

# TRAFFIC SAFETY FACTS Research Note

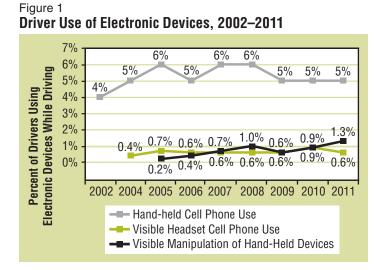
DOT HS 811 719

Summary of Statistical Findings

April 2013

# **Driver Electronic Device Use in 2011**

The percentage of drivers text-messaging or visibly manipulating hand-held devices increased significantly for a second year in a row from 0.9 percent in 2010 to 1.3 percent in 2011, while driver hand-held cell phone use stood at 5 percent in 2011 (Figure 1). These results are from the National Occupant Protection Use Survey (NOPUS), which provides the only nationwide probability-based observed data on driver electronic device use in the United States. The NOPUS is conducted annually by the National Center for Statistics and Analysis of the National Highway Traffic Safety Administration.

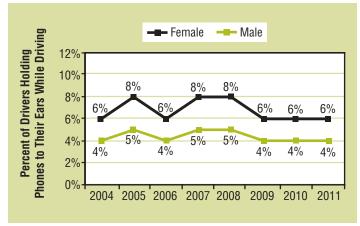


# **Driver Holding Phones to Their Ears While Driving**

The percentage of drivers holding cell phones to their ears while driving stood at 5 percent in 2011. This rate translates into 660,000 vehicles driven by people using handheld cell phones at a typical daylight moment in 2011. It also translates into an estimated 9 percent of the vehicles whose drivers were using some type of phone (either hand-held or hands-free) at a typical daylight moment in 2011. Please refer to the section "Estimating Drivers on the Road and Hands-Free Cell Phone Users" for more details on how these two estimates were obtained. The 2011 NOPUS found that hand-held cell phone use continued to be higher among female drivers than male drivers (Figure 2). It also found that hand-held cell phone use continued to be higher among 16- to 24-year-olds and lower among drivers 70 and older (Figure 3).



## Driver Hand-Held Cell Phone Use by Gender, 2004–2011





## Driver Hand-Held Cell Phone Use by Age, 2004–2011

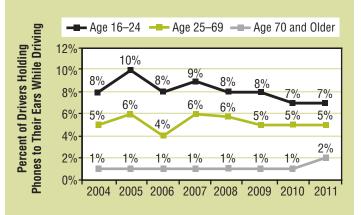


Table 2 shows the percentages of drivers speaking with visible headsets on while driving in 2010 and 2011 by major characteristics.

The percentage of drivers speaking with visible headsets on while driving decreased slightly from 0.9 percent in 2010 to 0.6 percent in 2011 as shown in Figure 1 and Table 2.

Significant decreases in visible headset use by drivers age 16 to 24 from 1.4 percent in 2010 to 0.6 percent in 2011 are shown in Figure 4.

The percentage of female drivers speaking with visible headsets on while driving decreased significantly from 1.1 percent in 2010 to 0.7 percent in 2011 as shown in Table 2.

## Drivers Visibly Manipulating Hand-Held Devices While Driving

The percentage of drivers visibly manipulating hand-held devices while driving increased significantly from 0.9 percent in 2010 to 1.3 percent in 2011, as shown in Figure 1 and Table 3. Table 3 presents the percentages of drivers visibly manipulating hand-held devices in 2010 and 2011 by major characteristics.

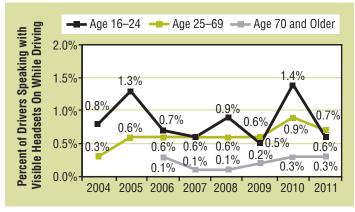
The 2011 NOPUS observed increased visible manipulation of hand-held devices in the following categories: female drivers, passenger car drivers, van and SUV drivers, and urban drivers.

Figure 5 shows that since 2007, the percentages of drivers visibly manipulating hand-held devices while driving have been significantly higher among drivers 16 to 24 than those of other age groups. It also shows that the percentage of drivers 16 to 24 visibly manipulating hand-held devices while driving increased significantly from 1.5 percent in 2010 to 3.7 percent in 2011.

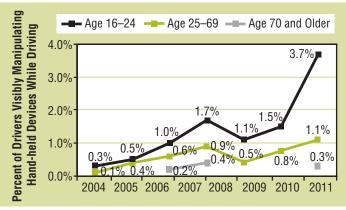
NOPUS is the only nationwide probability-based observational survey of driver electronic device use in the United States. The survey observes usage as it actually occurs at randomly selected roadway sites and thus provides the best tracking of the extent to which people in the United States use cell phones and other electronic devices while driving.

The survey data is collected by trained data collectors at probabilistically sampled intersections controlled by stop signs or stoplights, where data collectors observe, from the roadside, drivers and other occupants of passenger vehicles having no commercial or government markings. Data is collected between 7 a.m. and 6 p.m. Only stopped vehicles are observed to allow time to collect the variety

#### Figure 4 Driver Speaking With Visible Headsets on by Age, 2004–2011



#### Figure 5 Driver Visibly Manipulating Hand-Held Devices by Age, 2005–2011



Note: Except in 2007, 2008, and 2011, data not sufficient to produce a reliable estimate for 70 and older

of information required by the survey, including subjective assessments of occupants' age and race. Observers collect data on the driver, right-front passenger, and up to two passengers in the second row of seats. Observers do not interview occupants, so that NOPUS can capture the untainted behavior of occupants. The 2011 NOPUS data was collected between June 6 and June 17, 2011, while the 2010 data was collected between June 7 and June 26, 2010.

Statistically significant increases in the use of hand-held phones, headset use, and manipulation of hand-held devices between 2010 and 2011 are shown, respectively, in Table 1, Table 2, and Table 3 by having a result that is 90 percent or greater in column 7. Statistical confidences that hand-held cell phone use, headset use, or the manipulation of hand-held devices in a given driver group, e.g., drivers in the Northeast, is higher or lower than in the complementary driver group, e.g., combined drivers in

# Table 1 The Percent of Drivers Holding Phones to Their Ears While Driving, by Major Characteristics

	2010		2011		2010-2011 Change	
Driver Group <sup>1</sup>	% of Drivers Holding Phone to Ears <sup>2</sup>	Confidence That Use Is High or Low in Group <sup>3</sup>	% of Drivers Holding Phone to Ears <sup>2</sup>	Confidence That Use Is High or Low in Group <sup>3</sup>	Difference in Percentage Points	Confidence in a Change in % of Drivers Holding Phone to Ear <sup>4</sup>
All Drivers <sup>6</sup>	5%		5%		0	17%
Males	4%	100%	4%	100%	0	22%
Females	6%	100%	6%	100%	0	20%
Drivers by Age Group <sup>6</sup>						
Age 16-24	7%	100%	7%	99%	0	47%
Age 25-69	5%	68%	5%	57%	0	6%
Age 70 and Older	1%	100%	2%	100%	1	41%
Drivers by Race <sup>6</sup>						
White	5%	86%	5%	82%	0	24%
Black	6%	89%	6%	90%	0	25%
Other Races	3%	100%	3%	100%	0	49%
Drivers on						
Expressway Exit Ramps	4%	98%	4%	96%	0	8%
Other Surface Streets	5%	98%	5%	96%	0	16%
Drivers Traveling Through					-	
Light Precipitation	5%	86%	4%	78%	-1	85%
Fog	3%	91%	6%	68%	3	76%
Clear Weather Conditions	5%	84%	5%	74%	0	3%
Drivers of						
Passenger Cars	4%	100%	4%	99%	0	22%
Vans & SUVs	5%	95%	5%	98%	0	15%
Pickup Trucks	5%	89%	5%	87%	0	4%
Drivers in the	0,0		0,0	0.70		.,.
Northeast	4%	87%	4%	99%	0	22%
Midwest	5%	68%	5%	65%	0	30%
South	6%	99%	6%	100%	0	19%
West	4%	89%	4%	87%	0	6%
Drivers in	170	0070	170	01/0	5	070
Urban Areas	5%	61%	4%	97%	-1	66%
Suburban Areas	5%	58%	5%	99%	0	53%
Rural Areas	5%	70%	4%	96%	-1	48%
Drivers Traveling During	070	10/0	170	00/0		10 / 0
Weekdays	5%	100%	5%	100%	0	11%
Rush Hours	5%	57%	6%	92%	1	59%
Nonrush Hours	5%	57%	5%	92%	0	37%
Weekends	4%	100%	3%	100%	-1	59%
Drivers With <sup>5</sup>	170		576	100/0		3070
No Passengers	6%	100%	6%	100%	0	10%
At Least One Passenger	2%	100%	2%	100%	0	39%
Drivers With <sup>5</sup>	2 /0	100/0	L /0	100/0	0	0070
No Passengers	6%	100%	6%	100%	0	10%
Passengers All Under Age 8	6%	75%	6%	96%	0	17%
Passengers All 8 and Older	2%	100%	1%	100%	-1	74%
Some Passengers Under 8 and						
Some 8 or Older	2%	100%	3%	93%	1	42%

<sup>1</sup> Drivers of passenger vehicles with no commercial or government markings stopped at a stop sign or stoplight between the hours of 7 a.m. and 6 p.m.

<sup>2</sup> The percentage of drivers holding a phone to their ears, based on the subjective assessments of roadside observers.

<sup>3</sup> The statistical confidence that use in the driver group (e.g., white drivers) is higher or lower than use in the corresponding complementary driver group (e.g., combined black or other drivers). Confidences that meet or exceed 90 percent are formatted in boldface type. Confidences are rounded to the nearest percentage point, and so confidences reported as "100 percent" are between 99.5 percent and 100.0 percent.

<sup>4</sup> The degree of statistical confidence that the 2011 use rate is different from the 2010 rate. Confidences that meet or exceed 90 percent are formatted in boldface type.

<sup>5</sup> Among passengers observed in the right-front seat and the second row of seats (but NOPUS only counts up to two passengers in the second row and none in the third row and beyond).

<sup>6</sup> Age, gender, and racial classifications are based on the subjective assessments of roadside observers.

Data Source: NOPUS, NHTSA's National Center for Statistics and Analysis

# Table 2 The Percent of Drivers Speaking With Visible Headsets on While Driving, by Major Characteristics

	2010		2011		2010-2011 Change	
Driver Group <sup>1</sup>	% of Drivers Speaking with Headsets <sup>2</sup>	Confidence That Use Is High or Low in Group <sup>3</sup>	% of Drivers Speaking with Headsets <sup>2</sup>	Confidence That Use Is High or Low in Group <sup>3</sup>	Difference in Percentage Point Tenths	Confidence in a Change in % of Drivers Speaking With Headsets <sup>4</sup>
All Drivers <sup>6</sup>	0.9%		0.6%		-0.3	87%
Males	0.8%	100%	0.6%	60%	-0.2	58%
Females	1.1%	100%	0.7%	60%	-0.4	<b>95</b> %
Drivers by Age Group <sup>6</sup>						
Age 16-24	1.4%	98%	0.6%	51%	-0.8	<b>93</b> %
Age 25-69	0.9%	71%	0.7%	83%	-0.2	81%
Age 70 and Older	0.3%	100%	0.3%	99%	0.0	7%
Drivers by Race <sup>6</sup>						
White	0.8%	94%	0.6%	53%	-0.2	77%
Black	1.0%	70%	0.7%	56%	-0.3	79%
Other Races	1.3%	<b>91%</b>	0.6%	57%	-0.7	<b>91</b> %
Drivers on						
Expressway Exit Ramps	1.1%	84%	0.9%	99%	-0.2	52%
Other Surface Streets	0.8%	84%	0.5%	99%	-0.3	<b>92</b> %
Drivers Traveling Through						
Light Precipitation	0.5%	92%	1.2%	86%	0.7	76%
Fog	NA	NA	NA	NA	NA	NA
Clear Weather Conditions	1.0%	93%	0.6%	96%	-0.4	95%
Drivers of						
Passenger Cars	0.9%	59%	0.6%	57%	-0.3	79%
Vans and SUVs	1.0%	87%	0.8%	90%	-0.2	64%
Pickup Trucks	0.7%	97%	0.3%	100%	-0.4	98%
Drivers in the			0.0,0			
Northeast	0.6%	86%	0.5%	83%	-0.1	46%
Midwest	0.6%	84%	0.3%	99%	-0.3	68%
South	0.8%	63%	0.4%	91%	-0.4	86%
West	1.5%	93%	1.2%	99%	-0.3	36%
Drivers in	1.070	3070	1.2 /0	3370	0.0	0070
Urban Areas	1.0%	62%	1.1%	99%	0.1	10%
Suburban Areas	1.1%	94%	0.7%	89%	-0.4	85%
Rural Areas	0.5%	99%	0.2%	100%	-0.3	90%
Drivers Traveling During	0.070	3370	0.2 /0	100 /0	0.0	30/0
Weekdays	1.1%	100%	0.7%	79%	-0.4	92%
Rush Hours	1.1%	82%	0.7 %	92%	-0.4	81%
Nonrush Hours	1.2%	82%	0.6%	92%	-0.4	<u>92%</u>
Weekends	0.5%	100%	0.5%	79%	0.0	5%
Drivers With <sup>5</sup>	0.370	100 /0	0.3 /0	19/0	0.0	J /0
	1.3%	100%	0.8%	99%	-0.5	95%
No Passengers	0.2%	100%	0.8%	99% 99%	-0.5	<b>95</b> %
At Least One Passenger	0.2%	100%	0.3%	33%	0.1	00%
Drivers With <sup>5</sup>	1.00/	1000/	0.00/	000/	0.5	0E0/
No Passengers	1.3%	100%	0.8%	99%	-0.5	95%
Passengers All Under Age 8	1.1%	67%	NA	NA 100%	NA	NA 10/
Passengers All 8 and Older	0.2%	100%	0.2%	100%	0.0	1%
Some Passengers Under 8 and Some 8 or Older	NA	NA	NA	NA	NA	NA

<sup>1</sup> Drivers of passenger vehicles with no commercial or government markings stopped at a stop sign or stoplight between the hours of 7 a.m. and 6 p.m.

<sup>2</sup> The percent of drivers wearing a headset with a microphone and speaking, based on the subjective assessments of roadside observers.

<sup>3</sup> The statistical confidence that use in the driver group (e.g., white drivers) is higher or lower than use in the corresponding complementary driver group (e.g., combined black or other drivers). Confidences that meet or exceed 90 percent are formatted in boldface type. Confidences are rounded to the nearest percentage point, and so confidences reported as "100 percent" are between 99.5 percent and 100.0 percent.

<sup>4</sup> The degree of statistical confidence that the 2011 use rate is different from the 2010 rate. Confidences that meet or exceed 90 percent are formatted in boldface type.

<sup>5</sup> Among passengers observed in the right front seat and the second row of seats (but NOPUS only counts up to two passengers in the second row and none in the third row and beyond).

<sup>6</sup> Age, gender, and racial classifications are based on the subjective assessments of roadside observers.

NA: Data not sufficient to produce a reliable estimate.

Data Source: NOPUS, NHTSA's National Center for Statistics and Analysis

#### Table 3 The Percent of Drivers Visibly Manipulating Hand-Held Devices While Driving, by Major Characteristics

	2010		2011			10-2011 Change
Driver Group <sup>1</sup>	% of Drivers Manipulating Hand- Held Devices <sup>2</sup>	Confidence That Use Is High or Low in Group <sup>3</sup>	% of Drivers Manipulating Hand- Held Devices <sup>2</sup>	Confidence That Use Is High or Low in Group <sup>3</sup>	Difference in Percentage Point Tenths	Confidence in a Change in % of Drivers Manipulating Hand-Held Devices <sup>4</sup>
All Drivers <sup>6</sup>	0.9%		1.3%		0.4	<b>92</b> %
Males	0.7%	100%	1.0%	100%	0.3	83%
Females	1.1%	100%	1.8%	100%	0.7	91%
Drivers by Age Group <sup>6</sup>	•					
Age 16-24	1.5%	100%	3.7%	100%	2.2	99%
Age 25-69	0.8%	99%	1.1%	99%	0.3	84%
Age 70 and Older	NA	NA	0.3%	100%	NA	NA
Drivers by Race <sup>6</sup>	·		·			
White	0.8%	83%	1.2%	<b>91%</b>	0.4	85%
Black	1.0%	78%	1.3%	53%	0.3	60%
Other Races	1.0%	75%	2.6%	91%	1.6	79%
Drivers on						
Expressway Exit Ramps	0.6%	99%	1.7%	<b>97</b> %	1.1	100%
Other Surface Streets	0.9%	99%	1.1%	97%	0.2	49%
Drivers Traveling Through		1	1			1
Light Precipitation	0.8%	55%	3.0%	98%	2.2	99%
Fog	NA	NA	NA	NA	NA	NA
Clear Weather Conditions	0.9%	57%	1.2%	96%	0.3	76%
Drivers of						
Passenger Cars	0.9%	92%	1.4%	91%	0.5	91%
Vans and SUVs	0.9%	82%	1.5%	96%	0.6	93%
Pickup Trucks	0.5%	100%	0.6%	100%	0.1	43%
Drivers in the		1	1			1
Northeast	0.6%	92%	1.1%	80%	0.5	89%
Midwest	0.6%	96%	0.5%	100%	-0.1	11%
South	0.7%	70%	1.0%	86%	0.3	69%
West	1.5%	97%	2.6%	99%	1.1	77%
Drivers in						
Urban Areas	0.8%	66%	2.5%	98%	1.7	99%
Suburban Areas	1.0%	94%	1.5%	83%	0.5	85%
Rural Areas	0.6%	87%	0.4%	100%	-0.2	51%
Drivers Traveling During						
Weekdays	0.9%	75%	1.3%	65%	0.4	79%
Rush Hours	1.0%	84%	1.4%	73%	0.4	56%
Nonrush Hours	0.8%	84%	1.2%	73%	0.4	90%
Weekends	0.7%	75%	1.5%	65%	0.8	83%
Drivers With <sup>5</sup>	0.1770	10/0	1.0 /0	0070	0.0	00/0
No Passengers	1.1%	100%	1.5%	100%	0.4	85%
At Least One Passenger	0.4%	100%	0.9%	100%	0.5	98%
Drivers With <sup>5</sup>	0.770	100/0	0.070	100/0	0.0	
No Passengers	1.1%	100%	1.5%	100%	0.4	85%
Passengers All Under Age 8		82%	2.8%	97%	1.4	81%
Passengers All 8 and Older	0.4%	100%	0.8%	100%	0.4	98%
Some Passengers Under 8						
and Some 8 or Older	0.3%	100%	NA	NA	NA	NA

 <sup>2</sup> The percent of drivers manipulating hand-held devices, based on the subjective assessments of roadside observers.
 <sup>3</sup> The statistical confidence that use in the driver group (e.g., white drivers) is higher or lower than use in the corresponding complementary driver group (e.g., combined black or other drivers). Confidences that meet or exceed 90 percent are formatted in boldface type. Confidences are rounded to the nearest percentage point, and so confidences reported as "100 percent" are between 99.5 percent and 100.0 percent.

<sup>4</sup> The degree of statistical confidence that the 2011 use rate is different from the 2010 rate. Confidences that meet or exceed 90 percent are formatted in boldface type.

<sup>5</sup> Among passengers observed in the right front seat and the second row of seats (but NOPUS only counts up to two passengers in the second row and none in the third row and beyond).

<sup>6</sup> Age, gender, and racial classifications are based on the subjective assessments of roadside observers.

NA: Data not sufficient to produce a reliable estimate.

Data Source: NOPUS, NHTSA's National Center for Statistics and Analysis

the Midwest, in the South and in the West, are provided in columns 3 and 5. Such comparisons are made within categories delineated by changes in row shading in the tables. The exception to this is the grouping "Drivers Traveling During ...," in which weekdays are compared to weekends, and weekday rush hour to weekday non-rush hour.

Table 4 shows the observed sample sizes of the 2011 NOPUS. A total of 38,215 vehicles were observed at the 1,356 data collection sites. Due to ineligibility, construction, danger in the area, or road closure, the observations could not be completed at some of the sampled observation sites.

Table 4Sites and Vehicles Observed in the 2011 NOPUS

Number of	2010	2011	Percentage Change
Sites Observed	1,446	1,356	-6%
Vehicles Observed	48,331	38,215	-21%

NOPUS uses a complex multistage probability sample, statistical data editing, imputation of unknown values, and complex variance estimation procedures. The sample sites for the 2011 NOPUS were entirely from the 2006 NOPUS sample redesign without incorporating any sites from the old design. During the transitional years between 2006 and 2010, sample sites were chosen both from the new design and the old design. Prior to 2006, sample sites were from the old design only.

Data collection, estimation, and variance estimation for NOPUS are conducted by Westat, Inc., under the direction of NHTSA's National Center for Statistics and Analysis under Federal contract number DTNH22-07-D-00057.

## **NOPUS Categories and Definitions**

NOPUS observes three types of driver electronic device use while driving: "holding phones to their ears," "speaking with visible headsets on," and "visibly manipulating handheld devices."

Drivers are counted as "holding phones to their ears" if they are holding to their ears what appear to the data collectors to be phones. This would include behaviors such as drivers engaging in conversation, listening to messages, or conducting voice-activated dialing while holding phones to their ears. However, a data collector may not have knowledge of various types of wireless phones. Thus, the device that has been identified as a "phone" may only reflect his/ her conception of what constitutes a "phone." Also, the corded car phones and satellite phones may or may not have been identified as "phones." With the increasing popularity of PDAs and smart phones, BlackBerry phones and iPhones would most likely be identified as phones. Drivers are counted as "speaking with visible headsets on" if they appear to be speaking and wearing a headset with a microphone. This would include behaviors such as talking, engaging in conversation, or conducting voice-activated dialing via a wireless earpiece on the driver's right ear or via an ear bud connected by wire to a cell phone. Talking via a visible Bluetooth headset (usually on the driver's right ear) would also be included in this category. However, it would not include drivers using headsets that do not involve cell phones (e.g., iPods), since these headsets do not involve microphones. Note that the wireless earpieces that are obscured by hair or clothing or are on the driver's left ear would not be included because they would not be visible to the roadside observer. In addition, some wireless ear buds would not be included as they are too small to be observed from the roadside. The drivers with headsets who are not speaking at the time of observation are not included because they might have recently completed a call or be waiting for an expected call. Each driver in the survey is observed for about 10 seconds before the data collector decides whether or not the driver is speaking. Also, note that the drivers counted as speaking through a visible headset might have been talking to a passenger or using voice-activated computer software rather than using a phone.

Drivers are counted as "visibly manipulating hand-held devices" if they appear to be manipulating some type of electronic device such as a cell phone, a smart phone, PDA, video game, or some other device. This would include behaviors such as text messaging, using a Web-capable smart phone (e.g., an iPhone) or a PDA (e.g., a BlackBerry phone) to view travel directions, check e-mails or calendar appointments, or surf the Internet, manual dialing, playing hand-held games, and holding phones in front of their faces to converse or check messages via speakerphone or use voice-activated dialing. Manipulation of the non-handheld devices (adjusting volume on stereos, pressing buttons on a dashboard GPS unit, etc.) is not included in this category. Also, note that a driver characterized by the survey as "manipulating hand-held device" may or may not have been speaking.

There are means by which the drivers can use cell phones that would neither be recorded as "holding phones to their ears" nor as "speaking with visible headsets on" or as "visibly manipulating hand-held devices" in the NOPUS. These would include: (1) a driver using a cell phone headset but is not speaking during the approximately 10-second period when he/she is being observed, and (2) a driver using technologies that cannot be observed from the roadside. The unobservable technologies would include: a wireless earpiece obscured by hair or clothing or on the left ear, a driver conversing via a speakerphone with the phone on the passenger seat or in a cell phone holder on the vehicle dashboard, a driver using a phone that is built into the vehicle (e.g., OnStar), and a driver using the cell phone hands-free via a Bluetooth car kit or via a Bluetooth system that is built into the vehicle (e.g., Sync). It is possible that at some point in the future, NOPUS may be able to capture such behaviors by directing a device that can detect cell phones in-use in the passing vehicles.

The racial categories "Black," "White," and "Members of Other Races" appearing in the tables reflect subjective characterizations by roadside observers regarding the race of occupants. Likewise observers record the age group (8-15; 16-24; 25-69; and 70 or older) that best fits their visual assessment of each observed occupant.

"Expressway Exit Ramps" are defined as the access roads from roadways with limited access, while "Other Surface Streets" comprise all other roadways.

"Weekday Rush Hours" are defined to be from 7 a.m. to 9:30 a.m. and from 3:30 p.m. to 5 p.m. on weekdays, while "Weekday Nonrush Hours" comprise all other weekday hours (9:30 a.m. to 3:30 p.m. and 5 p.m. to 6 p.m.).

Since NOPUS is not a census and is based on a probability sample, it is impossible to produce State-by-State driver electronic device use results. However NOPUS produces regional estimates of the use rates based on the following categories.

- Northeast: ME, VT, NH, MA, RI, CT, NY, PA, NJ
- Midwest: MI, OH, IN, IL, WI, MN, IA, MO, KS, NE, SD, ND
- South: WV, MD, DE, VA, KY, TN, NC, SC, GA, FL, AL, MS, AR, LA, OK, TX, DC
- West: AK, WA, OR, CA, NV, ID, UT, AZ, NM, CO, WY, MT, HI

# Estimating Drivers on Road and Hands-Free Cell Phone Users

NHTSA used the 2009 National Household Travel Survey (NHTS) data to derive the total number of vehicles (drivers) on the road at a typical daylight moment in the United States in 2009. Since the NHTS was not conducted in 2011, the following estimate based on the published 2009 NHTS estimate was used to derive the total number of drivers on the road at a typical daylight moment in 2011.

*The published 2009 estimate:* 13,399,139 drivers on road at a given daylight moment.

2011 VMT: The official number for the 2011 vehicle miles traveled from the Federal Highway Administration (available at http://www.fhwa.dot.gov/policyinformation/statistics/2011/pdf/vm2.pdf) is 2,946,131 million miles as compared to 2,956,764 million miles in 2009.

Therefore, the number of drivers in 2011 at a given daylight moment = 2009 Driver # \* (2011 VMT / 2009 VMT) = 13,399,139\* (2,946,131 / 2,956,764) = 13,350,953. Given the hand-held cell phone use rate for 2011 is 5 percent, the numbers of drivers of privately owned vehicles on the road at a typical daylight moment who were holding cell phones to their ear in 2011: 13,350,953\* 0.05  $\approx$  660,000

NHTSA's 2007 Motor Vehicle Occupant Safety Survey (MVOSS) estimated that, for drivers using cell phones while driving, 55 percent tended to use hand-held cell phones and 45 percent tended to use hands-free phones. Applying the proportion 0.8182 (= 45/55) of these percentages to the 5 percent estimate of drivers using hand-held cell phones in 2011 from NOPUS shows an estimated 4 percent of drivers using hands-free cell phones. Thus, 9 percent of drivers are estimated to be using either a hand-held or a hands-free cell phone while driving at a typical daylight moment in the United States in 2011. Please note that MVOSS cell phone use pattern (hand-held versus hands-free) reflects general times (daytime and nighttime) whereas the NOPUS estimates reflect daytime use only.

# State Laws on Driver Electronic Device Use (Enacted As of July 6, 2012)

Many States restrict cell phone use by drivers. As of July 6, 2012, no State completely bans all forms of cell phone use by drivers. However, a ban on driving while talking on a hand-held cell phone was in place in 10 States (California, Connecticut, Delaware, Maryland, Nevada, New Jersey, New York, Oregon, Washington, and West Virginia), the District of Columbia, and the Virgin Islands (Table 6). All of these laws except Maryland's are primary enforcement—an officer may cite a driver for using a handheld cell phone without any other traffic offense taking place.

Thirty-nine States, the District of Columbia, and Guam ban text messaging for all drivers (Table 7). In 35 States, the District of Columbia and Guam, texting laws are primary enforcement, and in the other 4 States these laws only permit secondary enforcement. Many States also ban cell phone use and/or texting by novice drivers or school bus drivers.

Table 6

#### States and U.S. Territories With Laws Banning Hand-Held Cell Phone Use While Driving

California	Connecticut	Delaware	Maryland	Nevada
New Jersey	New York	Oregon	Washington	West Virginia
District of Columbia	Virgin Islands			

# Table 7

### States and U.S. Territories With Laws Banning Text-Messaging While Driving

Alabama	Alaska	Arkansas	California	Colorado
Connecticut	Delaware	Georgia	Idaho	Illinois
Indiana	Iowa	Kansas	Kentucky	Louisiana
Maine	Maryland	Massachusetts	Michigan	Minnesota
Nebraska	Nevada	New Hampshire	New Jersey	New York
North Carolina	North Dakota	Ohio	Oregon	Pennsylvania
Rhode Island	Tennessee	Utah	Vermont	Virginia
Washington	West Virginia	Wisconsin	Wyoming	District of Columbia
Guam				

Some States such as New Hampshire and Utah treat cell phone use and texting as part of a larger distracted driving issue. In Utah, cell phone use is an offense only if a driver is also committing some other moving violation (other than speeding).

## For More Information

This Research Note was written by Timothy M. Pickrell, mathematical statistician in the Mathematical Analysis Division, National Center for Statistics and Analysis, NHTSA, and by Tony Jianqiang Ye, statistician, employed by Bowhead Systems Management, Inc. working with the Mathematical Analysis Division, National Center for Statistics and Analysis, NHTSA. For questions regarding the information presented in this document, please contact timothy.pickrell@dot.gov.

Additional data and information on the survey design and analysis procedures will be available in upcoming publications to be posted at the Web site http://www. nhtsa.gov/NCSA.

For more information on NHTSA's policy on distracted driving, please visit www.nhtsa.gov or www.distraction.gov.

## Suggested APA Format Citation:

Pickrell, T. M., & Ye, T. J. (2013, March). Driver Electronic Device Use in 2011. (Report No. DOT HS 811 719). Washington, DC: National Highway Traffic Safety Administration.



U.S. Department of Transportation

National Highway Traffic Safety Administration This research note and other general information on highway traffic safety may be accessed by Internet users at: www-nrd.nhtsa.dot.gov/CATS/index.aspx

1200 New Jersey Avenue SE., Washington, DC 20590