivers 55 to 64 (12%) and 65 and older (7%). The proportion of drivers indicating that they never make (75%) or answer (61%) calls is higher among 65+ year olds.

Table 3-3. Answer Calls While Driving, by Age and Gender

Q4d. How often do you ANSWER calls while driving…	N	Always	Almost Always	Sometimes	Rarely	Never
Total Respondents	6,001	9.7%	5.6%	26.8%	21.2%	36.6%
by Age Category						
16- to 20-Year-Old Drivers	345	12.1%	3.6%	24.0%	25.1%	35.2%
21- to 24-Year-Old Drivers	281	9.1%	10.7%	29.7%	25.5%	25.0%
25- to 34-Year-Old Drivers	892	13.6%	8.5%	34.7%	20.0%	23.3%
35- to 44-Year-Old Drivers	696	12.4%	8.9%	33.4%	21.8%	23.2%
45- to 54-Year-Old Drivers	968	9.6%	4.1%	29.2%	21.6%	35.5%
55- to 64-Year-Old Drivers	1,155	7.7%	3.9%	25.0%	20.9%	42.3%
65+-Year-Old Drivers	1,540	4.6%	2.7%	12.6%	18.7%	61.2%
by Gender						
Male Drivers	2,939	10.6%	5.9%	27.4%	21.1%	34.9%
Female Drivers	3,062	8.8%	5.4%	26.2%	21.3%	38.2%

D1. What is your age? ($p<0.001$)
SA3.Record gender from observation. ($p=0.048$)
Base: All respondents
Unweighted N=See Table

Table 3-4. Make Calls While Driving, by Age and Gender

Q4c. How often do you MAKE calls while driving…	N	Always	Almost Always	Sometimes	Rarely	Never
Total Respondents	6,001	3.8%	4.4%	25.4%	22.0%	44.4%
by Age Category						
16- to 20-Year-Old Drivers	345	2.2%	3.0%	27.5%	26.9%	40.5%
21- to 24-Year-Old Drivers	281	4.4%	6.1%	30.0%	30.6%	28.9%
25- to 34-Year-Old Drivers	892	6.1%	7.3%	33.9%	24.3%	28.4%
35- to 44-Year-Old Drivers	696	5.8%	6.5%	37.2%	22.3%	28.2%
45- to 54-Year-Old Drivers	968	5.1%	4.1%	26.7%	22.2%	41.9%
55- to 64-Year-Old Drivers	1,155	2.2%	2.9%	19.9%	20.3%	54.6%
65+-Year-Old Drivers	1,540	0.6%	1.5%	7.8%	15.5%	74.6%
by Gender						
Male Drivers	2,939	4.5%	4.1%	25.2%	23.2%	43.0%
Female Drivers	3,062	3.2%	4.6%	25.6%	20.7%	45.9%

D1. What is your age? ($p<0.001$)
SA3. Record gender from observation. ($p=0.008$)
Base: All respondents
Unweighted N=See Table

Table 3-5 lists the reasons why respondents are likely to answer an incoming call while driving. The most common reason given is the identity of the person calling (36%), followed by how important they think the call is (17%). More than 1 in 10 drivers are likely to answer the phone if it is work-related (14%) or in an emergency situation (14%), while 9% state that they answer all calls received while driving. Smaller percentages of drivers reported that they are likely to answer if the call is from someone they know (8%), the call is personal or social (7%), or the call is routine or expected (4%).

The next column in the table shows the reasons respondents gave for making calls on their cell phones while driving. Almost one-third of respondents (28%) stated that they are willing to make phone calls if they think it is important or urgent, and 13% are willing to initiate a phone call if it is work related. Almost 1 in 7 respondents stated that they are willing to make calls if they need directions or other information (13%), to report a traffic crash/emergency (12%), or if it's a personal or social call (11%). Other reasons for making calls while driving included reporting a medical emergency (5%) and whom the respondent was calling (6%).

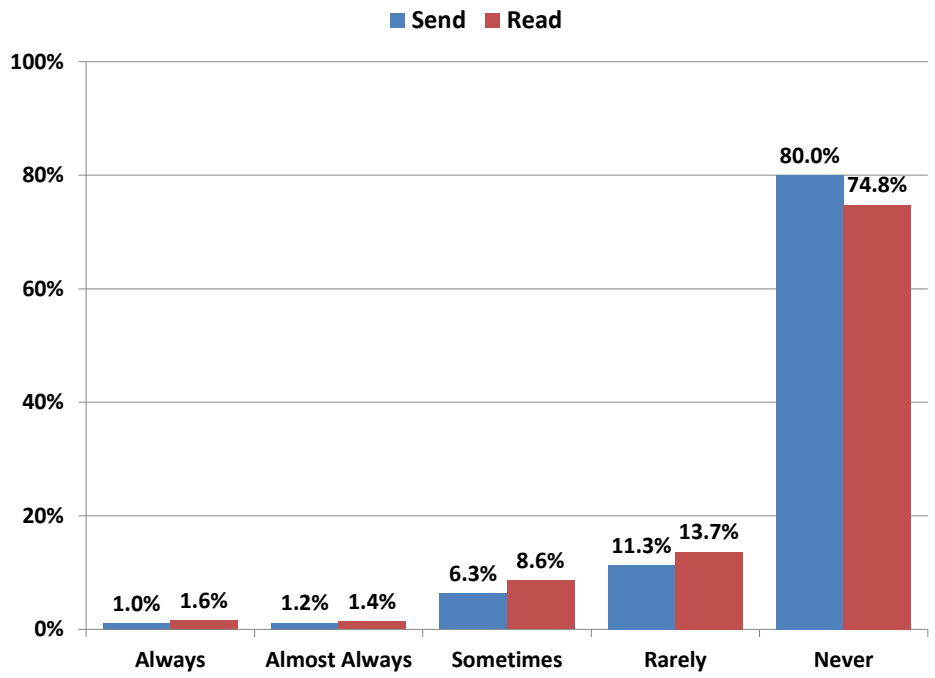
Table 3-5. Reasons for Answering and Making Phone Calls While Driving

Q5b/Q6.What are the reasons you are more likely to ANSWER/MAKE a call while driving?	Q5b. ANSWER Percent	Q6. MAKE Percent
Who is/I am calling	36.4%	6.2%
How important I think the call is	17.2%	27.8%
Call is work-related	14.4%	13.0%
Urgent/emergency situation	13.9%	--
Report a traffic crash/emergency	--	12.2%
Report a medical emergency	--	4.8%
I answer all calls	8.9%	--
Call is from someone I know	8.0%	--
Call is personal or social	7.2%	11.3%
Call is routine or expected	3.8%	--
When Bluetooth/hands-free technology is available	2.1%	--
Related to schedule/plans/location	0.8%	6.9%
Non-stressful traffic conditions	0.7%	0.3%
In need of directions or other information	0.6%	13.4%
Boredom	0.4%	2.1%
Call is unexpected	0.3%	--
Call is from a number I don't recognize	0.3%	--
Time of day	0.2%	0.4%
Personal safety	0.2%	0.9%
I think it's safe to call	--	0.5%

Base Q5b/Q6: Respondents answering/making calls while driving at least rarely
Unweighted N =3,704/3,168

Figure 3-7 shows the respondent's frequency of sending or reading text messages or e-mails when driving. An overwhelming majority of respondents (80%) said that they never send text messages or e-mails when they are driving a vehicle. Two percent of respondents stated that they always or almost always do. A sizable number of respondents occasionally send text messages or e-mails, with 6% of respondents who reported they sometimes do and 11% who said they rarely send any messages while driving. Reading text messages or e-mails while driving was slightly more common, with 12% of respondents stating that they do at least some of the time and three quarters (75%) stating that they never do so.

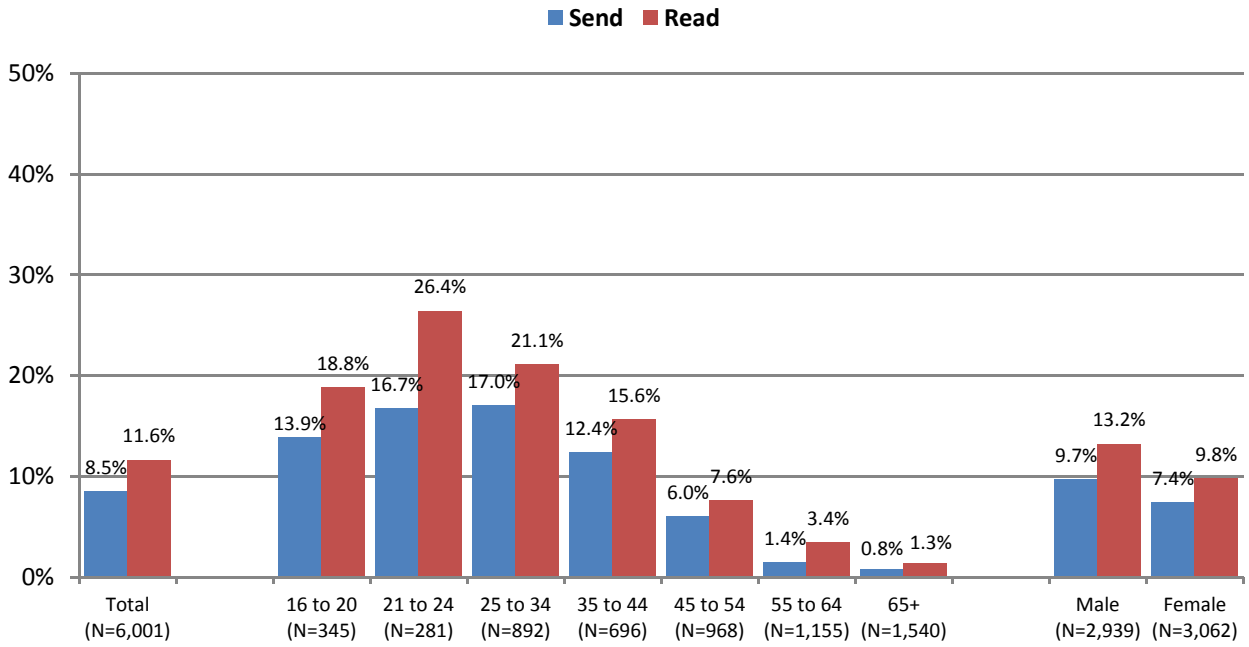
Figure 3-7
Send or Read Text Messages or E-Mails While Driving



I'm going to read a list of common activities people do while driving. For each activity, I'd like you to tell me how often YOU do each while driving. For each, please tell me if you do the activity always, almost always, sometimes, rarely, or never?
Q4f. How often do you SEND text or e-mail messages?
Q4e. How often do you READ text or e-mail messages?
Base: All respondents
Unweighted N=6,001

Overall, 1 in 10 (9%) respondents send text messages or e-mails at least sometimes while driving. Younger drivers were more likely to indicate that they at least sometimes send messages while operating a vehicle. Drivers 21 to 34 (17%) were the most likely to report sending text messages and/or e-mails while driving. More than 1 in 10 respondents 16 to 20 (14%) and 35 to 44 (12%) state that they have sent messages while operating a vehicle. Among older drivers, only 1% of those 55 or older indicated that they send messages while driving. Male drivers were more likely than female drivers to say that they text or send e-mails while driving (10% versus 7%). In regards to reading text messages, younger drivers were the most likely to indicate that they at least sometimes read text messages while driving. One quarter of those 21 to 24 (26%), and 1 in 5 of those 16 to 20 (19%) and 25-34 (21%) indicated reading text messages at least sometimes while driving.

Figure 3-8
Send or Read Text Messages or E-Mails While Driving
by Age and Gender (% at Least Sometimes)



I'm going to read a list of common activities people do while driving. For each activity, I'd like you to tell me how often YOU do each while driving. For each, please tell me if you do the activity always, almost always, sometimes, rarely, or never?
Q4f. How often do you SEND text messages or e-mails?
D1. What is your age? ($p<0.001$)
SA3. Record gender from observation. ($p<0.001$)

Q4e. How often do you READ text messages or e-mails?
D1. What is your age? ($p<0.001$)
SA3. Record gender from observation. ($p<0.001$)
Base: All respondents
Unweighted N=See Figure

As can be seen in Tables 3-6 and 3-7, the proportion of drivers indicating that they always or almost always send or read text messages or e-mails is higher among younger drivers 16-44. Male drivers were more likely than female drivers to report always or almost always reading text messages or e-mails while driving.

Table 3-6. Send Text Messages or E-Mails While Driving, by Age and Gender

	N	Always	Almost Always	Sometimes	Rarely	Never
Total Respondents	6,001	1.0%	1.2%	6.3%	11.3%	80.0%
by Age Category						
16- to 20-Year-Old Drivers	345	1.4%	3.4%	9.1%	16.0%	70.1%
21- to 24-Year-Old Drivers	281	1.9%	3.3%	11.5%	21.1%	62.2%
25- to 34-Year-Old Drivers	892	1.8%	2.4%	12.8%	19.2%	63.8%
35- to 44-Year-Old Drivers	696	2.0%	1.9%	8.4%	14.0%	73.6%
45- to 54-Year-Old Drivers	968	0.6%	0.0%	5.4%	11.2%	82.3%
55- to 64-Year-Old Drivers	1,155	0.3%	0.0%	1.1%	5.4%	93.1%
65+-Year-Old Drivers	1,540	0.0%	0.1%	0.7%	1.7%	97.6%
by Gender						
Male Drivers	2,939	1.4%	0.9%	7.4%	11.2%	79.0%
Female Drivers	3,062	0.7%	1.4%	5.3%	11.4%	81.0%

D1. What is your age? ($p<0.001$)
SA3. Record gender from observation. ($p<0.001$)
Base: All respondents
Unweighted N=See Table

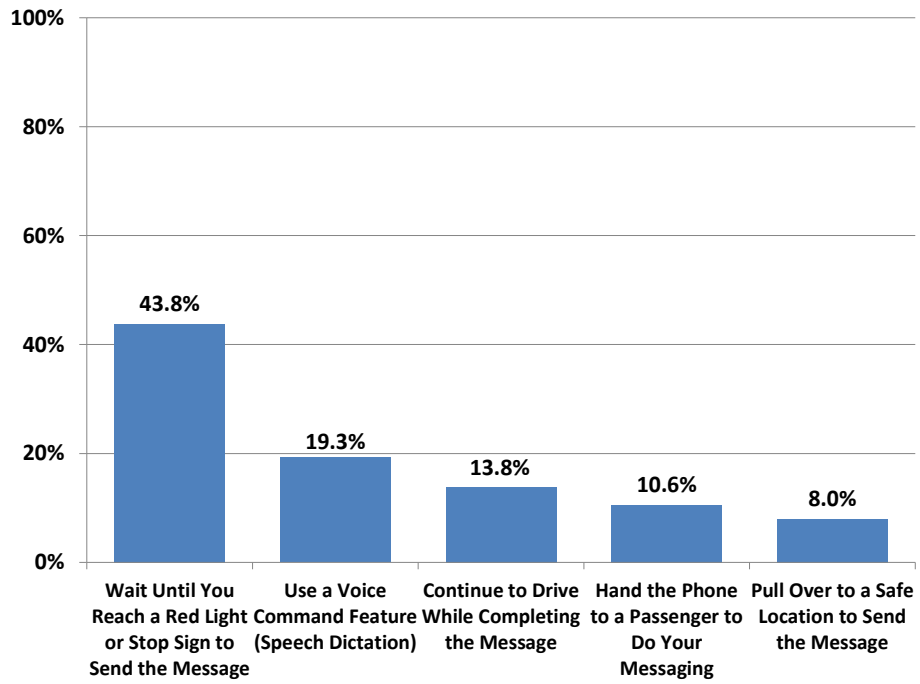
Table 3-7. Read Text Messages or E-Mails While Driving, by Age and Gender

	N	Always	Almost Always	Sometimes	Rarely	Never
Total Respondents	6,001	1.6%	1.4%	8.6%	13.7%	74.8%
by Age Category						
16- to 20-Year-Old Drivers	345	3.4%	1.8%	13.6%	18.6%	62.6%
21- to 24-Year-Old Drivers	281	2.2%	6.3%	17.9%	22.0%	51.5%
25- to 34-Year-Old Drivers	892	3.1%	2.4%	15.6%	21.5%	57.5%
35- to 44-Year-Old Drivers	696	2.7%	2.3%	10.6%	19.5%	64.9%
45- to 54-Year-Old Drivers	968	0.6%	0.1%	6.9%	12.9%	79.5%
55- to 64-Year-Old Drivers	1,155	0.2%	0.0%	3.2%	8.1%	88.4%
65+-Year-Old Drivers	1,540	0.0%	0.3%	1.0%	2.2%	96.5%
by Gender						
Male Drivers	2,939	1.9%	1.5%	9.8%	13.9%	72.9%
Female Drivers	3,062	1.2%	1.2%	7.4%	13.4%	76.7%

D1. What is your age? ($p<0.001$)
SA3. Record gender from observation. ($p<0.001$)
Base: All respondents
Unweighted N=See Table

When asked how they send texts and e-mails while driving, 44% of respondents stated that they wait until they arrive at a red light or stop sign. About 1 in 5 (19%) reported using a voice command feature and another 11% reported handing the phone to a passenger to send the text or e-mail. About 1 in 6 (14%) stated they continued to drive while sending the text or e-mail. The least cited method for sending a text or e-mail when driving was pulling over to a safe location and then sending the message (8%).

Figure 3-9
How Text Messages or E-Mails Are Sent While Driving



Q8. When you SEND a text message or e-mail while driving, do you USUALLY…
Base: Respondents sending text messages or e-mails while driving at least rarely.
Unweighted N=1,044

Respondents who stated that they send texts or e-mails while driving were asked under what conditions they are more likely to do so (see Table 3-8). The majority of respondents (43%) report that they are more likely to send a message if it is important. Another 9% reported that they are more likely to send a message if it is work-related. Close to 1 in 10 (9%) are more likely to send a message if it is personal or social in nature. Respondents were least likely to cite reasons such as traveling at a low speed (0.1%), or time of day (0.4%).

Table 3-8. Reasons for Sending Text Messages or E-Mails While Driving

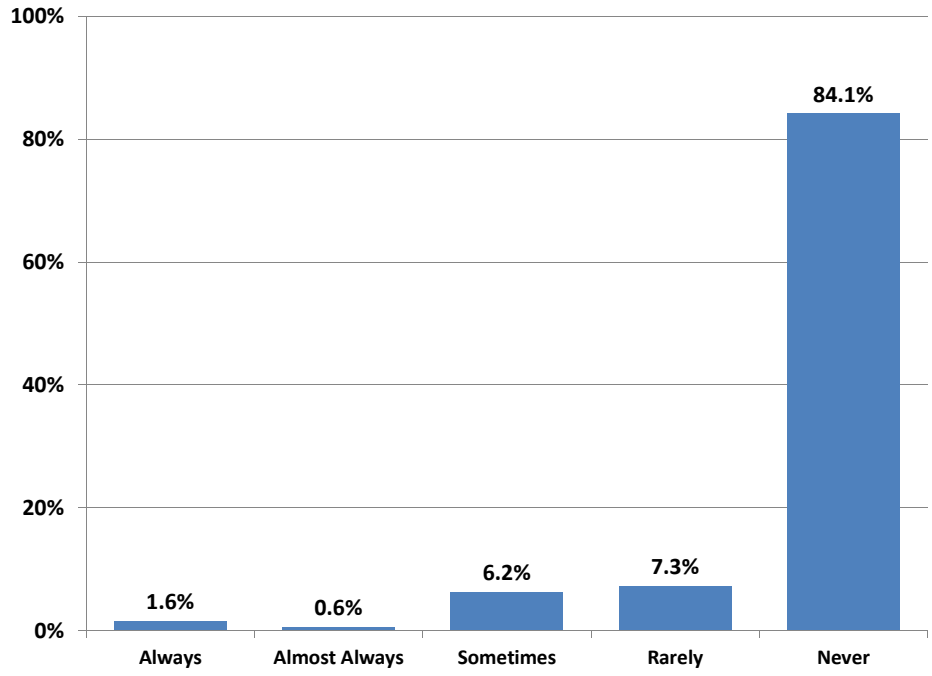
8a. What makes it more likely you will SEND a text message or e-mail while driving? [10]	Percent
How important I think the message is	42.5%
Work-related	8.8%
Personal or social	8.6%
Who I'm messaging	7.9%
Report a traffic crash/emergency	5.5%
Making/responding to a quick/short message or call	4.7%
In need of directions or other information	4.3%
Related to schedule/plans/location	3.4%
Report a medical emergency	1.5%
I think it's safe to text/e-mail	1.0%
Personal safety	1.0%
Non-stressful traffic conditions	0.8%
Boredom	0.7%
Time of day	0.4%
Traveling at a low speed	0.1%

Base: Respondents sending text messages or e-mails while driving at least rarely
Unweighted N=1,044
Respondents offering more than one response: Unweighted N=93

[10] Respondents volunteered the answers to this question and were not read answer options.

When respondents were first asked about smartphone app usage while driving, 8% stated they used apps at least sometimes while driving, not including navigation apps. (Respondents were later asked about which apps they used and how they used these apps while driving. See Q9, Table 3-10). Very few respondents reported always or almost always using smartphone apps when driving (2%). Six percent reported they sometimes do and another 7% said rarely.

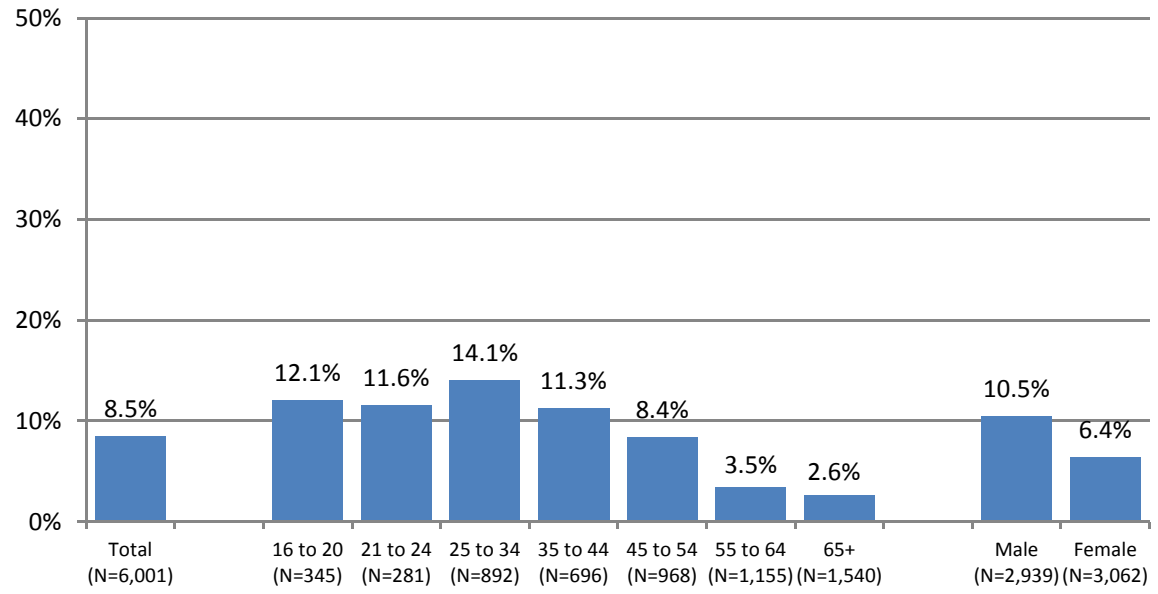
Figure 3-10
Use Smartphone Apps While Driving



Q4n. I'm going to read a list of common activities people do while driving. For each activity, I'd like you to tell me how often YOU do each while driving. For each, please tell me if you do the activity always, almost always, sometimes, rarely, or never?
How often do you use smartphone apps, not including a navigation app?
Base: All respondents
Unweighted N=6,001

Examining reports of smartphone app use, excluding navigation apps, while driving by age and gender shows that younger drivers were more likely to indicate that they at least sometimes use apps while operating a vehicle. More than 1 in 10 respondents (12%) 16 to 20 and 21 to 24, and 14% of respondents 25 to 34, stated that they at least sometimes use apps while driving. Eight percent of those in the 45-to-54 age group report that they at least sometimes use apps while driving. Among older drivers, only 4% of those 55 to 64 indicated that they at least sometimes use apps while driving. Overall, 9% of drivers reported using non-navigation apps at least sometimes while driving. Males were more likely to report using apps at least sometimes while driving (11%) than females (6%).

Figure 3-11
Use Smartphone Apps While Driving
by Age and Gender (% at Least Sometimes)



Q4n. I'm going to read a list of common activities people do while driving. For each activity, I'd like you to tell me how often YOU do each while driving. For each, please tell me if you do the activity always, almost always, sometimes, rarely, or never? How often do you use smartphone apps, not including a navigation app?
D1. What is your age? ($p<0.001$)
SA3. Record gender from observation. ($p<0.001$)
Base: All respondents
Unweighted N=See Figure

Examining differences in smartphone app use by age categories and gender reveals patterns similar to those found among drivers who text and send e-mails while driving. Respondents in the 16- to-20 (4%), 21-to-24 (3%) and 25-to-34 (4%) categories were the most likely to state they always or almost always use apps while driving, while almost all respondents over 55 reported they did not use apps while driving. Male drivers (3%) were more likely than female drivers (2%) to say that they always or almost use smartphone apps while driving.

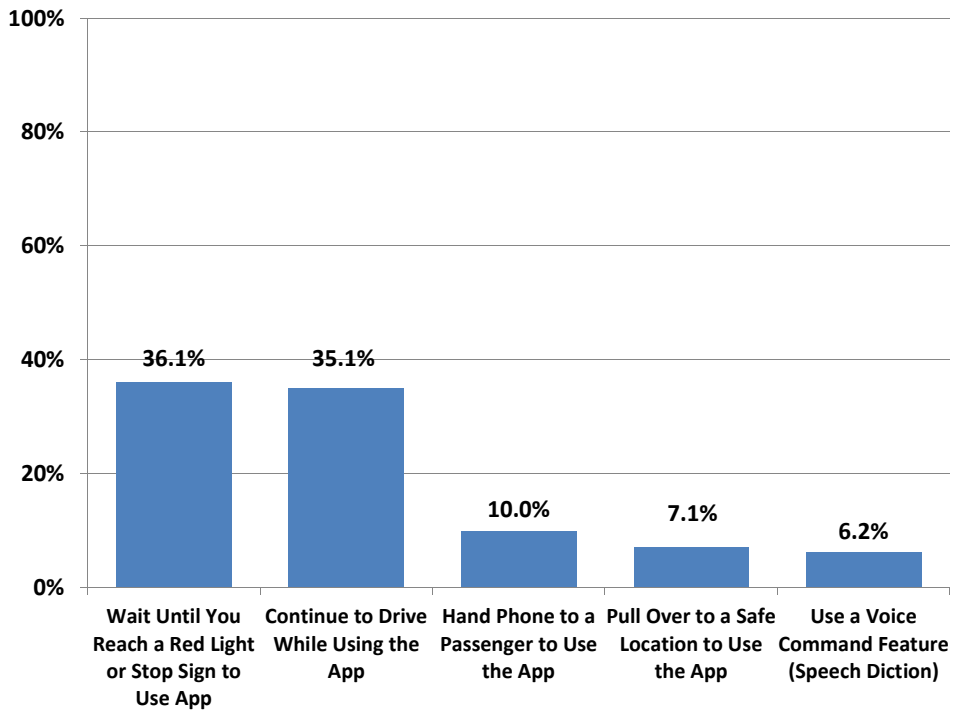
Table 3-9. Use Smartphone Apps While Driving, by Age and Gender

Q4n. How often do you use Smartphone Apps while Driving…	N	Always	Almost Always	Sometimes	Rarely	Never
Total Respondents	6,001	1.6%	0.6%	6.2%	7.3%	84.1%
by Age Category						
16- to 20-Year-Old Drivers	345	3.0%	1.0%	8.1%	9.5%	78.1%
21- to 24-Year-Old Drivers	281	1.7%	1.7%	8.2%	12.7%	75.8%
25- to 34-Year-Old Drivers	892	3.1%	0.9%	10.1%	10.9%	74.6%
35- to 44-Year-Old Drivers	696	2.3%	1.3%	7.6%	10.1%	78.7%
45- to 54-Year-Old Drivers	968	1.4%	0.1%	6.9%	6.9%	84.7%
55- to 64-Year-Old Drivers	1,155	0.3%	0.5%	2.6%	4.0%	92.3%
65+-Year-Old Drivers	1,540	0.3%	0.1%	2.2%	2.5%	94.8%
by Gender						
Male Drivers	2,939	2.1%	0.7%	7.7%	8.8%	80.5%
Female Drivers	3,062	1.2%	0.6%	4.7%	5.7%	87.7%

D1. What is your age? ($p<0.001$)
SA3. Record gender from observation. ($p<0.001$)
Base: All respondents
Unweighted N=See Table

When asked how they use apps while driving, 36% of respondents mentioned waiting until they came to a red light or stop sign before using the app. More than 1 in 3 (35%) respondents stated that they continue to drive while using the app. Using a voice command feature was the least cited method (6%).

Figure 3-12
How Smartphone Apps Are Used While Driving



Q9a. When you USE smartphone apps while driving, do you USUALLY….
Base: Respondents using smartphone apps while driving at least rarely.
Unweighted N=460

Respondents were asked which apps they used when driving. One-quarter (25%) of respondents stated they use Pandora and 16% used other music or radio apps or podcasts. Facebook was cited by 12% of respondents, followed by Internet search engines (e.g., Internet Explorer, Chrome, Safari, Google) (7%), Instagram (7%), and Snapchat (5%). More than 1 in 5 respondents who use apps while driving cited multiple apps they typically use when driving.

Table 3-10. Smartphone Apps Used While Driving

Q9. Other than navigation apps, what smartphone apps do you typically use while driving?	**Percent**
Pandora	24.9%
Music app/podcast/radio app	16.3%
Facebook	12.3%
Internet/Chrome/Safari/Google	7.2%
Instagram	6.9%
Snapchat	5.2%
Twitter	4.0%
Voice memo/texting	3.9%
Gas location/Gas Buddy	3.8%
Traffic alerts/updates apps	3.8%
Weather related apps	3.8%
E-Mail/Gmail/e-mail apps	3.7%
YouTube	2.5%
Game apps	2.1%
News apps	1.9%
Facebook Messenger	1.4%
Shazam	0.7%
Networking, connecting with friends/family	0.6%
LinkedIn	0.2%
Skype	0.2%
Other mentions (e.g., banking apps, virtual assistant apps)	13.0%

Base: Respondents using smartphone apps while driving at least rarely
Unweighted N =460
Respondents offering more than one response: Unweighted N=102

Respondents who stated that they use apps while driving were asked under what conditions they are more likely to do so. Just over one fifth of these respondents (21%) report that they are more likely to use apps if they need directions or other information. Another 12% reported they are likely to use an app for music/entertainment, while 11% said boredom made it more likely they will use an app.

Table 3-11. Reasons For Using Apps While Driving

9b. What makes it more likely you will USE smartphone apps while driving? [11]	**Percent**
In need of directions or other information	21.2%
For music/entertainment	12.2%
Boredom	11.2%
Personal or social	9.6%
How important it is/if urgent	9.0%
Length of drive	5.6%
Work-related	4.5%
Non-stressful traffic conditions	5.3%
Report a traffic crash/emergency	2.1%
Good weather conditions	1.2%
Interaction not required/voice-activated	1.3%
Time of day	1.2%
Convenience	1.1%
If no police officers are in sight	0.6%
Traveling at a low speed	0.6%
Report a medical emergency	2.1%
Tired (using apps keeps me awake)	0.3%
Personal Safety	0.1%
Other	7.9%

Base: Respondents using smartphone apps while driving at least rarely
Unweighted N=460
Respondents offering more than one response: Unweighted N=28

[11] Respondents volunteered the answers to this question and were not read answer options.

Talking on the Phone. Respondents were asked if their driving is any different when they are talking on a cell phone. Overall, nearly 6 in 10 respondents (57%) believe that talking on the phone has no negative influence on their driving, with 53% of respondents reporting that there is no difference in their driving and 4% who said that talking on the phone helps them be more focused or pay more attention on the road (Table 3-12). One in 5 respondents (20%) indicated that talking on a cell phone while driving distracted them or made them not as aware of things. Almost 1 in 8 respondents (12%) reported that they drove more slowly when they were on the phone. A small percentage noted that they may drift out of the lane or roadway (1%) while on the phone.

Sending Text Messages. Respondents who sent text messages or e-mails while driving were asked how their driving was different when they were sending messages from their normal driving. Overall, one-third of respondents (36%) think that sending text messages while driving has no negative influence on their driving, with 31% of respondents reporting that they do not notice any difference and 4% who believe that texting helps them be more focused or pay more attention on the road (Table 3-12). One in 3 respondents (34%) indicated that texting while driving distracts them or makes them not as aware of things. About 1 in 8 (13%) said they drive more slowly and 4% reported that they drift out of the roadway or lane while messaging.

Using Apps. Respondents who used apps while driving were asked how their driving was different when they were doing so. A total of 56% of respondents think that using apps while driving has no negative influence on their driving; 53% of drivers said that there is no difference in their driving and 3% stated that they are more focused or pay more attention to the road when they are using a smartphone app (Table 3-12). One in 5 respondents (21%) indicated that using apps while driving distracts them or makes them not as aware of things. About 1 in 12 drivers (8%) said they drive more slowly while using apps.

Table 3-12. Perceived Difference in Driving When Talking on a Cell Phone, Text/E-Mail Messaging, and Using Apps

Q7/Q8b/Q9c How, if at all, would you say your driving is different when you are TALKING on the phone /TEXTING/USING APPS?[12]	Q7 TALK Percent	Q8b TEXT Percent	Q9c USE APPS Percent
No difference	52.6%	31.3%	52.5%
Distracted/Not as aware of things	20.1%	33.8%	20.9%
Drive slower	12.4%	12.6%	7.8%
More focused/pay more attention	4.3%	4.4%	3.2%
Drift out of the lane or roadway	1.2%	4.2%	3.4%
Drive erratically/less carefully	1.0%	1.9%	0.0%
Look in your rear or side view mirrors more frequently	0.5%	0.2%	0.0%
Drive faster	0.4%	0.1%	0.0%
Change lanes less frequently	0.4%	0.5%	0.3%
Avoid changing lanes altogether	0.3%	0.2%	0.5%
Increase distance from lead vehicle	0.2%	0.1%	0.0%
Look in your rear or side view mirrors less frequently	0.2%	0.2%	0.0%
Apply the brakes suddenly	0.1%	0.4%	0.0%
Change lanes more frequently	0.1%	0.0%	0.7%
Use turn signals less frequently	0.1%	0.1%	0.0%
Follow lead vehicle more closely	0.0%	0.1%	0.0%

Base (Q7): Respondents making or answering calls while driving at least rarely
Unweighted N =3,865
Respondents offering more than one response: Unweighted N=111
Base (Q8b): Respondents sending text messages or e-mails while driving at least rarely
Unweighted N=1,044
Respondents offering more than one response: Unweighted N=45
Base (Q9c): Respondents using smartphone apps while driving at least rarely
Unweighted N=460
Respondents offering more than one response: Unweighted N=1

[12] Respondents volunteered the answers to these questions and were not read answer options.

Respondents were asked how their driving behavior was different when talking on a cell phone, sending a message, or using apps. When talking on a cell phone two-thirds (64%) reported turning down the radio, while two-fifths reported asking others in the vehicle to be quiet (40%), and/or driving with one hand on the wheel (40%). "Turn the radio/music down" and "ask others in the vehicle to be quiet" were two behaviors most frequently cited together when respondents are trying to answer or make a phone call while driving. Of those drivers who send messages while driving, more than half of them (55%) report driving with one hand on the wheel and 39% put down their food or drink so they can send messages. Nearly half of those using smartphone apps while driving will drive with one hand on the wheel (45%) while close to a third (30%) will put down food or drink to do so. "Turn the radio/music down" and "drive with one hand on the wheel" were the two behaviors most frequently cited together when respondents use apps while driving.

Table 3-13. Behavior Differences in Vehicle When Talking on a Cell Phone, Text/E-Mail Messaging, and Using Apps

Q7a/Q8c/Q9d How, if at all, does TALKING/TEXTING/USING APPS change your behavior in the vehicle?[13]	Q7a TALK Percent	Q8c TEXT Percent	Q9d USE APPS Percent
Turn the radio/music down	63.8%	25.9%	23.6%
Ask others in the vehicle to be quiet	40.3%	15.5%	13.5%
Drive with one hand on the wheel	40.4%	55.3%	45.2%
Put down food or drink	36.8%	39.1%	29.5%
No differences/my behavior doesn't change	15.5%	16.6%	26.8%
Drive with only your knee on the wheel	3.7%	6.0%	5.0%

Base (Q7a): Respondents making or answering calls while driving at least rarely
Unweighted N=3,865
Respondents offering more than one response: Unweighted N=1,959
Base (Q8c): Respondents sending text messages or e-mails while driving at least rarely
Unweighted N=1,044
Respondents offering more than one response: Unweighted N=391
Base (Q9d): Respondents using smartphone apps while driving at least rarely
Unweighted N=460
Respondents offering more than one response: Unweighted N=135

[13] Respondents volunteered the answers to these questions and were not read answer options.

Respondents were asked if there were any driving situations in which they would never talk on the phone, send a text or e-mail message, or use a smartphone app while driving. Bad weather was the most commonly cited reason for not using a phone while driving. About 4 in 10 drivers said they would never talk on the phone (40%), send text messages or e-mails (39%), or use apps (34%) when they are driving in bad weather. The second most commonly cited driving situation for all three cell phone usages was bumper to bumper traffic. About 1 in 5 drivers said they wouldn't talk on the phone (20%), or text (20%) if they are driving in bumper to bumper traffic and 15% said that they would not use apps in this situation.

Table 3-14. Driving Situations Respondent Not Likely to Talk on Phone, Text/E-Mail Message, or Use Apps

Q7b/Q8d/Q9e Is there any driving situation in which you would NEVER TALK/TEXT/USE APPS while driving?	Q7b TALK Percent	Q8d TEXT Percent	Q9e USE APPS Percent
Bad weather	40.3%	39.2%	34.3%
Bumper to bumper traffic	19.6%	19.7%	14.8%
Fast moving traffic (freeway)	17.3%	18.5%	13.7%
When I see a police officer	6.0%	7.8%	7.4%
No time/I always use my cell when I want to	4.9%	3.0%	10.3%
When moving (not at stop signs or stop lights)	4.6%	12.3%	6.2%
Driving in unfamiliar area/roads	4.0%	3.2%	2.4%
Marked construction zones	4.0%	2.6%	2.1%
Accident/emergency vehicles around	3.9%	2.2%	1.9%
Driving at nighttime	2.4%	3.1%	3.5%
With a baby or child on board	2.2%	4.7%	2.4%
Merging with traffic	2.1%	2.1%	0.7%
With other adult passengers in the car	1.6%	2.3%	3.9%
Marked school zones	1.3%	2.2%	1.2%
Winding/curving roads	0.9%	1.2%	0.5%
Driving in a familiar route	0.8%	0.6%	0.3%
On long trips	0.5%	0.2%	0.0%
When driving in a place where it is prohibited	0.3%	0.3%	0.8%
On an empty roadway	0.2%	0.1%	0.1%
Residential streets	0.2%	0.1%	0.3%
On short trips	0.1%	0.0%	1.3%
Parking lots	0.1%	0.0%	0.0%

Base (Q7b): Respondents making or answering calls while driving at least rarely - Unweighted N=3,865
Respondents offering more than one response: Unweighted N=942
Base (Q8d): Respondents sending text messages or e-mails while driving at least rarely - Unweighted N=1,044
Respondents offering more than one response: Unweighted N=267
Base (Q9e): Respondents using smartphone apps while driving at least rarely - Unweighted N=460
Respondents offering more than one response: Unweighted N=108

CHAPTER 4
PERCEPTIONS OF SAFETY OF DISTRACTED DRIVING

This chapter examines the respondents' assessment of safety in a variety of situations in which they are passengers in vehicles operated by drivers who are engaged in other activities while driving. All respondents were asked how safe they would feel as a passenger if the driver were to engage in certain activities (Table 4-1). Almost all respondents stated that they would feel very unsafe if their drivers were watching a movie (97%) or using a laptop computer (96%) while operating the vehicle. A large majority of respondents stated that they would feel very unsafe if the driver was sending (86%) or reading (81%) text messages or e-mails. Two-thirds of respondents (66%) said that they would feel very unsafe if their drivers used a smartphone app while driving and about 2 in 5 respondents (42%) said they would feel very unsafe if the driver was talking on the cell phone with the phone in hand. In addition, 40% of respondents would feel very unsafe if the driver was manipulating the navigation system for driving directions while driving.

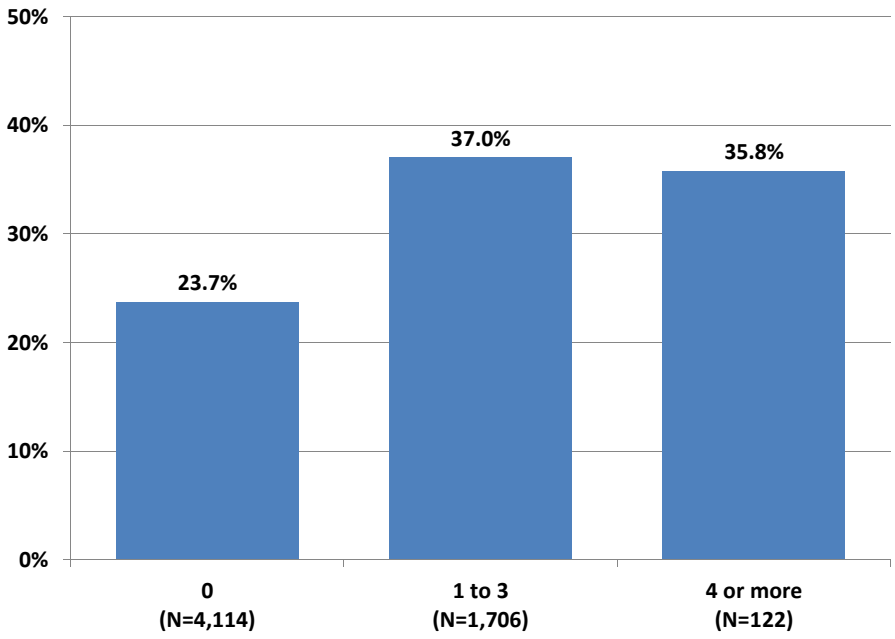
Table 4-1. Perceived Safety as Passenger

Q11. How safe would you feel if the driver was to…	Very Unsafe	Somewhat Unsafe	A Little Less Safe	Safe
Talk to other passengers in the vehicle	5.8%	9.9%	20.2%	63.2%
Eat or drink	14.3%	20.4%	36.7%	27.9%
Talk on a cell phone while holding the phone	41.9%	22.8%	24.8%	10.0%
Talk on a cell phone with a hands-free device	11.1%	18.9%	23.0%	46.5%
Read e-mails or text messages	81.0%	11.9%	5.4%	1.3%
Send text messages or e-mails	86.2%	8.4%	3.6%	1.4%
Talk or interact with children in the vehicle	16.7%	29.7%	24.2%	28.3%
Adjust the car radio, tapes, or CD player	10.3%	26.3%	24.6%	38.3%
Use a laptop computer	95.9%	2.6%	0.7%	0.4%
Manipulate a navigation system for driving directions	39.8%	33.1%	18.5%	7.5%
Use smartphone apps, not including a navigation app	66.3%	21.1%	8.5%	2.8%
Watch a movie	96.7%	1.6%	0.7%	0.6%

Base: All respondents
Unweighted N=6,001

Figure 4-1 shows that respondents who have children under 16 in the household are more likely than those without children of that age in the household to feel safe in a car when the driver is interacting with children in the vehicle. Among respondents with one to three children under 16, 37% indicated that they would feel safe, while those with four or more children were slightly less likely to feel safe (36%). Among those without any children under 16 in the household, 24% indicated they would feel safe in a car if the driver was interacting with children in the vehicle.

Figure 4-1
Respondents Who Feel Safe When Driver Is Talking/Interacting to Children in the Vehicle by Number of Children in the Household



Q11g. Now I'm going to read a list of things people sometimes do while driving. Tell me how safe you would feel if you were a passenger riding in a car while your driver was doing the following. For each please tell me if you would feel very unsafe, somewhat unsafe, a little less safe, or safe – no problem – would not pay any more attention.
g. Talking or interacting with children in the vehicle.
D3. How many children 15 or younger are living in your household at least half of the time or consider it their primary residence? ($p<0.001$)
Base: All respondents
Unweighted N=See Figure

Each respondent was asked whether they would intervene if their driver was talking on a handheld cell phone while driving. When looking at the results, it is apparent that the likelihood of intervening varies depending on age and gender. Younger drivers tend to be less likely to intervene if a driver is talking on the phone with 37% of 16- to 24-year-olds saying that it would be very likely they would intervene. Conversely, half of all drivers over 45 reported they would very likely intervene in this situation. In regards to gender, males are less likely to intervene than females with 42% of males indicating they would very likely do so, compared to 51% of females.

Table 4-2: How Likely Are You to Intervene if the Driver Is Talking on a Cell Phone While Holding the Phone by Age and Gender

How likely are you to intervene if…	N	Very Likely	Somewhat Likely	Somewhat Unlikely	Very Unlikely	Never Would Intervene
Total Respondents	6,001	46.6%	20.1%	12.7%	11.4%	8.5%
by Age Category						
16- to 20-Year-Old Drivers	345	37.2%	26.7%	11.9%	10.3%	13.9%
21- to 24-Year-Old Drivers	281	36.5%	20.9%	17.0%	13.5%	12.1%
25- to 34-Year-Old Drivers	892	41.9%	20.2%	14.6%	12.3%	10.7%
35- to 44-Year-Old Drivers	696	44.7%	20.1%	13.6%	11.7%	9.5%
45- to 54-Year-Old Drivers	968	50.5%	19.2%	12.6%	10.9%	6.1%
55- to 64-Year-Old Drivers	1,155	55.2%	17.5%	9.6%	11.6%	5.4%
65+-Year-Old Drivers	1,540	48.9%	19.9%	12.2%	10.8%	6.9%
by Gender						
Male	2,939	42.2%	19.9%	13.7%	13.7%	9.5%
Female	3,062	51.0%	20.1%	11.8%	9.2%	7.5%

Q12. How likely are you to do or say something to your driver if they're TALKING on a handheld cell phone while driving?
D1. What is your age? ($p<0.001$)
SA3. Record gender from observation. ($p<0.001$)
Base: All respondents
Unweighted N=See Table

Table 4-3 shows the likelihood of intervention by age and gender if they are passengers in a vehicle in which the driver is sending text messages or e-mails while driving. Overall, 87% of respondents stated that they were at least somewhat likely to intervene if they were sending e-mails or text messages. Like the previous results, younger drivers tend to be less likely to intervene if a driver is sending text messages while driving with 66% of drivers 16 to 20 and 63% of those 21 to 24 saying that they would be very likely to intervene compared to 81% of 45- to 54-year-olds, and 85 percent of 55- to 64-year-olds. In regards to gender, males are less likely to intervene than females with 71% of males indicating they would, compared to 79% of females.

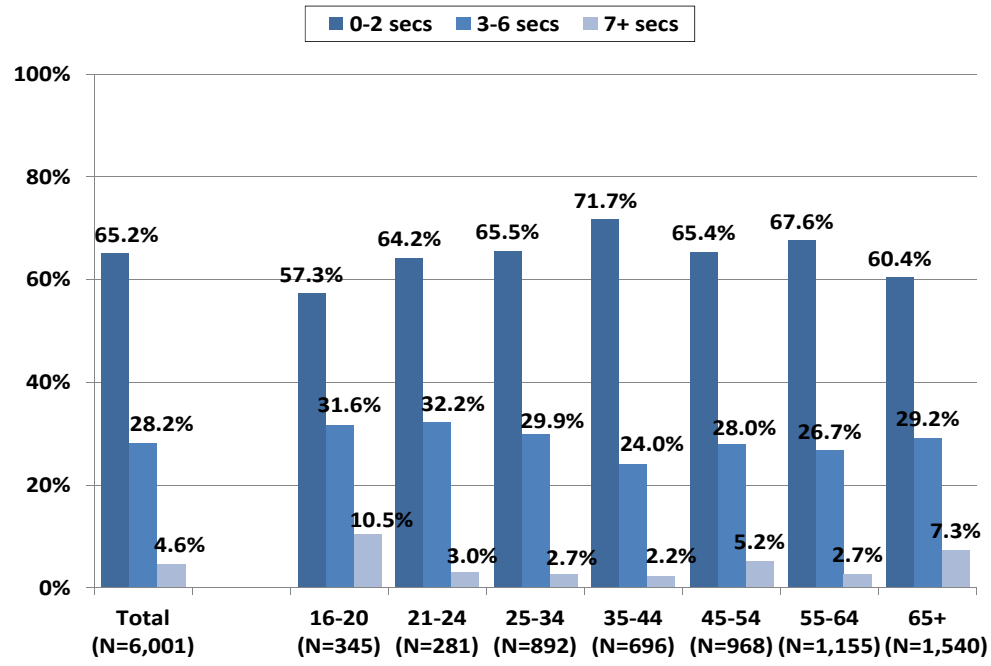
Table 4-3: How Likely Are You to Intervene if the Driver Is Sending Text Messages or E-Mails While Driving by Age and Gender

How likely are you to intervene if…	N	Very Likely	Somewhat Likely	Somewhat Unlikely	Very Unlikely	Never Would Intervene
Total Respondents	6,001	75.2%	12.2%	4.7%	4.3%	2.8%
by Age Category						
16- to 20-Year-Old Drivers	345	65.6%	18.0%	8.5%	1.2%	6.7%
21- to 24-Year-Old Drivers	281	62.5%	17.9%	10.7%	5.0%	3.9%
25- to 34-Year-Old Drivers	892	67.4%	19.4%	5.6%	4.3%	3.2%
35- to 44-Year-Old Drivers	696	75.3%	12.5%	4.8%	4.8%	2.1%
45- to 54-Year-Old Drivers	968	80.7%	10.6%	2.7%	3.3%	2.3%
55- to 64-Year-Old Drivers	1,155	85.3%	6.1%	2.0%	4.4%	1.3%
65+-Year-Old Drivers	1,540	77.4%	7.9%	4.5%	5.9%	2.8%
by Gender						
Male	2,939	71.4%	13.3%	5.9%	5.2%	3.5%
Female	3,062	79.1%	11.1%	3.6%	3.5%	2.2%

Q13. How likely are you to do or say something to your driver if they're SENDING TEXT MESSAGES OR E-MAILS OR USING SMARTPHONE APPS while driving?
D1. What is your age? ($p<0.001$)
SA3. Record gender from observation. ($p<0.001$)
Base: All respondents
Unweighted N=See Table

Every time drivers take their eyes off the road to use a cell phone, they increase the chance of putting their lives and the lives of others in danger. When asked how many seconds respondents believe a driver could take his or her eyes off the road before it becomes significantly more dangerous, the majority of respondents gave an answer between 0 and 2 seconds. Younger respondents were slightly more likely than older respondents to give an answer between 3 and 6 seconds, with 32% of respondents 16 to 20 and 21 to 24 giving an answer between 3 and 6 seconds and 29% of respondents 65 and older doing so. Less than a quarter of respondents (24%) 35 to 44 reported 3- to 6-seconds before it becomes significantly more dangerous. More than 1 in 10 respondents 16 to 20 (11%) believe that it only becomes more dangerous for a driver to take his eyes off the road after 7 or more seconds.

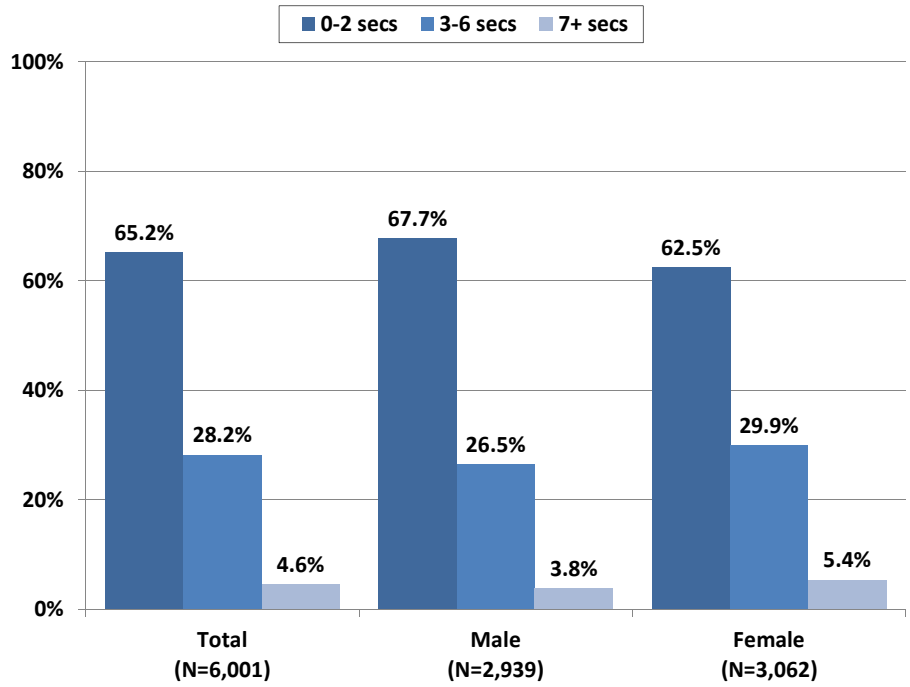
Figure 4-2
Number of Seconds a Driver Can Safely Take His/Her Eyes Off the Road by Age



Q10. How many seconds do you believe a driver can take his eyes off the road before driving becomes significantly more dangerous?
D1. What is your age? ($p<0.001$)
Base: All respondents
Unweighted N=See Figure

There are slight differences between male and female drivers regarding how long they think a driver can take his/her eyes off the road before the situation becomes significantly more dangerous. Females are more likely than males to report a longer amount of time that can be considered safe with 30% of females saying 3 to 6 seconds and another 5% saying more than 7 seconds, while 27% of males report 3 to 6 seconds and 4% report 7 or more seconds.

Figure 4-3
Number of Seconds a Driver Can Safely Take His/Her Eyes Off the Road by Gender

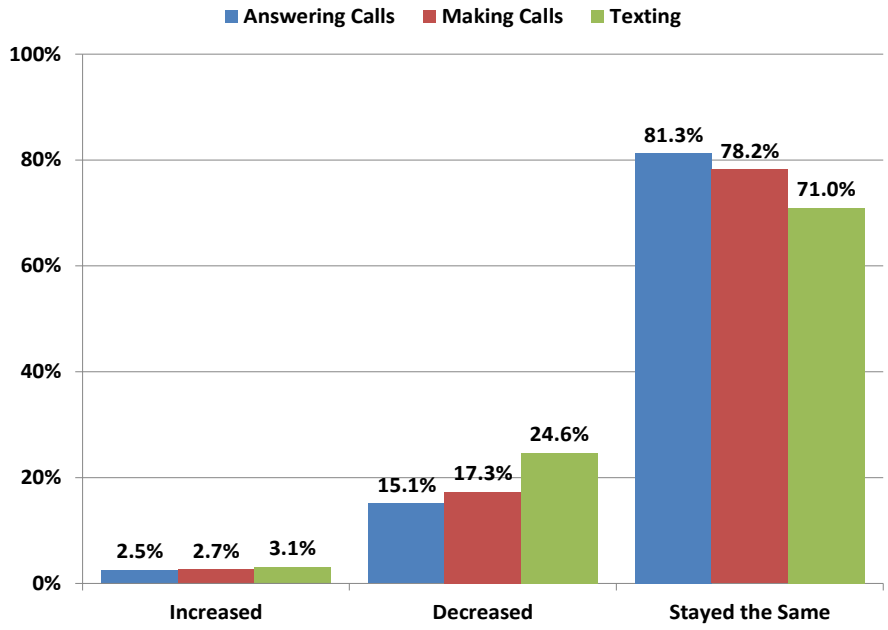


Q10. How many seconds do you believe a driver can take his eyes off the road before driving becomes significantly more dangerous?
QSA3. Record gender from observation ($p<0.001$)
Base: All respondents
Unweighted N=See Figure

CHAPTER 5
CHANGES IN CELL PHONE-RELATED DISTRACTED DRIVING

To assess whether drivers' cell-phone-related distracted driving behavior is changing over time, respondents were asked if the frequency with which they make or receive calls, or send text messages or e-mails while driving, has changed in the past 30 days. The vast majority of respondents stated that the frequency with which they receive (81%) or make (78%) calls, or text (71%) is the same now as it was in the past 30 days. Fewer than 1 in 30 respondents (3%) said that they are making, receiving calls, or texting more often. One quarter of respondents (25%) reported texting less often. Respondents who had sent a text message or e-mail while driving reported a comparatively larger decrease in the frequency with which they had done so in the past 30 days than respondents who have placed or received a call while driving reported in the past 30 days.

Figure 5-1
Has Your Frequency of Cell Phone Use While Driving Increased, Decreased, or Stayed the Same?



Q15. In the past 30 days, has your frequency of answering phone calls while driving increased, decreased, or stayed the same?
Base: Respondents who accept phone calls while driving - Unweighted N=3,649
Q14. In the past 30 days, has your frequency of making phone calls while driving increased, decreased, or stayed the same?
Base: Respondents That Make Phone Calls While Driving
Unweighted N=3,168
Q16. In the past 30 days, has the frequency with which you send and receive text messages or e-mails while driving increased, decreased, or stayed the same?
Base: Respondents That Send Text Messages or E-Mails While Driving
Unweighted N=965

Table 5-1 lists the reasons for the decrease in using a cell phone while driving given by respondents who reported a decrease in cell phone use while driving in the past 30 days. Overall, the most frequent reasons given for answering their cell phones less often while driving were they were not receiving as many calls as before (22%) and an increased awareness of safety (21%). An increased awareness of safety (22%) was also the most often cited reason for making fewer phone calls while driving. Similarly, more than 1 in 4 respondents (26%) cited an increased awareness of safety for texting less often while driving. One in 5 (19%) mentioned not being as busy.

Table 5-1. Reasons for Decrease in Using Cell Phone While Driving

Q14a/15a/16a. Why did your frequency of answering/making phone calls/sending/receiving text messages or e-mails while driving decrease?[14]	**Answering Calls**	**Making Calls**	**Texting**
Less use/busy/less people call/text/have number	21.7%	19.0%	18.7%
Increased awareness of safety	21.2%	22.1%	26.3%
Driving less/not on the road as much	10.8%	12.8%	9.0%
The weather	8.8%	8.3%	5.9%
Phone issues (all mentions)	5.0%	3.4%	4.2%
Law that bans cell phone use	4.5%	4.5%	3.9%
Family/children in the car	3.4%	3.8%	2.6%
Job related (work less/lost job/don't get as many work calls)	3.1%	2.8%	2.7%
Less use due to family/relationship changes	1.8%	2.2%	4.3%
Was in a crash	1.6%	1.6%	0.3%
Don't want to get a ticket	1.0%	0.3%	0.4%
Influence/pressure from others	0.9%	1.4%	1.6%
Nothing/no specific reason	0.5%	0.7%	0.7%
Driving faster	0.2%	0.1%	0.4%
Other reasons	6.2%	7.1%	8.4%

Answering calls:
Base: Respondents whose frequency of answering phone in vehicle decreased
Unweighted N=539
Making calls:
Base: Respondents whose frequency of making phone calls in vehicle decreased
Unweighted N=542
Texting:
Base: Respondents whose use of text/e-mail in vehicle has decreased
Unweighted N=247

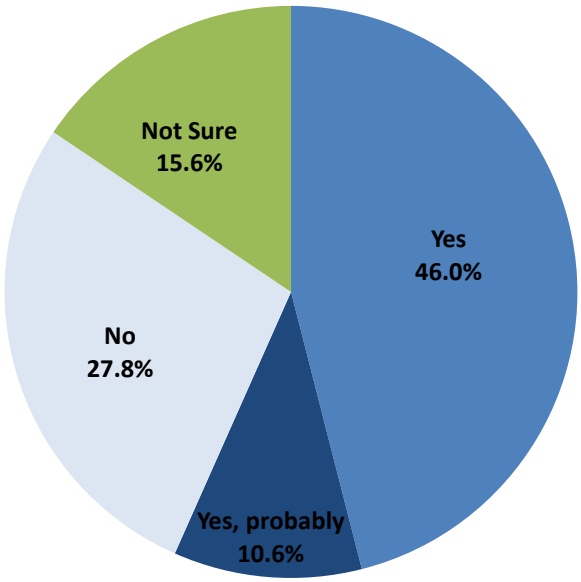
[14] Respondents volunteered the answers to these questions and were not read answer options.

CHAPTER 6
DISTRACTED DRIVING LAWS AND STOPPED FOR DISTRACTED DRIVING

Respondents were asked a series of questions about their knowledge and support of laws banning cell phone use or sending and reading text messages and e-mails while driving. They were also asked about their perception of the likelihood of receiving a ticket for talking on a cell phone or sending text messages or e-mails while driving.

Overall, 57% of respondents reported that their State has a law banning talking on a handheld cell phone while driving, with 46% of respondents stating that their State has such a law, and 11% stating that their State "probably" has such a law. More than 1 in 4 respondents (28%) stated that their State has no such law, while an additional 16% were not sure.

Figure 6-1
Does Your State Have a Law Banning Talking on a Handheld Cell Phone While Driving?

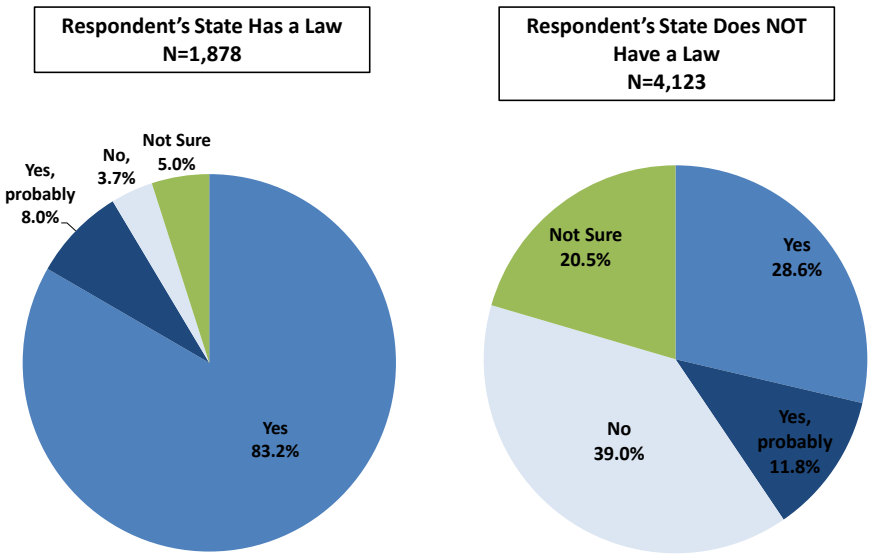


Q17. Does [STATE] have a law banning talking on a handheld cell phone while driving?
Base: All respondents
Unweighted N=6,001

Examining the responses for States with and without laws banning talking on handheld cell phones while driving, Figure 6-2 shows that in States with such laws, 83% of respondents are aware of the law, 8% think the State probably has such a law, 4% report that the State does not have the law, and 5% are not sure.

In States without laws banning talking on handheld cell phones while driving, 39% of respondents are aware that their State does not have such a law. Nearly one-third (29%) stated that the State had a law, 12% think that the State probably has such a law, and 21% are not sure.

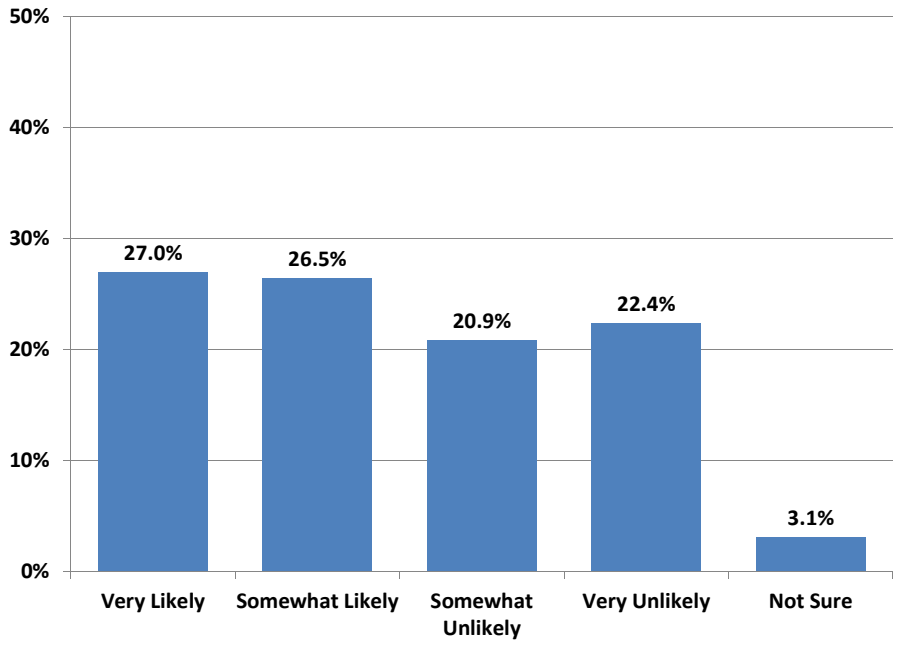
Figure 6-2
Does Your State Have a Law Banning Talking on a Handheld Cell Phone While Driving? by Actual State Law*



Q17. Does [STATE] have a law banning talking on a handheld cell phone while driving?
Base: All respondents
Unweighted N=See Figure
* States that had handheld cell phone bans at the time of survey: CA, CT, DE, DC, HI, IL, MD, NV, NJ, NY, OR, VT, WA, WV

Respondents who believed they lived in States with laws banning handheld use of cell phones while driving were asked about their perceived likelihood of a driver who frequently uses his/her cell phone receiving a ticket for this infraction in the next 6 months. Overall, 54% of respondents thought that the driver was likely to get a ticket and 43% stated that it was unlikely that the driver would be ticketed. Nearly 3 in 10 respondents (27%) thought it was very likely, and 27% of respondents thought it was somewhat likely that the driver would be ticketed. More than 1 in 5 respondents thought it was very unlikely (22%) or somewhat unlikely (21%) that the driver would be ticketed. A small percentage of respondents (3%) were not sure.

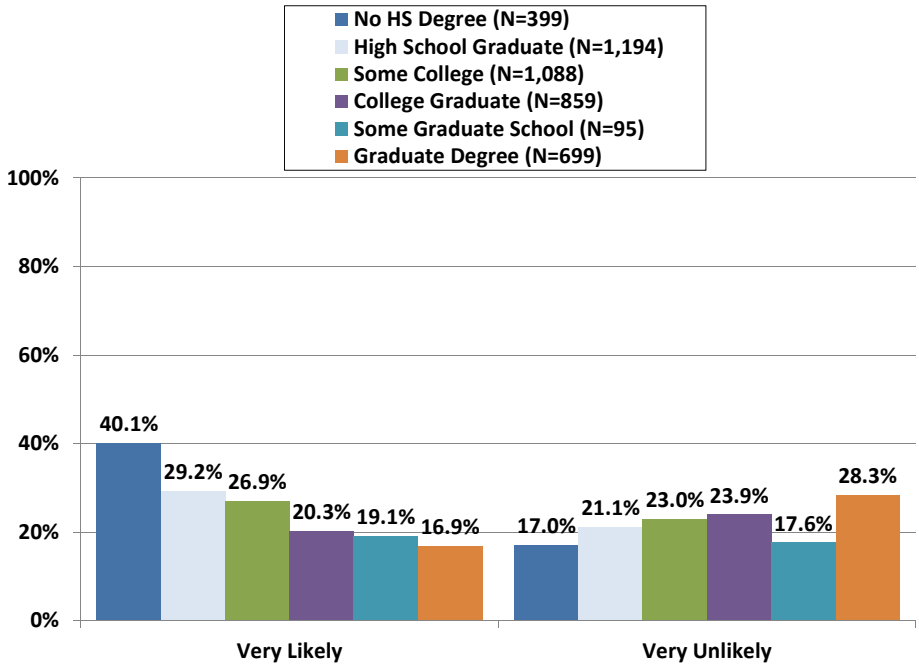
Figure 6-3
Likelihood of Ticket for Talking on a Cell Phone While Driving



Q17a. Assume that over the next 6 months someone frequently TALKS on a handheld cell phone while driving. How likely do you think that person would be to receive a ticket for talking on a cell phone while driving?
Base: Respondents that live in a State that bans talking on a cell phone while driving
Unweighted N=4,383

Respondents' perceptions of the likelihood of a frequent cell phone user receiving a ticket in the next 6 months in States with laws banning handheld cell phone use were examined by the education level of respondents. Figure 6-4 shows a clear pattern where respondents with less formal education are more likely to believe that the driver will receive a ticket and respondents with more formal education are more likely to state that the driver will not receive a ticket. Two out of 5 respondents (40%) with no high school degree believe that the driver is very likely to receive a ticket, compared with 17% with a graduate degree. Conversely, only 17% of respondents without a high school degree believe that the driver is very unlikely to be ticketed, compared with 28% of respondents with graduate degrees.

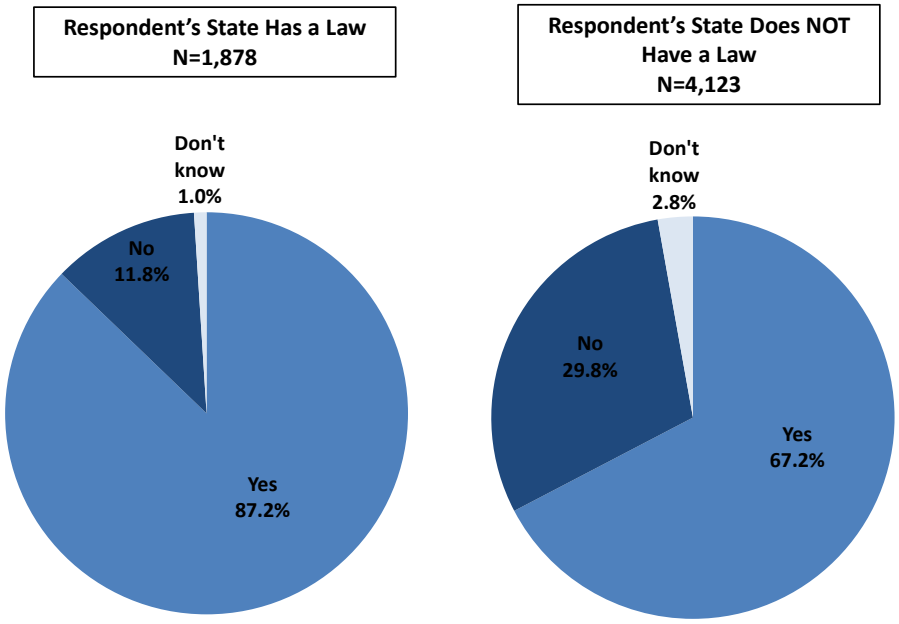
Figure 6-4
Likelihood of Ticket for Talking on a Cell Phone While Driving by Highest Level of School Completed



Q17a. Assume that over the next 6 months someone frequently TALKS on a handheld cell phone while driving. How likely do you think that person would be to receive a ticket for talking on a cell phone while driving?
D6. What is the highest grade of year of regular school you have completed? ($p<0.001$)
Base: Respondents who reported living in a State that bans talking on a cell phone while driving
Unweighted N=See Figure

All respondents were asked whether they support a State law that bans talking on a handheld cell phone while driving. The majority of respondents (74%) were in favor of such a law, regardless of whether their State had a ban. However, respondents who live in States that do not have a ban on talking on a handheld cell phone while driving were more likely to oppose a ban than respondents living in States that already have a ban (30% versus 12%).

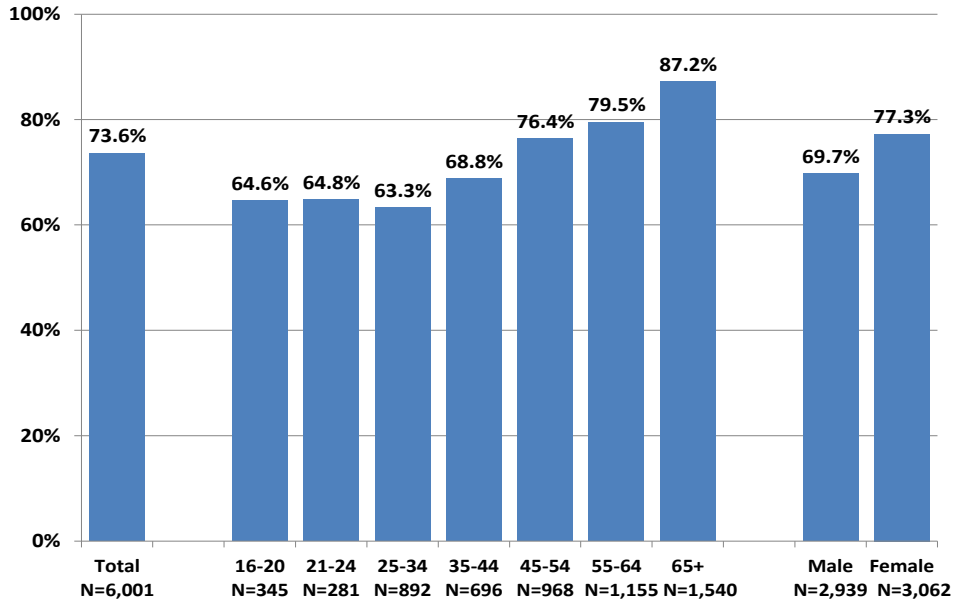
Figure 6-5
Do You Support a Law Banning Talking on a Handheld Cell Phone While Driving?



Q19. Do you support a State law banning talking on a handheld cell phone while driving?
Base: All respondents
Unweighted N=See Figure

Figure 6-6 shows support for a State law banning talking on a handheld cell phone while driving by respondent gender and age. Support for such a law increases with the age of the respondents. The oldest respondents were more likely to support a State law banning handheld phone while driving (87%) than were the youngest drivers (65%). More than three-quarters of female respondents (77%) were in favor of a State law banning talking on a handheld cell phone while driving, while males (70%) were less likely to support such a ban.

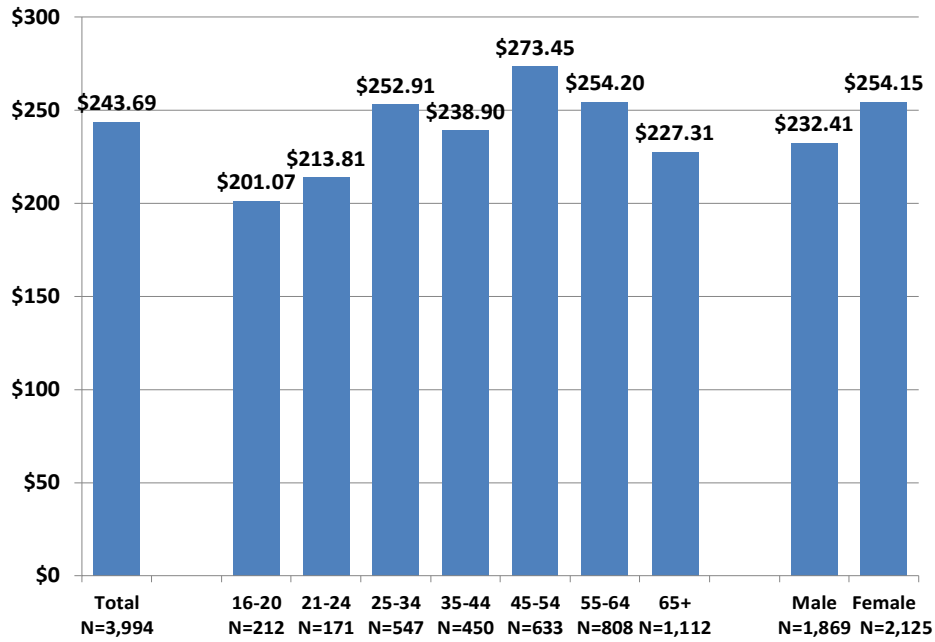
Figure 6-6
Support for Law Banning Talking on a Handheld Cell Phone While Driving by Age and Gender (% Yes)



Q19. Do you support a State law banning talking on a handheld cell phone while driving?
D1. What is your age? ($p<0.001$)
SA3. Record gender from observation. ($p<0.001$)
Base: All respondents
Unweighted N=See Figure

Respondents who stated that they supported a ban on talking on a handheld cell phone while driving, or who were unsure whether they supported such a ban, were asked how much they thought the fine should be for talking on a handheld cell phone while driving. Older respondents were more likely to favor higher fines than were younger respondents. Respondents 16 to 20 had the lowest mean amount with $201, while respondents 45 to 54 had the highest mean amount with $273. Male respondents ($232) had a lower mean amount than female respondents ($254).

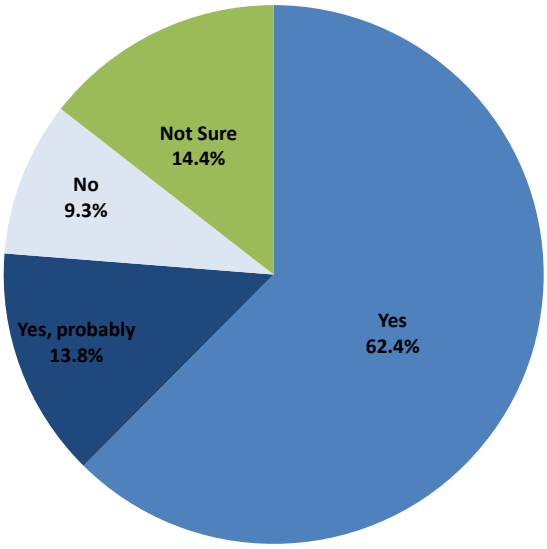
Figure 6-7
Average Fine for Talking on Handheld Cell Phone While Driving by Age and Gender



Q19a. What do you think the fine should be for talking on a handheld cell phone while driving?
D1. What is your age?
SA3. Record gender from observation.
Base: Respondents who support a ban on talking on a cell phone while driving
Unweighted N=See Figure

Respondents were asked whether their State has a law that bans sending text messages or e-mails while driving. More than half of respondents (62%) reported that their State has such a law, 14 percent thought their State probably has such a law, and 9 percent stated that their State does not have a law that bans sending electronic messages while driving. Fourteen percent of respondents were unsure if their State has such a law.

Figure 6-8
Does Your State Have a Law Banning Texting or E-Mailing While Driving?

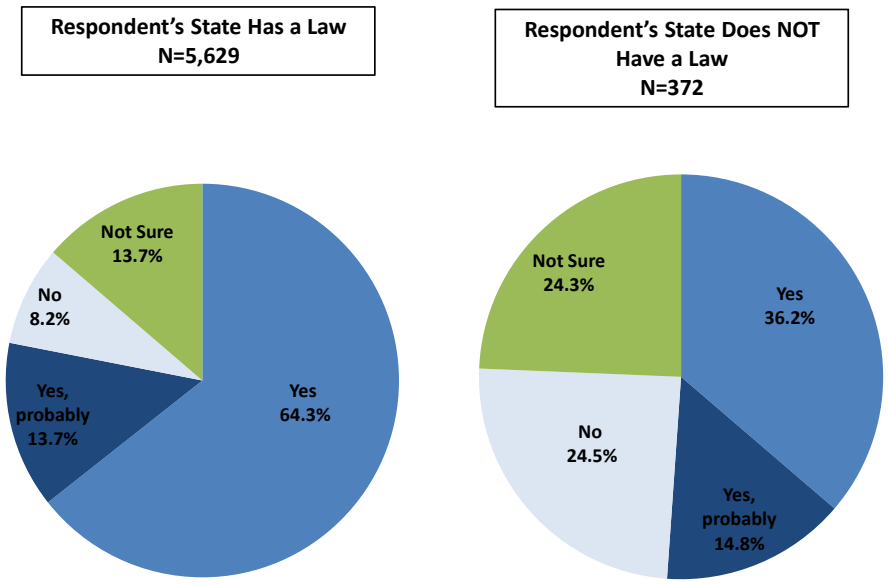


Q18. Does [STATE] have a law banning TEXTING OR E-MAILING while driving?
Base: All respondents
Unweighted N=6,001

Figure 6-9 shows driver's awareness of State laws banning texting or e-mailing while driving by whether or not their State has such a law. at the time of the survey, 45 States and the District of Columbia had a law banning texting or e-mailing while driving for all drivers. In States with laws banning texting or e-mailing, 64% of respondents knew about the law, 14% thought that the State probably had such a law, 14% were not sure, and 8% stated that their State did not have such a law.

In States without a law banning texting or e-mailing while driving, 25% of respondents were aware that there was no such law, many believed that their State had (36%) or probably had (15%) such a law, and 24% were not sure.

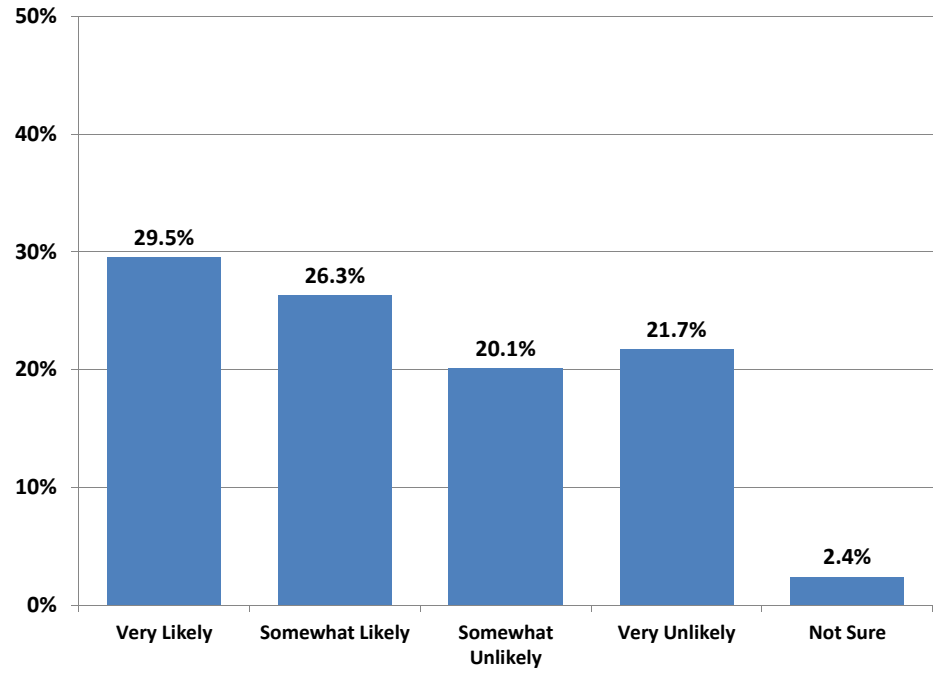
Figure 6-9
Does Your State Have a Law That Bans Sending Electronic Messages While Driving? by Actual State Law*



Q18. Does [STATE] have a law banning TEXTING OR E-MAILING while driving?
Base: All respondents
Unweighted N=See Figure
($p<0.001$)
* States that didn't have a texting ban for all drivers at the time of survey: AZ, MO, MS, MT, OK

Respondents who reported living in a State with laws banning texting or e-mailing while driving were asked about their perception of the likelihood of a driver receiving a ticket for this infraction in the next 6 months. Slightly more respondents believe it is likely that the driver would receive a ticket (56%), while 42% think it would be somewhat (20%) or very (22%) unlikely.

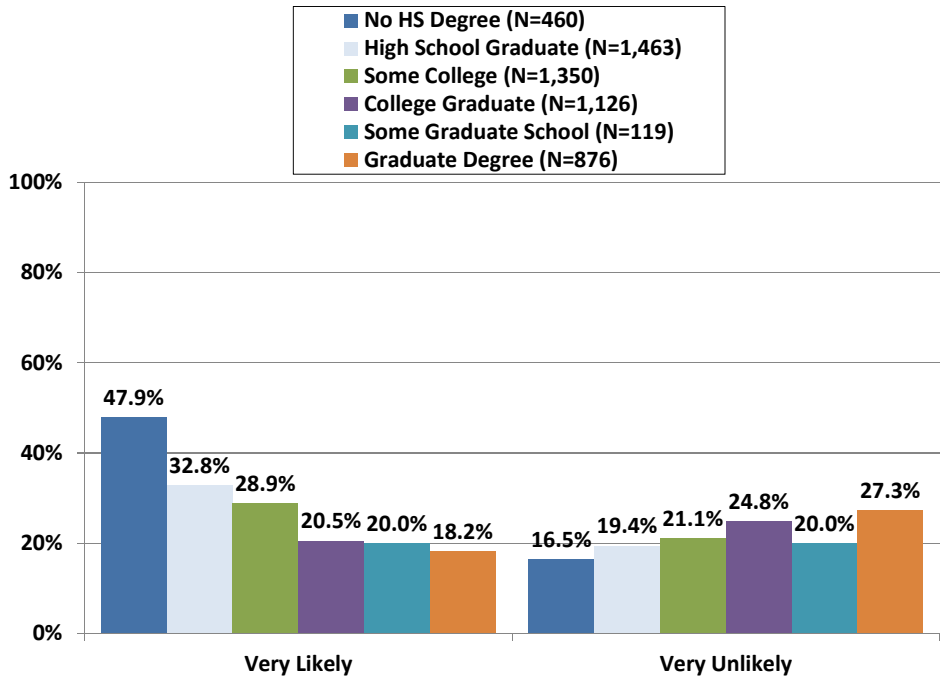
Figure 6-10
Likelihood of Ticket for Sending Text Messages or E-Mails While Driving



Q18a. Assume that over the next 6 months someone frequently sends text messages or e-mails while driving. How likely do you think that person would be to receive a ticket for sending text messages or e-mails while driving?
Base: Respondents who report living in a State that bans sending messages while driving
Unweighted N=5,458

Nearly one half of respondents (48%) with no high school degree believe that a driver is very likely to receive a ticket if they frequently send text messages while driving, compared with 18% with a graduate degree. Conversely, only 17% of respondents without a high school degree believe that the driver is very unlikely to be ticketed, compared with 27% of respondents with graduate degrees.

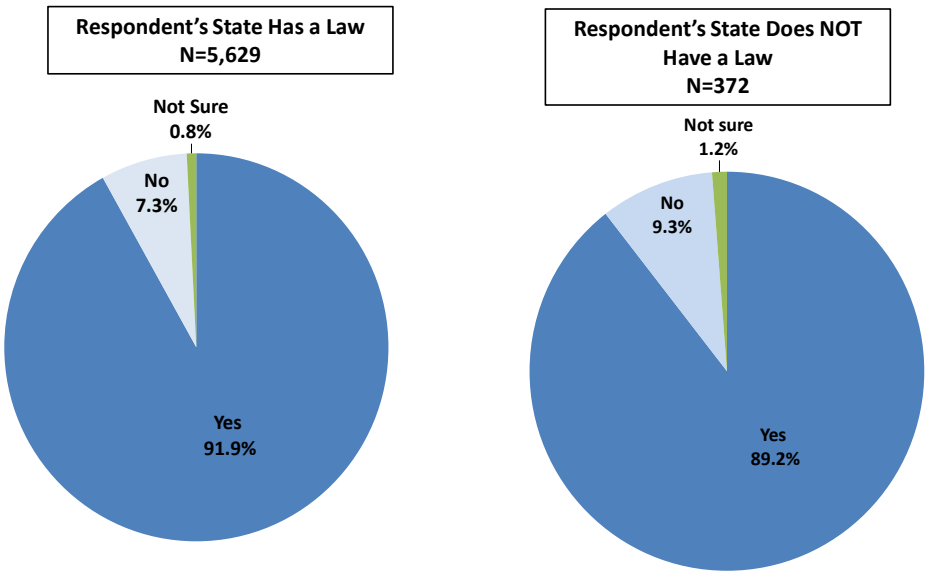
Figure 6-11
Likelihood of Ticket for Sending Text Messages or E-Mails While Driving by Highest Level of School Completed



Q18a. Assume that over the next 6 months someone frequently SENDS TEXT MESSAGES OR E-MAILS while driving. How likely do you think that person would be to receive a ticket for talking on a cell phone while driving?
D6. What is the highest grade of year of regular school you have completed? ($p<0.001$)
Base: Respondents who reported living in a State that bans sending messages while driving
Unweighted N=See Figure

Respondents were asked whether they would support a State law that bans texting or e-mailing while driving. The overwhelming majority of respondents (92%) were in favor of a law that bans sending electronic message while driving. However, respondents who live in States without such a ban were slightly more likely to oppose a ban than respondents living in a State that already has one (9% versus 7%).

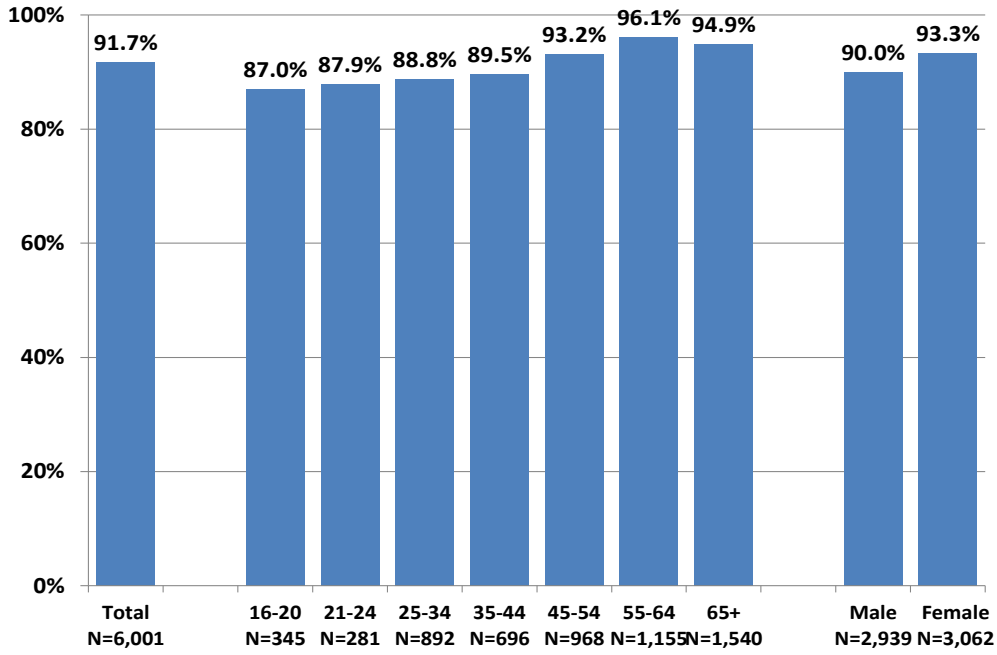
Figure 6-12
Do You Support a Law Banning Texting or E-Mailing While Driving?



Q19b. Do you support a State law banning texting or e-mailing while driving?
Base: All respondents
Unweighted N=See Figure

Figure 6-13 shows support for a State law banning text or e-mail messaging or using smartphone apps while driving by respondent gender and age. Support for such a law increases with the age of the respondents. The oldest respondents were more likely to support a State law banning texting while driving (96-95%) than were the youngest drivers (87%). Female respondents (93%) were slightly more likely than male respondents (90%) to be in favor of a State law.

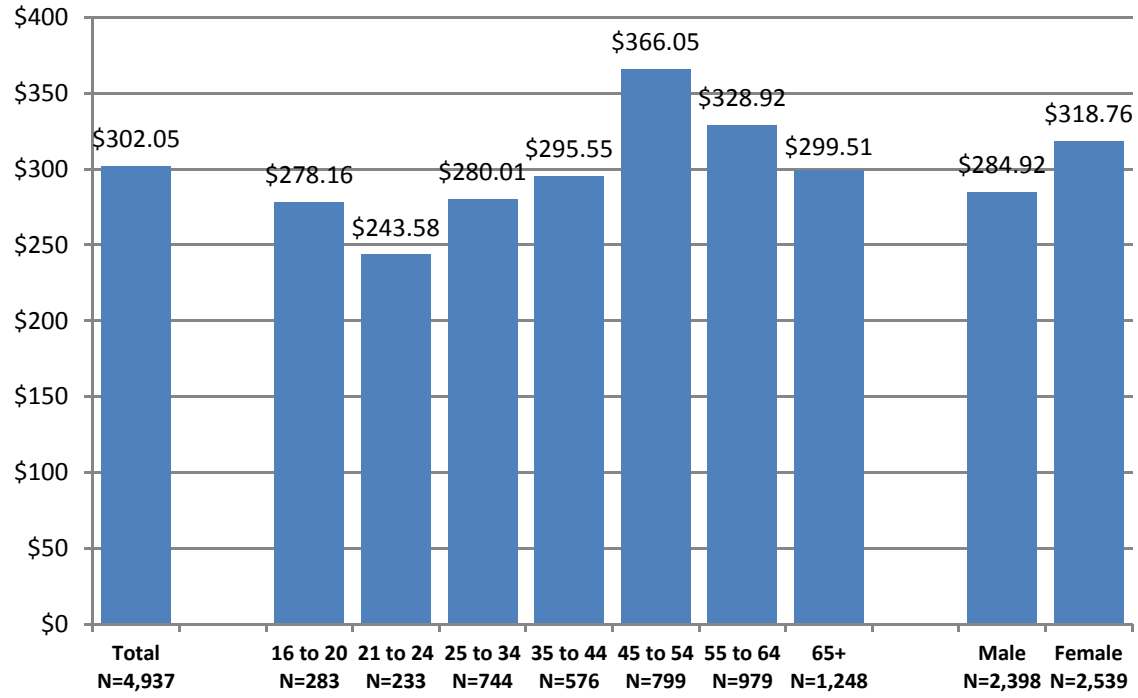
Figure 6-13
Support for Law Banning Texting or E-Mailing While Driving by Age and Gender (% Yes)



Q19b. Do you support a State law banning text or e-mail messaging or using smartphone apps while driving?
D1. What is your age? ($p<0.001$)
SA3. Record gender from observation. ($p<0.001$)
Base: All respondents
Unweighted N=See Figure

Respondents who supported a ban on sending text messages or e-mails while driving, or who were unsure whether they supported such a ban, were asked what the average fine should be for sending text messages or e-mails while driving. Overall, younger respondents favored lower average fines than older respondents. Respondents 21 to 24 suggested the lowest average fine at $244, and respondents 45 to 54 suggested the highest at $366. Male respondents ($285) had a lower mean amount than female respondents ($319).

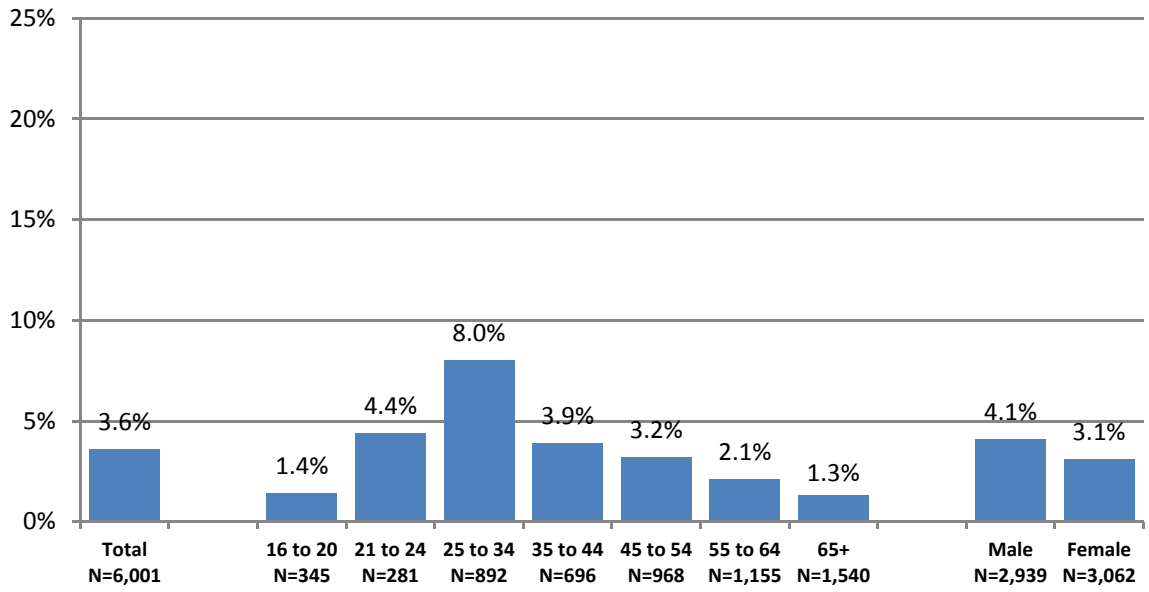
Figure 6-14
Average Fine for Sending Text Messages or E-Mails While Driving by Age and Gender



Q19c. What do you think the fine should be for sending text messages or e-mails while driving?
Base: Respondents who support a ban on sending messages while driving
D1. What is your age?
SA3. Record gender from observation.
Unweighted N=See Figure

When examining the proportion of respondents who have been personally stopped by the police for using a handheld cell phone while driving by and gender, younger drivers were more likely to say they had been pulled over for talking on their cell phones than were older drivers. Respondents 25 to 34 were the most likely to have been pulled over at 8%, while the least likely were 16- to 20-year-olds (1%) and those over 65 (1%). Four percent of male drivers and 3% of female drivers have been pulled over for using their cell phones while driving.

Figure 6-15
Ever Stopped by Police for Using Phone While Driving
by Age and Gender

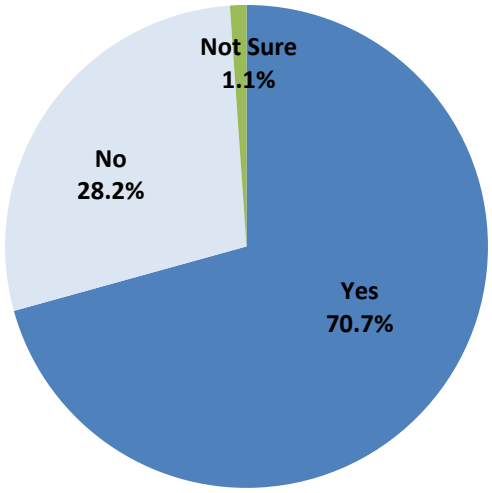


Q20. Have you ever been personally stopped by the police for using a handheld cell phone while driving?
D1. What is your age? (P<0.001)
SA3. Record gender from observation. (P>0.05)
Base: All respondents
Unweighted N=See Figure

CHAPTER 7
EDUCATIONAL MESSAGES

This chapter examines respondents' exposure to educational messages about distracted driving that encourage people not to talk on cell phones or text while driving. Respondents were asked if they had seen or heard messages that encourage people not to talk on phones or send electronic messages while driving in the past 30 days, and the circumstances under which they saw or heard these messages. About 71% of the respondents stated that they had been exposed to such a message within the past 30 days.

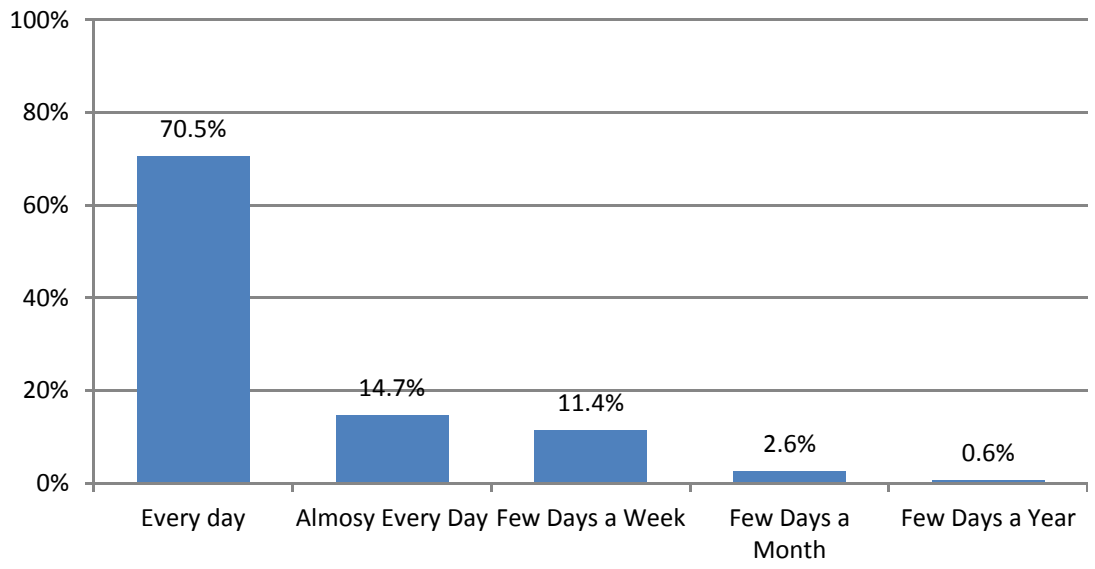
Figure 7-1
Percentage of Respondents Who Heard a Message Discouraging Distracted Driving in Past 30 Days



Q21. In the past 30 days, have you seen or heard any messages that encourage people not to talk on phones or send electronic messages while driving? This could be public service announcements on TV, messages on the radio, signs on the road, news stories, or something else.
Base: All respondents
Unweighted N=6,001

Of those respondents who reported seeing or hearing a message that encourages people not to talk on phones or send electronic messages while driving, 71% reported that they drive every day and another 15% said they drive almost every day. Eleven percent said they drive at least a few days a week, 3% drive a few days a month, and 1% reported driving only a few days a year.

Figure 7-2
Frequency of Driving of Respondents Exposed to Messages Discouraging Cell-Phone-Related Distracted Driving



Q21. In the past 30 days, have you seen or heard any messages that encourage people not to talk on phones or send electronic messages while driving? This could be public service announcements on TV, messages on the radio, signs on the road, news stories, or something else.
Base: Drivers who reported hearing or seeing a message discouraging cell-phone-related distracted driving in past 30 days
Unweighted N=6,001

Respondents who reported that they heard or saw messages that encourage drivers not to talk on cell phones or send electronic messages while driving in the past 30 days were asked where they heard or saw the message. More than one source could be given. A little more than half (53%) of these respondents had seen such a message on a TV advertisement or public service announcement, 12% saw it on TV news, and 3% on a TV show storyline. More than a third (36%) had seen such a message on a billboard or sign. About a quarter (23%) had heard the message on a radio public service announcement, while 3% heard a radio news segment featuring the message. A small number of respondents saw or heard the message in an Internet ad or banner (6%), on a social networking website (2%), in a newspaper or magazine (2%), on the road (2%), or on an educational program (1%).

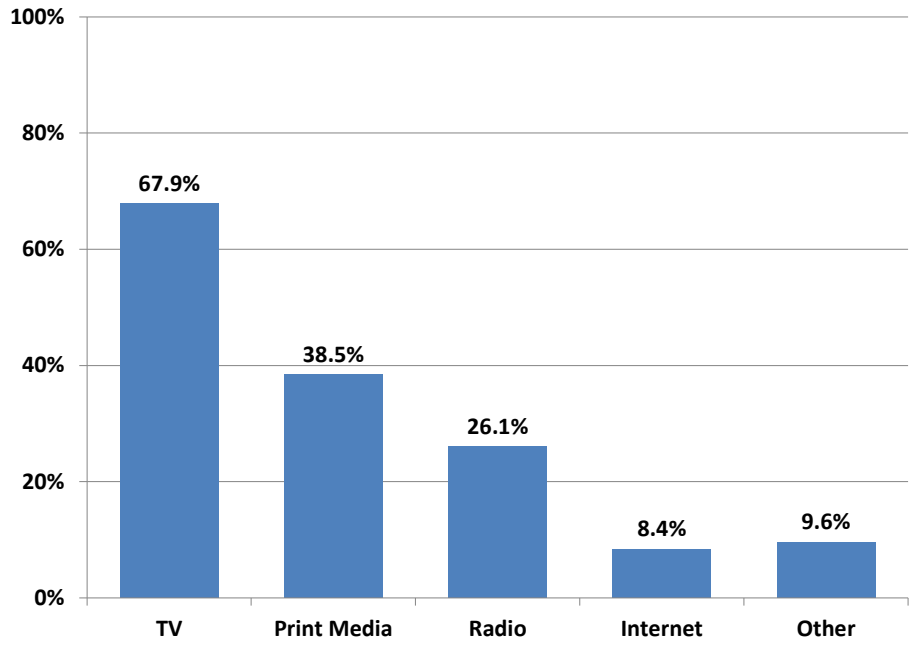
Table 7-1: Source of Messages Discouraging Cell-Phone-Related Distracted Driving

Q21a. Where did you see or hear those messages?	**Percent**
TV - advertisement/public service announcement	52.6%
Billboard/signs	36.3%
Radio - advertisement/public service announcement	22.7%
TV - news	12.2%
Internet ad/banner	5.6%
Radio - news	3.4%
TV show storyline	2.9%
Social networking website (Facebook, MySpace, Twitter)	2.3%
Newspaper/magazine	2.2%
Personal observation/on the road	2.0%
Educational program	1.3%
Friend/relative	0.8%
School zones/around/from school	0.6%
Online news/blog	0.2%
Online video (YouTube, Google Video)	0.2%
Other	5.6%

Base: Respondents who heard messages encouraging drivers not to talk on phone or send messages while driving
Unweighted N=4,175

Figure 7-3 shows the distribution of media sources that delivered messages to those respondents who reported having heard or seen the message in the past 30 days. The most frequent sources of the messages discouraging cell-phone-related distracted driving were television programming, print media, and radio programming. Close to 7 in 10 respondents (68%) listed some form of television programming as their source of the message. Another 39% reported some type of print media like billboards or newspapers, while 26% reported hearing the message on the radio. Exposure to the message via the Internet was reported by 8% of respondents, while 10% mentioned sources such as conversations with friends or an educational program.

Figure 7-3
Source of Messages Discouraging Cell-Phone-Related Distracted Driving

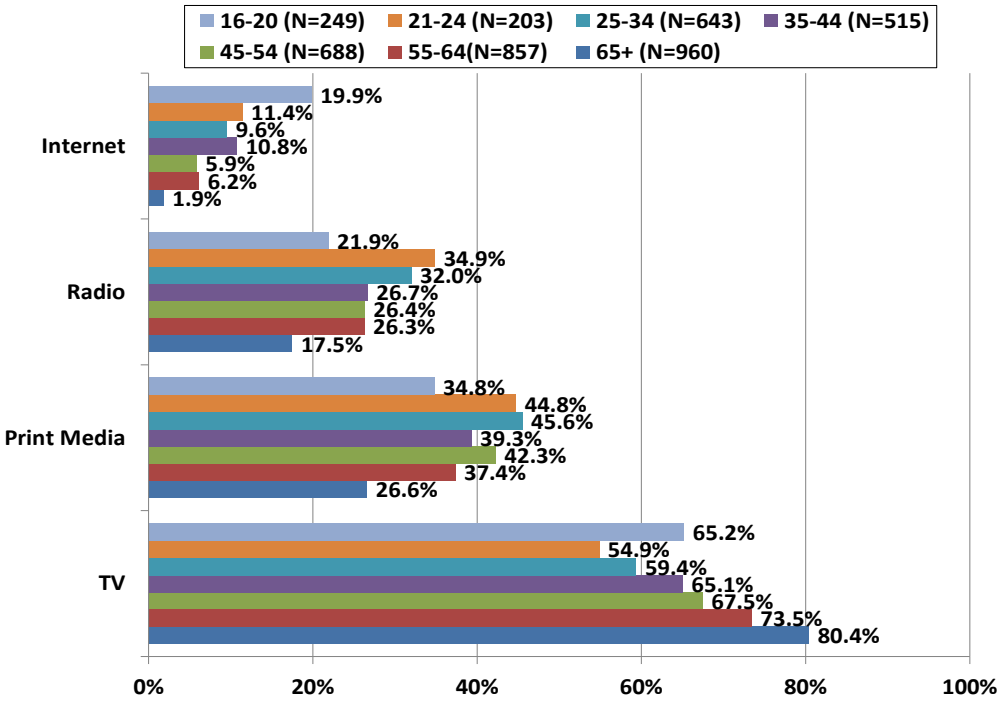


Q21a. Where did you see or hear these messages?
Base: Respondent saw a message discouraging distracted driving in past 30 days
Unweighted N=4,175

The source by which respondents were exposed to messages discouraging cell phone distracted driving in the past 30 days was examined further by age (Figure 7-4). The most common sources of the message across all ages were TV, print media, and radio. Only a few respondents mentioned the Internet.

However, there are some correlations between respondent age and message source. Across most age groups, it was increasingly likely that older respondents would mention the TV as a source of exposure to such messages, ranging from 55% of respondents 21 to 24 mentioning TV to 80% of respondents 65 and older. While differences by age were less systematic when examining the percentage of respondents who mentioned print media or radio, respondents 25 to 34 were the most likely to mention print media (which includes newspapers, magazines, and billboards), with 46% of respondents mentioning print media as their source of message. The 21-to-24 group was the most likely to mention radio, with 35% stating that they heard the message on the radio. Younger respondents were more likely than older respondents to list the Internet as their source. One-fifth of respondents 16 to 20 (20%) and one-tenth of those 21 to 24 (11%), 25 to 34 (10%), and 35 to 44 (11%) mentioned the Internet, while only 2% of respondents 65 and older mentioned the Internet.

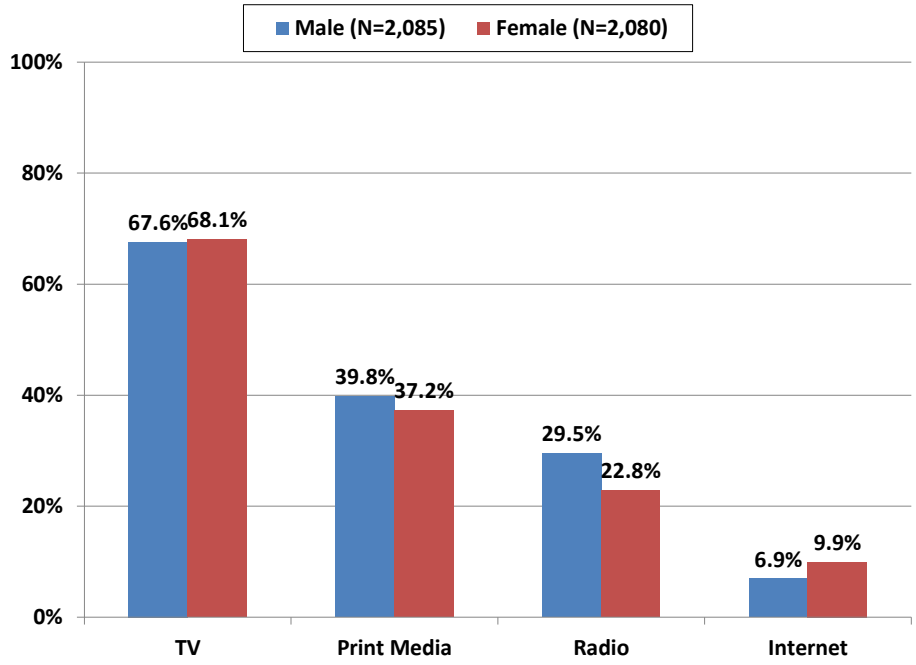
Figure 7-4
Source of Messages Discouraging Cell-Phone-Related Distracted Driving by Age



Q21a. Where did you see or hear these messages?
Base: Respondent who saw a message discouraging distracted driving in past 30 days
D1. What is your age? ($p<0.001$)
Unweighted N=See Figure

When examining the source of messages discouraging distracted driving by gender, male and female drivers were equally likely to list the TV (68%) as their source of exposure to messages discouraging the use of cell phone while driving. However, male drivers were slightly more likely to mention print media (40%) and radio (30%) as their source than were female drivers (37% and 23%, respectively). Female drivers (10%) were more likely than male drivers (7%) to have seen messages discouraging cell phone distracted driving on the Internet.

Figure 7-5
Source of Messages Discouraging Cell-Phone-Related Distracted Driving by Gender

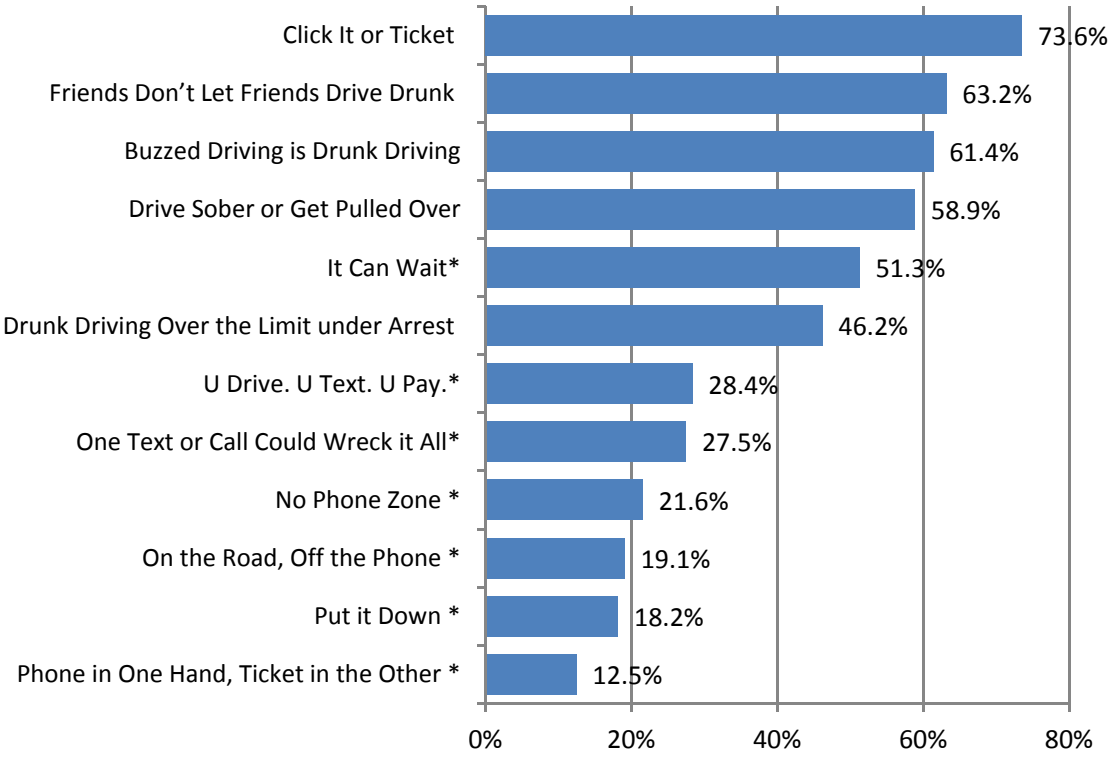


Q21a. Where did you see or hear these messages?
Base: Respondents who saw a message discouraging distracted driving in past 30 days
SA3. Record gender from observation. ($p<0.001$)
Unweighted N=See Figure

Figure 7-6 shows the percentage of respondents who reported having heard certain slogans in the past 30 days. Those slogans with an asterisk (*) in the figure are applicable to cell-phone-related distracted driving.

More than half of respondents (51%) had heard "It Can Wait" in the past 30 days, by far the most recognized cell phone slogan of those listed. More than one quarter of respondents had heard "U Drive. U Text. U Pay." (28%) or "One Text or Call Could Wreck It All" (28%) within the past month. About 1 in 5 had heard "No Phone Zone" (22%), "On the Road, Off the Phone" (19%), or "Put It Down" (18%).

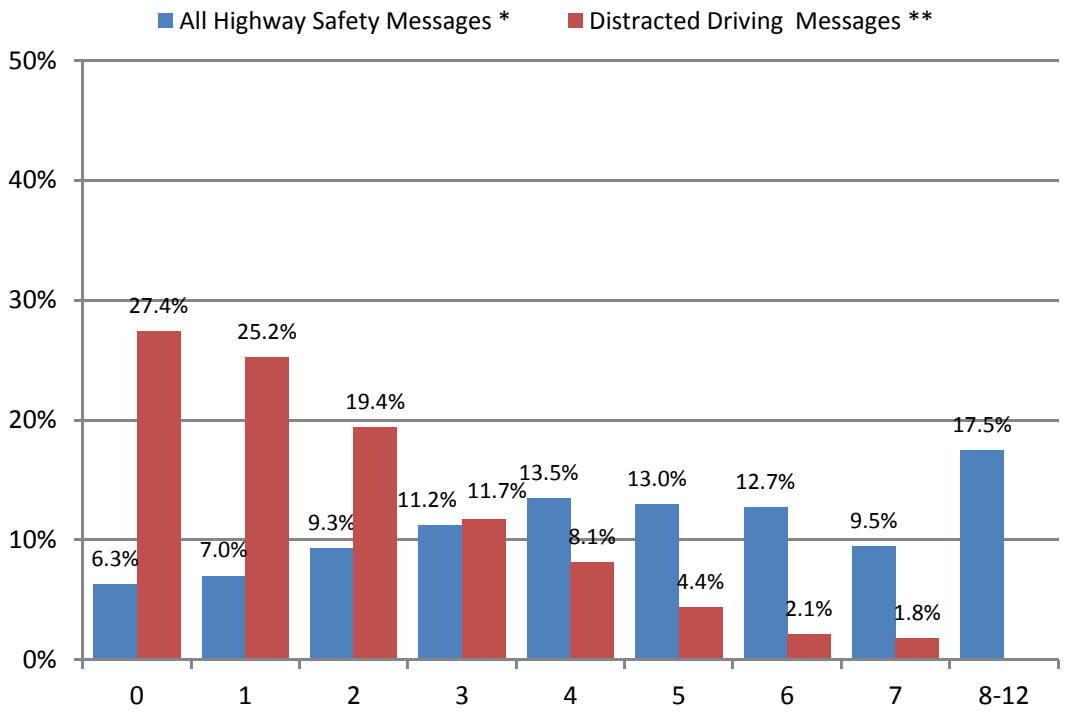
Figure 7-6
Heard Slogans in Past 30 Days



Q22. Do you recall hearing or seeing the following slogans in the past 30 days?
Base: All respondents
Unweighted N=6,001
* Distracted Driving slogans

Figure 7-7 shows the total number of different safe driving slogans that respondents reported having heard in the past 30 days. More than a third (36%) reported hearing between 6 and 10 highway safety slogans and more than a quarter (27%) of respondents reported hearing 4 or 5. Eleven percent recognized three slogans, 9% recognized two, and 7% reported hearing only one. Only 3% reported hearing more than 10 slogans and about 6% reported hearing none. When examining the number of distracted driving slogans heard or seen by respondents in the past 30 days, more than a quarter of respondents (27%) indicated that they hadn't heard any messages in the past 30 days. One fifth reported having heard or seen two slogans (20%). Two percent of respondents recalled having heard or seen 7 distracted driving messages in the past 30 days.

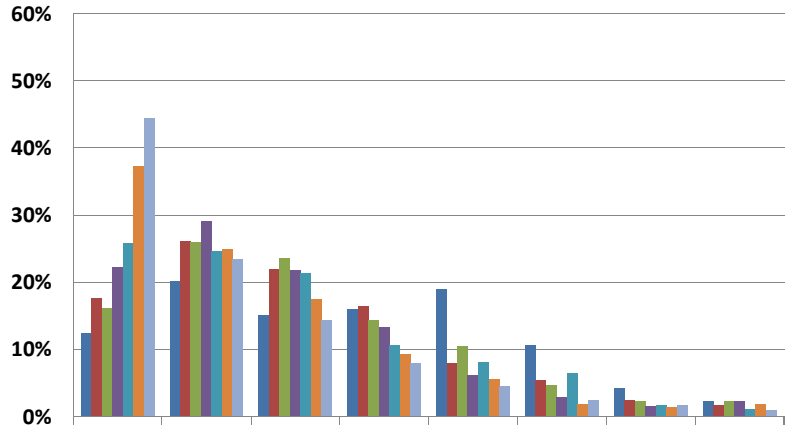
Figure 7-7
Number of Slogans Heard in Past 30 Days



Q22. Do you recall hearing or seeing the following slogans in the past 30 days?
Base: All respondents
Unweighted N=6,001
* All highway safety messages=12
** Distracted driving messages=7

Figure 7-8 shows the number of distracted driving slogans that respondents reported hearing in the last 30 days by categories. Younger drivers were more likely to have heard 4 or more slogans in the past 30 days. More than half of those in the 16 to 20 category (52%) said they recognized more than 3 slogans, compared to those in the 55-64 (20%) and 65 and older (18%) categories. More than 4 in 10 respondents 65 and older (44%) indicated that they had not heard any slogans in the past 30 days.

Figure 7-8
Number of Distracted Driving Slogans Heard in Past 30 Days by Age

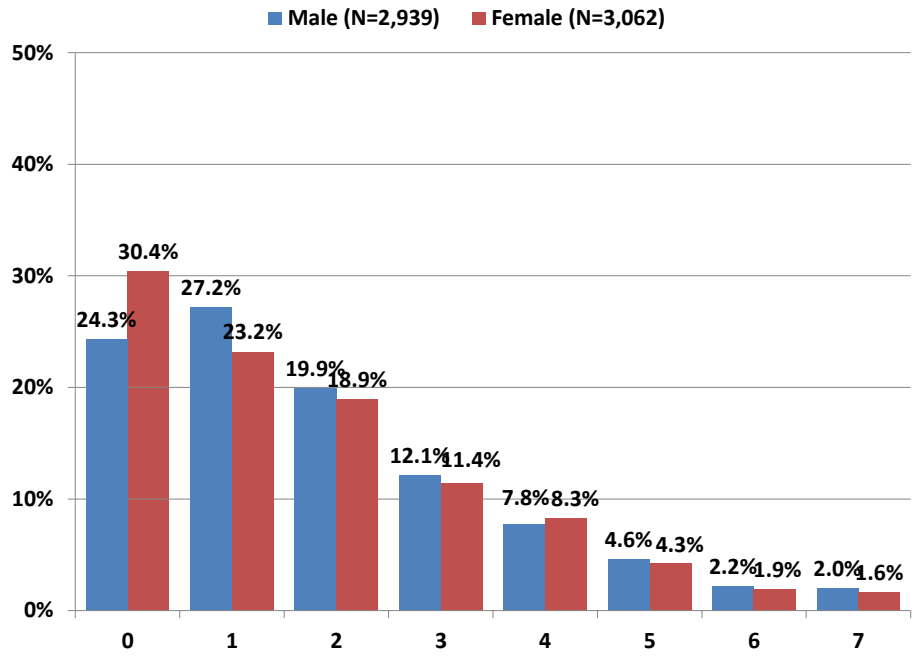


	0	1	2	3	4	5	6	7
16-20 (N=345)	12.5%	20.2%	15.2%	16.0%	19.0%	10.7%	4.2%	2.4%
21-24 (N=281)	17.6%	26.2%	22.0%	16.5%	8.0%	5.5%	2.5%	1.7%
25-34 (N=892)	16.2%	26.0%	23.6%	14.4%	10.5%	4.8%	2.4%	2.3%
35-44 (N=696)	22.3%	29.2%	21.9%	13.3%	6.2%	3.0%	1.6%	2.4%
45-54 (N=968)	25.9%	24.7%	21.3%	10.6%	8.1%	6.5%	1.7%	1.2%
55-64 (N=1,155)	37.3%	25.0%	17.5%	9.3%	5.6%	1.9%	1.5%	1.9%
65+ (N=1,540)	44.4%	23.4%	14.4%	8.0%	4.5%	2.5%	1.8%	1.0%

Q22. Do you recall hearing or seeing the following slogans in the past 30 days?
Base: All respondents
D1. What is your age? ($p<0.001$)
Unweighted N=6,001

Figure 7-9 shows the number of distracted driving slogans that respondents reported hearing in the last 30 days by gender. Female respondents reported hearing fewer slogans in the past 30 days than did the male respondents. About half of the men recognized 2 or more distracted driving slogans (49%), compared to 46% of women. More women than men (30% versus 24%) reported seeing no slogans.

Figure 7-9
Number of Distracted Driving Slogans Heard in Past 30 Days by Gender

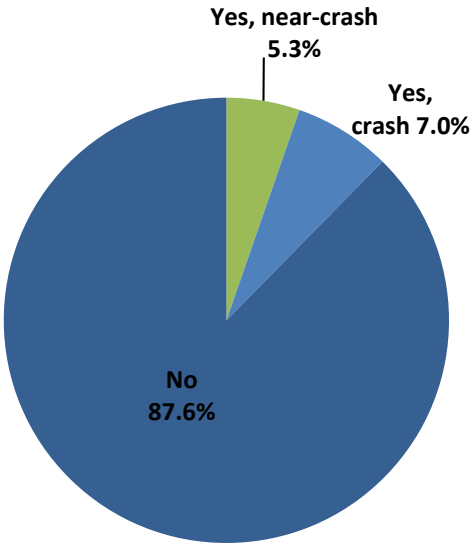


Q22. Do you recall hearing or seeing the following slogans in the past 30 days?
Base: All respondents
SA3. Record gender from observation. ($p<0.001$)
Unweighted N=6,001

CHAPTER 8
DISTRACTED DRIVING CRASHES AND NEAR-CRASHES

Figure 8-1 shows the proportion of drivers by their involvement in vehicle crashes and near-crashes while driving in the past year. A large majority (88%) of drivers reported that they were not involved in any crash or near-crash events in the past year. However, 5% of drivers reported a near-crash involvement and 7% reported involvement in a crash.

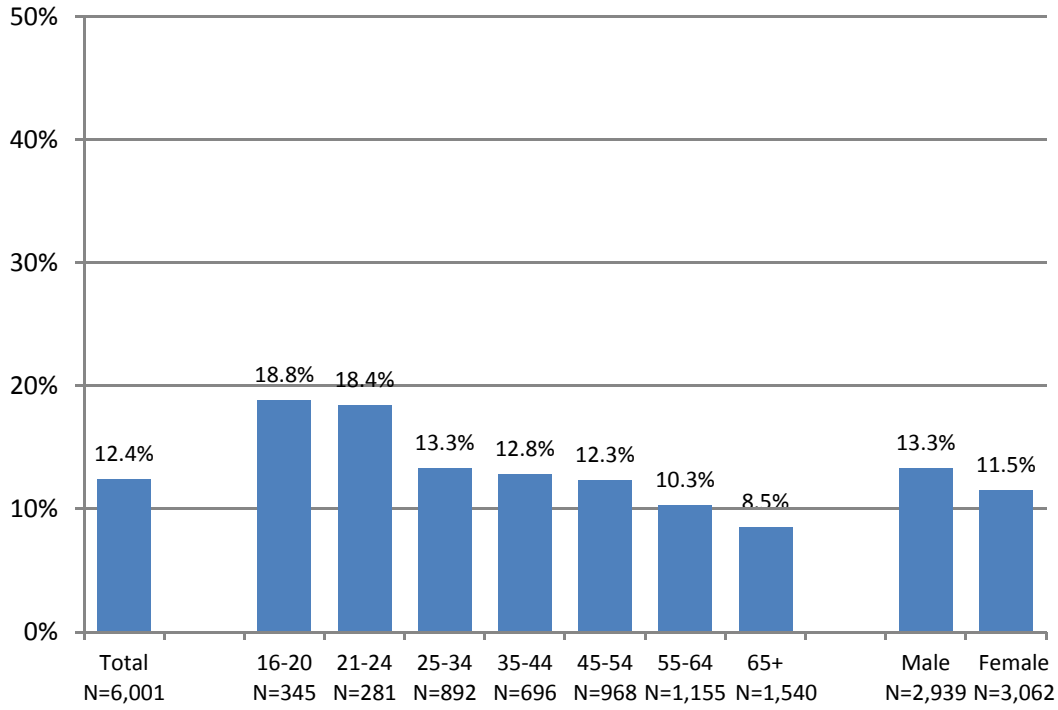
Figure 8-1
Had a Crash or Near-Crash in Past Year



Q23. Have you been involved in a crash or near-crash as a driver in the past year?
Base: All respondents
Unweighted N=6,001

Figure 8-2 shows the proportion of drivers who were involved in a crash or a near-crash while driving a vehicle in the past year by age categories. Overall, younger respondents were more likely to report a crash or near-crash in the past twelve months than were older respondents. Nearly 1 in 5 of respondents 16 to 20 (19%) and 21 to 24 (18%) reported a crash or near-crash in the past year. Respondents 65 or older were the least likely to report a crash, with 9% saying they were involved in a crash or near-crash in the past year. Male respondents (13%) were more likely to have been involved in a crash than were female respondents (12%).

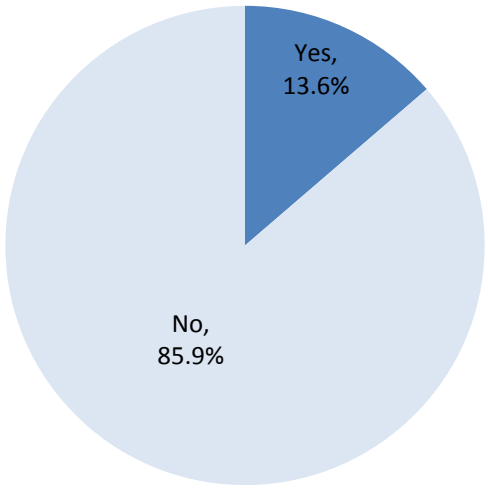
Figure 8-2
Had a Crash or Near-Crash in Past Year
by Age and Gender



Q23. Have you been involved in a crash or near-crash as a driver in the past year?
Base: All respondents
D1. What is your age? ($p<0.001$)
SA3. Record gender from observation. ($p<0.001$)
Unweighted N=See Figure

Figure 8-3 shows the proportion of respondents who said they were distracted at the time of the last crash/near-crash they were in. Nearly 1 in 7 respondents (14%) said they were distracted when the crash or near-crash occurred.

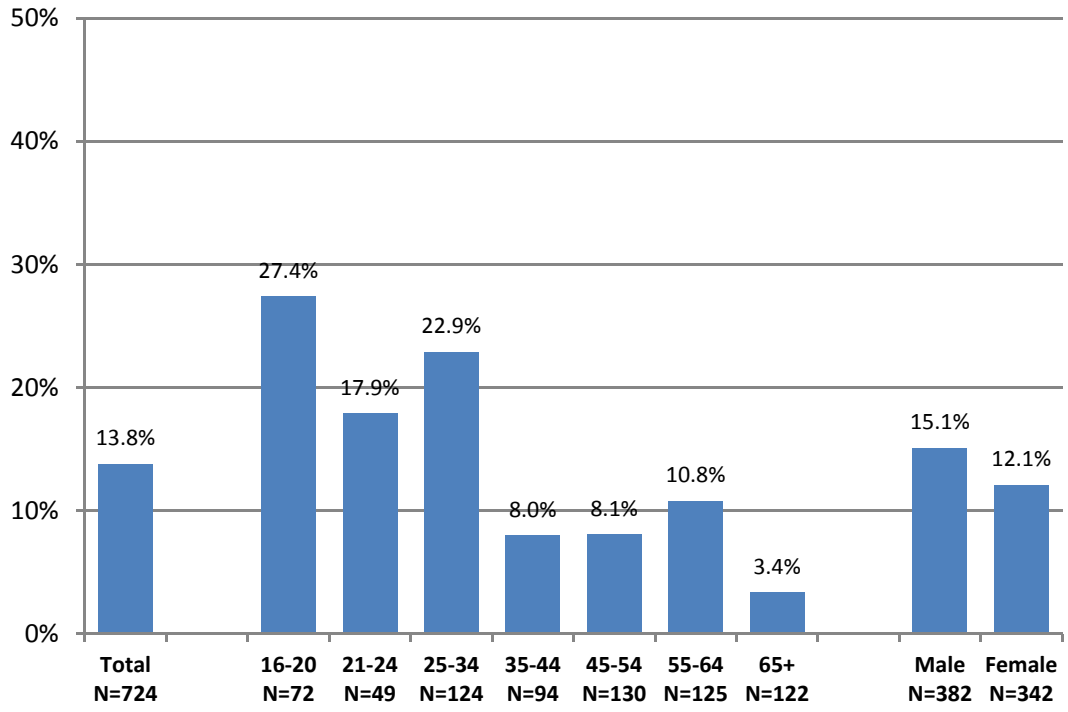
Figure 8-3
Was the Respondent Distracted During the Last Crash or Near-Crash



Q23a. Were you distracted at the time of the LAST [crash/near-crash] you were in?
Base: Drivers who were in a crash or near-crash in the past year
Unweighted N=724

Figure 8-4 shows the proportion of respondents who said they were distracted at the time of their last crash/near-crash by age and gender categories. Younger respondents were more likely to report being distracted at the time of the crash or near-crash, with 27% of respondents 16 to 20, 18% of respondents 21 to 24, and 23% of respondents 25-34 who said they were distracted when the crash or near-crash occurred. Respondents 65 and older were the least likely to say they were distracted at the time of their last crash or near-crash (3%). Fifteen percent of male respondents and 12% of female respondents reported that they were distracted when the crash or near-crash occurred.

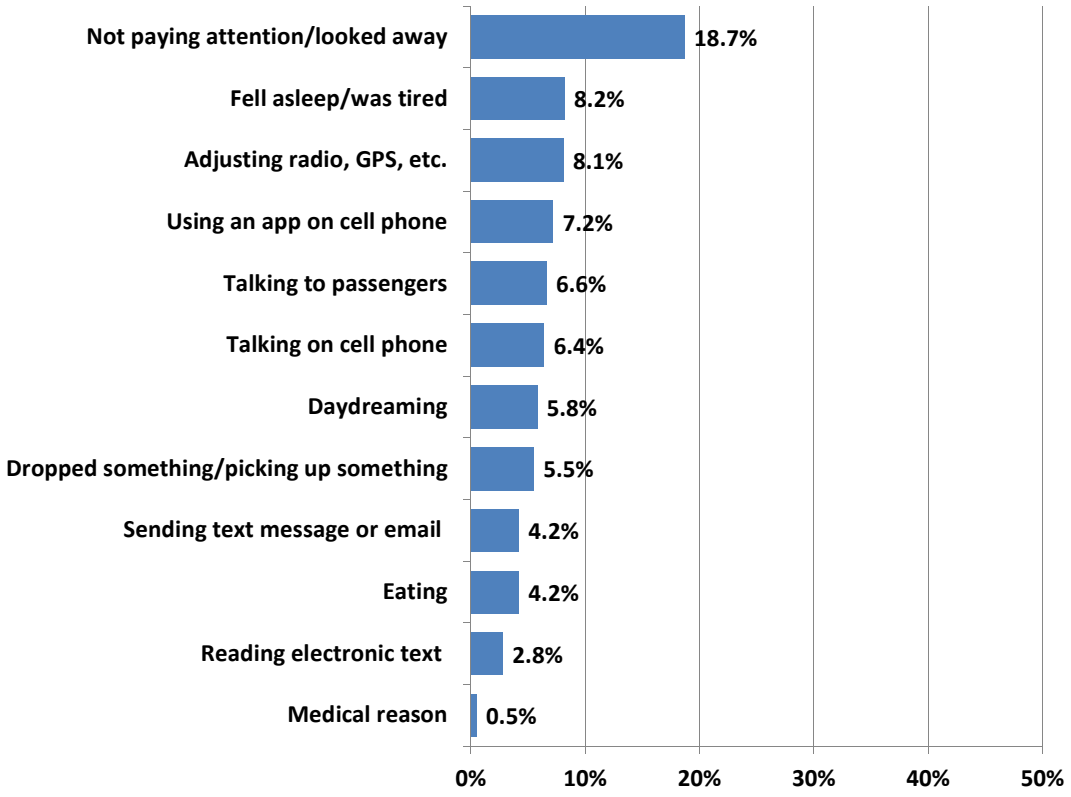
Figure 8-4
Was Distracted During Last Crash or Near-Crash Experience by Age and Gender



Q23a. Were you distracted at the time of the LAST [crash/near-crash] you were in?
Base: Drivers who were in a crash or near-crash in the past year
D1. What is your age? ($p<0.001$)
SA3. Record gender from observation. ($p>0.05$)
Unweighted N=See Figure

Figure 8-5 shows the type of activity the respondents said they were engaged in at the time of their crash or near-crash. Nearly one-fifth of respondents who reported being distracted said they were not paying attention or looked away (19%) when the crash or near-crash occurred. Others reported that they "fell asleep or were tired" (8%), were "adjusting the radio or GPS" (8%), and 7% were "using their smartphone app." Fewer respondents cited "talking to passengers" (7%), "talking on the cell phone" (6%), "daydreaming" (6%), or "dropped or picked up something" (6%) as reasons for their distraction. Less than 5% of respondents said they were sending a text (4%), eating (4%), reading an electronic text (3%), or had a medical reason (1%).

Figure 8-5
Type of Distraction at Time of Crash or Near-Crash

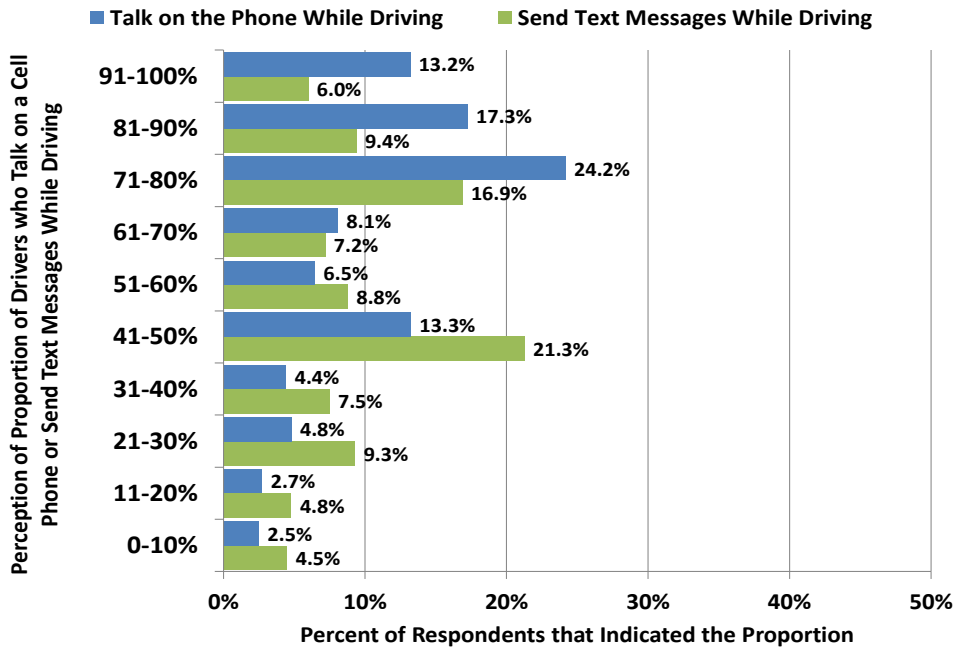


Q23b. How were you distracted at the time of the [crash/near-crash]?
Base: Drivers who were in a crash or near-crash in the past year
Unweighted N=99

CHAPTER 9
PERCEPTIONS OF AND RESPONSES TO DISTRACTED DRIVING

Respondents were asked what percentage of drivers they believe talk on a cell phone or send text messages or e-mails at least occasionally while driving. Nearly 7 in 10 respondents (69%) believe that more than half of drivers talk on cell phones at least occasionally, with 30% of respondents believing that more than 80% of drivers do so. When examining the respondents' perception on the proportion of drivers sending texts or e-mails at least occasionally while driving, nearly half of respondents (48%) think that more than half of drivers send electronic messages while driving.

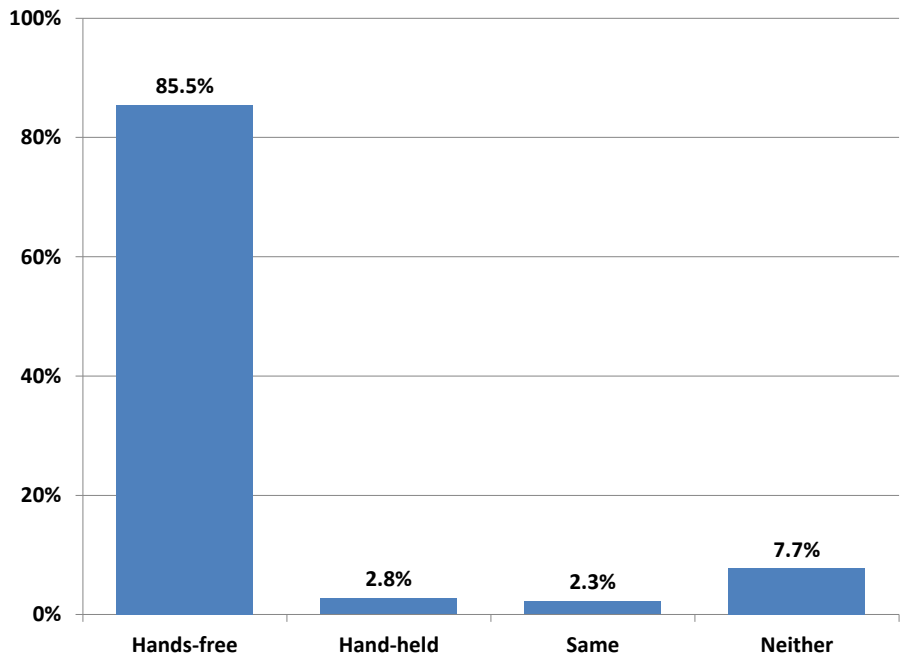
Figure 9-1
Perception of Proportion of Drivers Talking on Phone/Texting While Driving



Q24. What percentage of drivers do you believe at least occasionally TALK on a cell phone while driving?
Q24a. What percentage of drivers do you believe at least occasionally SEND TEXT MESSAGES OR E-MAILS on a cell phone while driving?
Base: All respondents
Unweighted N=6,001

Respondents were asked which phone call method they perceive as safer while driving. They were asked to choose between a hands-free device and a handheld cell phone. Hands-free devices, such as Bluetooth earpieces or vehicle-provided interfaces such as Sync, allow an individual to answer and make calls without ever touching the cell phone, but they still typically require some manual manipulation such as pressing a button on the steering wheel to answer a call. Almost all respondents (86%) cited a hands-free cell phone as the safer option. A sizeable number of respondents (8%) indicated that neither method was safer than the other.

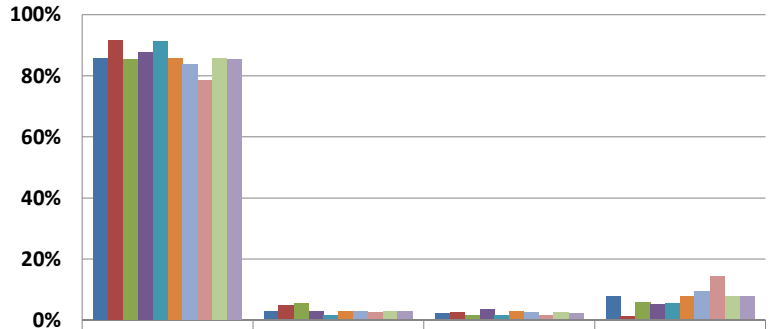
Figure 9-2
Safer to Use Hands-Free or Handheld Phone While Driving



Q24b. Which is safer, using a [hands-free cell phone or using a handheld cell phone]?
Base: All respondents
Unweighted N=6,001

Figure 9-3 shows which phone call method is perceived as safer by respondent gender and age. Drivers 16 to 20 and 35 to 44 were the most likely to think that using a hands-free device was safer than holding a cell phone when driving (92% and 91%, respectively), while drivers aged 65 or more were the least likely to say so (78%). Only 1% of drivers 16 to 20 said that neither method was safer. In contrast, 14% of drivers 65 and more said that neither method was safer than the other. There was no difference between male and female drivers.

Figure 9-3
Safer to Use Hands-Free or Handheld Phone, by Age and Gender

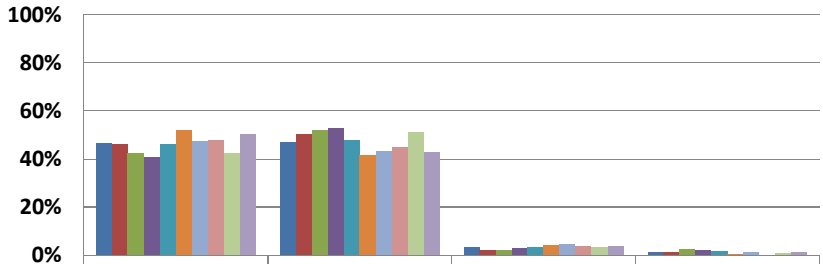


	Hands-Free	Hand-Held	Same	Neither
Total (N=6,001)	85.5%	2.8%	2.3%	7.7%
16-20 (N=345)	91.7%	4.8%	2.6%	1.0%
21-24 (N=281)	85.4%	5.5%	1.6%	5.8%
25-34 (N=892)	87.7%	2.8%	3.5%	4.9%
35-44 (N=696)	91.1%	1.4%	1.5%	5.4%
45-54 (N=968)	85.6%	2.8%	2.7%	7.8%
55-64 (N=1,155)	83.6%	2.6%	2.4%	9.3%
65+ (N=1,540)	78.4%	2.6%	1.5%	14.3%
Male (N=2,939)	85.6%	2.8%	2.3%	7.6%
Female (N=3,062)	85.4%	2.8%	2.2%	7.8%

Q24b. Which is safer, using a hands-free cell phone or using a handheld cell phone?
Base: All respondents
D1. What is your age? ($p<0.001$)
SA3. Record gender from observation. ($p>0.05$)
Unweighted N=See Figure

Cell phone providers and other app developers have developed apps that automatically disable texting and incoming calls when a vehicle is in operation. Figure 9-4 shows respondents' attitudes toward the use of apps that prevent texting and making phone calls when driving by age and gender. Overall, nearly half of the respondents (46%) said that they would use an app to block phone calls and text messaging while driving. Female drivers (50%) and drivers 45 to 54 years old (52%) were the most likely to say that they would use an app that blocks phone calls and text messaging while driving. Drivers 21 to 24 were the most likely to State that they already use an app to block incoming calls and texts (3%). More than half of those in the 25-to-34 (53%), 21-to-24 (52%), and 16-to-20 (50%) age categories said they would not use any apps that prevent texting and making phone calls while driving. A small number of older respondents did not have a definite answer, with 5% of those 55 to 64 and 4% of respondents 45 to 54 and 65+ saying that it would depend.

Figure 9-4
Would Use App to Block Calls and Texts While Driving (% Yes)



	Yes	No	It Depends	I Already Have One
Total (N=6,001)	46.4%	46.8%	3.6%	1.2%
16-20 (N=345)	46.3%	50.3%	2.0%	1.4%
21-24 (N=281)	42.4%	52.1%	2.2%	2.5%
25-34 (N=892)	40.9%	53.0%	2.9%	2.0%
35-44 (N=696)	46.1%	47.8%	3.4%	1.7%
45-54 (N=968)	51.9%	41.6%	4.3%	0.6%
55-64 (N=1,155)	47.6%	43.3%	4.8%	1.1%
65+ (N=1,540)	47.7%	44.9%	4.0%	0.0%
Male (N=2,939)	42.5%	51.0%	3.5%	0.9%
Female (N=3,062)	50.2%	42.6%	3.7%	1.4%

Q24c. There are phone apps available to block phone calls and text messaging while driving. Would you use such an app?
Base: All respondents
D1. What is your age? ($p<0.001$)
SA3. Record gender from observation. ($p<0.001$)
Unweighted N=6,001

CHAPTER 10
DISTRACTED DRIVING BEHAVIOR BY DRIVER TYPE

In examining drivers' attitudes and self-reported distracted behaviors, it is useful to group drivers by their distracted driving tendencies. Rather than rely on any single indicator of general distracted driving or assumptions about appropriate categories of drivers, this study developed a typology of drivers using cluster analysis of responses to 15 questions about the frequency of distracted driving behaviors. Cluster analysis allowed the identification of discrete types of drivers based on the overall pattern of responses across all 15 distracted driving behavior questions. Biplot and factor analyses were conducted to explore the patterns of covariation of distracted driving behaviors. Three factors were identified: interaction with other passengers (items q4a and q4g), addressing one's personal needs (items q4i, q4b and q4j), and cell phone use (all other items). Ultimately, the k-means method was applied to identify two clusters on the scree plot of explained variance. Distracted driving behavior questions asked in 2015 differed slightly from 2012. In 2012, respondents were asked about the frequency with which they "make or accept phone calls" while driving. In 2015, this item was split into two separate items. Items about reading (paper or electronically), personal grooming, and listening to portable music players with headphones were dropped. Three items were added in 2015 relating to taking pictures with one's phone, looking up information on the Internet, and using smartphone apps (not including navigation apps) while driving. The 15 questions used in the 2015 cluster analysis reflect the current 2015 questionnaire and thus differ from the 2012 cluster analysis.

Table 10-1 shows the 15 distracted driving items used in the 2015 cluster analysis and the response distributions for each. Talking to passengers in the vehicle is the activity drivers most often engage in while driving with 53% reporting they always or almost always do so while driving. This was followed by always or almost always adjusting the car radio (35%) and interacting with children in the vehicle (21%). Activities in which drivers are the least likely to engage while driving include taking pictures with their phone, with 89% of drivers saying they never do so, followed by looking up information on the Internet (86%), using smartphone apps not including a navigation app (84%), and sending text messages or e-mails (80%).

Table 10-1: Distracting Behavior Frequency (Used in Cluster Analysis)

How often do you…	N	Always	Almost Always	Sometimes	Rarely	Never
Q4a. Talk to passengers in the vehicle	6,001	34.8%	18.1%	29.1%	12.0%	5.7%
Q4b. Eat or drink	6,001	5.6%	6.4%	35.5%	26.4%	26.0%
Q4c. Make phone calls	6,001	3.8%	4.4%	25.4%	22.0%	44.4%
Q4d. Answer phone calls	6,001	9.7%	5.6%	26.8%	21.2%	36.6%
Q4e. READ text or e-mail messages	6,001	1.6%	1.4%	8.6%	13.7%	74.8%
Q4f. SEND text or e-mail messages	6,001	1.0%	1.2%	6.3%	11.3%	80.0%
Q4g. Talk or interact with children in the vehicle	6,001	14.1%	7.0%	20.4%	16.1%	42.2%
Q4h. Use portable music player, including a smartphone, with external speakers or with the car's speakers	6,001	10.9%	5.9%	12.8%	6.8%	63.5%
Q4i. Adjust the car radio	6,001	22.0%	12.6%	33.0%	16.4%	15.7%
Q4j. Change CDs, DVDs, or tapes	6,001	2.4%	1.5%	13.0%	18.5%	64.6%
Q4k. Use smartphone for driving directions	6,001	5.4%	4.5%	26.1%	12.9%	51.2%
Q4l. Use a navigation system for driving directions	6,001	5.0%	3.7%	27.4%	14.8%	48.9%
Q4m. Take pictures with your phone	6,001	0.8%	0.5%	3.3%	6.7%	88.7%
Q4n. Use smartphone apps, not including a navigation app	6,001	1.6%	0.6%	6.2%	7.3%	84.1%
Q4o. Look up information on the Internet	6,001	1.4%	0.6%	5.2%	7.3%	85.5%

Cluster analysis was able to classify all of the respondents into one of two distinct groups based on their responses to the 15 questions. The core characteristic of each of the two groups identified in the cluster analysis was determined by examining how each group scored on each distracted driving behavior variable. As can be seen in Table 10-2, one group was composed of drivers who consistently reported engaging in distracted driving behaviors and the other group was composed of drivers who reported distracted driving behaviors less often. The groups were named distraction-prone and distraction-averse, respectively, for the purposes of this report. Of those respondents categorized, 42% are distraction-prone drivers (N=2,301) and 58% are distraction-averse drivers (N=3,700).

Table 10-2: Distracted Driving Behaviors by Driver Type

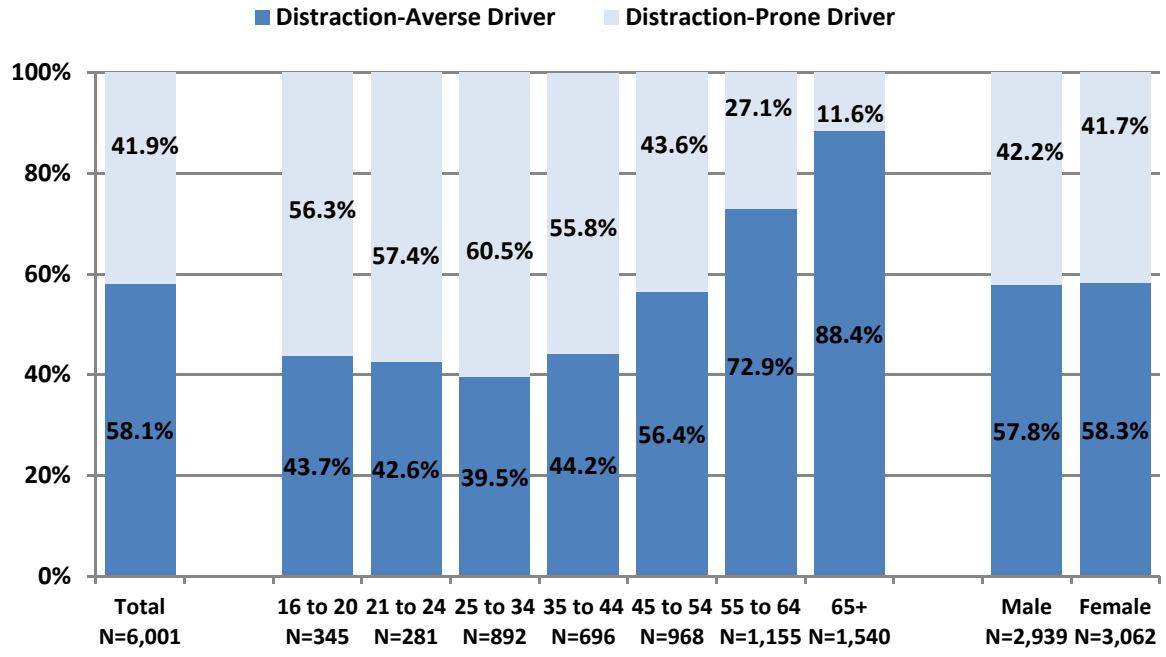
How often do you…	N	Always	Almost Always	Sometimes	Rarely	Never
Talk to other passengers in the vehicle						
Distraction-Prone Drivers	2,301	60.2%	21.0%	14.8%	3.2%	0.7%
Distraction-Averse Drivers	3,700	16.4%	16.1%	39.4%	18.4%	9.3%
Eat or drink						
Distraction-Prone Drivers	2,301	11.0%	10.6%	51.4%	19.6%	7.3%
Distraction-Averse Drivers	3,700	1.6%	3.4%	23.9%	31.3%	39.6%
Make phone calls						
Distraction-Prone Drivers	2,301	8.0%	9.3%	42.9%	23.2%	16.6%
Distraction-Averse Drivers	3,700	0.8%	0.8%	12.8%	21.1%	64.5%
Answer phone calls						
Distraction-Prone Drivers	2,301	18.2%	10.3%	39.3%	18.8%	13.2%
Distraction-Averse Drivers	3,700	3.5%	2.3%	17.8%	22.9%	53.5%
Read text or e-mails messages						
Distraction-Prone Drivers	2,301	3.7%	3.1%	19.3%	24.6%	49.2%
Distraction-Averse Drivers	3,700	0.0%	0.1%	0.8%	5.7%	93.3%
Send text or e-mails messages						
Distraction-Prone Drivers	2,301	2.5%	2.7%	14.5%	22.3%	58.0%
Distraction-Averse Drivers	3,700	0.0%	0.1%	0.4%	3.3%	95.9%
Talk or interact with children in the vehicle						
Distraction-Prone Drivers	2,301	29.2%	11.9%	21.3%	14.1%	23.4%
Distraction-Averse Drivers	3,700	3.3%	3.5%	19.7%	17.5%	55.7%
Use a portable music player, including a smartphone, with external speakers or with the car's speakers						
Distraction-Prone Drivers	2,301	19.3%	7.6%	18.3%	8.7%	46.1%
Distraction-Averse Drivers	3,700	4.8%	4.7%	8.9%	5.4%	76.0%

Table 10-2: Distracted Driving Behaviors by Driver Type (Continued)

How often do you…	N	Always	Almost Always	Sometimes	Rarely	Never
Adjust the car radio						
Distraction-Prone Drivers	2,301	43.9%	19.7%	26.8%	6.2%	3.1%
Distraction-Averse Drivers	3,700	6.2%	7.5%	37.4%	23.8%	24.8%
Change CDs, DVDs, or Tapes						
Distraction-Prone Drivers	2,301	5.1%	3.1%	18.7%	22.2%	50.9%
Distraction-Averse Drivers	3,700	0.4%	0.4%	9.0%	15.8%	74.4%
Use a smartphone for driving directions						
Distraction-Prone Drivers	2,301	10.4%	7.3%	39.9%	15.2%	27.1%
Distraction-Averse Drivers	3,700	1.7%	2.4%	16.1%	11.2%	68.5%
Use a navigation system for driving directions						
Distraction-Prone Drivers	2,301	6.5%	5.9%	34.2%	15.8%	37.4%
Distraction-Averse Drivers	3,700	3.9%	2.2%	22.4%	14.1%	57.2%
Take pictures with your phone						
Distraction-Prone Drivers	2,301	1.7%	1.2%	6.5%	11.9%	78.8%
Distraction-Averse Drivers	3,700	0.1%	0.1%	0.9%	3.0%	96.0%
Use smartphone apps, not including a navigation app						
Distraction-Prone Drivers	2,301	3.4%	1.3%	11.5%	13.7%	70.0%
Distraction-Averse Drivers	3,700	0.4%	0.1%	2.4%	2.6%	94.3%
Look up information on the Internet						
Distraction-Prone Drivers	2,301	3.0%	1.1%	10.3%	14.5%	71.0%
Distraction-Averse Drivers	3,700	0.3%	0.1%	1.5%	2.1%	96.0%

Figure 10-1 shows a clear age effect on distracted driving tendency. Distraction-averse drivers tend to be older while distraction-prone drivers are more likely to be younger. The proportion of distraction-prone drivers decreases with advancing age, with the majority of those in the younger age categories, 16 to 20 (56%), 21 to 24 (57%), 25 to 34 (61%), and 35 to 44 (56%), categorized as distraction-prone drivers and less than one quarter of drivers 55 and older (27% for 55-64 and 12% for 65 and older) categorized as distraction-prone drivers. Males and females were equally likely to be classified as distraction-prone drivers (42%).

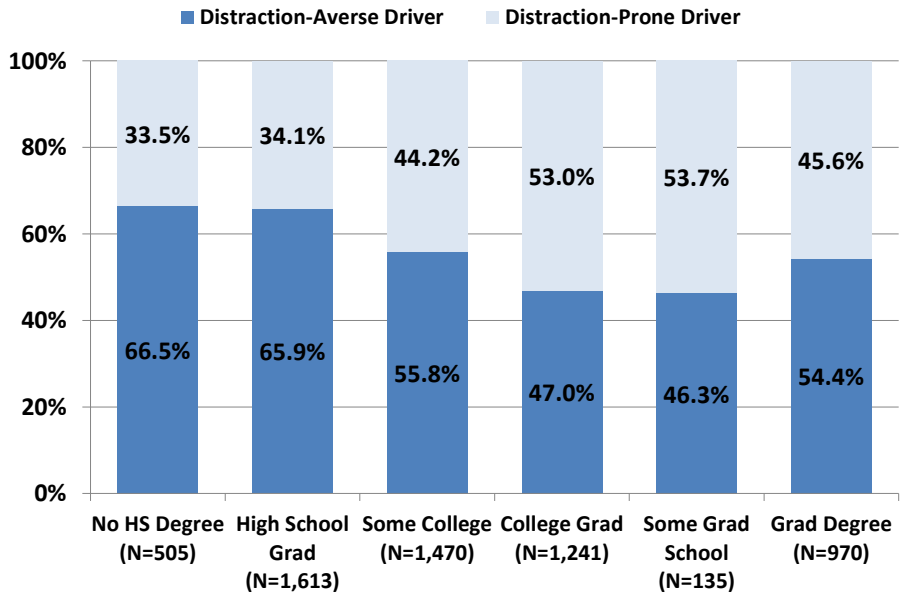
Figure 10-1
Driver Type
by Age and Gender



D1. What is your age? ($p<0.001$)
SA3. Record gender from observation.
Base: All respondents
Unweighted N=See Figure

Figure 10-2 examines the relationship between distracted driving tendency and the highest level of education completed. Respondents with some graduate school education and college graduates had the largest percentage of distraction-prone drivers (53-54%) compared to respondents without a high school degree (34%) or who only graduated high school (34%). Overall, drivers with some college and more education are more likely to be classified as distraction-prone.

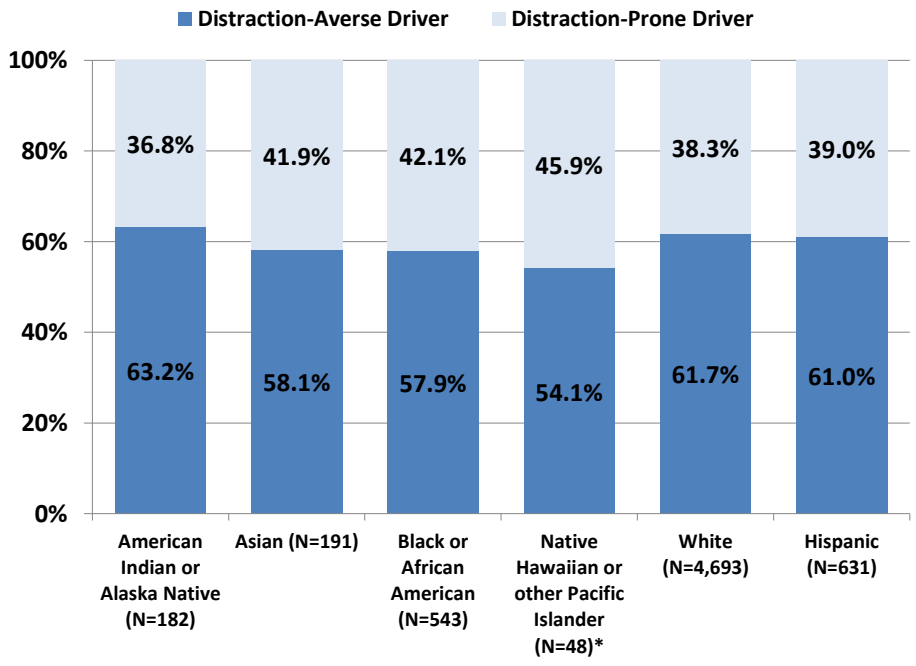
Figure 10-2
Driver Type
by Highest Level of School Completed



D6. What is highest grade or year of regular school you have completed? ($p<0.001$)
Base: All respondents
Unweighted N=See Figure

Figure 10-3 shows that the tendency toward distracted driving behavior is similar across most racial and ethnic groups. Almost one half of Native Hawaiian or other Pacific Islander respondents (46%) were categorized as distraction-prone drivers. Around 4 in 10 Asian (42%), Black or African-American (42%), White (38%), Hispanic (39%) and American Indian or Alaska Native (37%) respondents were classified as distraction-prone drivers.

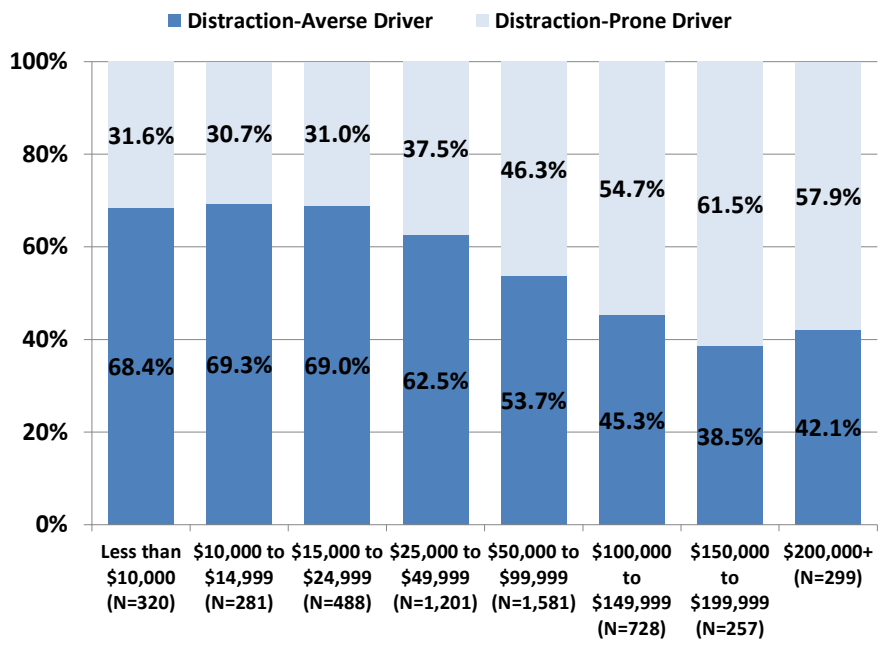
Figure 10-3
Driver Type
by Race/Ethnicity



D5. Which of the following racial categories describe you? You may select more than one. (p>0.05)
D4. Do you consider yourself to be Hispanic or Latino? (p>0.05)
Base: All respondents
Unweighted N=See Figure
*Sample size was less than 50.

Figure 10-4 shows a relationship between income and distracted driving tendency. Overall, as annual household income increases, drivers were more likely to be classified as distraction-prone. In the highest household income groups ($150,000+), about 6 in 10 drivers coming from households earning $150,000 to $199,999 (62%) and more than $200,000 (58%) were categorized as distraction-prone. In contrast, in each of the three lowest household income groups (<$10,000, $10,000 to $14,999, and $15,000 to $24,999), fewer than a third were classified as distraction-prone.

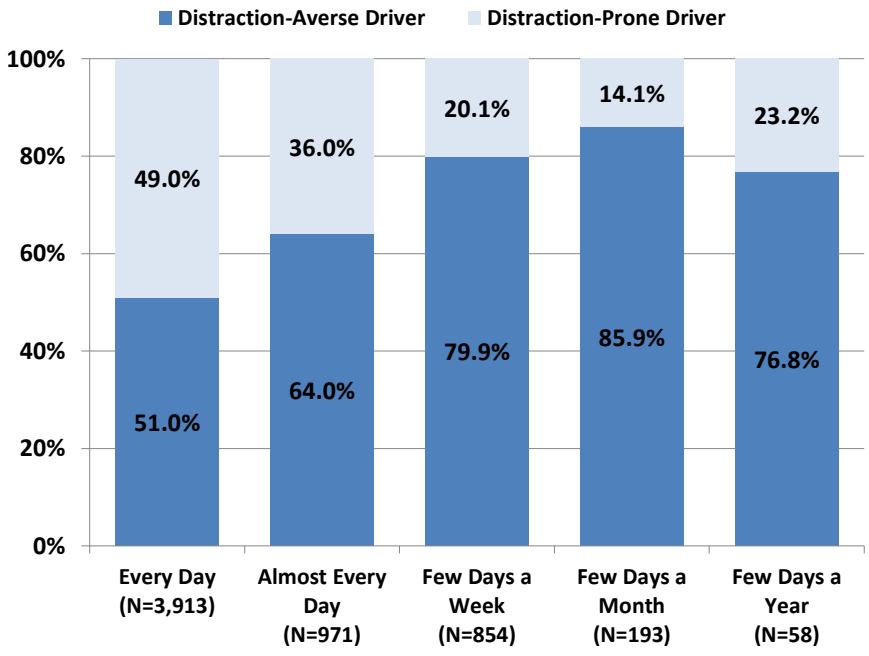
Figure 10-4
Driver Type
by Income



D11. What is your approximate household income? ($p<0.001$)
Base: All respondents
Unweighted N=See Figure

Figure 10-5 shows the tendency toward distracted driving by respondents' frequency of driving. The highest proportion of distraction-prone drivers is among respondents who drove every day, with nearly half of respondents (49%) classified as such. The lowest proportion of distraction-prone drivers is among respondents who drove only a few days a month (14%).

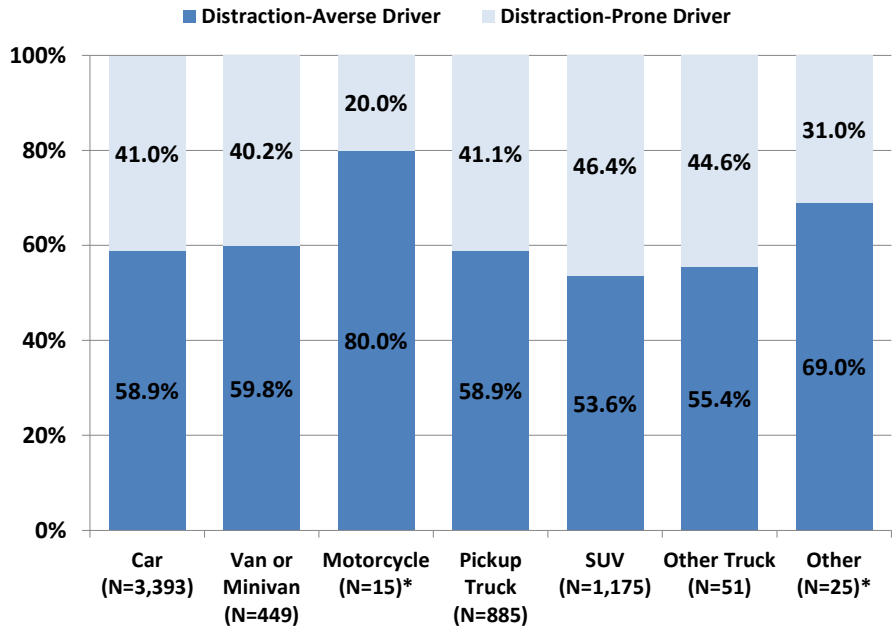
Figure 10-5
Driver Type
by Frequency of Driving



Q1. How often do you drive a motor vehicle, regardless of whether it is for work or for personal use? Every day, almost every day, a few days a week, a few days a month, a few days a year, or do you never drive? ($p<0.001$)
Base: All respondents
Unweighted N=See Figure

Figure 10-6 shows the relationship between vehicle type and driver type. Those who drive a SUV (46%) or some other kind of truck (e.g., medium truck, heavy truck, not a pickup) (45%) are among the most likely to be distraction-prone.

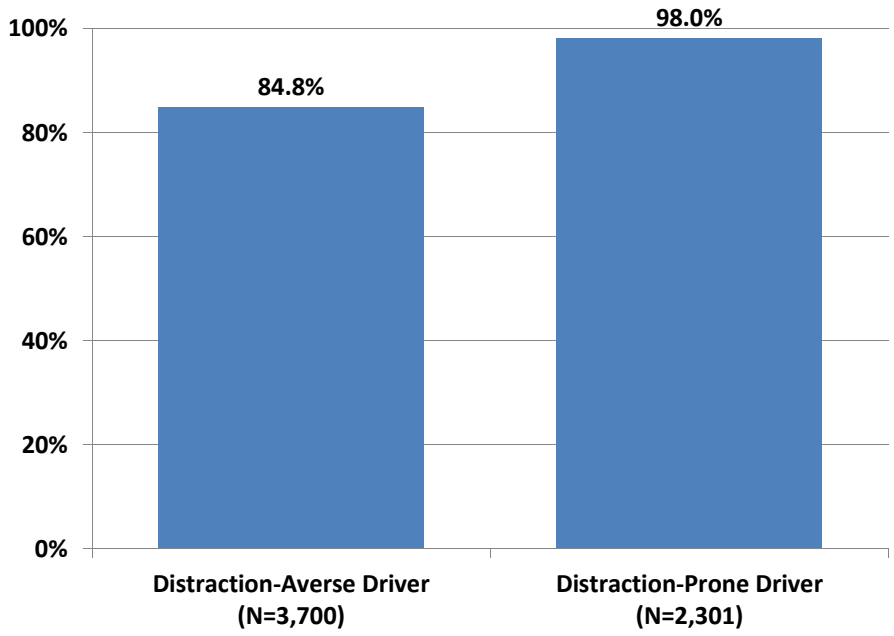
Figure 10-6
Driver Type
by Car Type



Q1a. Is the vehicle you drive most often a car, van, motorcycle, sport utility vehicle, pickup truck, or other type of truck?
Base: Respondents assigned a driver type ($p<0.001$)
Unweighted N=See Figure
*Sample size was less than 50.

Figure 10-7 shows cell phone ownership by driver type. Distraction-prone drivers (98%) were more likely than distraction-averse drivers (85%) to own a cell phone. The vast majority of respondents owned a cell phone so these results should be interpreted with this fact in mind.

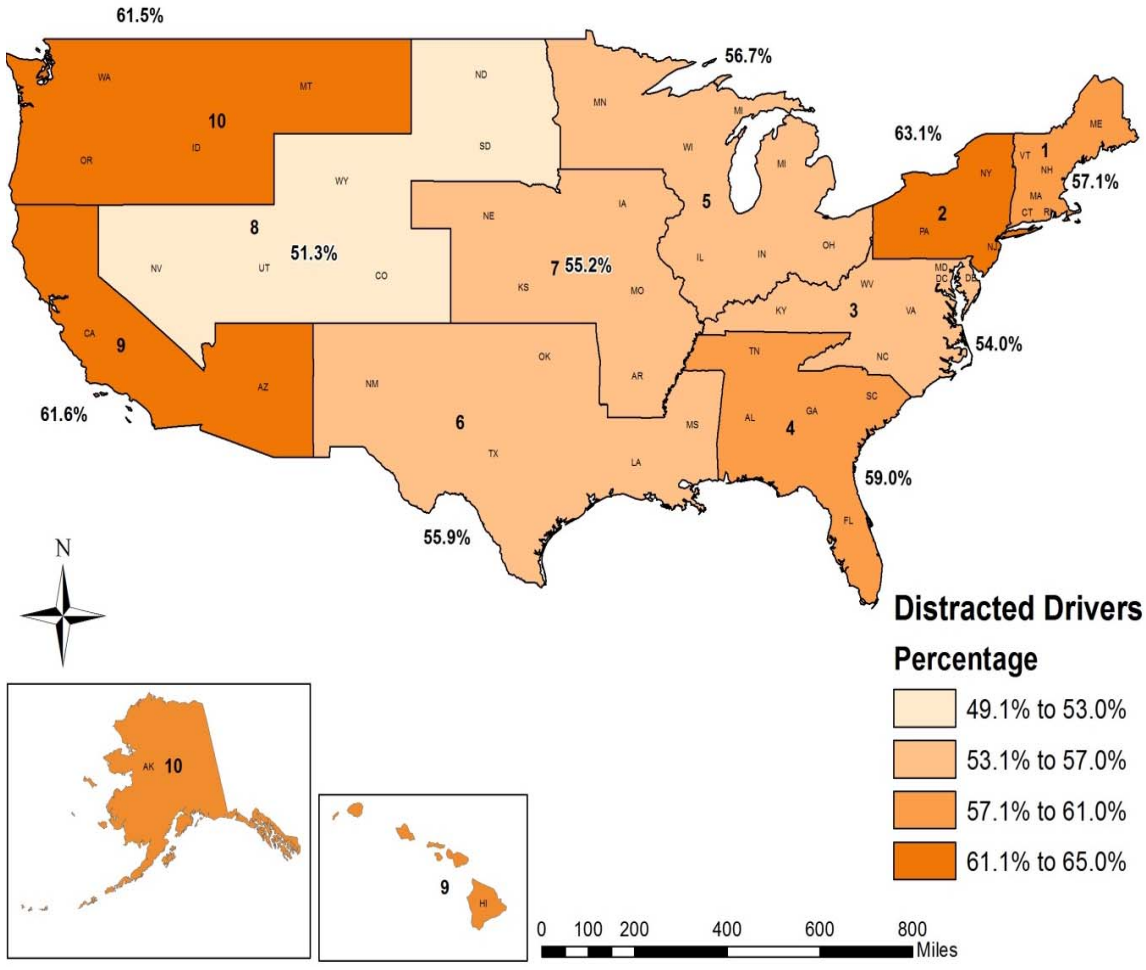
Figure 10-7
Cell Phone Ownership
by Driver Type



Q3. Do you CURRENTLY own any of the following devices? A cell phone. ($p<0.001$)
Base: All respondents
Unweighted N=See Figure

Figure 10-8 shows the percentage of distraction-prone drivers by NHTSA region. There was a statistically significant relationship between distracted driving behaviors and NHTSA region; however, it is important to note that there is not a large difference in the proportion of distracted drivers between the NHTSA regions. Drivers who live in Region 2 (63%) were more likely to be categorized as distraction-prone drivers than were drivers in Region 8 (51%) or Region 3 (54%).

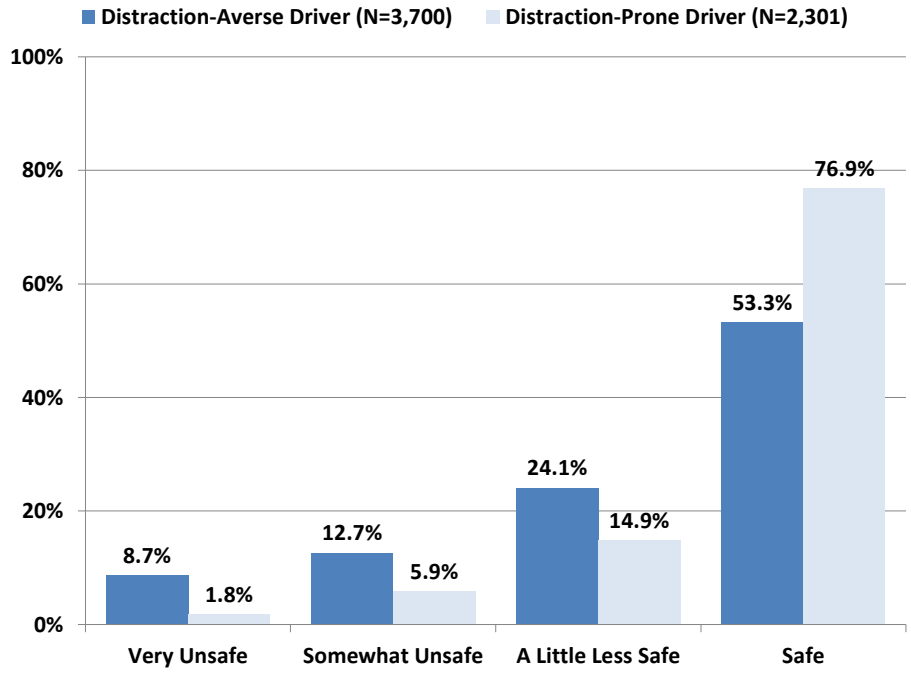
Figure 10-8
Proportion of Distraction-Prone Drivers
by NHTSA Region



(p<0.001)
N=6,001
Note: During the survey, Connecticut was in Region 1 and has subsequently been moved into Region 2.

When certain behaviors are broken out by driver type, distraction-prone drivers tend to be less likely to feel unsafe as a passenger when the driver engages in those distracted behaviors. Figure 10-9 shows the perceptions of safety by driver type of respondents who are passengers in a vehicle in which the driver is talking to other passengers while driving. Slightly more than half of respondents classified as distraction-averse drivers (53%) compared to more than three-quarters of distraction-prone drivers (77%) stated that they would feel safe if the driver was conversing with others in the car while driving. More than 1 in 5 respondents classified as distraction-averse drivers (21%) compared to 8% of respondents classified as distraction-prone reported they would feel very or somewhat unsafe.

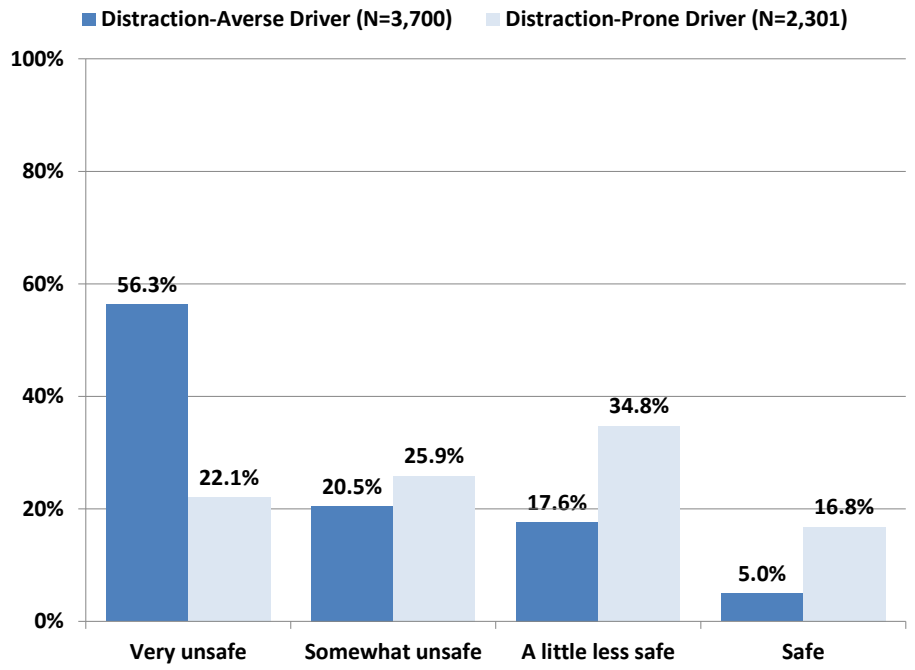
Figure 10-9
Perception of Safety by Driver Type: Driver Is Talking to Other Passengers



Q11a. Now I'm going to read a list of things people sometimes do while driving. Tell me how safe you would feel if you were a passenger riding in a car while your driver was doing the following. For each please tell me if you would feel very unsafe, somewhat unsafe, a little less safe, or safe – no problem – would not pay any more attention. a. Talking to other passengers in the vehicle. ($p<0.001$)
Base: All respondents assigned a driver type
Unweighted N=See Figure

Figure 10-10 compares the perceptions of safety among distraction-averse and distraction-prone people when their drivers are talking on a cell phone while holding the phone. Overall, distraction-averse people were much more likely to feel very unsafe than the distraction-prone people. More than half of the individuals classified as distraction-averse drivers (56%) reported that they would feel very unsafe in this situation, while only 22% of individuals classified as distraction-prone stated they would feel very unsafe. Conversely, 17% of distraction-prone individuals and only 5% of distraction-averse individuals said they would feel safe if the driver was talking on the phone while holding it.

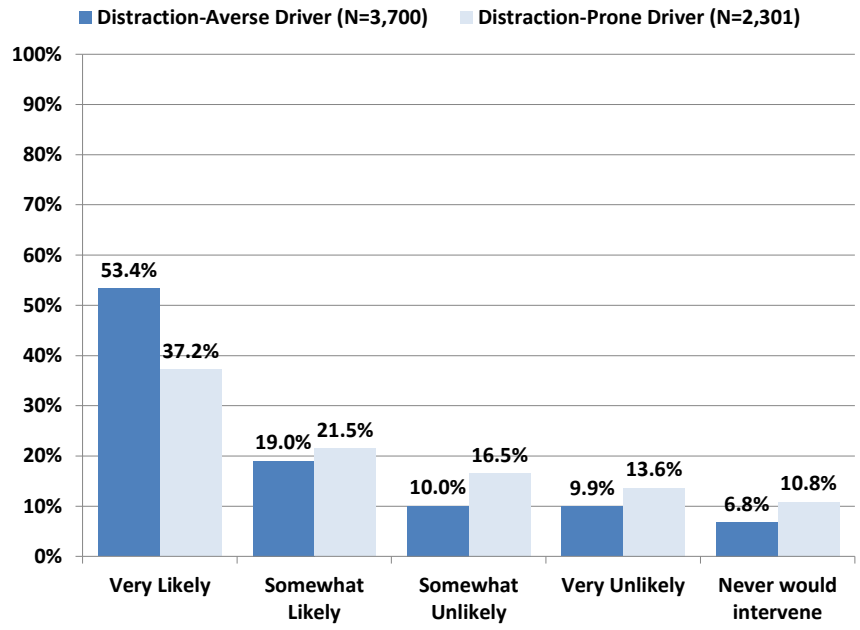
Figure 10-10
Perception of Safety by Driver Type:
Driver Is Talking on Cell Phone While Holding Phone



Q11-c. Now I'm going to read a list of things people sometimes do while driving. Tell me how safe you would feel if you were a passenger riding in a car while your driver was doing the following. For each please tell me if you would feel very unsafe, somewhat unsafe, a little less safe, or safe – no problem – would not pay any more attention. c. Talking on a cell phone while holding the phone. ($p<0.001$)
Base: All respondents
Unweighted N=See Figure

Respondents were asked how likely they were to intervene if they were passengers in a vehicle in which the driver was talking on a cell phone while holding the phone and driving. Individuals classified as distraction-prone drivers were less likely than those classified as distraction-averse drivers to report that they would intervene if their drivers were talking on a phone while driving. While 53% of distraction-averse drivers say they are very likely to intervene, 37% of distraction-prone drivers said that they would do so. Almost one-quarter of distraction-prone drivers (24%) and 17% of distraction-averse drivers said they were very unlikely or would never intervene.

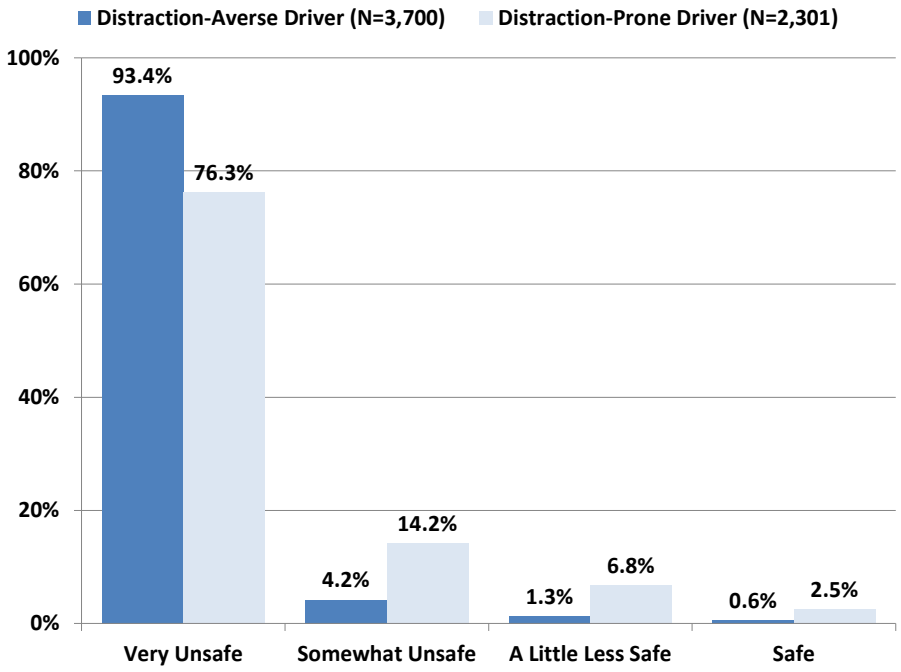
Figure 10-11
How Likely Are You to Intervene if the Driver Is Talking on a Cell Phone While Holding the Phone?
by Driver Type



Q12. How likely are you to do or say something to your driver if they're TALKING on a handheld cell phone while driving? ($p<0.001$)
Base: All respondents
Unweighted N=See Figure

Figure 10-12 compares the perceptions regarding safety of distraction-prone and distraction-averse people when the driver is sending text messages or e-mails while driving. The overwhelming majority of distraction-averse individuals (93%) and three-quarters (76%) of distraction-prone individuals reported that they would feel very unsafe if the driver was engaged in this behavior while driving. One in 5 (21%) distraction-prone drivers reported that they would feel somewhat unsafe or a little less safe in this situation; only 5% of distracted-averse drivers reported feeling this way. Very few distraction-averse (1%) and distraction-prone (3%) individuals indicated that they would feel safe if their drivers were sending e-mails or text messages while driving.

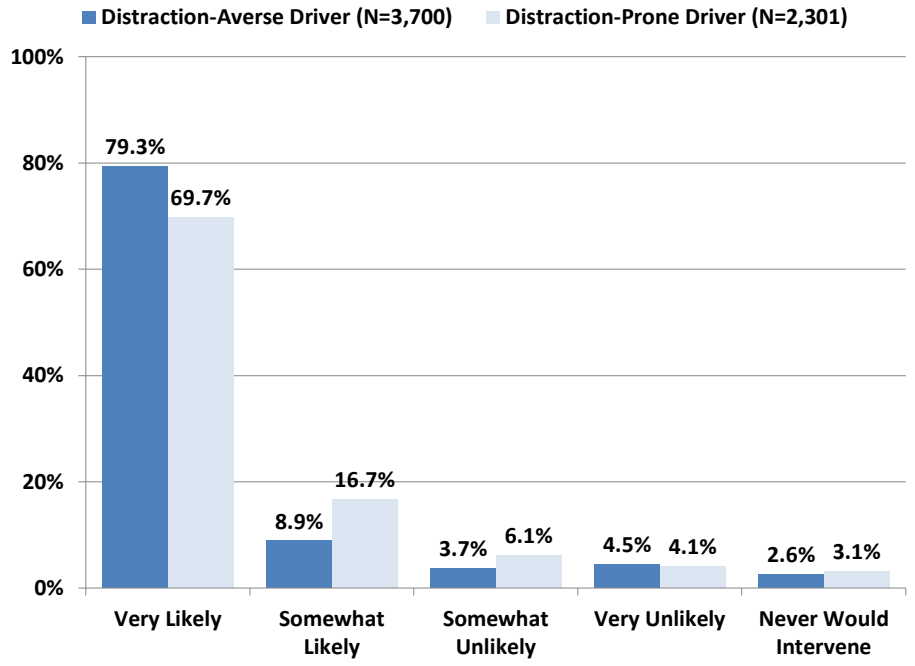
Figure 10-12
Perception of Safety: Driver Is Sending Text Messages or E-Mails by Driver Type



Q11-f. Now I'm going to read a list of things people sometimes do while driving. Tell me how safe you would feel if you were a passenger riding in a car while your driver was doing the following. For each please tell me if you would feel very unsafe, somewhat unsafe, a little less safe, or safe – no problem – would not pay any more attention.
f. Sending text messages or e-mails. ($p<0.001$)
Base: All respondents
Unweighted N=See Figure

Overall, 88% of respondents stated that they were at least somewhat likely to intervene if they were passengers in a vehicle when a driver was sending e-mails or text messages. Figure 10-13 shows the likelihood of intervention by people classified as distraction-prone and distraction-averse if they are passengers in a vehicle in which the driver is sending e-mails or text messages while driving. The majority of distraction-averse (79%) and distraction-prone (70%) drivers were very likely to intervene. Very few respondents indicated that they never would intervene.

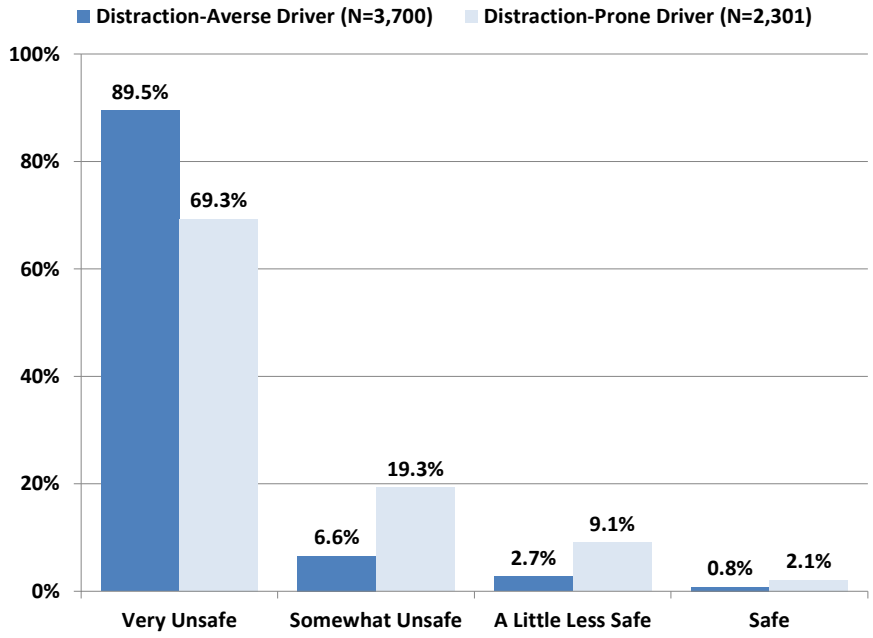
Figure 10-13
How Likely Are You to Intervene if Driver Is Sending Text Messages or E-Mails?
by Driver Type



Q13. How likely are you to do or say something to your driver if they're SENDING TEXT MESSAGES OR E-MAILS OR USING SMARTPHONE APPS while driving? ($p<0.001$)
Base: All respondents
Unweighted N=See Figure

Figure 10-14 compares the perception of safety among distraction-prone and distraction-averse people when the driver is reading e-mails or text messages while driving. Nine in 10 distraction-averse individuals (90%) and 69% of distraction-prone individuals reported that they would feel very unsafe if the driver was engaged in this behavior while driving. More than a quarter (28%) of distraction-prone drivers and nearly 1 in 10 (9%) of distraction-averse drivers reported that they would feel somewhat unsafe or a little less safe in this situation. Very few distraction-averse (1%) and distraction-prone (2%) individuals indicated that they would feel safe if their drivers were reading e-mails or text messages while driving.

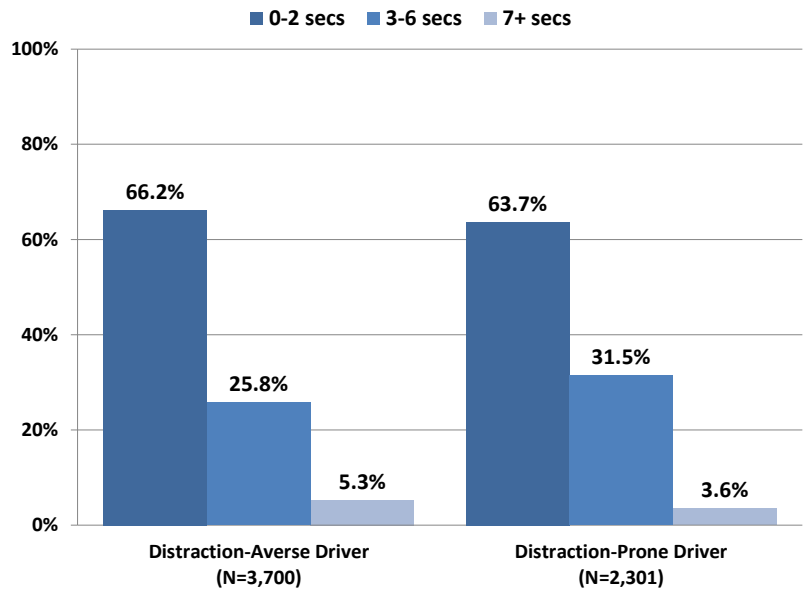
Figure 10-14
Perception of Safety: Driver Is Reading Text Messages or E-Mails by Driver Type



Q11-e. Now I'm going to read a list of things people sometimes do while driving. Tell me how safe you would feel if you were a passenger riding in a car while your driver was doing the following. For each please tell me if you would feel very unsafe, somewhat unsafe, a little less safe, or safe – no problem – would not pay any more attention.
e. Reading e-mails or text messages. ($p<0.001$)
Base: All respondents
Unweighted N=See Figure

Figure 10-15 compares the number of seconds a respondent believes drivers can safely take their eyes off the road by driver type. While more than 6 in 10 distraction-averse and distraction-prone drivers provided an answer that was between 0 and 2 seconds, distraction-prone drivers (35%) were more likely to believe that a driver can take his/her eyes off the road for 3 or more seconds than were distraction-averse drivers (31%).

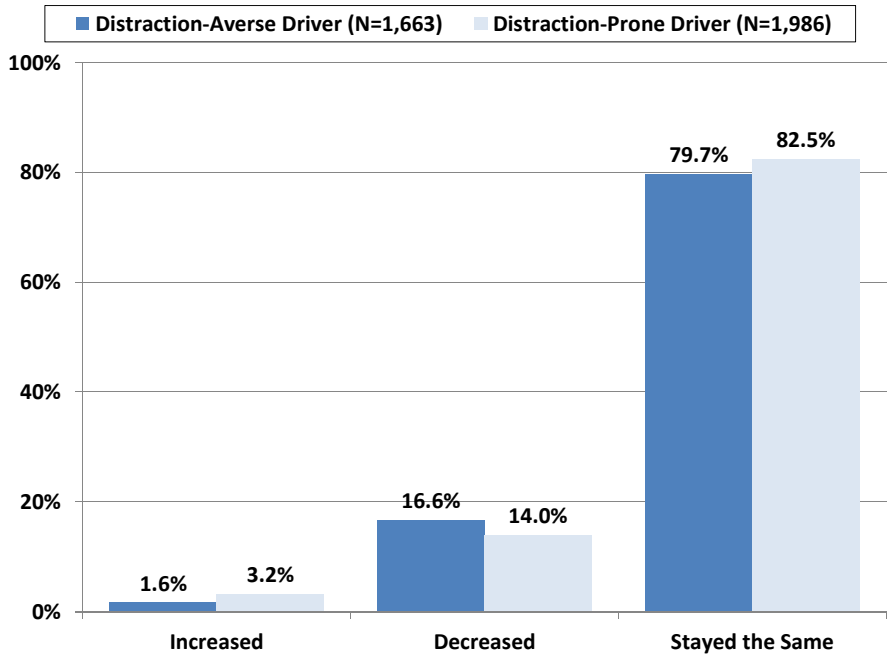
Figure 10-15
Number of Seconds a Driver Can Safely Take His/Her Eyes Off the Road by Driver Type



Q10. How many seconds do you believe a driver can take his eyes off the road before driving becomes significantly more dangerous? ($p<0.001$)
Base: All respondents
Unweighted N=See Figure

Figure 10-16 shows the frequency with which respondents reported making and receiving phone calls while driving by driver type. Regardless of driver type, most respondents report no changes in the frequency with which they make calls within the past 30 days. Very few distraction-averse drivers (2%) as well as distraction-prone drivers (3%) stated that the frequency of making and receiving phone calls increased in the past 30 days, while 17% of distraction-averse drivers and 14% of distraction-prone drivers stated that they are making calls less often. Eight in 10 distraction-averse drivers (80%) and distraction-prone drivers (83%) reported that the frequency with which they make calls remained the same.

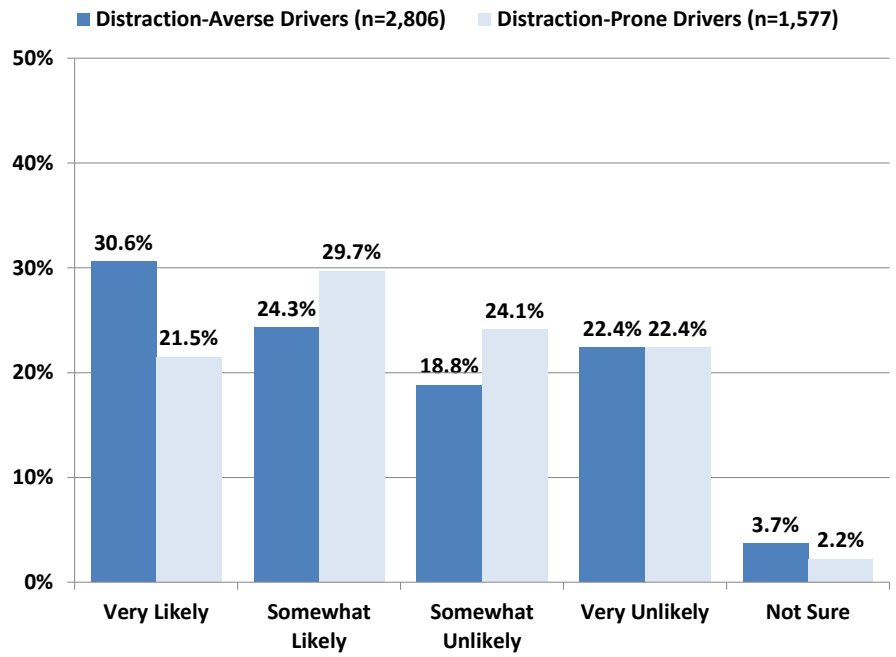
Figure 10-16
Has Your Frequency of Answering Phone Calls While Driving Increased, Decreased, or Stayed the Same? by Driver Type



Q15. In the past 30 days, has your frequency of answering phone calls while driving increased, decreased, or stayed the same?
Base: Respondents who accept phone calls while driving ($p<0.001$)
Unweighted N=See Figure

Figure 10-17 shows a moderate difference in respondents' perception of the likelihood that a driver talking on a cell phone would receive a ticket, by driver type. Among distraction-averse drivers, 31% indicated that it was very likely, and 24% stated that it was somewhat likely that the driver would get a ticket. Among distraction-prone drivers, 22% stated it was very likely that the driver would receive a ticket, and 30% stated that it was somewhat likely.

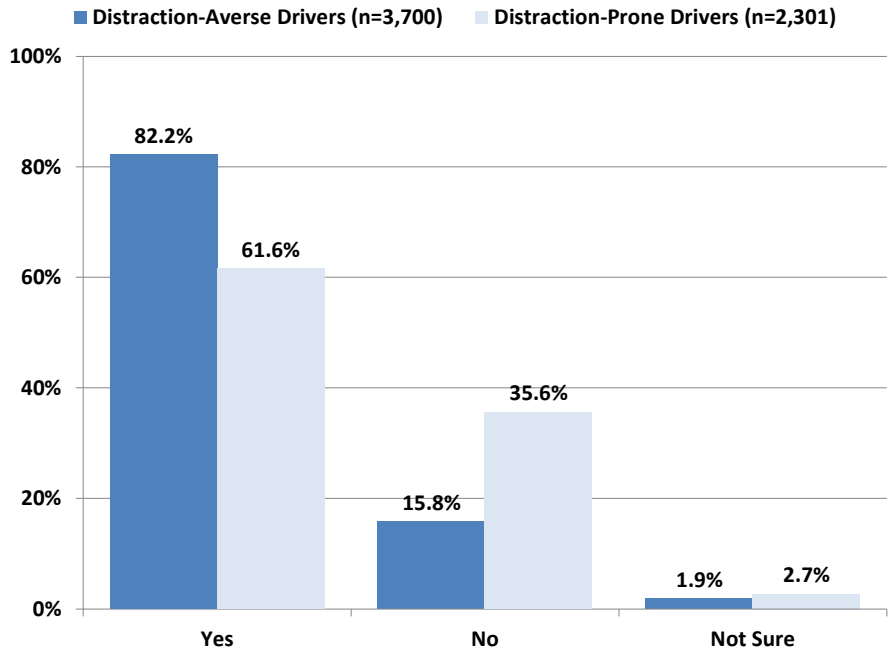
Figure 10-17
Likelihood of Ticket for Talking on a Cell Phone While Driving by Driver Type



Q17a. Assume that over the next 6 months someone frequently TALKS on a handheld cell phone while driving. How likely do you think that person would be to receive a ticket for talking on a cell phone while driving?
Base: Respondents who reported living in a State which bans talking on a cell phone while driving ($p<0.001$)
Unweighted N=See Figure

Figure 10-18 shows respondents' support for a State law banning talking on a handheld cell phone while driving by driver type. Distraction-averse drivers were more likely to support such a law, while distraction-prone drivers were more likely to oppose such a law. More than 8 in 10 distraction-averse drivers (82%) and 62% of distraction-prone drivers stated that they support a law banning talking on a cell phone while driving. One in 6 (16%) distraction-averse drivers and 36% of distraction-prone drivers are opposed to such a law.

Figure 10-18
Support for Law Banning Talking on a Handheld Cell Phone While Driving by Driver Type

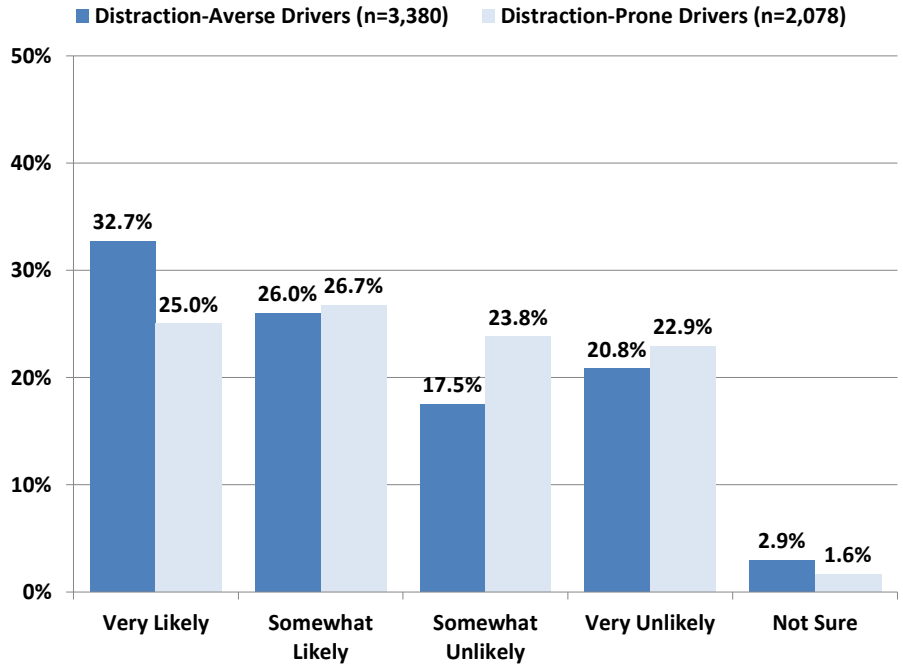


Q19. Do you support a State law banning talking on a handheld cell phone while driving? ($p<0.001$)
Base: All respondents
Unweighted N=See Figure

Figure 10-19 shows respondents' perception of the likelihood that a driver sending electronic messages while driving would receive a ticket, by driver type. More than half of distraction-averse drivers (59%) as well as distraction-prone drivers (52%) thought that it was at least somewhat likely that the driver would be ticketed.

Distraction-averse drivers were more likely to state that the driver was very likely to receive a ticket, while distraction-prone drivers more often reported the driver was only somewhat likely or not likely to receive a ticket, with 33% of distraction-averse drivers and 25% of distraction-prone drivers stating that the driver was very likely to receive a ticket. Conversely, distraction-prone drivers were more likely than distraction-averse drivers to state that a driver who frequently sends text messages or e-mails was somewhat unlikely (24% versus 18%) or very unlikely (23% versus 21%) to receive a ticket.

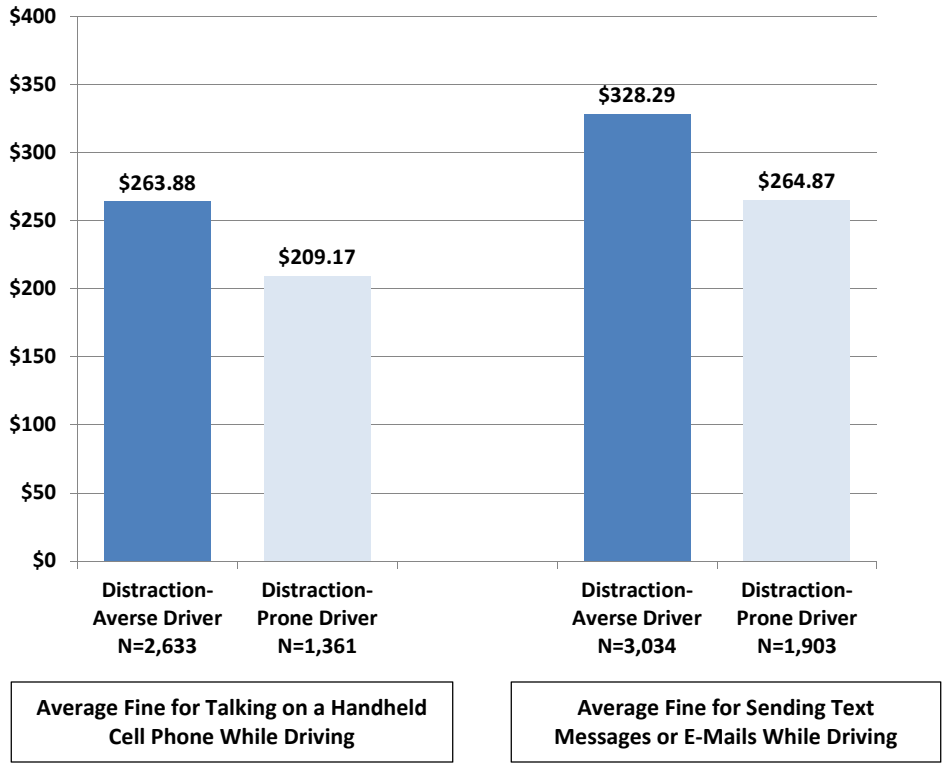
Figure 10-19
Likelihood of Ticket for Sending Text Messages or E-Mails While Driving by Driver Type



Q18a. Assume that over the next 6 months someone frequently sends text messages or e-mails while driving. How likely do you think that person would be to receive a ticket for sending text messages or e-mails while driving?
Base: Respondents who report living in a State that bans sending messages while driving ($p<0.001$)
Unweighted N=See Figure

Of those who support a State law banning talking on a handheld cell phone while driving, the average fine suggested by distraction-averse drivers for talking on a handheld cell phone while driving was higher than the average fine suggested by distraction-prone drivers ($264 versus $209). Distraction-averse drivers who supported bans on sending electronic messages while driving also suggested higher average fines for sending text messages while driving than distraction-prone drivers ($328 versus $265).

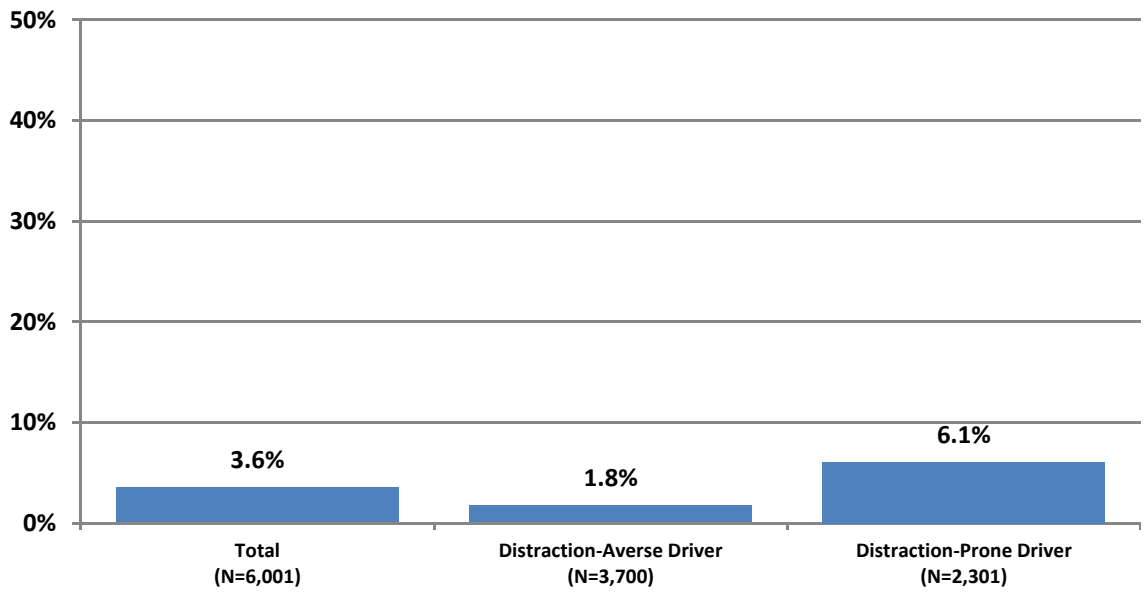
Figure 10-20
Average Fine for Cell Phone Use While Driving by Driver Type



Q19a. What do you think the fine should be for talking on a handheld cell phone while driving?
Base: Respondents who support a ban on talking on a cell phone while driving ($p<0.001$)
Q19c. What do you think the fine should be for sending text messages or e-mails while driving?
Base: Respondents who support a ban on sending messages while driving ($p<0.001$)
Unweighted N=See Figure

The proportion of drivers stopped by the police for using a phone while driving is fairly low (4%). However, distraction-prone drivers are more likely to be stopped by police as opposed to distraction-averse drivers. Indeed, 6% of distraction-prone drivers have been pulled over by the police for using their cell phones while driving, while only 2% of distraction-averse drivers reported being pulled over.

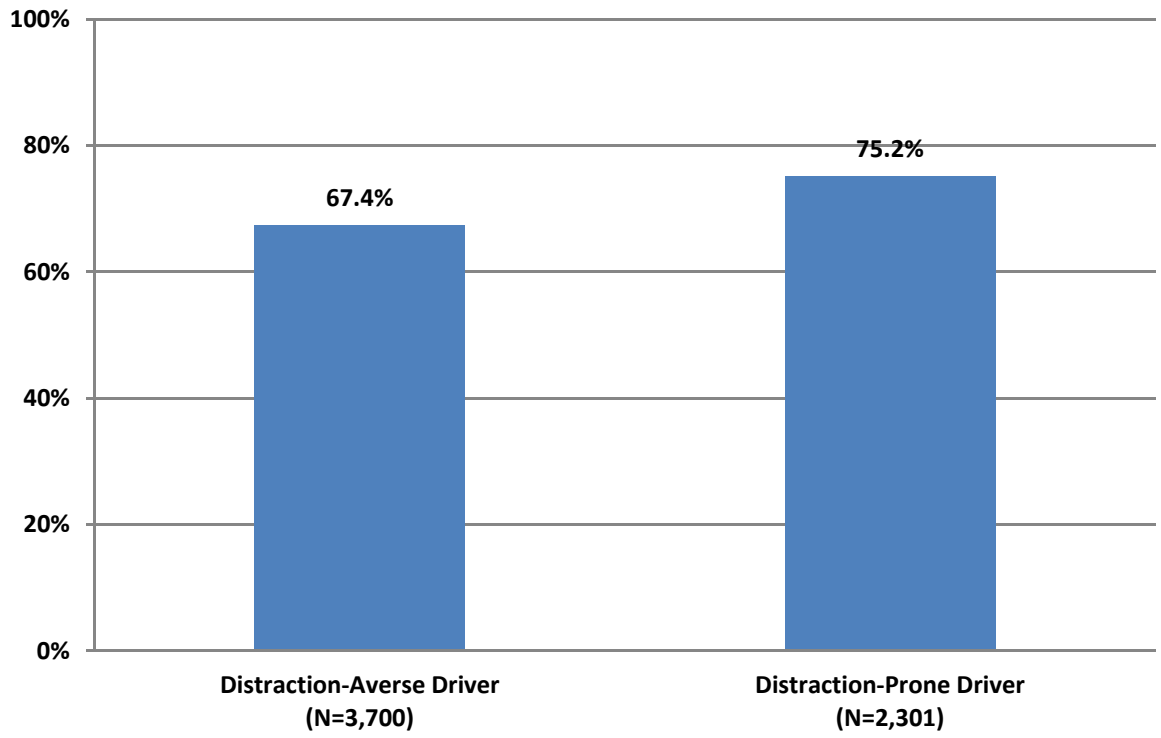
Figure 10-21
Ever Stopped by Police for Using Phone While Driving
by Driver Type (% Yes)



Q20. Have you ever been personally stopped by the police for using a handheld cell phone while driving? ($p<0.001$)
Base: All respondents
Unweighted N=See Figure

When asked whether the respondents had seen or heard any messages that encourage people not to talk on phones or send electronic messages while driving, 67% of distraction-averse drivers and 75% of distraction-prone drivers reported seeing or hearing messages that encourage people not to talk on the phone or send messages while driving.

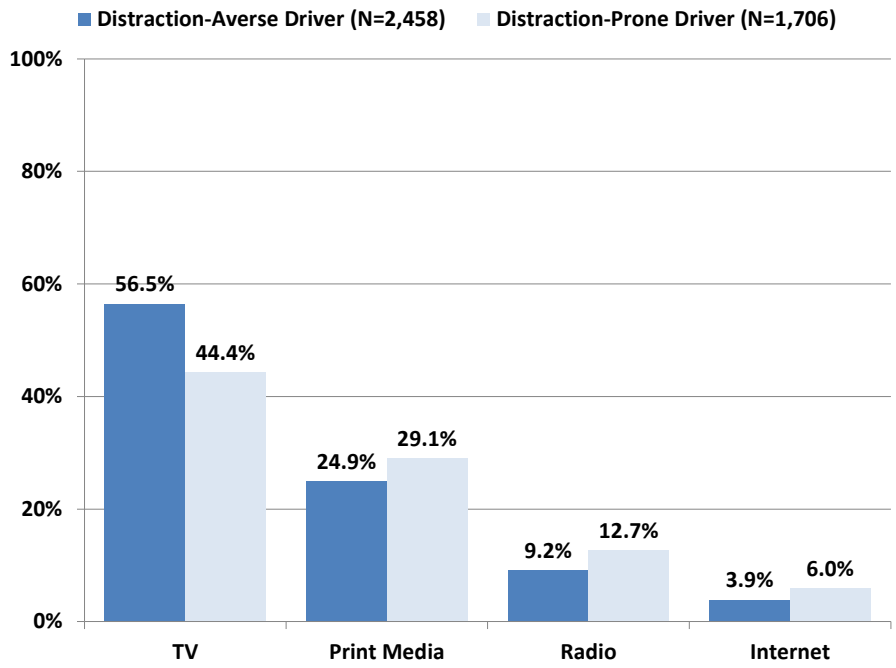
Figure 10-22
Respondents Exposed to Messages Discouraging Cell Phone Distracted Driving by Driver Type



Q21. In the past 30 days, have you seen or heard any messages that encourage people not to talk on phones or send electronic messages while driving? This could be public service announcements on TV, messages on the radio, signs on the road, news stories, or something else. ($p<0.001$)
Base: All respondents assigned a driver type
Unweighted N=See Figure

Figure 10-23 shows the sources of messages discouraging cell phone distracted driving as reported by distraction-prone and distraction-averse drivers who saw or heard messages. Distraction-averse drivers (57%) were more likely than distraction-prone (44%) drivers to list television programming as a source of the message. Distraction-prone drivers (29%) are more likely than distraction-averse drivers (25%) to mention print media, which includes newspapers and billboards. Nearly 1 in 8 distraction-prone drivers (13%) and 9% of distraction-averse drivers mentioned the radio as a source of the message they heard. Fewer than 1 in 10 distraction-prone drivers (6%) mentioned the Internet as a source as did 4% of distraction-averse drivers.

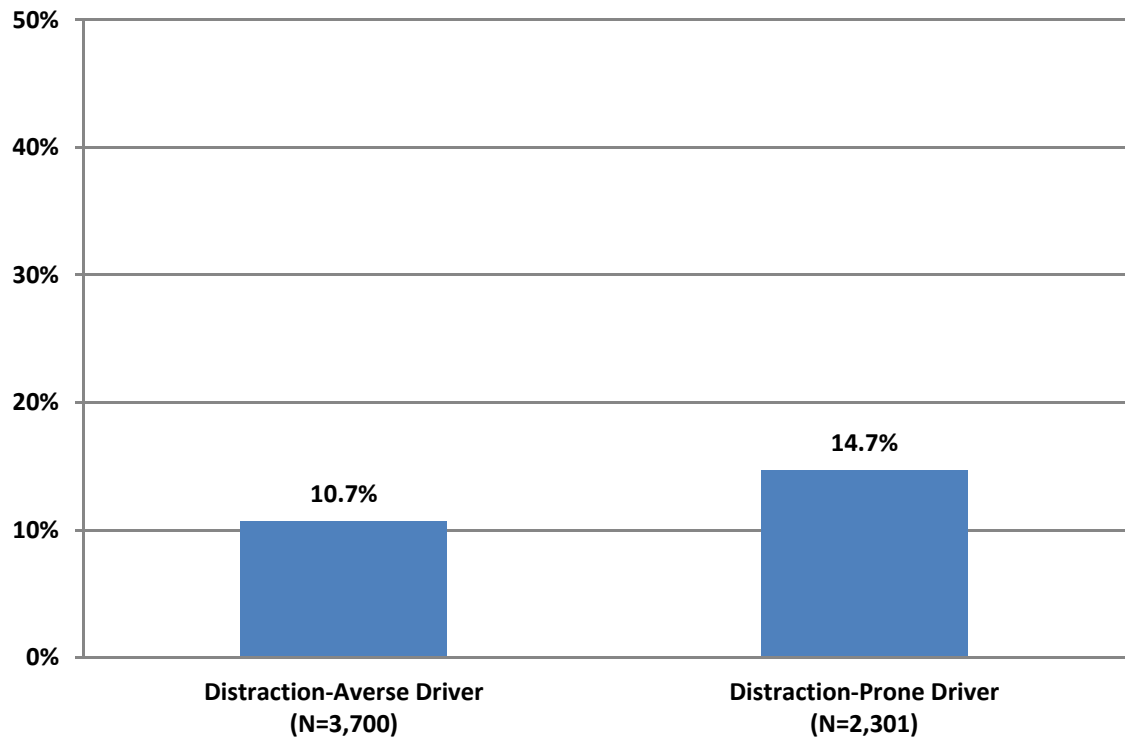
Figure 10-23
Source of Messaging
by Driver Type



Q21a. Where did you see or hear these messages? ($p<0.001$)
Base: Has seen/heard messages in the past 30 days
Unweighted N=See Figure

Figure 10-24 shows the proportion of drivers who were involved in a crash or a near-crash while driving a vehicle in the past year by driver type. Distraction-prone drivers (15%) were more likely than distraction-averse drivers (11%) to report a crash or near-crash in the past twelve months.

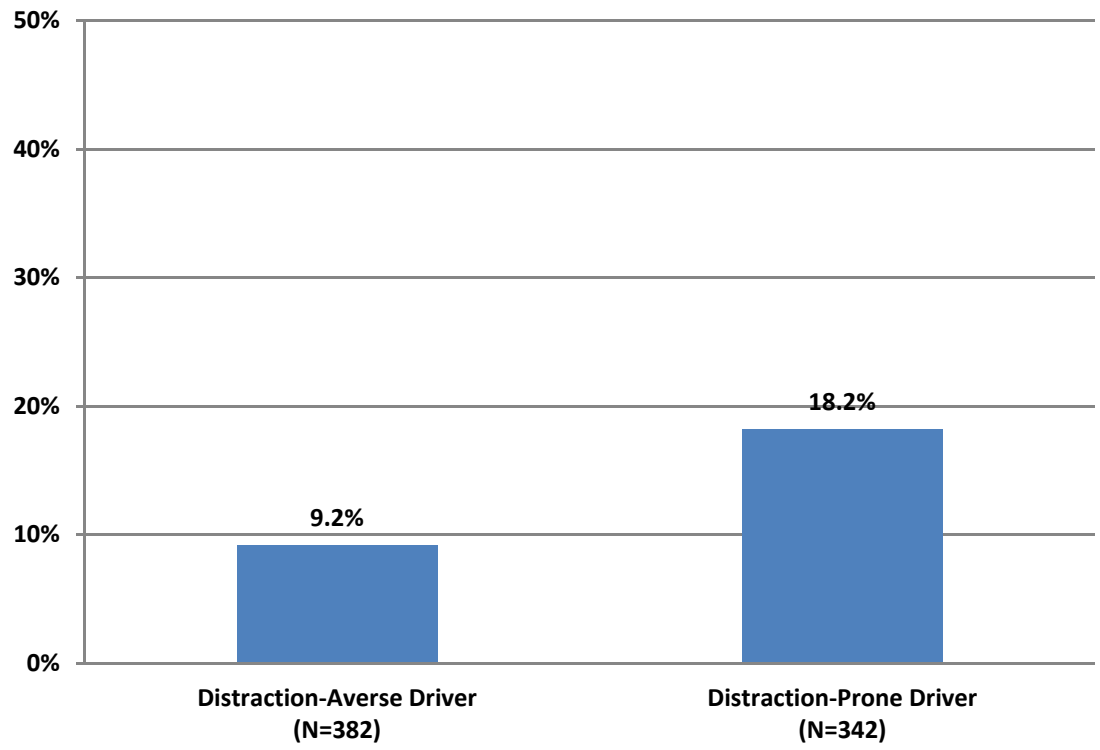
Figure 10-24
Had a Crash or Near-Crash in Past Year
by Driver Type



Q23. Have you been involved in a crash or near-crash as a driver in the past year? ($p<0.001$)
Base: All respondents
Unweighted N=See Figure

Figure 10-25 shows the proportion of respondents who were distracted at the time of their last crash or near-crash by driver type. Distraction-prone drivers (18%) were twice as likely as distraction-averse drivers (9%) to say they were distracted at the time of their last crash or near-crash.

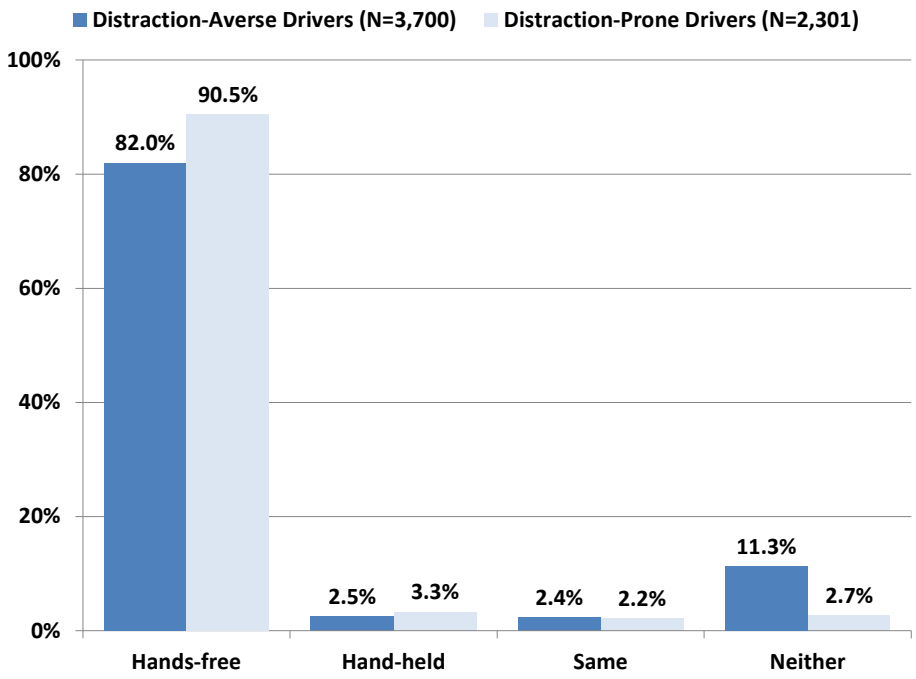
Figure 10-25
Was Distracted During Last Crash or Near-Crash Experience by Driver Type



Q23a. Were you distracted at the time of the LAST [crash/near-crash] you were in? ($p<0.001$)
Base: Drivers who were in a crash or near-crash in the past year
Unweighted N=See Figure

Figure 10-26 shows which phone call method is perceived as safer by driver type. Distraction-prone drivers are more likely than distraction-averse drivers to say that using a hands-free cell phone while driving is safer than using a handheld cell phone (91% versus 82%). While very few distraction-prone drivers (3%) thought that neither method was safer, more than 1 in 10 distraction-averse drivers (11%) indicated that neither method was safer than the other.

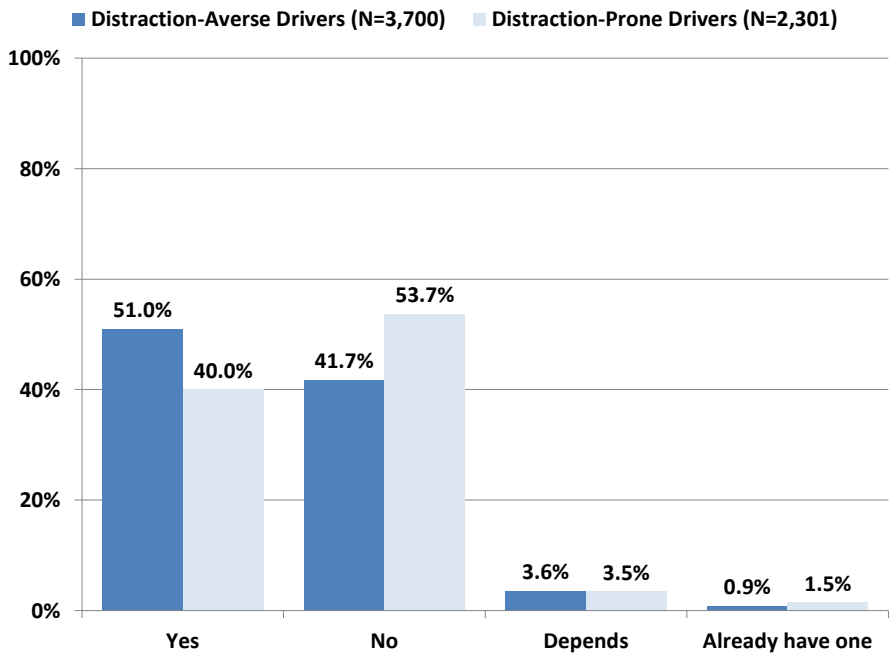
Figure 10-26
Safer to Use Hands-Free or Handheld Phone While Driving
by Driver Type



Q24b. Which is safer, using a [hands-free cell phone or using a handheld cell phone]? ($p<0.001$)
Base: All respondents
Unweighted N=See Figure

Figure 10-27 shows respondents' attitudes toward the use of apps that prevent texting and making phone calls while driving by driver type. Distraction-averse drivers were more likely than distraction-prone drivers to say that they would use a blocking app while driving (51% vs. 40%). A small percentage of respondents (1% of distraction-averse and 2% of distraction-prone) already have a smartphone app that blocks calls and texting while driving.

Figure 10-27
Would Use App to Block Calls and Texts While Driving
by Driver Type



Q24c. There are phone apps available to block phone calls and text messaging while driving. Would you use such an app? ($p<0.001$)
Base: All respondents
Unweighted N=See Figure

CHAPTER 11
TREND ANALYSIS

As noted earlier, this document presents the results of the third NHTSA National Survey on Distracted Driving Attitudes and Behaviors. The first such study was conducted in 2010, and the second was conducted in 2012. Comparing responses to questions that appeared in 2010, 2012, and 2015 provides insight into how distracted driving behaviors and attitudes have changed in the past 6 years. All three surveys asked respondents how often they engage in a set of specific activities while driving. Several activities that were not asked in 2010 and 2012 were added in 2015, while some others were removed from the 2015 survey instrument. Overall, respondents reported *always* engaging in these activities at similar rates from 2010 to 2015. In all three surveys, about 1 in 3 respondents (29% in 2010, 31% in 2012, and 35% in 2015) stated that they talk to other passengers in the vehicle while driving. In 2010, 6% of respondents reported eating or drinking when driving, while this percentage was 5% in 2012 and 6% in 2015. In 2010 and 2012, 6% of drivers reported making or answering phone calls on all driving trips. Unlike the previous years, the 2015 survey separated making and answering phone calls. About 1 in 20 respondents stated that they always initiate a phone call (4%) and 10% stated that they always answer phone calls while driving. The percentage of respondents that adjust their car radios increased from 17% in 2010 to 22% in 2015. Respondents in 2015 (5%) were more than twice as likely as respondents in 2012 (2%) and 2010 (1%) to use a smartphone for driving directions.

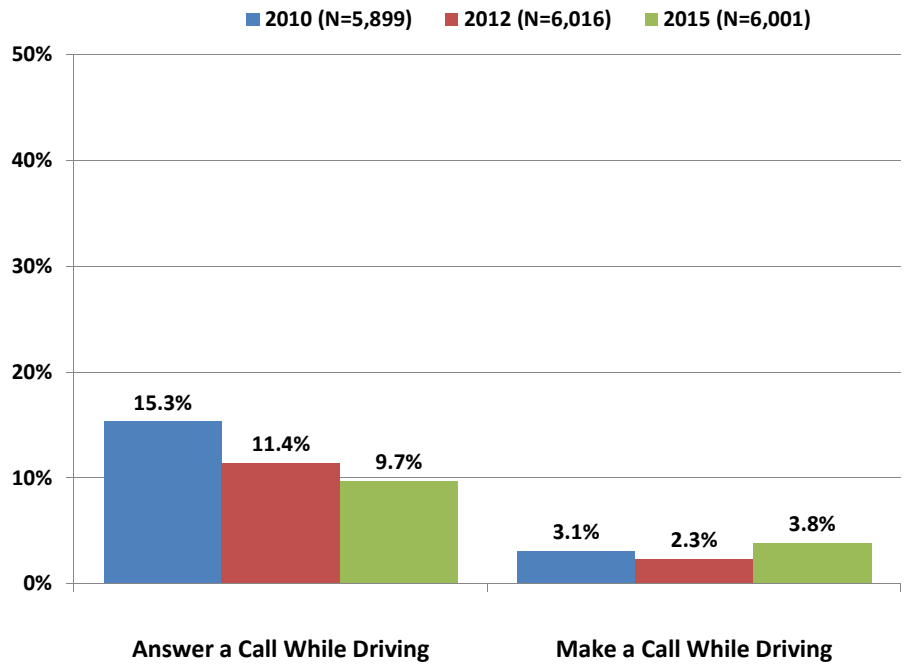
Table 11-1. Engaging in Distracted Driving Activities (Always or All Trips)

	2010 (N=5,907)	2012 (N=6,016)	2015 (N=6,001)
a. Talk to other passengers in the vehicle	28.6%	30.8%	34.8%
b. Eat or drink	5.6%	5.0%	5.6%
*. Make or accept phone calls	5.7%	6.3%	--
c. Make phone calls	--	--	3.8%
d. Answer phone calls	--	--	9.7%
*. Read, such as a book, newspaper, iPad, or Kindle	0.2%	0.4%	--
e. Read text or e-mail messages	1.2%	1.4%	1.6%
f. Send text or e-mail messages	0.8%	1.0%	1.0%
*. Do personal grooming	0.9%	1.0%	--
g. Talk or interact with children in the vehicle	6.2%	9.0%	14.1%
h. Use a portable music player, including a smartphone, with external speakers or with the car's speakers	--	--	10.9%
*. Use a portable music player with headphones on	0.2%	0.8%	--
*. Use a portable music player with external speakers	7.2%	6.4%	--
i. Adjust the car radio	17.2%	15.8%	22.0%
j. Change CDs, DVDs, or tapes	2.9%	3.2%	2.4%
k. Use a smartphone for driving directions	0.9%	2.4%	5.4%
l. Use a navigation system for driving directions	3.8%	4.4%	5.0%
m. Take pictures with your phone	--	--	0.8%
n. Use smartphone apps, not including a navigation app	--	--	1.6%
o. Look up information on the Internet	--	--	1.4%

2010 – Q5. I'm going to read a list of activities, and for each I'd like you to tell me how often YOU do each while driving? For each, please tell me if you do the activity on all driving trips, on most driving trips, on some driving trips, rarely, never? How often do you…
2012 – Q4. I'm going to read a list of activities, and for each I'd like you to tell me how often YOU do each while driving? For each, please tell me if you do the activity always, almost always, sometimes, rarely, or never? How often do you…
2015 – Q4. I'm going to read a list of common activities people do while driving. For each activity, I'd like you to tell me how often YOU do each while driving. For each, please tell me if you do the activity always, almost always, sometimes, rarely, or never? How often do you…
2010 Base: Respondents who drive at least a few times a year
2012/2015 Base: All respondents
* Items that are no longer used in 2015 survey.

All three surveys asked about respondents' willingness to answer or initiate phone calls while driving. Figure 11-1 shows how often respondents in 2010, 2012, and 2015 reported answering a phone call, as well as making a phone call while driving. The percentage of drivers who always answer phone calls while driving was higher in 2010. One in 7 drivers in 2010 (15%) indicated that they always answer phone calls while driving compared to 10% of drivers in 2015. There was a slight decrease in the percentage of drivers willing to make a phone call between 2010 and 2012 (3% versus 2%). This percentage increased to 4 in 2015.

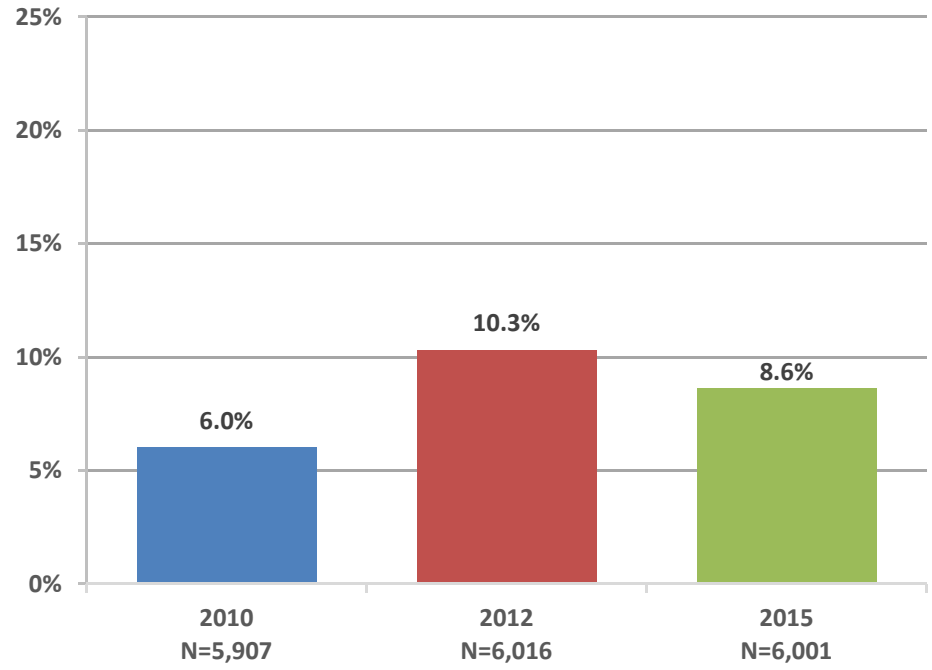
Figure 11-1
Answering and Making Phone Calls While Driving (% Always/All Trips)



2010/2012 – Q8a/Q5a. When you RECEIVE a phone call while you are driving, how often do you ANSWER the call?
2010/2012 – Q9a/Q6a. When you are driving, how often are you willing to MAKE a phone call?
2015 – Q4c/d. I'm going to read a list of common activities people do while driving. For each activity, I'd like you to tell me how often YOU do each while driving. For each, please tell me if you do the activity always, almost always, sometimes, rarely, or never? How often do you make phone calls? How often do you answer phone calls?
Base: 2010 – All drivers. 2012/2015- All respondents
Unweighted N=See Figure

There was a small increase in the proportion of drivers at least sometimes sending text messages or e-mails when driving since 2010. When asked the frequency of sending text messages or e-mails while driving, 6% of respondents in 2010, 10% of respondents in 2012, and 9% in 2015 reported at least sometimes sending texts or e-mails while driving.

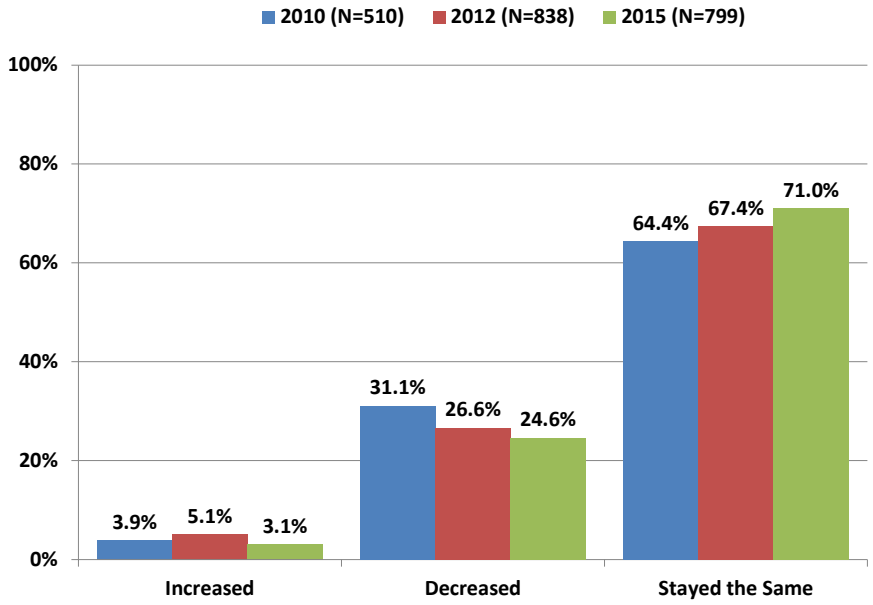
Figure 11-2
Do You Send Text Messages or E-Mails While Driving? (% at Least Sometimes)



2010 – Q5F/ 2012 – Q4F. I'm going to read a list of activities, and for each I'd like you to tell me how often YOU do each while driving? For each, please tell me if you do the activity: on all driving trips, on most driving trips, on some driving trips, rarely, or never. How often do you send text messages or e-mails?
2015 - Q4f. I'm going to read a list of common activities people do while driving. For each activity, I'd like you to tell me how often YOU do each while driving. For each, please tell me if you do the activity always, almost always, sometimes, rarely, or never? How often do you send text messages or e-mails?
Base: All respondents
Unweighted N=See Figure

Respondents who said they at least rarely use their cell phones for text messaging were asked if the frequency with which they send and receive text messages or e-mails in the past 30 days had changed. In all three surveys, most respondents reported that the rate at which they send electronic messages had stayed the same. This rate has slightly increased over the years (64% in 2010, 67% in 2012, and 71% in 2015). In 2010, 31% of respondents reported a decrease in the rate at which they send electronic messages; compared to 27% and 25%, respectively, in 2012 and 2015. The percentage of respondents who reported an increase was 4% in 2010, 5% in 2012, and 3% in 2015.

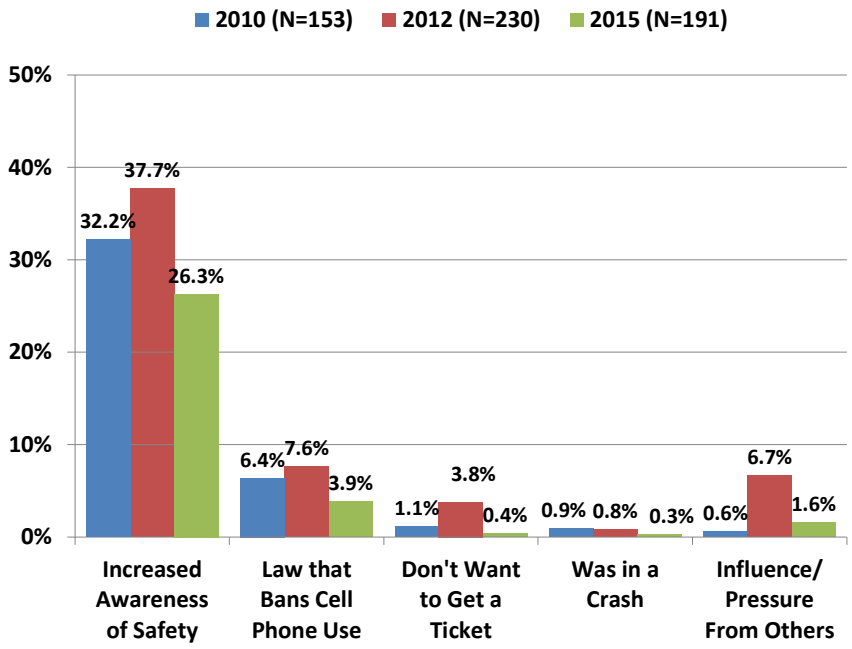
Figure 11-3
Has Your Frequency of Sending and Receiving Text Messages or E-Mails While Driving Increased, Decreased, or Stayed the Same?



2010 – Q19b. In the past 30 days, has the frequency with which you send and receive text messages or e-mails while driving increased, decreased, or stayed the same?
2012 – Q15b. In the past 30 days, has the frequency with which you send and receive text messages or e-mails while driving increased, decreased, or stayed the same?
2015 – Q16. In the past 30 days, has the frequency with which you send and receive text messages or e-mails while driving increased, decreased, or stayed the same?
Base: Respondents who have ever sent or received a text message or e-mail while driving
Unweighted N=See Figure

In all three surveys, respondents who reported sending or receiving fewer electronic messages while driving in the past 30 days were asked what caused this decrease. The most common answer from respondents in all three surveys was an increased awareness of safety (32% in 2010, 38% in 2012, and 26% in 2015), followed by a law that bans cell phone use (6% in 2010, 8% in 2012, and 4% in 2015). Influence of others increased from 1% in 2010 to 7% in 2012, but it declined to 2% in 2015.

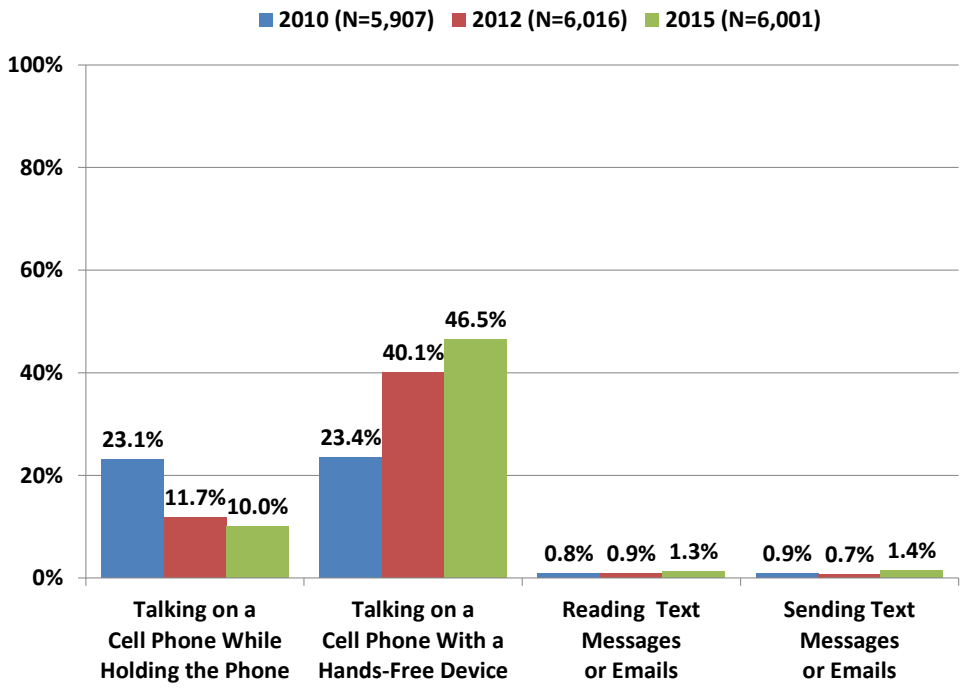
Figure 11-4
Reasons for Decrease in Sending and Receiving Text Messages While Driving



2010 – Q19c. What caused the frequency with which you send and receive text messages or e-mails while driving to decrease?
2012 – Q15c. What caused the frequency with which you send and receive text messages or e-mails while driving to decrease?
2015 – Q16a. Why did your frequency of sending and receiving text messages or e-mails while driving decrease?
Base: Respondents who report a decrease in the frequency with which they send or receive text messages or e-mails while driving in the last 30 days
Unweighted N=See Figure

Each respondent was asked to judge how safe they would feel as a passenger if their driver was involved in a variety of situations. The proportion of respondents who said they would feel safe if their drivers were talking on a handheld cell phone while driving has decreased considerably between 2010 and 2015. In 2010, nearly one quarter of respondents (23%) said they would feel safe in this situation, while only 12% of respondents in 2012 and 10% of respondents in 2015 said they would feel safe if the driver was engaged in a phone conversation while holding their cell phone. Conversely, the proportion of respondents who would feel safe in a car operated by a driver using a hands-free device has increased over the years. Nearly one half of respondents in 2015 (47%) would feel safe if their drivers were using a hands-free device to make or answer a phone call while driving, compared to 40% of respondents in 2012 and 23% of respondents in 2010. The proportion of respondents who said they would feel safe if their drivers were reading or sending text messages while driving hasn't changed over the past 5 years.

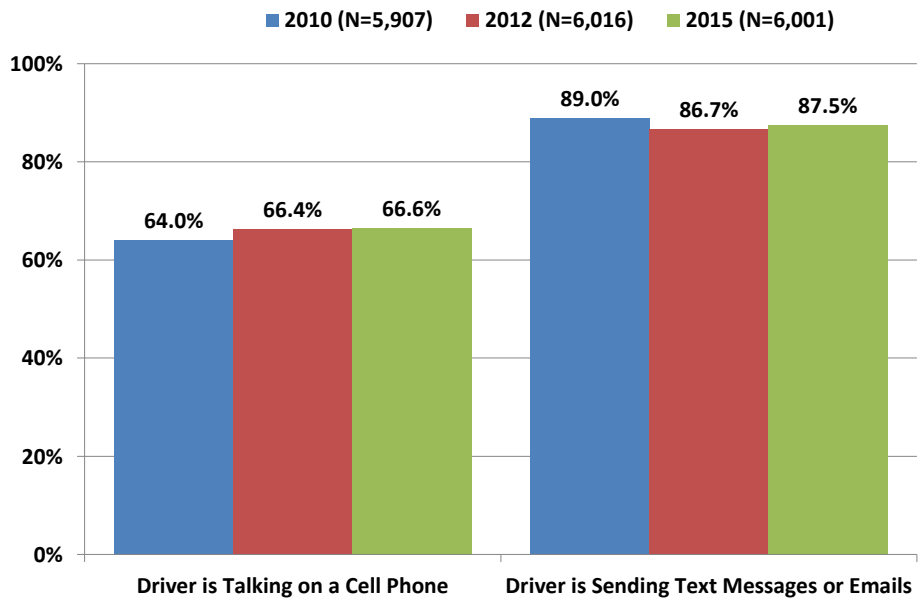
Figure 11-5
Perceived Safety as a Passenger (% Safe)



2010 - Q18. Now I'm going to read a list of things people sometimes do while driving. Tell me how safe you would feel if you were a passenger riding in a car while your driver was doing the following?
2012/2015 - Q14/Q11. Now I'm going to read a list of things people sometimes do while driving. Tell me how safe you would feel if you were a passenger riding in a car while your driver was doing the following. For each please tell me if you would feel very unsafe, somewhat unsafe, a little less safe, or safe – no problem – would not pay any more attention.
Base: All respondents
Unweighted N=See Figure

In all three surveys, most respondents reported that they would be very or somewhat likely to say something if their drivers were sending messages or talking on a handheld cell phone while driving. Across all 3 years, nearly 9 in 10 respondents would be very likely or somewhat likely to do or say something to the driver if their drivers were sending text messages or e-mails. In 2015, respondents (67%) were slightly more likely to say that they would intervene if their drivers were talking on the phone while driving than were respondents (64%) in 2010.

Figure 11-6
Likelihood of Intervening if Driver Is Using a Cell Phone While Driving

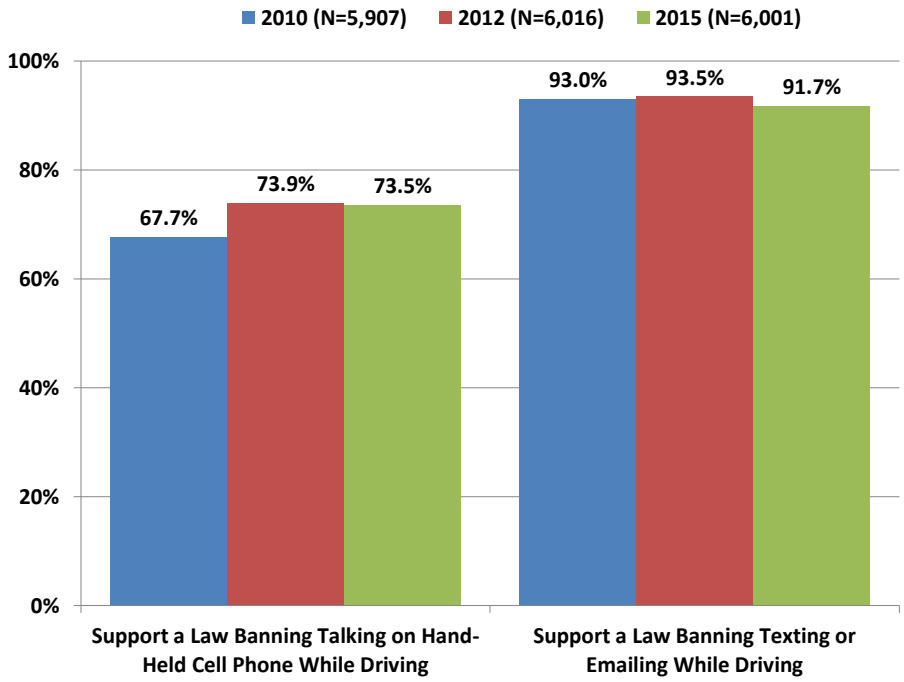


2010/2012/2015 – Q31bx/Q14b/Q12. How likely are you to do or say something to your driver if they're TALKING on a handheld cell phone while driving?
2010/2012/015 – Q31/Q14c/Q13. How likely are you to do or say something to your driver if they're SENDING MESSAGES while driving?
Base: All respondents
Unweighted N=See Figure

The three surveys asked respondents if they support a law banning talking on a handheld cell phone while driving. Support for such laws increased slightly from 2010 (68%) to 2012 and 2015 (74%). In all three surveys, an overwhelming majority of respondents supported laws banning texting or e-mailing while driving, with 93% of respondents in 2010, 94% in 2012, and 92% in 2015 supporting such laws.

Figure 11-7

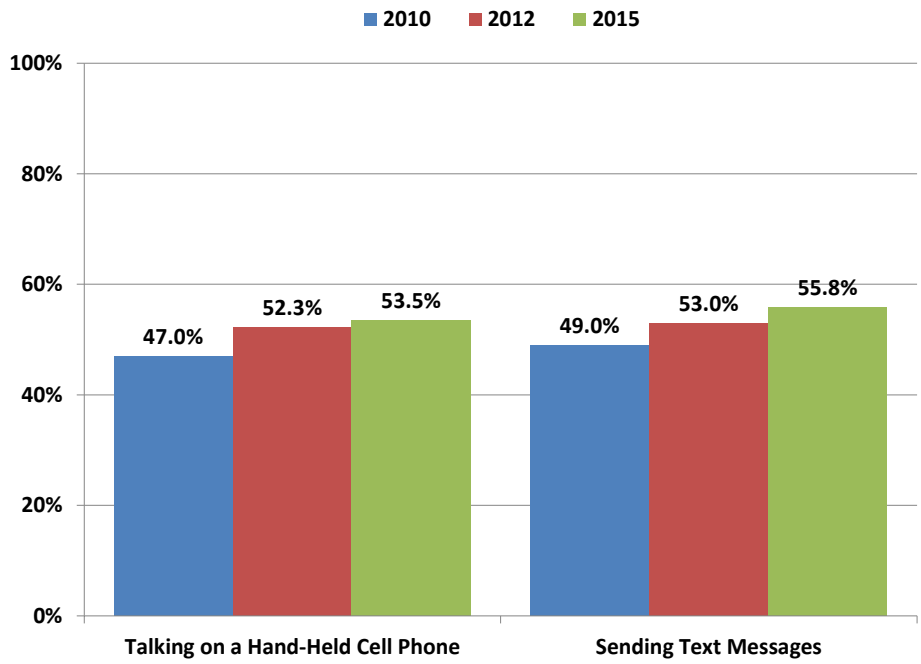
Do You Support a Law Banning Talking on a Handheld Cell Phone While Driving, or a Law Banning Texting or E-Mailing While Driving? (% Yes)



2010/2012/2015 – Q21/Q17/Q19. Do you support a State law banning talking on a handheld cell phone while driving?
2010/2012/2015 – Q21b/Q17b/Q19b. Do you support a State law banning texting or e-mailing while driving?
Base: All respondents
Unweighted N=See Figure

Those who reported living in a State that bans talking on a handheld cell phone and/or sending text messages while driving were further asked how likely one would be to get ticketed for such infractions. Figure 11-8 shows the perceptions of enforcement for infractions related to talking on a handheld cell phone and texting/e-mailing while driving. More than half of the respondents in 2012 and 2015 said they were very likely or somewhat likely to be ticketed if they used a handheld phone or texted or e-mailed while driving.

Figure 11-8
Likelihood of Ticket for Using Cell Phone While Driving
(% Very/Somewhat Likely)



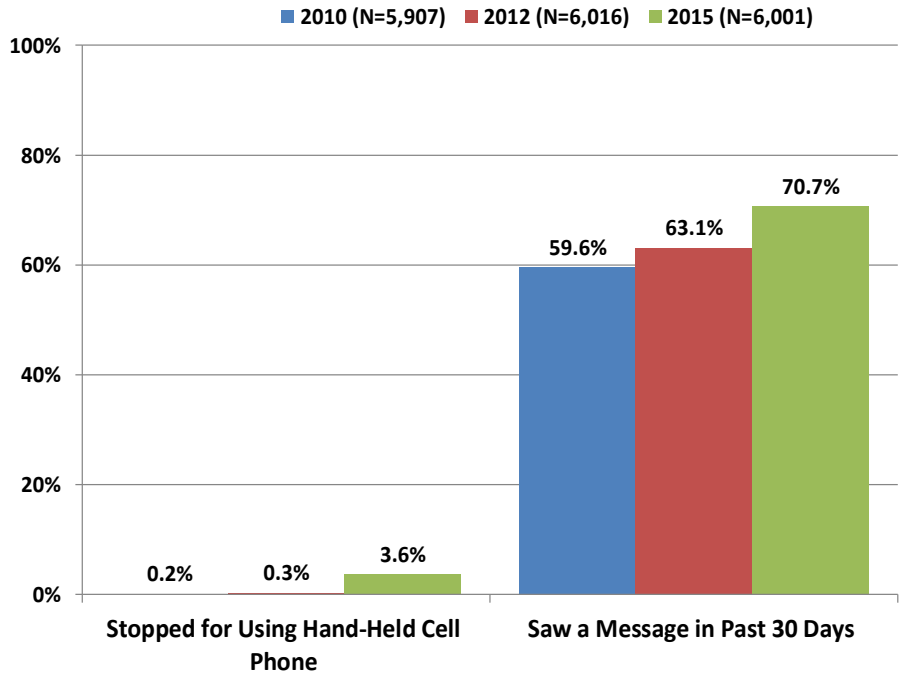
2010/2012/2015 – Q20b/Q16a/Q17a. Assume that over the next 6 months someone frequently talks on a handheld cell phone while driving. How likely do you think that person would be to receive a ticket for taking on a cell phone while driving?
2010 - Unweighted N=1,760
2012 - Unweighted N=4,158
2015 – Unweighted N=4,383
Base: Respondents that report living in a State that bans talking on a handheld cell phone while driving
2010/2012/2015 – Q20f/Q16c/Q17b. Assume that over the next 6 months someone frequently sends text messages or e-mails, or [uses apps] while driving. How likely do you think that person would be to receive a ticket for talking on a cell phone while driving?
Base: Respondents that report living in a State that bans sending text messages and e-mails while driving
2010 - Unweighted N=2,400
2012 - Unweighted N=5,173
2015 – Unweighted N=5,458

In all three surveys, the respondents were asked whether they had been stopped by police for using a cell phone while driving and whether they had seen or heard an educational message that discourages cell-phone-related distracted driving in the past month. In both 2010 and 2012 fewer than 1% of respondents reported being stopped by police in the past 30 days for using a handheld cell phone while driving. In 2015, nearly 4% of respondents reported having been stopped by the police for using a handheld phone while driving.

There was a steady increase over the three surveys of the proportion of respondents who had seen a message in the past 30 days that discourages drivers from talking on phones or sending electronic messages while driving, including 60% of respondents in 2010, 63% in 2012, and 71% in 2015.

Figure 11-9

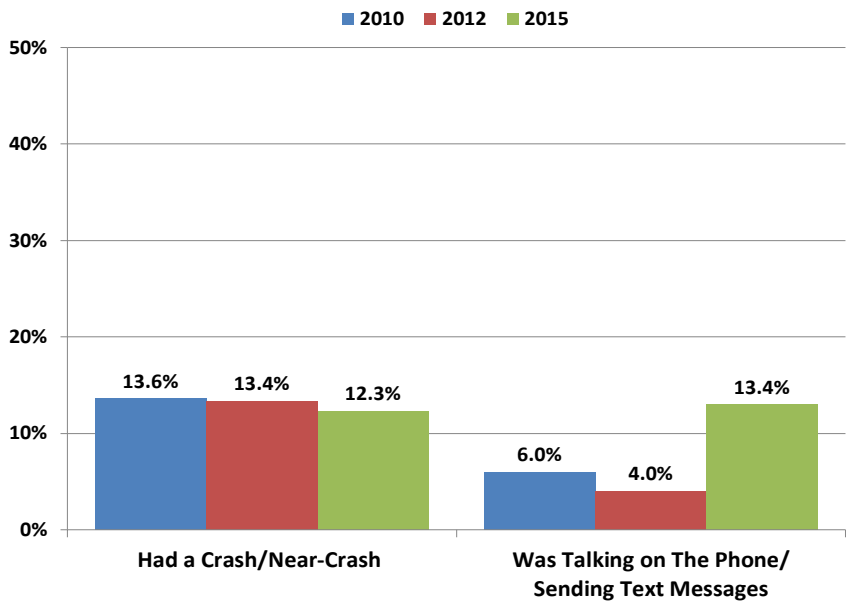
Was Respondent Stopped by Police for Using a Handheld Cell Phone While Driving, Percentage of Respondents Exposed to Messages Discouraging Distracted Driving - Past 30 Days (% Yes)



2010/2012 – Q22b/Q18b. Were you personally stopped by police for using a handheld cell phone while driving in the past 30 days?
2015 – Q20. Have you ever been personally stopped by the police for using a handheld cell phone while driving?
2010/2012/2015 – Q23/Q19/Q21. Now, I would like to ask you a few questions about educational or other types of activities. In the past 30 days, have you seen or heard any messages that encourage people not to talk on phones or send electronic messages while driving? This could be public service announcements on TV, messages on the radio, signs on the road, news stories, or something else.
Base: All respondents
Unweighted N=See Figure

The proportion of respondents involved in a crash or near-crash as a driver has decreased slightly between 2010 and 2015. In 2010, 14% of respondents indicated they had been involved in a crash or near-crash in the past year, compared to 12% of respondents in 2015. Although, the proportion of respondents involved in a crash or near-crash has decreased over the past 6 years, 2015 respondents (13%) were three times as likely as 2012 respondents (4%), and twice as likely as 2010 respondents (6%) to state they were talking on the phone, or sending or reading text messages or e-mails at the time of the crash or near-crash.

Figure 11-10
Exposure to Distracted Driving Crash



2010/2012/2015 – Q25/Q21/Q23. Have you been involved in a crash or near-crash as a driver in the past year?
Base: All respondents
2010 - Unweighted N=5,907
2012 - Unweighted N=6,016
2015 – Unweighted N=6,001
2010/2012 – Q25a/Q21a. Were you using a cell phone at the time of the last crash/near-crash you were in?
2015 – Q23ab Were you distracted at the time of the last crash/near-crash you were in? How were you distracted at the time of the crash/near-crash
Base: Had a crash in the past year
2010 - Unweighted N=718
2012 - Unweighted N=805
2015 – Unweighted N=720

CONCLUSION

The 2015 National Survey on Distracted Driving Attitudes and Behaviors is the third in a series of national studies conducted by NHTSA to assess the attitudes and behaviors toward distracted driving in the United States and to increase the understanding of this behavior to inform the development of effective countermeasures and interventions. Telephone interviews were conducted with 6,001 drivers across the United States, and the responses were weighted to represent the driving population of the United States.

Overall, 90% of respondents own cell phones. Cell phone use while driving is widespread. Forty-two percent of drivers answer their cell phones at least some of the time when driving, and 56% of surveyed drivers continue to drive as they engage in the phone conversation. One-third of drivers (34%) are willing to make phone calls at least some of the time when driving. Of these drivers, many have to take their eyes off the road at least momentarily to initiate the call because 29% of them enter the phone number manually and 33% scroll through saved numbers to make a selection.

A large portion of drivers do not believe that their driving performance is affected by cell phone use. More than half (53%) of drivers who talk on cell phones while driving believe that there is no difference in their driving while on versus off the cell phone. On the other hand, some drivers do notice deterioration in their driving performance. Twelve percent state that they tend to drive more slowly when using cell phones, 20% say that they are more distracted and not as aware, and 1% say that they drift out of their lane or drive erratically (1%). Interestingly, 4% of drivers believe that they are more focused and pay more attention to driving when they are on the phone.

Respondents' perceptions of the safety of cell phone-distracted driving are different when they are not drivers, but rather passengers in a car driven by someone who is talking on a cell phone. Overall, 65% of respondents would feel very or somewhat unsafe if their drivers were talking on a handheld cell phone while driving. Distraction-averse people (56%) were much more likely to feel very unsafe than the distraction-prone people (22%) in this driving situation. Two-thirds (67%) of respondents stated that they would be very or somewhat likely to do or say something to the driver if he/she was talking on a cell phone.

Sending text messages or e-mails is not as widespread among drivers as talking on the cell phone while driving. Four out of 5 (80%) respondents stated that they never send text messages or e-mails while driving, while 9% reported that they send text messages at least sometimes and 11% reported that they rarely do. Of drivers who do send electronic messages, 44% stated that they wait until they reach a stop light or stop sign to send the text message and 14% continue to drive while they write the message. One-third of drivers (31%) who send text messages or e-mails while driving believe that there is no difference in their driving compared to times when they are not texting. However, 34% reported they are distracted and not as aware, 13% reported that they drive more slowly, and 4% reported that they tend to drift out of their lane of travel.

A large majority of respondents reported that they would feel very unsafe if their drivers were sending e-mails or text messages (86%), or reading e-mails or text messages (81%). Overall, 87%

of respondents indicated that they were at least somewhat likely to intervene if they were passengers in a vehicle in which the driver was sending text messages or e-mails.

About 1 in 12 respondents (8%) stated they used apps at least sometimes while driving, not including navigation apps. Music/radio apps (e.g., Pandora) (42%), Facebook (13%), and Internet search engines (e.g., Chrome, Safari) (7%) were the most frequently cited apps. Respondents said that they were more likely to use a smartphone app while driving when they are in need of directions or other information (23%), for music/entertainment (14%), or when they are bored (13%).

Few respondents reported involvement in crashes or near-crashes in the past year. In all, 7% of drivers reported a crash and 5% reported a near-crash in the past year. Of these events, 14% of drivers were distracted when the crash or near-crash occurred. Distraction-prone drivers (18%) were twice as likely as distraction-averse drivers (9%) to say they were distracted at the time of their last crash or near-crash.

Respondents perceived distracted driving behaviors like talking on a cell phone while driving to be fairly prevalent, with 69% of respondents estimating that more than half of drivers talk on the cell phone at least occasionally. However, respondents perceived texting while driving to be a less frequent occurrence, with 48% of respondents estimating that more than half of drivers send electronic messages at least occasionally while driving.

The majority of respondents support laws banning talking on handheld cell phones and texting or e-mailing while driving. Almost three-quarters of respondents (74%) support a ban on cell phone use while driving and 92% support a law banning texting or e-mailing while driving. Distraction-averse drivers were more likely to support a State law banning talking on a handheld cell (82%), while distraction-prone drivers were more likely to oppose such law (36%).

Respondents are generally aware of laws that ban talking on cell phones or texting while driving in their State when the State in which the respondent is located has a law, but respondent perceptions are less accurate when asked about such laws when there is no such law in the State. In States with laws that ban handheld cell phone use while driving, 83% of drivers were aware of the law and an additional 9% thought their State probably had such a law, while only 4% incorrectly thought their State did not have such a law. In States without laws that ban talking on cell phones while driving, 39% knew that their State did not have such a law, while 29% incorrectly thought that their State had such a law and an additional 12% thought the State probably had such a law, when it did not.

In States that ban sending or reading text messages and e-mails while driving, 64% of drivers knew about the law and an additional 14% thought the State probably had such a law, while only 8% incorrectly thought their State did not have such a law. In States without laws that ban sending and receiving text messages and e-mails while driving, 29% were aware that their State did not have such a law, while 33% incorrectly thought that their State had a law and an additional 14% thought the State probably had such a law, when it did not.

Although 14 States and the District of Columbia have laws banning the use of handheld cell phones while driving, most respondents who reside in these States were not aware of any special enforcement efforts, and respondents were about equally split on whether offenders of the law will be ticketed.

Overall, 54% of respondents thought a driver who regularly talks on a cell phone while driving was likely to get a ticket in the next 6 months, while 43% stated that it was unlikely that the driver would be ticketed. Drivers with less formal education were more likely to believe that the driver would be ticketed, while those with more formal education were more likely to believe that the driver would not be ticketed.

More than half of respondents (56%) believed that it was at least somewhat likely that drivers who frequently send text messages or e-mails while driving would get a ticket for this infraction in the next 6 months; 42% think it is somewhat or very unlikely.

Safe driving messages are reaching drivers, with 71% reporting that they had seen or heard a message discouraging distracted driving in the past 30 days. Drivers who drove every day were more likely than those who drove less frequently to report having seen or heard these messages. The media sources for these messages were TV, reported as the source by 68% of respondents, billboards as reported by 36% of respondents, and radio as reported by 26% of respondents.

Although 94% of respondents reported having heard or seen at least one safe driving slogan in the past 30 days, most of the messages associated with cell phone distracted driving are reaching far fewer drivers. Approximately 51% of respondents reported hearing or seeing "it can wait," while just over a quarter of drivers have heard "U Drive. U Text. U Pay." (28%), or "One Text or Call Could Wreck It All" (28%). About 1 in 5 drivers have heard "No Phone Zone" (22%), "On the Road, Off the Phone" (19%), and "Put It Down" (18%) in the past 30 days.

The percentage of drivers who send text messages while driving has remained the same over the years with 1% of respondents reporting they always send text messages or emails and 1-2% say they always read their texts while driving.

The proportion of respondents who said they would feel safe if their drivers were talking on a handheld cell phone while driving has decreased considerably between 2010 and 2015 from 23% in 2010 to 10% in 2015. Conversely, the proportion of respondents who would feel safe in a car operated by a driver using a hands-free device has increased over the years. Nearly one half of respondents in 2015 (47%) would feel safe if their drivers were using a hands-free device to make or answer a phone call while driving, compared to 40% of respondents in 2012 and 23% of respondents in 2010.

Support for laws banning handheld cell phone use increased from 68% in 2010 to 74% in 2012, and stayed the same (74%) in 2015. Support for laws banning texting or e-mailing while driving has remained about the same over the 6-year period with 93% of respondents in 2010, some 94% of respondents in 2012, and 92% of respondents in 2015 supporting such a law.

There was a significant increase in the proportion of respondents reporting that they had been stopped by police for talking on a cell phone from 2010 to 2015 with less than 1% of respondents in 2010 (0.2%) and 2012 (0.3%) and 4% of respondents in 2015.

Finally, although the proportion of respondents involved in a crash or near-crash has decreased slightly between 2010 and 2015, cell-phone-related motor vehicle crashes have increased considerably over the past 5 years. The proportion of respondents stating that they were talking on the phone, sending or reading text messages or e-mails at the time of the crash has doubled between 2012 (6%) and 2015 (13%).

Appendix A

Questionnaire

5939 NHTSA Distracted Driving
Abt SRBI
V1.11

2015 National Survey of Distracted Driving Attitudes and Behaviors
Questionnaire

Sample Read-ins:
State [sampstat]
Metro Status
Telephone number

INTRODUCTION – SCREENING QUESTIONS

QLAN WHICH LANGUAGE INTERVIEW CONDUCTED IN

1 English
2 Spanish

5939C: CELL SAMPLE
SC1. Hello, I am _____ calling on behalf of the U.S. Department of Transportation. We are conducting a national study of Americans' driving habits and attitudes.

[IF NEEDED: Any answers you give are kept strictly private. A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB number for this solicitation is 2127-0665 and it expires on November 30, 2017.]

Are you currently driving?

1 Yes	**THANK & END, CALLBACK**
2 No	
9 Refused	**THANK AND END**

SC1a. Are you in a safe and suitable place to talk right now?

1 Yes	
2 No, call me later	**SCHEDULE CALLBACK**
3 No, CB on land-line	**RECORD NUMBER, schedule call back**
4 Cell phone for business only	**THANK & END - BUSINESS#**
9 Refused	**THANK AND END**

SC2. As I mentioned, I am calling on behalf of the Department of Transportation. This collection of information is VOLUNTARY and will be used for statistical purposes only so that we may develop and evaluate programs designed to reduce the number of traffic-related injuries and deaths. The interview will take approximately 20 minutes. Your participation is anonymous, and we will not collect any personal information that would allow anyone to identify you. Are you 16 years old or older?

[IF NEEDED: If you would like to learn more about the survey, you can call our toll-free number at 1-800-244-4135 or visit the DOT website at www.distraction.gov. The OMB number for this solicitation is 2127-0665 and it expires on November 30, 2017.]

1 Yes
2 Yes, no time **SCHEDULE CALLBACK**
3 No **SCREEN OUT**
9 Refused **THANK AND END**

Qualified Level 1

SC2a. How many people, 16 and older, live in your household?
[ENTER NUMBER 1-10]
10 10 or more
98 NONE **SCREEN OUT, SKIP TO SCR1**
99 Don't know/Refused **THANK AND END**

SC3. Not counting (this/these) cell phone(s), do you also have a regular landline phone at home?
1 Cell is only phone **SKIP TO SA3**
2 Has regular phone at home
9 Don't know/Refused **THANK AND END**

SC4. Of all the telephone calls that you or your family receives, are . . .
READ LIST
1 All or almost all calls received on cell phones
2 Some received on cell phones and some on regular phones **(SCRN OUT: NOT CELL MOSTLY) SKIP TO SCR1**
3 Very few or none on cell phones **(SCRN OUT: NOT CELL MOSTLY) SKIP TO SCR1**
8 (VOL) Don't know **(SCRN OUT: NOT CELL MOSTLY) SKIP TO SCR1**
9 (VOL) Refused **(SCRN OUT: NOT CELL MOSTLY) SKIP TO SCR1**

SC5. Thinking about just your LANDLINE home phone, NOT your cell phone, if that telephone rang when someone was home, under normal circumstances, how likely is it that the phone would be answered? Would you say it is … **READ LIST**
1Very likely the landline phone would be answered,
2 Somewhat likely,
3 Somewhat unlikely,
4 Very Unlikely, or
5 Not at all likely the landline phone would be answered
8 (VOL) Don't know
9 (VOL) Refused

5939L: LANDLINE SAMPLE

SL1. Hello, I am _____ calling on behalf of the U.S. Department of Transportation. We are conducting a national study of Americans' driving habits and attitudes. This collection of information is VOLUNTARY and will be used for statistical purposes only so that we may develop and evaluate programs designed to reduce the number of traffic-related injuries and deaths. The interview will take approximately 20 minutes. Your participation is anonymous, and we will not collect any personal information that would allow anyone to identify you.

[IF NEEDED: If you would like to learn more about the survey, you can call our toll-free number at 800-244-4135 or visit the DOT website at www.distraction.gov. A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB number for this solicitation is 2127-0665 and it expires on November 30, 2017.]

How many people, 16 and older, live in this household?
[ENTER NUMBER 1-10]

10 10 or more	
98 NONE	**SCREEN OUT**
99 Don't know/Refused	**THANK AND END**

Qualified Level 1

ASK IF SL1=1.

SL1a. May I speak with that person?

1 Rspn on line	**SKIP TO SA3**
2 Rspn called to phone	**GO TO SL1c**
3 Rspn unavailable	**SCHEDULE CALLBACK**
9 Refused	**THANK AND END**

ASK IF SL1>1

SL1b. In order to select just one person to interview, may I please speak to the person in your household, 16 or older, who (**RANDOMIZE:** has had the most recent/will have the next) birthday?

1 Rspn on line	**GO TO SA3**
2 Rspn called to phone	
3 Rspn unavailable	**SCHEDULE CALLBACK**
9 Refused	**THANK AND END**

SL1c. Hello, I am _____ calling on behalf of the U.S. Department of Transportation. We are conducting a national study of Americans' driving habits and attitudes. This collection of information is VOLUNTARY and will be used for statistical purposes only so that we may develop and evaluate programs designed to reduce the number of traffic-related injuries and deaths. The interview will take approximately 20 minutes. Your participation is anonymous, and we will not collect any personal information that would allow anyone to identify you.

[IF NEEDED: If you would like to learn more about the survey, you can call our toll-free number at 1-800-244-4135 or visit the DOT website at www.distraction.gov. A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB number for this solicitation is 2127-0665 and it expires on November 30, 2017.]

Could I please confirm that you are a household member 16 or older?

1 Yes	
2 No	**SCHEDULE CALLBACK**
9 Refused	**THANK AND END – Soft Refusal**

SKIP TO SA3

5939O: LANDLINE OVERSAMPLE

SO1. Hello, I am _____ calling on behalf of the U.S. Department of Transportation. We are conducting a national study of Americans' driving habits and attitudes. This collection of information is VOLUNTARY and will be used for statistical purposes only so that we may develop and evaluate programs designed to reduce the number of traffic-related injuries and deaths. The interview will take approximately 20 minutes. Your participation is anonymous, and we will not collect any personal information that would allow anyone to identify you.

[IF NEEDED: If you would like to learn more about the survey, you can call our toll-free number at 1-800-244-4135 or visit the DOT website at www.distraction.gov. A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB number for this solicitation is 2127-0665 and it expires on November 30, 2017.]

How many people, 16 to 34, live in this household?
[ENTER NUMBER 1-10]

10 10 or more	
98 NONE	**SCREEN OUT**
99Don't know/Refused	**THANK AND END**

Qualified Level 1

ASK IF SO1=1.

SO1a. May I speak with that person?

1 Rspn on line	**SKIP TO SA3**
2 Rspn called to phone	**GO TO SO1c**
3 Rspn unavailable	**SCHEDULE CALLBACK**
9 Refused	**THANK AND END**

ASK IF SO1>1

SO1b. In order to select just one person to interview, may I please speak to the person in your household, 16 to 34, who (has had the most recent/will have the next) birthday?

1 Rspn on line	**GO TO SA3**
2 Rspn called to phone	
3 Rspn unavailable	**SCHEDULE CALLBACK**
9 Refused	**THANK AND END**

SO1c. SO1d Hello, I am _____ calling on behalf of the U.S. Department of Transportation. We are conducting a national study of Americans' driving habits and attitudes. This collection of information is VOLUNTARY and will be used for statistical purposes only so that we may develop and evaluate programs designed to reduce the number of traffic-related injuries and deaths. The interview will take approximately 20 minutes. Your participation is anonymous, and we will not collect any personal information that would allow anyone to identify you.

[IF NEEDED: If you would like to learn more about the survey, you can call our toll-free number at 1-800-244-4135 or visit the DOT website at www.distraction.gov. A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB number for this solicitation is 2127-0665 and it expires on November 30, 2017.]

Could I please confirm that you are a household member 16 to 34?
1 Yes
2 No **SCHEDULE CALLBACK**
9 Refused **THANK AND END**

SA3. Record gender from observation. (Ask only if Necessary)
1 Male
2 Female

Qualified Level 2

GENERAL DRIVING INFORMATION

Q1. How often do you drive a motor vehicle, regardless of whether it is for work or for personal use? Every day, almost every day, a few days a week, a few days a month, a few days a year, or do you never drive? **DO NOT READ LIST.**

1 Every day
2 Almost every day
3 Few days a week
4 Few days a month
5 Few days a year
6 Never **SKIP TO D1** [SCREEN OUT – DEMOS ONLY]
7 (VOL) Other (**SPECIFY**)
8 (VOL) Don't know **SKIP TO D1** [SCREEN OUT – DEMOS ONLY]
9 (VOL) Refused **SKIP TO D1** [SCREEN OUT – DEMOS ONLY]

Q1a. Is the vehicle you drive most often a car, van, motorcycle, sport utility vehicle, pickup truck, or other type of truck?
[**NOTE: IF RESPONDENT DRIVES MORE THAN ONE VEHICLE OFTEN, ASK:**] "What kind of vehicle did you LAST drive?"

1 Car
2 Van or minivan
3 Motorcycle
4 Pickup truck
5 Sport Utility Vehicle
6 Other truck (**SPECIFY**)
7 (VOL) Other (**SPECIFY**)
8 (VOL) Don't know
9 (VOL) Refused

Q1b. What model year is that vehicle?

RECORD 4 DIGIT YEAR [Range 1900-2015]
9998=Don't Know
9999=Refused

PERCEPTIONS OF ENFORCEMENT

Q2. When you pass a driver stopped by the police IN THE DAYTIME, what do you think the stop was most likely for? **DO NOT READ LIST. MULTIPLE RECORD**.

1 Speeding
2 Seat Belt Violation
3 Drunk Driving
4 Reckless Driving
5 Cell phone use
6 Texting or sending e-mails while driving
7 Registration Violation
8 Other (**SPECIFY**)
98 (VOL) Don't know
99 (VOL) Refused

Q2a. When you pass a driver stopped by the police IN THE NIGHTTIME, what do you think the stop was for? **DO NOT READ LIST. MULTIPLE RECORD**.

1 Speeding
2 Seat Belt Violation
3 Drunk Driving
4 Reckless Driving
5 Cell phone use
6 Texting or sending e-mails while driving
7 Registration Violation
8 Other (**SPECIFY**)
98 (VOL) Don't know
99 (VOL) Refused

OWNERSHIP OF MOBILE ELECTRONICS

Q3. Do you CURRENTLY own any of the following devices?
READ A-G AND CODE FOR EACH
A. A cell phone [**Code 1 (Yes) if mentions any cell phone including a smartphone**]
B. A 'smartphone' such as a Droid, iPhone, or Blackberry
C. A portable music player, such as a CD player or iPod, apart from a smartphone
D. A portable navigation system, such as TomTom or Garmin, apart from a smartphone
E. A navigation system built into the vehicle, such as OnStar or Sync
F. [**ASK IF 3A OR 3B=1**] A Bluetooth or other hands-free device for your cell phone, such as one that plugs into the phone, works wirelessly, or works through your vehicle's car stereo

1 Yes
2 No
3 Mixed/Shared Use
8 (VOL) Don't know
9 (VOL) Refused

ASK IF Q3F=1
Q3a1. Is the vehicle that you drive most often equipped with built-in hands-free Bluetooth capability?
1 Yes
2 No **SKIP TO Q4**
8 (VOL) Don't know **SKIP TO Q4**
9 (VOL) Refused **SKIP TO Q4**

Q3a2. Have you paired or "connected" your phone with the vehicle via Bluetooth?
1 Yes
2 No
8 (VOL) Don't know
9 (VOL) Refused

FREQUENCY OF DISTRACTED DRIVING

Q4. I'm going to read a list of common activities people do while driving. For each activity, I'd like you to tell me how often YOU do each while driving. For each, please tell me if you do the activity always, almost always, sometimes, rarely, or never? How often do you…

READ A-O AND CODE FOR EACH:

A. Talk to passengers in the vehicle
B. Eat or drink
C. Make phone calls
D. Answer phone calls
E. READ text or e-mail messages
F. SEND text or e-mail messages
G. Talk or interact with children in the vehicle
H. Use a portable music player, including a smartphone, with external speakers or with the car's speakers
I. Adjust the car radio
J. Change CDs, DVDs, or tapes
K. Use a Smartphone for driving directions
L. Use a navigation system for driving directions
M. Take pictures with your phone
N. Use smartphone apps, not including a navigation app
O. Look up information on the Internet

1 Always
2 Almost always
3 Sometimes
4 Rarely
5 Never
8 (VOL) Don't know
9 (VOL) Refuse

ANSWERING AND MAKING CELL PHONE CALLS WHILE DRIVING

ASK Q5 IF Q3a=1 OR Q3b=1

Q5. When not in use, where do you put your cell phone while driving?

DO NOT READ LIST. MULTIPLE RECORD

1 Pocket or Purse
2 Cup holder or tray
3 Lap
4 Passenger seat
5 Mount on dashboard
6 In hand
7 Backseat
8 Glove box
9 Built-in enclosed storage space (other than glove box)
10 Other (specify)
98 (VOL) Don't know
99 (VOL) Refuse

IF Q4C=5 AND Q4D=5 SKIP TO Q8

Q5a Which of the following do you USUALLY do when making or receiving a call while driving?

MULTIPLE RECORD.

1 Hold the phone in your hand
2 Squeeze the phone between your ear and shoulder
3 Use a hands-free earpiece
4 Use a built-in-car system (OnStar, Sync, built-in Bluetooth)
5 Use the cell phone's speakerphone feature
6 Does it vary?
8 (VOL) Don't know
9 (VOL) Refuse

IF Q4D=5, SKIP TO Q6

Q5b. What are the reasons you are more likely to ANSWER a call while driving?

DO NOT READ LIST. MULTIPLE RECORD

1 Who is calling
2 How important I think the call is
3 Call is work-related
4 I answer all calls
5 Call is from someone I know
6 Call is personal or social
7 Call is routine or expected
8 Urgent/emergency situation
9 Non-stressful traffic conditions
10 Bluetooth or hands-free available
11 Availability of the phone
12 In need of directions or other information
13 Call is unexpected
14 Personal safety
15 Boredom
16 Traveling at a low speed
17 Call is from a number I don't recognize
18 Time of day
19 Good weather conditions
20 Tired (talking keeps me awake)
21 If State law allows
22 No police officers in sight
23 Other (**SPECIFY**)
98 (VOL) Don't know
99 (VOL) Refuse

Q5c. When you answer a call while driving, do you USUALLY…

READ LIST

1 Answer and continue to drive while completing the conversation
2 Answer and promptly pull over to a safe location
3 Answer and inform the caller you will call back later
4 Pull over to a safe location first and then speak to the caller
5 Hand the phone to a passenger to answer if you have one
7 (VOL) I don't answer calls while driving
8 (VOL) Don't know
9 (VOL) Refuse

IF Q4C=5 SKIP TO Q7

Q6. What are the reasons you are more likely to MAKE a call while driving?

DO NOT READ LIST. MULTIPLE RECORD

1 How important/urgent I think the call is
2 Work-related
3 Personal or social
4 In need of directions or other information
5 Who I'm calling
6 Report a traffic crash/emergency
7 Boredom
8 Report a medical emergency
9 Availability of the phone
10 Non-stressful traffic conditions
11 Personal Safety
12 I think it's safe to call
13 Time of day
14 Traveling at a low speed
15 Tired (talking keeps me awake)
16 Good weather conditions
17 No police officers in sight
18 If State law permits
19 Other (**SPECIFY**)
98 (VOL) Don't know
99 (VOL) Refuse

Q6a. How do you MAKE a call while driving? Please answer Yes or No after I read each item.

READ LIST. MULTIPLE RECORD

1 Manual dialing
2 Voice-dial (speaking a name or phone number)
3 Speed dial or favorites
4 Scroll through saved numbers and select
5 Does it vary?
8 (VOL) Don't know
9 (VOL) Refuse

Q7. How, if at all, would you say your driving behavior is different when you are TALKING on the phone?

DO NOT READ LIST. MULTIPLE RECORD

1 No difference
2 Drive slower
3 Drift out of the lane or roadway
4 Change lanes less frequently
5 Avoid changing lanes altogether
6 Drive faster
7 Look in your rear or side view mirrors more frequently
8 Apply the brakes suddenly
9 Look in your rear or side view mirrors less frequently
10 Increase distance from lead vehicle
11 Follow lead vehicle more closely
12 Change lanes more frequently
13 Use turn signal less regularly
14 Use turn signal more regularly
15 Other [**SPECIFY**]
98 (VOL) Don't Know
99 (VOL) Refused

Q7a. How, if at all, does TALKING on the phone change your behavior IN THE VEHICLE?

READ LIST. MULTIPLE RECORD.

1 Turn the radio/music down
2 Ask others in the vehicle to be quiet
3 Put down food or drink
4 Drive with one hand on the wheel
5 Drive with only your knee on the wheel
6 Some other way? (OTHER SPECIFY)
7 (VOL) No difference/my behavior doesn't change
8 (VOL) Don't Know
9 (VOL) Refused

Q7b. Is there any driving situation in which you would NEVER TALK on a phone while driving?
DO NOT READ. MULTIPLE RECORD

1 When moving (not at stop signs or stop lights)
2 On long trips
3 On short trips
4 Fast moving traffic (freeway)
5 Bumper to bumper traffic
6 On an empty roadway
7 Merging with traffic
8 Bad weather
9 Driving a familiar route
10 Driving in unfamiliar area/roads
11 Driving at nighttime
12 Marked school zones
13 Residential streets
14 Parking lots
15 With other adult passengers in the car
16 With a baby or child on board
17 Winding/curving roads
18 Marked construction zones
19 When I see a police officer
20 When driving in a place where it is prohibited
21 Other [**SPECIFY**]
98 (VOL) Don't Know
99 (VOL) Refused

TEXTING OR E-MAILING WHILE DRIVING

IF Q4F=5 SKIP TO Q9
Q8. When you SEND a text message or e-mail while driving, do you USUALLY…
READ LIST

1 Continue to drive while completing the message
2 Pull over to a safe location to send the message
3 Hand the phone to a passenger to do your messaging
4 Use a Voice Command feature (speech dictation)
5 Wait until you reach a red light or stop sign to send the message
7 (VOL) I do not send text messages or e-mail while driving
8 (VOL) Don't know
9 (VOL) Refuse

Q8a. What makes it more likely you will SEND a text message or e-mail while driving?
DO NOT READ LIST. MULTIPLE RECORD

1 How important I think the message is
2 Who I'm messaging
3 Work-related
4 Personal or social
5 In need of directions or other information
6 Non-stressful traffic conditions
7 Boredom
8 Time of day
9 I think it's safe to send a text message or an e-mail
10 Personal Safety
11 Report a traffic crash/emergency
12 Traveling at a low speed
13 Report a medical emergency
14 Good weather conditions
15 If State law permits
16 If no police officers are in sight
17 Other (**SPECIFY**)
98 (VOL) Don't know
99 (VOL) Refuse

Q8b. How, if at all, would you say your driving behavior is different when you are SENDING TEXT OR E-MAIL MESSAGES while driving?
DO NOT READ LIST. MULTIPLE RECORD

1 No difference
2 Drive slower
3 Drift out of the lane or roadway
4 Change lanes less frequently
5 Avoid changing lanes altogether
6 Drive faster
7 Look in your rear or side view mirrors more frequently
8 Apply the brakes suddenly
9 Look in your rear or side view mirrors less frequently
10 Increase distance from lead vehicle
11 Follow lead vehicle more closely
12 Change lanes more frequently
13 Use turn signal less regularly
14 Use turn signal more regularly
15 Other [**SPECIFY**]
98 (VOL) Don't Know
99 (VOL) Refused

Q8c. How, if at all, does SENDING TEXT OR E-MAIL MESSAGES while driving change your behavior IN THE VEHICLE? **READ LIST. MULTIPLE RECORD**

1 Turn the radio/music down
2 Ask others in the vehicle to be quiet
3 Put down food or drink
4 Drive with one hand on the wheel
5 Drive with only your knee on the wheel
6 Some other way? (OTHER SPECIFY)
7 (VOL) No difference/my behavior doesn't change
8 (VOL) Don't Know
9 (VOL) Refused

Q8d. Is there any driving situation in which you would NEVER SEND a text or e-mail message while driving? **DO NOT READ LIST. MULTIPLE RECORD.**

1 When moving (not at stop signs or stop lights)
2 On long trips
3 On short trips
4 Fast moving traffic (freeway)
5 Bumper to bumper traffic
6 On an empty roadway
7 Merging with traffic
8 Bad weather
9 Driving a familiar route
10 Driving in unfamiliar area/roads
11 Driving at nighttime
12 Marked school zones
13 Residential streets
14 Parking lots
15 With other adult passengers in the car
16 With a baby or child on board
17 Winding/curving roads
18 Marked construction zones
19 When I see a police officer
20 When driving in a place where it is prohibited
21 Other [**SPECIFY**]
98 (VOL) Don't Know
99 (VOL) Refused

USING APPS WHILE DRIVING

IF Q4N=5 SKIP TO Q10

Q9 Other than navigation apps, what smartphone apps do you typically use while driving?

DO NOT READ LIST. MULTIPLE RECORD.

1 Facebook
2 Facebook Messenger
3 LinkedIn
4 Skype
5 Twitter
6 YouTube
7 Instagram
8 Pandora
9 News apps
10 Games apps
11 (VOL) Other (specify)
12 Don't use **SKIP TO Q10**
98 (VOL) Don't Know
99 (VOL) Refused

Q9a. When you USE smartphone apps while driving, do you USUALLY…

READ LIST

1 Continue to drive while using the app
2 Pull over to a safe location to use the app
3 Hand the phone to a passenger to use the app
4 Use a Voice Command feature (speech dictation)
5 Wait until you reach a red light or stop sign to use the app
7 (VOL) I don't use smartphone apps while driving
8 (VOL) Don't know
9 (VOL) Refuse

Q9b. What makes it more likely you will USE smartphone apps while driving?

DO NOT READ LIST. MULTIPLE RECORD

1 Work-related
2 Personal or social
3 In need of directions or other information
4 Non-stressful traffic conditions
5 Boredom
6 Time of day
7 Personal Safety
8 Report a traffic crash/emergency
9 Traveling at a low speed
10 Report a medical emergency
11 Good weather conditions
12 If State law permits
13 If no police officers are in sight
14 Tired (using apps keeps me awake)
15 Other (**SPECIFY**)
98 (VOL) Don't know
99 (VOL) Refuse

Q9c. How, if at all, would you say your driving behavior is different when you USE smartphone apps while driving?

DO NOT READ LIST. MULTIPLE RECORD

1 No difference
2 Drive slower
3 Drift out of the lane or roadway
4 Drive faster
5 Avoid changing lanes altogether
6 Change lanes more frequently
7 Follow lead vehicle more closely
8 Apply the brakes suddenly
9 Change lanes less frequently
10 Increase distance from lead vehicle
11 Look in your rear or side view mirrors more frequently
12 Look in your rear or side view mirrors less frequently
13 Use turn signal less regularly
14 Use turn signal more regularly
15 Other [**SPECIFY**]
98 (VOL) Don't Know
99 (VOL) Refused

Q9d. How, if at all, does using smartphone apps while driving change your behavior IN THE VEHICLE?

READ LIST. MULTIPLE RECORD

1 Turn the radio/music down
2 Ask others in the vehicle to be quiet
3 Put down food or drink
4 Drive with one hand on the wheel
5 Drive with only your knee on the wheel
6 Some other way? (OTHER SPECIFY)
7 (VOL) No difference/my behavior doesn't change
8 (VOL) Don't Know
9 (VOL) Refused

Q9e. Is there any driving situation in which you would NEVER use smartphone apps while driving?
DO NOT READ LIST. MULTIPLE RECORD

1 Bad weather
2 Bumper to bumper traffic
3 Fast moving traffic (freeway)
4 When moving (not at stop signs or stop lights)
5 When I see a police officer
6 Marked construction zones
7 With a baby or child on board
8 Driving in unfamiliar area/roads
9 Merging with traffic
10 Marked school zones
11 Driving at nighttime
12 With other adult passengers in the car
13 Winding/curving roads
14 Parking lots
15 On long trips
16 On short trips
17 On an empty roadway
18 Driving a familiar route
19 Residential streets
20 When driving in a place where it is prohibited
21 Other [**SPECIFY**]
98 (VOL) Don't Know
99 (VOL) Refused

PERCEPTIONS ABOUT DANGER OF DISTRACTIONS

Q10. How many seconds do you believe a driver can take his or her eyes off the road before driving becomes significantly more dangerous?

ENTER VALUE: _____
11 11 seconds or more
98 (VOL) Don't know
99 (VOL) Refuse

Q11. Now I'm going to read a list of things people sometimes do while driving. Tell me how safe you would feel if you were a passenger riding in a car while your driver was doing the following. For each please tell me if you would feel very unsafe, somewhat unsafe, a little less safe, or safe – no problem – would not pay any more attention.

READ A-L AND RECORD FOR EACH

A. Talking to other passengers in the vehicle
B. Eating or drinking
C. Talking on a cell phone while holding the phone
D. Talking on a cell phone with a hands-free device
E. Reading text or e-mail messages
F. Sending text or e-mail messages
G. Talking or interacting with children in the vehicle
H. Adjusting the car radio, tape, or CD player
I. Using a laptop computer
J. Manipulating a navigation system for driving directions
K. Use smartphone apps, not including a navigation app
L. Watching a movie

1 Very unsafe
2 Somewhat unsafe
3 A little less safe
4 Safe, no problem, would not pay any more attention
8 (VOL) Don't know
9 (VOL) Refuse

Q12. How likely are you to do or say something to your driver if they're TALKING on a handheld cell phone while driving?

READ LIST

1 Very likely	
2 Somewhat likely	
3 Somewhat unlikely	**SKIP TO Q13**
4 Very unlikely	**SKIP TO Q13**
5 Never would intervene	**SKIP TO Q13**
8 (VOL) Don't know	**SKIP TO Q13**
9 (VOL) Refused	**SKIP TO Q13**

Q12a. What would you say?

(SPECIFY)

PROBE: Anything Else?

Q13. How likely are you to do or say something to your driver if they're SENDING TEXT MESSAGES OR E-MAILS OR USING SMARTPHONE APPS while driving?

READ LIST

1 Very likely	
2 Somewhat likely	
3 Somewhat unlikely	**SKIP TO Q14**
4 Very unlikely	**SKIP TO Q14**
5 Never would intervene	**SKIP TO Q14**
8 (VOL) Don't know	**SKIP TO Q14**
9 (VOL) Refused	**SKIP TO Q14**

Q13a. What would you say?

(SPECIFY)

PROBE: Anything Else?

CHANGES IN DISTRACTED DRIVING

IF Q4C=5, SKIP TO Q15

Q14. In the past 30 days, has your frequency of making phone calls while driving increased, decreased, or stayed the same?

1 Increased	**SKIP TO Q15**
2 Decreased	
3 Stayed the same	**SKIP TO Q15**
4 New Driver	**SKIP TO Q15**
5 Never used a phone while driving	**SKIP TO Q16**
8 (VOL) Don't know	**SKIP TO Q15**
9 (VOL) Refuse	**SKIP TO Q15**

Q14a. Why did your frequency of making phone calls while driving decrease?

DO NOT READ LIST. MULTIPLE RECORD

1 Increased awareness of safety
2 Law That bans cell phone use
3 Don't want to get a ticket
4 Was in a crash
5 Influence/pressure from others
6 More long distance driving
7 The weather
8 Driving faster
9 Other (SPECIFY)
98 (VOL) Don't know
99 (VOL) Refused

IF Q4D=5, SKIP TO Q16

Q15. In the past 30 days, has your frequency of answering phone calls while driving increased, decreased, or stayed the same?

1 Increased	**SKIP TO Q16**
2 Decreased	
3 Stayed the same	**SKIP TO Q16**
4 New Driver	**SKIP TO Q16**
5 Never used a phone while driving	**SKIP TO Q16**
8 (VOL) Don't know	**SKIP TO Q16**
9 (VOL) Refuse	**SKIP TO Q16**

Q15a. Why did your frequency of answering phone calls while driving decrease?
DO NOT READ LIST. MULTIPLE RECORD

1 Increased awareness of safety
2 Law That bans cell phone use
3 Don't want to get a ticket
4 Was in a crash
5 Influence/pressure from others
6 More long distance driving
7 The weather
8 Driving faster
9 Other (SPECIFY)
98 (VOL) Don't know
99 (VOL) Refused

IF Q4E=5 OR Q4F=5, SKIP TO Q17

Q16. In the past 30 days, has the frequency with which you send and receive text messages or e-mails while driving increased, decreased, or stayed the same?

1 Increased	**SKIP TO Q17**
2 Decreased	
3 Stayed the same	**SKIP TO Q17**
4 New Driver	**SKIP TO Q17**
5 Never used a phone while driving	**SKIP TO Q17**
8 (VOL) Don't know	**SKIP TO Q17**
9 (VOL) Refused	**SKIP TO Q17**

Q16a. Why did your frequency of sending and receiving text messages or e-mails while driving decrease?
DO NOT READ LIST. MULTIPLE RECORD

1 Increased awareness of safety
2 Law That bans texting/e-mailing
3 Don't want to get a ticket
4 Was in a crash
5 Influence/pressure from others
6 More long distance driving
7 The weather
8 Driving faster
9 Other (**SPECIFY**)
98 (VOL) Don't know
99 (VOL) Refused

DISTRACTED DRIVING LAWS

Q17. Does [SAMPSTAT] have a law banning talking on a handheld cell phone while driving?
DO NOT READ LIST.

1 Yes
2 Yes, probably
3 No **SKIP TO Q18**
8 (VOL) Don't Know
9 (VOL) Refused **SKIP TO Q18**

Q17a. Assume that over the next 6 months someone frequently TALKS on a handheld cell phone while driving. How likely do you think that person would be to receive a ticket for talking on a cell phone while driving?
READ LIST

1 Very likely
2 Somewhat likely
3 Somewhat unlikely
4 Very unlikely
8 (VOL) Don't know
9 (VOL) Refused

Q18. Does [SAMPSTAT] have a law banning TEXTING, E-MAILING, or using APPS while driving?
DO NOT READ LIST.

1 Yes
2 Yes, probably
3 No **SKIP TO Q19**
8 (VOL) Don't Know
9 (VOL) Refused **SKIP TO Q19**

Q18a. Assume that over the next 6 months someone frequently sends text messages or e-mails, or uses apps while driving. How likely do you think that person would be to receive a ticket for this behavior?
READ LIST

1 Very likely
2 Somewhat likely
3 Somewhat unlikely
4 Very unlikely
8 (VOL) Don't know
9 (VOL) Refused

Q19. Do you support a State law banning talking on a handheld cell phone while driving?

1 Yes
2 No **SKIP TO Q19b**
8 (VOL) Don't Know
9 (VOL) Refused **SKIP TO Q19b**

Q19a. What do you think the fine should be for talking on a handheld cell phone while driving?
RECORD VALUE

0 No fine
997 $997 or more
998 (VOL) Don't know
999 (VOL) Refuse

Q19b. Do you support a State law banning text or e-mail messaging or using smartphone apps while driving?

1 Yes
2 No **SKIP TO Q20**
8 (VOL) Don't Know
9 (VOL) Refused **SKIP TO Q20**

Q19c. What do you think the fine should be for sending text or e-mail messages or using smartphone apps while driving?

RECORD VALUE
0 No fine
997 $997 or more
998 (VOL) Don't know
999 (VOL) Refuse

PROGRAM AWARENESS

Q20. Have you ever been personally stopped by the police for using a handheld cell phone while driving?

1 Yes
2 No **SKIP TO Q21**
8 (VOL) Don't Know **SKIP TO Q21**
9 (VOL) Refused **SKIP TO Q21**

Q20a How long ago were you stopped?
ENTER YEARS or MONTHS.

1 Gave answer in Years **SKIP TO Q20a1**
2 Gave answer in Months **SKIP TO Q20a2**
8 (VOL) Don't Know **SKIP TO Q20b**
9 (VOL) Refused **SKIP TO Q20b**

Q20a1. Enter Number of Years

RANGE 1-15
98 (VOL) Don't know
99 (VOL) Refused

Q20a2.. Enter Number of Months

RANGE 1-30
98 (VOL) Don't know
99 (VOL) Refused

Q20b. Did you receive a ticket or warning?

1 Yes - ticket for talking on a cell phone
2 Yes - warning for talking on a cell phone
3 Yes - ticket for texting or sending an e-mail
4 Yes - warning for texting or sending an e-mail
5 No
8 (VOL) Don't Know
9 (VOL) Refused

OTHER EDUCATIONAL MESSAGES

Q21. Now, I would like to ask you a few questions about educational or other types of activities. In the past 30 days, have you seen or heard any messages that encourage people not to talk on phones or send electronic messages while driving? This could be public service announcements on TV, messages on the radio, signs on the road, news stories, or something else.

1 Yes
2 No **SKIP TO Q22**
8 (VOL) Don't Know **SKIP TO Q22**
9 (VOL) Refused **SKIP TO Q22**

Q21a. Where did you see or hear these messages?
DO NOT READ LIST. MULTIPLE RECORD.

1 TV - advertisement/public service announcement
2 TV – news
3 TV show storyline
4 Billboard/signs
5 Radio - advertisement/public service announcement
6 Radio - news
7 Newspaper/magazine
8 Internet ad/banner
9 Personal observation/on the road
10 Friend/relative
11 Educational program
12 Social networking website (Facebook, MySpace, Twitter)
13 Online news/blog
14 Online video (YouTube, Google Video)
15 I'm a police officer/judge
16 Direct contact by police officer
17 Internet game
18 Other (**SPECIFY**)
98 (VOL) Don't know
99 (VOL) Refused

Q22. Do you recall hearing or seeing the following slogans in the past 30 days?
READ A-L AND RECORD FOR EACH:
A. Friends don't let friends drive drunk
B. Click it or Ticket
C. On the Road, Off the Phone
D. Phone in One Hand, Ticket in the Other
E. No Phone Zone
F. Drunk Driving Over the Limit under Arrest
G. Put it Down
H. One Text or Call Could Wreck it All
I. Drive Sober or Get Pulled Over
J. U Drive. U Text. U Pay.
K. It Can Wait.
L. Buzzed Driving is Drunk Driving.

1 Yes
2 No
8 (VOL) Don't Know
9 (VOL) Refused

EXPOSURE TO DISTRACTED DRIVING CRASHES

Q23. Have you been involved in a crash or near-crash as a driver in the past year?
1 Yes - near-crash
2 Yes - crash
3 No **SKIP TO Q24**
8 (VOL) Don't Know **SKIP TO Q24**
9 (VOL) Refused **SKIP TO Q24**

Q23a. Were you distracted at the time of the LAST [crash/near-crash] you were in?
1 Yes
2 No **SKIP TO Q24**
8 (VOL) Don't Know **SKIP TO Q24**
9 (VOL) Refused **SKIP TO Q24**

Q23b. How were you distracted at the time of the [crash/near-crash]?
DO NOT READ LIST.
1 Talking on cell phone
2 Reading electronic text
3 Sending text message or e-mail
4 Talking to passengers
5 Eating
6 Grooming
7 Daydreaming
8 Adjusting radio, GPS, etc.
9 Something else (Specify)
98 (VOL) Don't Know
99 (VOL) Refused

PERCEPTIONS OF AND RESPONSES TO OTHER DISTRACTED DRIVERS

Q24. What percentage of drivers do you believe at least occasionally TALK on a cell phone while driving?

RECORD VALUE
998 (VOL) Don't know
999 (VOL) Refuse

Q24a. What percentage of drivers do you believe at least occasionally SEND TEXT OR E-MAIL MESSAGES OR USE SMARTPHONE APPS while driving?

RECORD VALUE
998 (VOL) Don't know
999 (VOL) Refuse

Q24b. Which is safer, using a [hands-free cell phone or using a handheld cell phone]?

ROTATE ORDER
1 Hands-free
2 Handheld
3 Same
4 Neither
8 (VOL) Don't Know
9 (VOL) Refused

Q24c. There are phone apps available to block phone calls and text messaging while driving. Would you use such an app?

1 Yes
2 No
3 Depends
4 Already have one
8 (VOL) Don't Know
9 (VOL) Refused

DEMOGRAPHIC QUESTIONS

Now, I need to ask you some basic information about you and your household. Again, this information is confidential and will not be used to identify you personally.

D1. What is your age?

RECORD VALUE
RANGE: 16-101/998/999
101 101 or older
998 (VOL) Don't know
999 (VOL) Refuse

IF (SAMPLE=LANDLINE X-SECTION OR CELL) SKIP TO D3

D2. Including yourself, how many people, 16 or older, are living in your household at least half of the time or consider it their primary residence?

RECORD VALUE

RANGE: 0-11/998/999
11 11 or more
998 (VOL) Don't know
999 (VOL) Refuse

D3. How many children 15 or younger are living in your household at least half of the time or consider it their primary residence?

RECORD VALUE

RANGE: 0-11/998/999
11 11 or more
998 (VOL) Don't know
999 (VOL) Refuse

D4. Do you consider yourself to be Hispanic or Latino?

1 Yes
2 No
8 (VOL) Don't Know
9 (VOL) Refused

D5. Which of the following racial categories describe you? You may select more than one.

READ LIST. MULTIPLE RECORD

1 American Indian or Alaska Native
2 Asian
3 Black or African American
4 Native Hawaiian or other Pacific Islander
5 White
6 (VOL) Hispanic
7 (VOL) Other (SPECIFY)
9 (VOL) Refused

D6.What is highest grade or year of regular school you have completed?

DO NOT READ

1 No formal schooling
2 First through 7th grade
3 8th grade
4 Some high school
5 High school graduate
6 Some college
7 Four-year college graduate
8 Some graduate school
9 Graduate degree
99 (VOL) Refused

D7.Do you own or rent your home?

1 Own
2 Rent
3 Some other arrangement
8 (VOL) Don't Know
9 (VOL) Refused

D8.How many landline telephone numbers do you have in your household?

RECORD VALUE
RANGE: 0-97/98/99
97 97 or more
98 (VOL) Don't know
99 (VOL) Refuse

ASK IF SAMPLE=LL or LL OVERSAMPLE
D9. Of all the telephone calls that you or your family receives, are . . .
READ LIST

1 All or almost all calls received on cell phones
2 Some received on cell phones and some on regular phones
3 Very few or none on cell phones
8 (VOL) Don't know
9 (VOL) Refused

D11. What is your approximate household income?
READ LIST

1 Less than $10,000
2 $10,000 but less than $15,000
3 $15,000 but less than $25,000
4 $25,000 but less than $50,000
5 $50,000 but less than $100,000
6 $100,000 but less than $150,000
7 $150,000 but less than $200,000
8 $200,000 or more
98 (VOL) Don't Know
99 (VOL) Refused

D13. May I please have your zip code?

ENTER 5-DIGIT ZIP CODE:
99998 (VOL) Don't Know
99999 (VOL) Refused

That completes the survey. Thank you very much for your time and cooperation. If you would like information about traffic safety, please visit www.nhtsa.gov.

SCR1. I am sorry but you are not eligible to participate in the survey today. Thank you for your cooperation and I hope you have a pleasant evening.

Appendix B

Methodology

Survey Methodology for the 2015 National Survey on Distracted Driving Attitudes and Behaviors

The goal of the 2015 National Survey on Distracted Driving Attitudes and Behavior was to obtain a snapshot of the attitudes and behaviors about distracted driving activities of drivers 16 and older in the United States. Only surveys based on probability samples can be used to create mathematically sound statistical inferences about a larger target population. Most statistical formulas for specifying the sampling precision (estimates of sampling variance), given particular sample sizes, are premised on simple random sampling. However, random sampling requires an enumeration of all of the elements in the population. Since no enumeration of the total population of the United States (or its subdivisions) is available, all surveys of the general public are based upon complex sample designs that may employ stratification and two or more stages of sampling.

A sampling design using geographic stratification (NHTSA Region), an oversample of young drivers, sampling frames of households with landlines and cell phones, together with an overall sample size of 6,001 was developed and implemented for this survey. The final sample consisted of 3,372 landline respondents (56.2%), 2,128 cell phone respondents (35.5%), and an oversample of 501 drivers 16 to 34 years old (8.3%). Weights were developed to yield national estimates of the target population within specified limits of expected sampling variability. This appendix describes the methods of sample construction and survey administration, and shows the sample disposition and computation of weights.

Sample Construction

Strata - The initial stage in the construction of this sample required the development of a national probability sample of the non-institutionalized population of the United States 16 and older. Stratification (i.e., the division of the population into collectively exhaustive and mutually exclusive homogenous groups), an efficient way of achieving high statistical precision with a smaller overall sample size, was employed. The United States was stratified into 10 strata, each consisting of the States within NHTSA's 10 regions.[15]

The estimated distribution of the target population by stratum was calculated on the basis of the 2013 American Community Survey conducted by the U.S. Census Bureau. The population estimates were taken for the population 16 and older. Based on these Census estimates of the geographic distribution of the target population, the total sample was proportionately allocated by stratum.

Oversample of respondents 16-34 - Given NHTSA's interest in the driving behaviors of young drivers, it was very important that the subsample of drivers 16 to 34 years old in this survey be large enough for meaningful statistical analysis. However, the population prevalence of this age group is not large enough to generate the desired subsample size with a total sample of 6,000 cases. To resolve this, an oversample was used to achieve an adequate sample size of people 16 to 34.

[15] Region 1: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; Region 2: New Jersey, New York, Pennsylvania, Puerto Rico, and the Virgin Islands; Region 3: Delaware, District of Columbia, Kentucky, Maryland, North Carolina, Virginia, West Virginia; Region 4: Alabama, Florida, Georgia, South Carolina, Tennessee; Region 5: Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin; Region 6: Indian Nations, Louisiana, Mississippi, New Mexico, Oklahoma, Texas; Region 7: Arkansas, Iowa, Kansas, Missouri, Nebraska; Region 8: Colorado, Nevada, North Dakota, South Dakota, Utah, Wyoming; Region 9: Arizona, California, Hawaii, Pacific Territories; Region 10: Alaska, Idaho, Montana, Oregon, Washington

Based on 2013 ACS estimates of the civilian non-institutionalized population, we estimated that in a population based sample about 34% of drivers should be 16-34. Our experience with recent telephone surveys using only conventional random-digit dialing (RDD) of landline households indicates that the subsample of respondents 16 to 34 obtained by this method would fall short of the population proportion. Indeed, the RDD landline cross-section sample from the 2012 NSDDAB, which was conducted 3 years prior to the current survey, respondents 16-34 made up only 10.0% of the landline cross-section sample.

Table B-1 shows the national population figures and projected sample distribution by age for the total target sample of 6,000 respondents. The fourth column shows the desired sample from a population-based sample, and the last two columns show what could be expected from a conventional RDD landline approach such as that used in the 2012 NSDDAB.

Table B-1. Expected Population and Sample Distribution by Age Based on 2013 Census Bureau Estimates

	Target Population*		**Sample Distribution**		
			Population Based	Expected Distribution Based on 2012 NSDDAB Response	
	(N in 1000s)	%	n	n	%
Total (16+)	**250,739**	**100%**	**6,000**	**6,000**	**100%**
16-24	39,829	15.9%	954	163	2.7%
25-34	42,626	17.0%	1,020	439	7.3%
35-44	40,608	16.2%	972	817	13.6%
45-64	83,011	33.1%	1,986	2,785	46.4%
65+	44,663	17.8%	1,068	1,796	30.0%
*Source: U.S. Census Bureau, 2013 American Community Survey http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_13_1YR_DP05&prodType=table					

The reasons for this discrepancy include a lower response rate among younger adults (typical of current landline telephone surveys), a higher proportion of those 16 to 34 living in group quarters (e.g. dormitories), and a higher proportion of this age group living in cell phone only households. Hence, a simple proportionate sample of the adult driver population based on RDD landline methodology alone would not meet the needs of this study design. Consequently, an oversample of 501 respondents 16 to 34 was designed to be included in the sample at the start of the study.

Landline and Cell Phone RDD samples - As noted above, RDD landline telephone sampling has been the conventional approach for conducting surveys of the United States household population for the past few decades. However, households are increasingly turning to cell phones, and some households have abandoned landline phones altogether. For example, the second half of 2014, the percentage of cell phone only households (households with no landline but accessible by cell

phone) was estimated to be 45.4% according to the National Health Interview Survey (NHIS).[16] Current RDD landline sampling procedures exclude telephone exchanges and banks of telephone numbers used exclusively for cell phones. This makes it difficult to reach people in subpopulations with high cell phone only usage. For example, more than 8 in 10 (81.3%) adults living with unrelated roommates and close to 7 in 10 (69.2%) adults 25 to 29 live in cell phone only households. These are some of the same groups that are increasingly under-represented in conventional RDD landline telephone surveys. As the percentage of cell phone only households continues to grow, the conventional RDD landline sampling model can no longer reliably provide adequate population coverage required for sampling the United States household population. To overcome this challenge and to account for drivers that rely solely or mostly on cell phones, this survey used both a RDD sample of landline phones and a RDD sample of cell phones.

Cell Phone Households - A stratified random sample of cellular phone numbers was drawn and used to contact potential respondents. This was feasible because the 10 strata used in this study are defined in terms of States and cellular phone area codes are also defined by States. However, cell phones are portable and some respondents could be living in States other than that indicated by their cell phones area code. To address this possible scenario, all cell phone respondents were asked their current zip code to confirm their location of residence.

Two types of cell phone households were identified through screening; cell phone only households and cell phone mostly households. Cell phone only households do not have a landline phone. Cell phone mostly households have both landline and cellular telephone service (dual service) but the landline is not often used for receiving calls, and therefore the probability of reaching such a household through the landline sample is greatly diminished. Because cell phone mostly households are also included in the sample frame of landline households, the estimation procedures that account for the overlapping dual service sample are more complicated than those that use non overlapping (mutually exclusive) samples of cell phone only households and landline households (with or without cell phone). However, it was important to include the cell phone mostly households in the study sample for the representativeness of the population and to capture respondents in the critical age group of 16 to 34 years old.

Cell phones were treated as personal devices and only the person who owned the cell phone was screened for eligibility. The number of interviews to be achieved for these groups was derived using Cochran's formula for the optimal allocation to strata when unit costs differ between the strata.[17]

Landline Households - A stratified sample of landline telephone numbers was drawn and potential respondents were contacted using conventional RDD methods. The households were screened for eligibility, and an eligible driver was selected for the interview. A total of 3,873 interviews were conducted with respondents from the landline sample. This includes the oversample of 501 respondents 16 to 34.

Table B-2 shows the number of interviews from each sample type by age. Age quotas were not used during data collection except for the landline oversample for the 16- to 34-year-old group.

[16]Blumberg, S. J., & Luke, J. V. (2015). Wireless substitution: Early release of estimates from the National Health Interview Survey, July – December 2014. Retrieved from the CDC website at www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201506.pdf

[17] Cochran, W. G. (1977). *Sampling techniques* (3rd ed.). New York: John Wiley & Sons.

Table B-2. Sample Size by Type and Age

Age	Landline	Landline Oversample	Cell Phone Sample	TOTAL
16-34	235	501	790	1,526
35+	3,055	0	1,304	4,359
Not Reported	82	0	34	116
TOTAL	**3,372**	**501**	**2,128**	**6,001**

Survey Administration

The objective of survey administration is to conduct the data collection portion of the survey in a systematic, uniform, and consistent manner. Survey administration includes survey procedures, monitoring of the interviews, and tracking of the sample disposition.

Calling Protocol

The calling protocol used in this study consisted of a maximum of 13 attempts for the landline sample, including the oversample of drivers 16 to 34. If someone in the household was contacted on one of these attempts, then the overall maximum attempts for that household was 23. For the cell phone sample, the maximum number of attempts to reach someone was 5. If contact was made with someone, then the maximum number of attempts was set at 10. If a person selected for the sample politely refused (also known as a "soft refusal") to participate in the survey, he or she was re-contacted approximately one to two weeks after the initial refusal, giving them a "cooling off" period before the re-contact. For quality control, the telephone interviews were monitored by field supervisory staff using a silent line and screen monitoring.

Answering Machines

The strategy for handling answering machines while maintaining a 13-call protocol has to balance the objectives of reaching the household and avoiding annoyance of the household. Thus, messages were left on the answering machine or voice mail on the fifth, seventh, and ninth calls, if an answering machine or voice mail was encountered on those attempts. The answering machine message explained that the household had been selected as part of a U.S. DOT study of American driving habits and attitudes, and asked the respondent to call Abt SRBI's toll-free number to schedule an interview.

For cell phones, voice messages were left on the first call if a voice mailbox was reached. The rationale behind this is that respondents would see the number of the call center, not recognize it, and therefore be more likely to screen the call and not answer their cell phones. Leaving a message early on let the respondent know who was calling and the purpose of the call. When we call back and the same number appears the respondent may be more likely to take the call since there is additional information pertaining to the number.

Sample Dispositions

The final dispositions for each of the three independent samples are given in the following tables: Table B-3: Landline Cross-Section, Table B-4: Cell Sample, and Table B-5: Landline Oversample.

Table B-3: Landline Cross-Section Final Disposition Report

		Original Count	Estimated Qualified Household*	Estimated Response Eligible^
T1	**TOTAL**	**110,264**		
A	**NON-Usable Numbers**	**81,577**		
A1	NIS/DIS/Change#/Intercepts	69,952		
A2	Non-residential #	5,976		
A3	Computer/Fax tone	3,427		
A4	Line problem	2,222		
T2	**Total Usable Numbers**	**28,687**		
B	**UNKNOWN ELIGIBLE HOUSEHOLD*^**	**13,737**	**3,574**	**2,799**
B1	Probable unassigned number	6,090		
B2	No answer/Busy	3,073		
B3	Answering machine	4,574		
C	**NOT ELIGIBLE RESPONDENT^**	**1,288**	**1,288**	**1,009**
C1	Language barrier	319		
C2	Health/Deaf	894		
C3	Respondent away for duration	75		
D	**UNKNOWN ELIGIBLE RESPONDENT^**	**8,608**		**6,741**
D1	Callback	5,534		
D2	Spanish Callback not screened	54		
D3	Refusals not screened	3,020		
E	**CONTACTS SCREENED**	**1,682**		
E1	Qualified callback	287		287
E2	Refusals – Qualified	299		299
E3	Terminates	0		0
E4	Screen-outs	1,096		
F	**COMPLETE**	**3,372**		**3,372**
A'	**ESTIMATED ELIGIBLE HH RATE =T2/T1**	**26.02%**		
B'	**ELIGIBLE RESPONSE RATE = E+F-E4/(E+F)**	**78.31%**		
C'	**SUM RESPONSE ELIGIBLE COUNT**			**14,507**
D'	**RESPONSE RATE = F/C'**	**23.24%**		

*Estimated Qualified HH=Original Count * A'

^Response Eligible = Qualified Household Count * B'

Table B-4: Cell Phone Final Disposition Report

		Original Count	Estimated Qualified Household*	Estimated Response Eligible^
T1	**TOTAL**	**43,750**		
A	**NON-Usable Numbers**	**14,382**		
A1	NIS/DIS/Change#/Intercepts	11,515		
A2	Non-residential #	1,284		
A3	Computer/Fax tone	42		
A4	Line problem	1,541		
T2	**Total Usable Numbers**	**29,368**		
B	**UNKNOWN ELIGIBLE HOUSEHOLD*^**	**14,755**	**9,905**	**5,449**
B1	Probable unassigned number	76		
B2	No answer/Busy	4,793		
B3	Answering machine	9,886		
C	**NOT ELIGIBLE RESPONDENT^**	**990**	**990**	**545**
C1	Language barrier	621		
C2	Health/Deaf	297		
C3	Respondent away for duration	72		
D	**UNKNOWN ELIGIBLE RESPONDENT^**	**8,797**		**4,840**
D1	Callback	6,199		
D2	Spanish Callback not screened	262		
D3	Refusals not screened	2,336		
E	**CONTACTS SCREENED**	**2,698**		
E1	Qualified callback	307		307
E2	Refusals – Qualified	220		220
E3	Terminates	0		0
E4	Screen-outs	2,171		
F	**COMPLETE**	**2,128**		**2,128**
A'	**ESTIMATED ELIGIBLE HH RATE =T2/T1**	**67.13%**		
B'	**ELIGIBLE RESPONSE RATE = E+F-E4/(E+F)**	**55.01%**		
C'	**SUM RESPONSE ELIGIBLE COUNT**			**13,488**
D'	**RESPONSE RATE = F/C'**	**15.78%**		

*Estimated Qualified HH=Original Count * A'

^Response Eligible = Qualified Household Count * B'

Table B-5: Landline Oversample Final Disposition Report

		Original Count	Estimated Qualified Household*	Estimated Response Eligible^
T1	**TOTAL**	**175,210**		
A	**NON-Usable Numbers**	**128,883**		
A1	NIS/DIS/Change#/Intercepts	111,111		
A2	Non-residential #	8,983		
A3	Computer/Fax tone	5,399		
A4	Line problem	3,390		
T2	**Total Usable Numbers**	**46,327**		
B	**UNKNOWN ELIGIBLE HOUSEHOLD*^**	**21,719**	**5,743**	**242**
B1	Probable unassigned number	9,992		
B2	No answer/Busy	4,339		
B3	Answering machine	7,388		
C	**NOT ELIGIBLE RESPONDENT^**	**550**	**550**	**23**
C1	Language barrier	282		
C2	Health/Deaf	232		
C3	Respondent away for duration	36		
D	**UNKNOWN ELIGIBLE RESPONDENT^**	**6,112**		**257**
D1	Callback	4,626		
D2	Spanish Callback not screened	77		
D3	Refusals not screened	1,409		
E	**CONTACTS SCREENED**	**17,445**		
E1	Qualified callback	154		154
E2	Refusals – Qualified	100		100
E3	Terminates	0		0
E4	Screen-outs	17,191		
F	**COMPLETE**	**501**		**501**
A'	**ESTIMATED ELIGIBLE HH RATE =T2/T1**	**26.44%**		
B'	**ELIGIBLE RESPONSE RATE = E+F-E4/(E+F)**	**4.21%**		
C'	**SUM RESPONSE ELIGIBLE COUNT**			**1,277**
D'	**RESPONSE RATE = F/C'**	**39.24%**		

*Estimated Qualified HH=Original Count * A'

^Response Eligible = Qualified Household Count * B'

Precision of Sample Estimates

The confidence interval for an estimate derived from the distracted driver survey sample is:

$$\hat{y} \pm z_{1-\alpha/2}\sqrt{Var(\hat{y})}$$

where:

$\hat{y}$ = an estimate of the population proportion;
$Var(\hat{y})$ = is the simple random sampling variance[18] of $\hat{y}$; and
$z_{1-\alpha/2}$ = $(1-\alpha/2)$th percentile of the standard normal distribution (95%: α = 0.05, z = 1.96; 90%: α = 0.10, z = 1.645).

For best results, data users should use statistical software such as SAS, SPSS, STATA, or SUDAAN to calculate the confidence intervals for a complex sampling design. However, data users can use the tables that follow to approximate the confidence interval based on a simple formula.

Sampling Error

The sampling variance for an estimate is a measure of uncertainty that reflects the fact that the estimate is derived from a sample drawn from the population. If one were to draw a second sample in the exact same manner, the estimate would be different from the first simply due to the fact that our sample contains different members of the population. A third sample would be different from the first two, and so on. The sampling variance measures how different the estimates would be had we drawn different samples.

The sampling error for a complex survey depends on three things,

1. σ_y^2 =The population variance for the characteristic: the sampling variance is higher when there is a lot of variability in the population (large σ_y^2) and lower when there is little variability in the population.
2. n = The sample size: the sampling variance is higher when the sample size is small and lower when the sample size is large. The sampling variance for estimates of subgroups is based on the sample size for those subgroups.
3. *DEFF* = The design effect:[19] Sampling design features such as stratification, clustering, dual-frame sampling, and survey weighting all contribute to the sampling variability. The design effect is a measure of inefficiency (or efficiency) of the complex sample relative to a simple random sample, calculated as $DEFF = Var(\hat{y})/Var_{\text{srs}}(\hat{y})$.

Using this relationship, we can write the sampling variance of the complex design as: $Var(\hat{y}) = Var_{\text{srs}}(\hat{y}) \times DEFF = \sigma_y^2/n \times DEFF$. Therefore, one can calculate the sampling variance with the population variance (or an estimate of the population variance); the sample size; and the design effect. See Table B-6 for 95% error estimates by various sample sizes.

[18] A simple random sample is a sample on *n* units drawn directly from a population of N units.
[19] Kish, L. (1965). *Survey Sampling*, New York: John Wiley & Sons.

Estimating the Population Variance

The population variance is often estimated from the survey data, $s^2 = \frac{1}{n}\sum_n (y_i - \bar{y})^2$. In the case of percentages, the population variance σ_y^2 = P×(1-P) and can be estimated from the survey estimate $s^2 = \hat{p} \times (1 - \hat{p})$. An alternative is to use the variance estimates based on the percentages presented in Table B1. Rounding the estimated percentage up to the nearest 5 percentage points (e.g. 17% to 20%, 34% to 35%) is a conservative estimate of the population variance. The variance for a percentage is low when a small percentage of the population has the characteristic (or a large percentage of the population has the characteristic) and high when the percentage of the population with the characteristic is equal (50/50).

Estimating Design Effects

The sampling design impacts the variance for each data item differently. Therefore the design effect for one survey estimate might be higher or lower than the design effect of another survey estimate. The design effect will also vary for different subpopulations represented in the sample, such as males and females. Using a conventional definition of the unequal weighting effect, the design effect (increase of variance compared to the SRS design) due to unequal weights is $DEFF_{UWE} = 1 + (\text{Coefficient of Variation})^2 = 1 + (0.8951)^2 = 1.80$.

Testing for Statistical Differences

Sampling error is also used to determine whether two population subgroups (or domains) are significantly different with respect to a certain statistic, that is, the difference in the sampled subgroup estimates is large enough that it would be unlikely to randomly occur if the statistics were the same for the subgroups. Consider the hypothesis test for comparing two domains:

H_0: $Y_1 = Y_2$ or $Y_1 - Y_2 = 0$

H_1: $Y_1 \neq Y_2$ or $Y_1 - Y_2 \neq 0$

One method to test whether Y_1 is different from Y_2 is to calculate a confidence interval around the difference in the sample estimates,[20] $(\hat{y}_1 - \hat{y}_2) \pm z_{1-\alpha/2}\sqrt{Var(\hat{y}_1 - \hat{y}_2)}$. If the interval does not contain 0, we conclude that Y_1 is different from Y_2 –the observed difference in the sample estimates is not likely to randomly occur if Y_1 was equal to Y_2, therefore there is evidence to indicate a difference in the population statistics. If the interval contains 0, we cannot conclude that Y_1 is different from Y_2 – there is insufficient evidence to indicate a difference in the population statistics. $Var(\hat{y}_1 - \hat{y}_2) = Var(\hat{y}_1) + (\hat{y}_2)$ is the sum of the variances for two population subgroups. The subgroup variances are estimated as described above. Table B-6 includes the estimated 95% error margins for various sample sizes. Table B-7 includes the estimated 95% error margins for the differences between subgroups of various sizes. If the observed difference is less than or equal to the error margin, the difference is not statistically significant at the $\alpha = 0.05$ significance level. If it is greater than the error margin, the difference is statistically significant at the $\alpha = 0.05$ significance level.

[20] This method should only be used for large sample sizes. One rule of thumb is n_1 and n_2 both greater than 30.

Table B-6. Estimated 95% Error Margins for Various Sample Sizes

DEFF	n	P = σ^2	50, 50 0.25	45, 55 0.2475	40, 60 0.24	35, 65 0.2275	30, 70 0.21	25, 75 0.1875	20, 80 0.16	15, 85 0.1275	10, 90 0.09	5, 95 0.0475
1.80	6,000		1.7%	1.7%	1.7%	1.6%	1.6%	1.5%	1.4%	1.2%	1.0%	0.7%
	5,500		1.8%	1.8%	1.7%	1.7%	1.6%	1.5%	1.4%	1.3%	1.1%	0.8%
	5,000		1.9%	1.9%	1.8%	1.8%	1.7%	1.6%	1.5%	1.3%	1.1%	0.8%
	4,500		2.0%	2.0%	1.9%	1.9%	1.8%	1.7%	1.6%	1.4%	1.2%	0.9%
	4,000		2.1%	2.1%	2.0%	2.0%	1.9%	1.8%	1.7%	1.5%	1.2%	0.9%
	3,500		2.2%	2.2%	2.2%	2.1%	2.0%	1.9%	1.8%	1.6%	1.3%	1.0%
	3,000		2.4%	2.4%	2.4%	2.3%	2.2%	2.1%	1.9%	1.7%	1.4%	1.0%
	2,500		2.6%	2.6%	2.6%	2.5%	2.4%	2.3%	2.1%	1.9%	1.6%	1.1%
	2,250		2.8%	2.8%	2.7%	2.6%	2.5%	2.4%	2.2%	2.0%	1.7%	1.2%
	2,000		2.9%	2.9%	2.9%	2.8%	2.7%	2.5%	2.4%	2.1%	1.8%	1.3%
	1,750		3.1%	3.1%	3.1%	3.0%	2.9%	2.7%	2.5%	2.2%	1.9%	1.4%
	1,500		3.4%	3.4%	3.3%	3.2%	3.1%	2.9%	2.7%	2.4%	2.0%	1.5%
	1,250		3.7%	3.7%	3.6%	3.5%	3.4%	3.2%	3.0%	2.7%	2.2%	1.6%
	1,000		4.2%	4.1%	4.1%	4.0%	3.8%	3.6%	3.3%	3.0%	2.5%	1.8%
	750		4.8%	4.8%	4.7%	4.6%	4.4%	4.2%	3.8%	3.4%	2.9%	2.1%
	500		5.9%	5.9%	5.8%	5.6%	5.4%	5.1%	4.7%	4.2%	3.5%	2.6%
	400		6.6%	6.5%	6.4%	6.3%	6.0%	5.7%	5.3%	4.7%	3.9%	2.9%
	300		7.6%	7.6%	7.4%	7.2%	7.0%	6.6%	6.1%	5.4%	4.6%	3.3%
	200		9.3%	9.3%	9.1%	8.9%	8.5%	8.1%	7.4%	6.6%	5.6%	4.1%
	150		10.7%	10.7%	10.5%	10.2%	9.8%	9.3%	8.6%	7.7%	6.4%	4.7%
	100		13.1%	13.1%	12.9%	12.5%	12.1%	11.4%	10.5%	9.4%	7.9%	5.7%
	50		18.6%	18.5%	18.2%	17.7%	17.0%	16.1%	14.9%	13.3%	11.2%	8.1%

Table B-7. Estimated 95% Error Margins for the Difference Between Two Subgroups

DEFF	n_1	P	n_2 = 6000	5000	4000	3000	2000	1500	1000	500	400	300	200	100	50
1.80	6000	50,50	2.4%	2.5%	2.7%	2.9%	3.4%	3.8%	4.5%	6.1%	6.8%	7.8%	9.5%	13.3%	18.7%
		40,60	2.4%	2.5%	2.6%	2.9%	3.3%	3.7%	4.4%	6.0%	6.7%	7.6%	9.3%	13.0%	18.3%
		30,70	2.2%	2.3%	2.5%	2.7%	3.1%	3.5%	4.1%	5.6%	6.2%	7.1%	8.7%	12.2%	17.1%
		20,80	1.9%	2.0%	2.1%	2.4%	2.7%	3.0%	3.6%	4.9%	5.4%	6.2%	7.6%	10.6%	14.9%
		10,90	1.4%	1.5%	1.6%	1.8%	2.0%	2.3%	2.7%	3.7%	4.1%	4.7%	5.7%	8.0%	11.2%
	5000	50,50	2.5%	2.6%	2.8%	3.0%	3.5%	3.9%	4.6%	6.2%	6.8%	7.8%	9.5%	13.3%	18.7%
		40,60	2.5%	2.6%	2.7%	3.0%	3.4%	3.8%	4.5%	6.0%	6.7%	7.7%	9.3%	13.0%	18.3%
		30,70	2.3%	2.4%	2.6%	2.8%	3.2%	3.5%	4.2%	5.7%	6.3%	7.2%	8.7%	12.2%	17.1%
		20,80	2.0%	2.1%	2.2%	2.4%	2.8%	3.1%	3.6%	4.9%	5.5%	6.3%	7.6%	10.6%	14.9%
		10,90	1.5%	1.6%	1.7%	1.8%	2.1%	2.3%	2.7%	3.7%	4.1%	4.7%	5.7%	8.0%	11.2%
	4000	50,50	2.7%	2.8%	2.9%	3.2%	3.6%	4.0%	4.6%	6.2%	6.9%	7.9%	9.5%	13.3%	18.7%
		40,60	2.6%	2.7%	2.9%	3.1%	3.5%	3.9%	4.6%	6.1%	6.8%	7.7%	9.3%	13.0%	18.3%
		30,70	2.5%	2.6%	2.7%	2.9%	3.3%	3.6%	4.3%	5.7%	6.3%	7.2%	8.7%	12.2%	17.1%
		20,80	2.1%	2.2%	2.4%	2.5%	2.9%	3.2%	3.7%	5.0%	5.5%	6.3%	7.6%	10.6%	15.0%
		10,90	1.6%	1.7%	1.8%	1.9%	2.2%	2.4%	2.8%	3.7%	4.1%	4.7%	5.7%	8.0%	11.2%
	3000	50,50	2.9%	3.0%	3.2%	3.4%	3.8%	4.2%	4.8%	6.4%	7.0%	8.0%	9.6%	13.4%	18.7%
		40,60	2.9%	3.0%	3.1%	3.3%	3.7%	4.1%	4.7%	6.2%	6.9%	7.8%	9.4%	13.1%	18.4%
		30,70	2.7%	2.8%	2.9%	3.1%	3.5%	3.8%	4.4%	5.8%	6.4%	7.3%	8.8%	12.2%	17.2%
		20,80	2.4%	2.4%	2.5%	2.7%	3.0%	3.3%	3.8%	5.1%	5.6%	6.4%	7.7%	10.7%	15.0%
		10,90	1.8%	1.8%	1.9%	2.0%	2.3%	2.5%	2.9%	3.8%	4.2%	4.8%	5.8%	8.0%	11.2%
	2000	50,50	3.4%	3.5%	3.6%	3.8%	4.2%	4.5%	5.1%	6.6%	7.2%	8.1%	9.8%	13.5%	18.8%
		40,60	3.3%	3.4%	3.5%	3.7%	4.1%	4.4%	5.0%	6.4%	7.1%	8.0%	9.6%	13.2%	18.4%
		30,70	3.1%	3.2%	3.3%	3.5%	3.8%	4.1%	4.7%	6.0%	6.6%	7.5%	8.9%	12.3%	17.3%
		20,80	2.7%	2.8%	2.9%	3.0%	3.3%	3.6%	4.1%	5.3%	5.8%	6.5%	7.8%	10.8%	15.1%
		10,90	2.0%	2.1%	2.2%	2.3%	2.5%	2.7%	3.1%	3.9%	4.3%	4.9%	5.9%	8.1%	11.3%
	1500	50,50	3.8%	3.9%	4.0%	4.2%	4.5%	4.8%	5.4%	6.8%	7.4%	8.3%	9.9%	13.6%	18.9%
		40,60	3.7%	3.8%	3.9%	4.1%	4.4%	4.7%	5.3%	6.7%	7.2%	8.1%	9.7%	13.3%	18.5%
		30,70	3.5%	3.5%	3.6%	3.8%	4.1%	4.4%	4.9%	6.2%	6.8%	7.6%	9.1%	12.4%	17.3%
		20,80	3.0%	3.1%	3.2%	3.3%	3.6%	3.8%	4.3%	5.4%	5.9%	6.7%	7.9%	10.9%	15.1%
		10,90	2.3%	2.3%	2.4%	2.5%	2.7%	2.9%	3.2%	4.1%	4.4%	5.0%	5.9%	8.1%	11.3%

Table B-7. Estimated 95% Error Margins for the Difference Between Two Subgroups (Continued)															
DEFF	n_1	P	n_2 = 6000	5000	4000	3000	2000	1500	1000	500	400	300	200	100	50
1.80	1000	50,50	4.5%	4.6%	4.6%	4.8%	5.1%	5.4%	5.9%	7.2%	7.8%	8.7%	10.2%	13.8%	19.1%
		40,60	4.4%	4.5%	4.6%	4.7%	5.0%	5.3%	5.8%	7.1%	7.6%	8.5%	10.0%	13.5%	18.7%
		30,70	4.1%	4.2%	4.3%	4.4%	4.7%	4.9%	5.4%	6.6%	7.1%	7.9%	9.3%	12.6%	17.5%
		20,80	3.6%	3.6%	3.7%	3.8%	4.1%	4.3%	4.7%	5.8%	6.2%	6.9%	8.1%	11.0%	15.2%
		10,90	2.7%	2.7%	2.8%	2.9%	3.1%	3.2%	3.5%	4.3%	4.7%	5.2%	6.1%	8.3%	11.4%
	500	50,50	6.1%	6.2%	6.2%	6.4%	6.6%	6.8%	7.2%	8.3%	8.8%	9.6%	11.0%	14.4%	19.5%
		40,60	6.0%	6.0%	6.1%	6.2%	6.4%	6.7%	7.1%	8.1%	8.6%	9.4%	10.8%	14.1%	19.1%
		30,70	5.6%	5.7%	5.7%	5.8%	6.0%	6.2%	6.6%	7.6%	8.1%	8.8%	10.1%	13.2%	17.9%
		20,80	4.9%	4.9%	5.0%	5.1%	5.3%	5.4%	5.8%	6.7%	7.1%	7.7%	8.8%	11.5%	15.6%
		10,90	3.7%	3.7%	3.7%	3.8%	3.9%	4.1%	4.3%	5.0%	5.3%	5.8%	6.6%	8.6%	11.7%
	400	50,50	6.8%	6.8%	6.9%	7.0%	7.2%	7.4%	7.8%	8.8%	9.3%	10.0%	11.4%	14.7%	19.7%
		40,60	6.7%	6.7%	6.8%	6.9%	7.1%	7.2%	7.6%	8.6%	9.1%	9.8%	11.2%	14.4%	19.3%
		30,70	6.2%	6.3%	6.3%	6.4%	6.6%	6.8%	7.1%	8.1%	8.5%	9.2%	10.4%	13.5%	18.1%
		20,80	5.4%	5.5%	5.5%	5.6%	5.8%	5.9%	6.2%	7.1%	7.4%	8.0%	9.1%	11.8%	15.8%
		10,90	4.1%	4.1%	4.1%	4.2%	4.3%	4.4%	4.7%	5.3%	5.6%	6.0%	6.8%	8.8%	11.8%
	300	50,50	7.8%	7.8%	7.9%	8.0%	8.1%	8.3%	8.7%	9.6%	10.0%	10.7%	12.0%	15.2%	20.1%
		40,60	7.6%	7.7%	7.7%	7.8%	8.0%	8.1%	8.5%	9.4%	9.8%	10.5%	11.8%	14.9%	19.7%
		30,70	7.1%	7.2%	7.2%	7.3%	7.5%	7.6%	7.9%	8.8%	9.2%	9.8%	11.0%	13.9%	18.4%
		20,80	6.2%	6.3%	6.3%	6.4%	6.5%	6.7%	6.9%	7.7%	8.0%	8.6%	9.6%	12.1%	16.1%
		10,90	4.7%	4.7%	4.7%	4.8%	4.9%	5.0%	5.2%	5.8%	6.0%	6.4%	7.2%	9.1%	12.1%
	200	50,50	9.5%	9.5%	9.5%	9.6%	9.8%	9.9%	10.2%	11.0%	11.4%	12.0%	13.1%	16.1%	20.8%
		40,60	9.3%	9.3%	9.3%	9.4%	9.6%	9.7%	10.0%	10.8%	11.2%	11.8%	12.9%	15.8%	20.4%
		30,70	8.7%	8.7%	8.7%	8.8%	8.9%	9.1%	9.3%	10.1%	10.4%	11.0%	12.1%	14.8%	19.1%
		20,80	7.6%	7.6%	7.6%	7.7%	7.8%	7.9%	8.1%	8.8%	9.1%	9.6%	10.5%	12.9%	16.6%
		10,90	5.7%	5.7%	5.7%	5.8%	5.9%	5.9%	6.1%	6.6%	6.8%	7.2%	7.9%	9.7%	12.5%
	100	50,50	13.3%	13.3%	13.3%	13.4%	13.5%	13.6%	13.8%	14.4%	14.7%	15.2%	16.1%	18.6%	22.8%
		40,60	13.0%	13.0%	13.0%	13.1%	13.2%	13.3%	13.5%	14.1%	14.4%	14.9%	15.8%	18.2%	22.3%
		30,70	12.2%	12.2%	12.2%	12.2%	12.3%	12.4%	12.6%	13.2%	13.5%	13.9%	14.8%	17.0%	20.9%
		20,80	10.6%	10.6%	10.6%	10.7%	10.8%	10.9%	11.0%	11.5%	11.8%	12.1%	12.9%	14.9%	18.2%
		10,90	8.0%	8.0%	8.0%	8.0%	8.1%	8.1%	8.3%	8.6%	8.8%	9.1%	9.7%	11.2%	13.7%

Table B-7. Estimated 95% Error Margins for the Difference Between Two Subgroups (Continued)														
DEFF	n_1	P	n_2 = 6000	5000	4000	3000	2000	1500	1000	500	400	300	200	100	50
1.80	50	50,50	18.7%	18.7%	18.7%	18.7%	18.8%	18.9%	19.1%	19.5%	19.7%	20.1%	20.8%	22.8%	26.3%
		40,60	18.3%	18.3%	18.3%	18.4%	18.4%	18.5%	18.7%	19.1%	19.3%	19.7%	20.4%	22.3%	25.8%
		30,70	17.1%	17.1%	17.1%	17.2%	17.3%	17.3%	17.5%	17.9%	18.1%	18.4%	19.1%	20.9%	24.1%
		20,80	14.9%	14.9%	15.0%	15.0%	15.1%	15.1%	15.2%	15.6%	15.8%	16.1%	16.6%	18.2%	21.0%
		10,90	11.2%	11.2%	11.2%	11.2%	11.3%	11.3%	11.4%	11.7%	11.8%	12.1%	12.5%	13.7%	15.8%

WEIGHTING METHODOLOGY

Weights were calculated for the 7,231 completed (*n*=6,001) and screened-out (*n*=1,231) interviews with people 16 and older residing in households in the 50 States and the District of Columbia. The population weights (DD_FINAL_POP_WT) sum to the 2013 American Community Survey population estimate of 247,014,747 people 16 and older in the civilian noninstitutionalized population of the United States. A sample weight (DD_FINAL_SAMP_WT) was also created. The sample weights sum to 7,231 completed and screened out interviews.

Base Sampling Weight

The overall random-digit-dialing sample consisted of three components (identified by FPROJ variable). The first component (Landline Sample) was a NHTSA Region-stratified sample of landline telephone numbers. One person 16 or older was randomly selected from each household. The second component (Landline Screening Sample) was a NHTSA Region-stratified screening sample of landline telephone numbers. One person 16 to 34 years old was randomly selected from the households with one or more age-eligible people. The third component (Cellular Sample) was a NHTSA Region-stratified sample of cellular telephone numbers. The cellular telephone was treated as a personal communication device and therefore an interview was attempted if the person answering was 16 or older. To be eligible for the interview, the person also needed to be classified as cell-only individual or a cell-mostly individual. Cell-mostly individuals were defined as also having a landline telephone but "all or almost all calls are received on cell phones." Dual users who are not cell-mostly individuals had to be reached on a landline to participate in the study.

For each sample component a base sampling weight (BSW) was calculated for each NHTSA Region (regions were identified by NHTSAREG variable). The base sampling weight equals the population count of telephone numbers in the NHTSA Region divided by the sample size of telephone numbers drawn from that NHTSA Region and released for interview attempts (see Table B-8).

Table B-8. Base Sampling Weights (BSW) by Sample Component

NHTSA Region (NHTSAREG)	Landline Sample	Landline Screening Sample	Cellular Sample
1	2617.94	1643.64	10210.63
2	2601.30	1626.61	10368.50
3	2597.03	1624.70	10315.71
4	2602.38	1632.18	10453.15
5	2588.77	1626.04	10634.49
6	2600.98	1636.72	10969.91
7	2624.70	1643.38	11083.32
8	2627.19	1656.46	10744.69
9	2593.03	1655.68	10727.67
10	2604.54	1667.32	10929.81

The two landline sample components result in an oversampling of people 16 to 34 relative to people 35 and older. This was accounted for in the weight calculations by adjusting downwards the weights of people 16 to 34. The sum of the base sampling weights of all people 16 to 34 in the landline sample was calculated (775,011). The sum of the base sampling weights of all people 16 to 34 in the landline sample and the landline screening sample was also calculated (1,757,722).

The base sampling weights of people 16 to 34 in the two landline sample components were multiplied by the resulting ratio of 0.44092 to form the adjusted base sampling weight (BSW_ADJ). The adjusted base sampling weight for cell phone sample people and for landline sample people 35 and older equals the base sampling weight.

Landline sample and landline screening sample people residing in households with two or more landline telephone numbers have a higher probability of selection compared to people living in households with one landline telephone number. The adjusted base sampling weight was divided by two if the person reported that their household had two landline telephone numbers and was divided by 3 if three or more landline telephone numbers were reported (D8) to form the base sampling weight adjusted for multiple landline telephones (BSW_NUMPHONE). For landline and landline screening sample people with one landline telephone number and for cell phone sample people, the base sampling weight adjusted for multiple landline telephones equals the adjusted base sampling weight.

The final step in the base sampling weight calculation process was to account for the random selection of one person 16 and older (QSL1) from the landline sample and one person 16 to 34 (QSO1) from the landline screening sample. The base sampling weight adjusted for multiple landline telephones was multiplied by the number of eligible people in the household capped at four to form the base sampling weight adjusted for within household sampling (BSW_NUMADULT). For people in the cell phone sample the base sampling weight adjusted for within household sampling equals the base sampling weight adjusted for multiple landline telephones.

A nonresponse adjustment was not performed. In 2012 most of the values of nonresponse adjustment factors were between 1.2 and 1.4 (see Table B-10 of the 2012 report). Our experience in developing nonresponse adjustments in other projects is that the ranges of values are usually much greater (e.g., a difference by a factor of 3.0 or 5.0). The information contained in the nonresponse adjustment factors is additionally used in the raking step, where both the 10 NHTSA regions and phone use are incorporated as raking targets. We thus concluded that it is possible to simplify the weighting procedure and omit the nonresponse adjustment step as performed in 2012.

Combining the Two Landline Samples With the Cell Phone Sample

All respondents were classified into 1 of 5 telephone service categories.

1. Cell-only
2. Landline only
3. Cell phone sample, dual user, cell-mostly
4. Landline samples, dual user, cell-mostly
5. Landline samples, dual user, not cell-mostly

The two landline samples cannot be simply combined with the cell phone sample because dual user (landline and cell phone) people who are classified as cell-mostly can be sampled through the two landline samples or through the cell phone sample. This is referred to as a partial overlap dual frame design because dual user people who are not cell-mostly were sampled just through the two landline samples.

The samples were combined by compositing the cell-mostly people from the landline samples with the cell-mostly respondents from the cell phone sample. A compositing factor, λ, of 0.5 was selected to adjust for some respondents who can be reached through both frames. The selection of 0.5 as the compositing factor arithmetically addresses the possibility of being selected in the 2 frames. For the two cell-mostly telephone service groups, the composite weight (BSW_COMPOSITE) equals within household adjusted base sampling weight times the compositing factor. For the other three telephone service groups, the composite weight equals the within household adjusted base sampling weight.

Raking to Population Control Totals

A survey sample may cover segments of the target population in proportions that do not match the proportions of those segments in the population itself. The differences may arise, for example, from sampling fluctuations, from nonresponse, because the sampling design sampled different segments of populations at different rates (e.g., the cell-only population was sampled at a lower rate than the landline user population for cost reasons), or because the sample design was not able to cover the entire target population. In such situations one can often improve the relation between the sample and the population by adjusting the sampling weights of the cases in the sample so that the marginal totals of the adjusted weights on specified characteristics, referred to as control variables, agree with the corresponding totals for the population. This operation is known as raking ratio estimation, raking, or sample-balancing, and the population totals are usually referred to as control totals. Raking is most often used to reduce biases from nonresponse and noncoverage in sample surveys.

Raking usually proceeds one variable at a time, applying a proportional adjustment to the weights of the cases that belong to the same category of the control variable. The initial design weights in the raking process are often equal to the inverse of the selection probabilities and may have undergone some adjustments for unit nonresponse and noncoverage. The weights from the raking process are used in estimation and analysis.

The adjustment to control totals is sometimes achieved by creating a cross-classification of the categorical control variables (e.g., age categories × gender × race × household-income categories) and then matching the total of the weights in each cell to the control total. This approach, however, can spread the sample thinly over a large number of adjustment cells. It also requires control totals for all cells of the cross-classification. Often this is not feasible (e.g., control totals may be available for age × gender × race but not when those cells are subdivided by household income). The use of raking with marginal control totals for single variables (i.e., each margin involves only one control variable) often avoids many of these difficulties.

The procedure known as raking adjusts a set of data so that its marginal totals match control totals on a specified set of variables. The term “raking” suggests an analogy with the process of smoothing the soil in a garden plot by alternately working it back and forth with a rake in two perpendicular directions.

In a simple 2-variable example the marginal totals in various categories for the two control variables are known from the entire population, but the joint distribution of the two variables is known only from a sample. In the cross-classification of the sample, arranged in rows and columns, one might begin with the rows, taking each row in turn and multiplying each entry in the row by

the ratio of the population total to the weighted sample total for that category, so that the row totals of the adjusted data agree with the population totals for that variable. The weighted column totals of the adjusted data, however, may not yet agree with the population totals for the column variable. Thus the next step, taking each column in turn, multiplies each entry in the column by the ratio of the population total to the current total for that category. Now the weighted column totals of the adjusted data agree with the population totals for that variable, but the new weighted row totals may no longer match the corresponding population totals.

This process continues, alternating between the rows and the columns, and close agreement on both rows and columns is usually achieved after a small number of iterations. The result is a tabulation for the population that reflects the relation of the two control variables in the sample. Raking can also adjust a set of data to control totals on three or more variables. In such situations the control totals often involve single variables, but they may involve two or more variables.

Ideally, one should rake on variables that exhibit an association with the key survey outcome variables and that are related to nonresponse and/or noncoverage. This strategy will reduce bias in the key outcome variables. In practice, other considerations may enter. A variable such as gender may not be strongly related to key outcome variables or to nonresponse, but raking on it may be desirable to preserve the "face validity" of the sample.[21, 22] Eight control variables were used in the raking (see Table B-9).

Table B-9. Control Variables Used in the Raking

Variable Label	Name
Telephone service using 4 categories	TELEPHONE_STATUS_R
NHTSA Region	XREGION
Number of people 16 and older in the household	NUM_16PLUS_R
Number of people 0 to 15 in the household	D3_R
Home ownership status	D7_R
Education	D6_R
Race/ethnicity	RACE_ETHNICITY_R
Age group by gender	D1_QSA3_R

The control totals were obtained for people 16 and older living in households from the 2013 American Community Survey PUMS. The telephone service control totals were constructed from information published by the National Center for Health Statistics.[23]

[21] Battaglia, M., Izrael, D., Hoaglin, D., & Frankel, M. (2009). Practical considerations in raking Survey data. *Survey Practice, 2*(5). Retrieved from www.surveypractice.org/index.php/SurveyPractice/article/view/176/html

[22] Kolenikov, S. (2014). Calibrating survey data using iterative proportional fitting (raking). *Stata Journal, 14*, 22-59.

[23] Blumberg, S. J., & Luke, J. V. (2015). Wireless substitution: Early release of estimates from the National Health Interview Survey, July – December 2014. Retrieved from the CDC website at www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201506.pdf

The IGCV SAS raking macro[24] was used calculate the final weights for the combined (landline and cell phone) sample. The population control totals and weighted sample distributions prior to raking are shown in Appendix C (see Weighted Distribution Prior To Raking. Iteration 0). The raking macro was set to a convergence criterion of a maximum difference of 0.05 percentage points between a control total percent and the corresponding weighted sample percent.

The IGCV raking macro limited the spread of weights during the raking iteration to help avoid extreme weights, which reduce statistical efficiency of final estimates, especially in small domains, or subpopulations. Izrael et al. (2009) discuss weight trimming during raking and provide details on the Individual and Global Cap Value (IGCV) weight trimming procedures implemented in their SAS raking code. No weight values were allowed to exceed the respondent's BSW_COMPOSITE weight times factor A or the mean BSW_COMPOSITE weight times factor C. The weight trimming also avoided the situation where respondents end up with very small weights by not allowing weight values to be lower than the respondent's BSW_COMPOSITE times factor B or to be below the mean BSW_COMPOSITE weights times factor D.

Table B-10. IGCV Weight Trimming Values

A = 8.0	/* weight will be decreased to individual weight times A */
B = 0.125	/* weight will be increased to individual weight times B */
C = 12.0	/* weight will be decreased to mean weight times C */
D = 0.083	/* weight will be increased to mean weight times D */

Summary of the Final Weights

The final weights are given by the variables DD_FINAL_POP_WT and DD_FINAL_SAMP_WT. They only differ by scaling: the weights in DD_FINAL_POP_WT sum up to the estimated population size (# of adults 16+ in the United States), while DD_FINAL_SAMP_WT sum up to the sample size, n=7,231. These weights should be used for all the analyses of the 2015 National Survey of Distracted Driving Attitudes and Behavior data. Given the differences in scaling, DD_FINAL_POP_WT should be used when population totals need to be estimated (e.g., total nationwide expected number of accidents caused by distracted driving). For analysis of population size-free statistics, such as means or percentages (e.g., percentage of trips on which the driver was using hands-free cell phone connection in the car), either set of weights can be used. If the software supports this, these weights should be used as probability weights rather in a software package that supports estimation with complex survey data (e.g., SAS PROC SURVEY*, Stata svy prefix, R

[24] Izrael, D., Battaglia, M., & Frankel, M. (2009). SAS raking macro. Retrieved from http://abtassociates.com/Expertise/Surveys-and-Data-Collection/Raking-Survey-Data-(a-k-a--Sample-Balancing).aspx

survey package, SPSS Complex Samples module) than frequency weights (as they are interpreted in SPSS without the Complex Samples module or SAS procedures without SURVEY prefix).

Table B-11. Summary of Final Weights

Weight Variable	N	Sum	Minimum	Maximum	Mean	Coeff of Variation
BSW_COMPOSITE	7,231	41,071,659	119.533	11,083	5,679.94	0.6380
DD_FINAL_POP_WT	7,231	247,014,747	2,835.32	318,645	34,160.52	0.8951
DD_FINAL_SAMP_WT	7,231	7,231	0.083	9.328	1	0.8951

Using a conventional definition of the unequal weighting effect, the design effect (increase of variance compared to the SRS design) due to unequal weights $DEFF_{UWE} = 1 + CV^2 = 1.80$. The magnitude of the final DEFF is split between the unequal baseline weights produced the design effect of 1.40, and different response rates in the different demographic groups that are implicitly accounted for by the raking procedures.

Appendix C

Output for Raking With Trimming Weight by Individual and Global Cap Value Method

The raking output is shown in Table C-1. Raking Results.

Table C-1. Raking Results

RAKING WITH TRIMMING WEIGHT BY INDIVIDUAL AND GLOBAL CAP VALUE (IGCV) METHOD

Sample size of completed interviews	7231
Raking input weight (adjusted to population total)	BSW_COMPOSITE_ATPT
Minimum value of raking input weight	718.9
Maximum value of raking input weight	66657.7
Coefficient of variation of raking input weight	0.64
Global low weight cap value factor: Mean input weight times - (D)	0.083
Global high weight cap value factor: Mean input weight times - (C)	12
Individual low weight cap value (ILCV) factor: Respondent's weight times - (B)	0.125
Individual high weight cap value (IHCV) factor: Respondent's weight times - (A)	8

WEIGHTED DISTRIBUTION PRIOR TO RAKING. (ITERATION 0)

Telephone status	Input Weight Sum of Weights[25]	Population Total[26]	Sum of Weights Difference[27]	% of Input Weights[28]	Population %[29]	Difference in %[30]
1: Cell only user	130899866.8	109305294	21594573.2	52.993	44.251	8.742
2: Landline only user	7081034.04	17752600	-10671565.8	2.867	7.187	-4.32
3: Dual user cell mostly - cell/landline sample	29546619.22	42099023	-12552403.4	11.961	17.043	-5.082
4: Dual user not cell mostly - landline sample only	79487226.95	77857831	1629396.01	32.179	31.52	0.66

NHTSA region	Input Weight Sum of Weights	Population Total	Sum of Weights Difference	% of Input Weights	Population %	Difference in %
1: NHTSA Region 1	12296980.36	11794622	502358.36	4.978	4.775	0.203
2: NHTSA Region 2	32183751.77	32898311	-714559.23	13.029	13.318	-0.289
3: NHTSA Region 3	26421085.82	25055504	1365581.82	10.696	10.143	0.553
4: NHTSA Region 4	35487874.16	36002824	-514949.84	14.367	14.575	-0.208
5: NHTSA Region 5	45306238.79	40741097	4565141.79	18.342	16.493	1.848
6: NHTSA Region 6	30327102.95	30183360	143742.95	12.277	12.219	0.058
7: NHTSA Region 7	15185368.72	13032118	2153250.72	6.148	5.276	0.872
8: NHTSA Region 8	10508685.58	10018964	489721.58	4.254	4.056	0.198
9: NHTSA Region 9	28577070.93	36079042	-7501971.07	11.569	14.606	-3.037
10: NHTSA Region 10	10720587.91	11208905	-488317.09	4.34	4.538	-0.198

Number of People 16+ in Household (HH)	Input Weight Sum of Weights	Population Total	Sum of Weights Difference	% of Input Weights	Population %	Difference in %
1: 1 Person 16+ in HH	71491109.13	41358674	30132435.13	28.942	16.743	12.199
2: 2 People 16+ in HH	107271906.4	116304877	-9032970.59	43.427	47.084	-3.657
3: 3 People 16+ in HH	38392345.08	50449212	-12056866.9	15.543	20.424	-4.881
4: 4+ People 16+ in HH	29859386.38	38901984	-9042597.62	12.088	15.749	-3.661

Note: Footnotes apply to each respective column heading in this section.

[25] Weighted count of adults based on BSW_COMPOSITE adjusted to population total.
[26] Population count of adults based on American Community Survey.
[27] Input weight sum of weights minus population total.
[28] Weighted percent of adults based on BSW_COMPOSITE.
[29] Population percent of adults based on American Community Survey.
[30] % of input weights minus population %.

Number of People in HH under 16	Input Weight Sum of Weights	Population Total	Sum of Weights Difference	% of Input Weights	Population %	Difference in %
1: 0 Children under 16 in HH	170053253.2	165093166	4960087.25	68.843	66.835	2.008
2: 1 Child under 16 in HH	33603129.36	37773679	-4170549.64	13.604	15.292	-1.688
3: 2 Children under 16 in HH	26634282.6	28257559	-1623276.4	10.782	11.44	-0.657
4: 3+ Children under 16 in HH	16724081.79	15890343	833738.79	6.77	6.433	0.338

Tenure	Input Weight Sum of Weights	Population Total	Sum of Weights Difference	% of Input Weights	Population %	Difference in %
1: Own	149584434.3	162397537	-12813102.7	60.557	65.744	-5.187
2: Rent	97430312.74	84617210	12813102.74	39.443	34.256	5.187

Education	Input Weight Sum of Weights	Population Total	Sum of Weights Difference	% of Input Weights	Population %	Difference in %
1: Less than HS	29574445	39473916	-9899471	11.973	15.98	-4.008
2: HS/GED	72349496.93	66924310	5425186.93	29.29	27.093	2.196
3: Some college	59229982.51	75310772	-16080789.5	23.978	30.488	-6.51
4: College graduate	85860822.55	65305749	20555073.55	34.759	26.438	8.321

Race-ethnicity	Input Weight Sum of Weights	Population Total	Sum of Weights Difference	% of Input Weights	Population %	Difference in %
1: Hispanic	35865990.33	37498626	-1632635.67	14.52	15.181	-0.661
2: White Non-Hispanic	165879344	161512193	4367151.03	67.154	65.386	1.768
3: Black Non-Hispanic	22452062.92	28865584	-6413521.08	9.089	11.686	-2.596
4: Asian/NHOPI Non-Hispanic	8503579.84	13190879	-4687299.16	3.443	5.34	-1.898
5: AI/AN Non-Hispanic	3200455.82	1526907	1673548.82	1.296	0.618	0.678
6: Other/Multiracial Non-Hispanic	11113314.05	4420558	6692756.05	4.499	1.79	2.709

Age group by gender	**Input Weight Sum of Weights**	**Population Total**	**Sum of Weights Difference**	**% of Input Weights**	**Population %**	**Difference in %**
11: 16-24 Male	17740555.75	20051714	-2311158.25	7.182	8.118	-0.936
12: 16-24 Female	12424733.77	19387175	-6962441.23	5.03	7.849	-2.819
21: 25-29 Male	9417627.2	10474745	-1057117.8	3.813	4.241	-0.428
22: 25-29 Female	7529657.59	10515811	-2986153.41	3.048	4.257	-1.209
31: 30-34 Male	11819528.47	10281237	1538291.47	4.785	4.162	0.623
32: 30-34 Female	6739251.49	10501810	-3762558.51	2.728	4.251	-1.523
41: 35-39 Male	9235822.76	9611576	-375753.24	3.739	3.891	-0.152
42: 35-39 Female	7170973.88	9909101	-2738127.12	2.903	4.012	-1.108
51: 40-49 Male	20421051.91	20420984	67.91	8.267	8.267	0
52: 40-49 Female	19310451.93	21229852	-1919400.07	7.818	8.595	-0.777
61: 50-59 Male	23546365.85	20928245	2618120.85	9.532	8.472	1.06
62: 50-59 Female	23883681.96	22225386	1658295.96	9.669	8.998	0.671
71: 60-69 Male	20018129.08	15453706	4564423.08	8.104	6.256	1.848
72: 60-69 Female	23144050.1	17140934	6003116.1	9.37	6.939	2.43
81: 70+ Male	14494514.7	12339012	2155502.7	5.868	4.995	0.873
82: 70+ Female	20118350.55	16543459	3574891.55	8.145	6.697	1.447

****** Program terminated at iteration 5 because all current percentage differ from target percentage by less than 0.05 ******

WEIGHTED DISTRIBUTION AFTER RAKING

Telephone status	Output Weight Sum of Weights[31]	Population Total[32]	Sum of Weights Difference[33]	% of Output Weights[34]	Population %[35]	Difference in %[36]
1: Cell only user	109188007.7	109305294	-117285.88	44.203	44.251	-0.047
2: Landline only user	17743337.59	17752600	-9262.3	7.183	7.187	-0.004
3: Dual user cell mostly - cell/landline sample	42145323.58	42099023	46300.99	17.062	17.043	0.019
4: Dual user not cell mostly - landline sample only	77938078.12	77857831	80247.18	31.552	31.52	0.032

NHTSA region	Output Weight Sum of Weights[37]	Population Total[38]	Sum of Weights Difference[39]	% of Output Weights[40]	Population %[41]	Difference in %[42]
1: NHTSA Region 1	11796325.69	11794622	1703.69	4.776	4.775	0.001
2: NHTSA Region 2	32887982.66	32898311	-10328.34	13.314	13.318	-0.004
3: NHTSA Region 3	25084125.08	25055504	28621.08	10.155	10.143	0.012
4: NHTSA Region 4	36022346.69	36002824	19522.69	14.583	14.575	0.008
5: NHTSA Region 5	40788847.77	40741097	47750.77	16.513	16.493	0.019
6: NHTSA Region 6	30159104.21	30183360	-24255.79	12.209	12.219	-0.01
7: NHTSA Region 7	13049500.72	13032118	17382.72	5.283	5.276	0.007
8: NHTSA Region 8	10022782.94	10018964	3818.94	4.058	4.056	0.002
9: NHTSA Region 9	36004430.25	36079042	-74611.75	14.576	14.606	-0.03
10: NHTSA Region 10	11199300.98	11208905	-9604.02	4.534	4.538	-0.004

Note: Footnotes apply to each respective column heading in this section.

[31] Weighted count of adults based on raked (output) weight.
[32] Population count of adults based on American Community Survey.
[33] Output weight sum of weights minus population total.
[34] Weighted percent of adults based on raked (output) weight.
[35] Population percent of adults based on American Community Survey.
[36] % of output weights minus population %.
[37] Weighted count of adults based on raked (output) weight.
[38] Population count of adults based on American Community Survey.
[39] Output weight sum of weights minus population total.
[40] Weighted percent of adults based on raked (output) weight.
[41] Population percent of adults based on American Community Survey.
[42] % of output weights minus population %.

Number of People 16+ in HH	Output Weight Sum of Weights	Population Total	Sum of Weights Difference	% of Output Weights	Population %	Difference in %
1: 1 Person 16+ in HH	41366910.78	41358674	8236.78	16.747	16.743	0.003
2: 2 People 16+ in HH	116349235	116304877	44357.96	47.102	47.084	0.018
3: 3 People 16+ in HH	50439775.99	50449212	-9436.01	20.42	20.424	-0.004
4: 4+ People 16+ in HH	38858825.26	38901984	-43158.74	15.731	15.749	-0.017

Number of People in HH under 16	Output Weight Sum of Weights	Population Total	Sum of Weights Difference	% of Output Weights	Population %	Difference in %
1: 0 Children under 16 in HH	164976489.3	165093166	-116676.65	66.788	66.835	-0.047
2: 1 Child under 16 in HH	37813838.46	37773679	40159.46	15.308	15.292	0.016
3: 2 Children under 16 in HH	28323962.23	28257559	66403.23	11.467	11.44	0.027
4: 3+ Children under 16 in HH	15900456.96	15890343	10113.96	6.437	6.433	0.004

Tenure	Output Weight Sum of Weights	Population Total	Sum of Weights Difference	% of Output Weights	Population %	Difference in %
1: Own	162285423.6	162397537	-112113.41	65.699	65.744	-0.045
2: Rent	84729323.41	84617210	112113.41	34.301	34.256	0.045

Education	Output Weight Sum of Weights	Population Total	Sum of Weights Difference	% of Output Weights	Population %	Difference in %
1: Less than HS	39438587.38	39473916	-35328.62	15.966	15.98	-0.014
2: HS/GED	66921512.97	66924310	-2797.03	27.092	27.093	-0.001
3: Some college	75351090.03	75310772	40318.03	30.505	30.488	0.016
4: College graduate	65303556.61	65305749	-2192.39	26.437	26.438	-0.001

Race-ethnicity	Output Weight Sum of Weights	Population Total	Sum of Weights Difference	% of Output Weights	Population %	Difference in %
1: Hispanic	37558753.98	37498626	60127.98	15.205	15.181	0.024
2: White Non-Hispanic	161415624.7	161512193	-96568.34	65.347	65.386	-0.039
3: Black Non-Hispanic	28874862.08	28865584	9278.08	11.69	11.686	0.004
4: Asian/NHOPI Non-Hispanic	13214846.55	13190879	23967.55	5.35	5.34	0.01
5: AI/AN Non-Hispanic	1527680.28	1526907	773.28	0.618	0.618	0
6: Other/Multiracial Non-Hispanic	4422979.45	4420558	2421.45	1.791	1.79	0.001

Age group by gender	Output Weight Sum of Weights	Population Total	Sum of Weights Difference	% of Output Weights	Population %	Difference in %
11: 16-24 Male	20051714	20051714	0	8.118	8.118	0
12: 16-24 Female	19387175	19387175	0	7.849	7.849	0
21: 25-29 Male	10474745	10474745	0	4.241	4.241	0
22: 25-29 Female	10515811	10515811	0	4.257	4.257	0
31: 30-34 Male	10281237	10281237	0	4.162	4.162	0
32: 30-34 Female	10501810	10501810	0	4.251	4.251	0
41: 35-39 Male	9611576	9611576	0	3.891	3.891	0
42: 35-39 Female	9909101	9909101	0	4.012	4.012	0
51: 40-49 Male	20420984	20420984	0	8.267	8.267	0
52: 40-49 Female	21229852	21229852	0	8.595	8.595	0
61: 50-59 Male	20928245	20928245	0	8.472	8.472	0
62: 50-59 Female	22225386	22225386	0	8.998	8.998	0
71: 60-69 Male	15453706	15453706	0	6.256	6.256	0
72: 60-69 Female	17140934	17140934	0	6.939	6.939	0
81: 70+ Male	12339012	12339012	0	4.995	4.995	0
82: 70+ Female	16543459	16543459	0	6.697	6.697	0

Number of Respondents Who Had Their Weights Decreased by the Trimming: 7

Number of Respondents Who Had Their Weights Increased by the Trimming: 317

Raking output weight: DD_FINAL_POP_WT

Weight Variable	N	Sum	Minimum	Maximum	Mean	Coefficient of Variation
BSW_COMPOSITE	7,231	41071659.21	119.5335196	11083.32	5679.94	0.637972168
DD_FINAL_POP_WT	7231	247014747	2835.32	318645.48	34160.52	0.895132802
DD_FINAL_SAMP_WT	7231	7231	0.083	9.3278864	1	0.895132802

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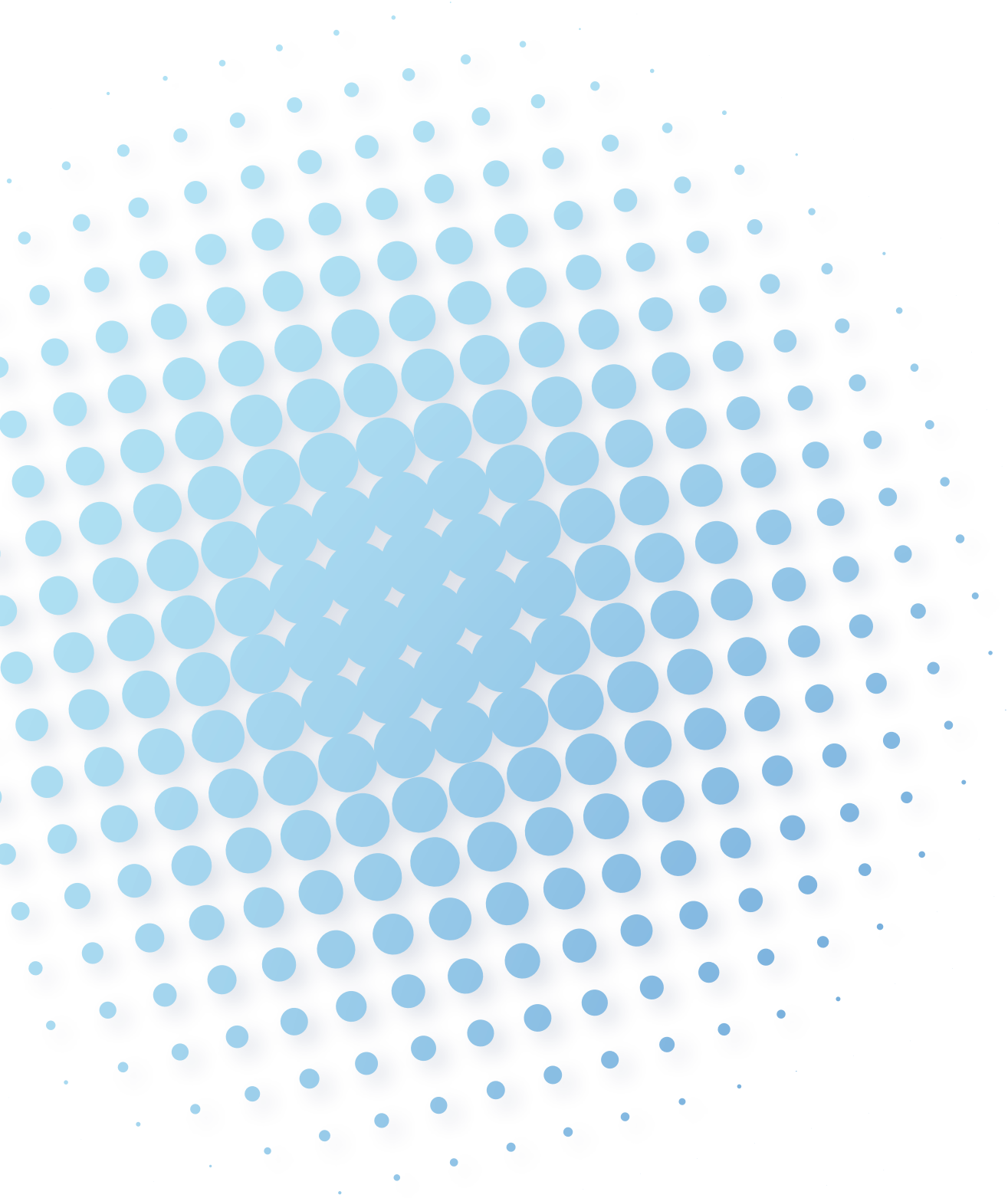

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