

# Traffic Safety Facts

## Research Note

December 2005

DOT HS 809 967

### Driver Cell Phone Use in 2005 – Overall Results

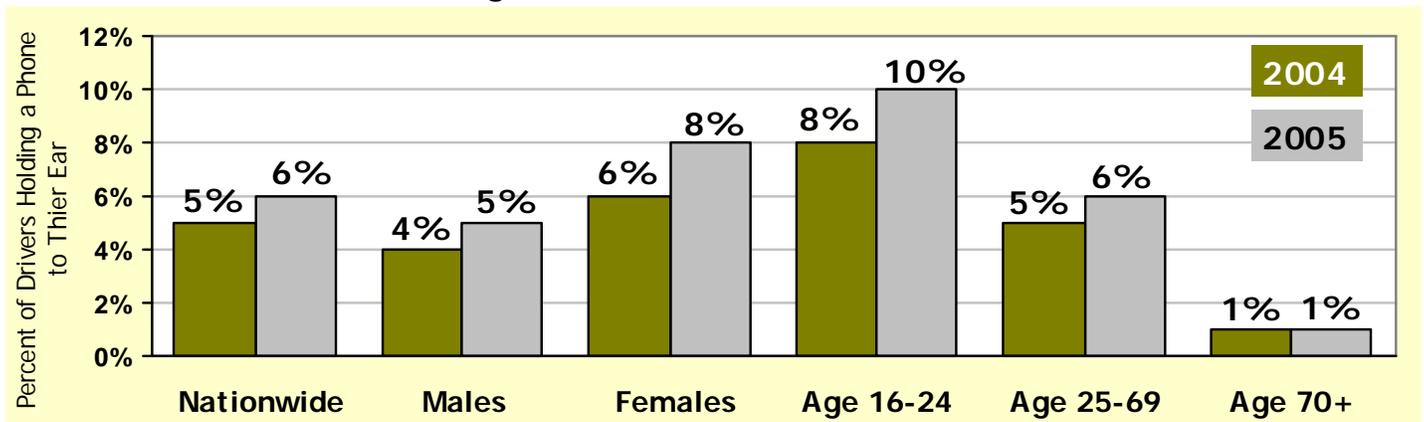
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Driver cell phone use increased in 2005, with 6 percent of drivers on hand-held phones in 2005 nationwide compared to 5 percent in 2004. This result is from the National Occupant Protection Use Survey (NOPUS), which provides the only probability-based observed data on driver cell phone 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 (NHTSA).

The 2005 rate translates into 974,000 vehicles on the road at any given daylight moment being driven by someone on a hand-held phone. It also translates into an estimated 10 percent of vehicles in the typical daylight moment whose driver is using some type of phone, whether hand-held or hands-free. The 2005 survey also found the following:

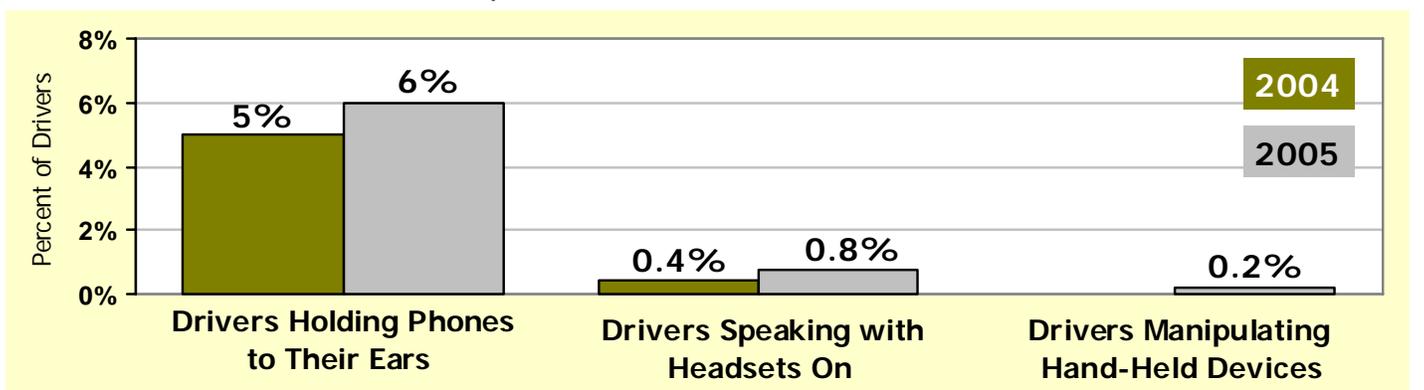
- Hand-held use increased in a number of driver categories, including female drivers (from 6 percent in 2004 to 8 percent in 2005), drivers age 16-24 (8 percent in 2004 to 10 percent in 2005), and drivers in suburban areas (4 percent in 2004 to 7 percent in 2005).
- The incidence of drivers speaking with headsets on while driving also increased in 2005, from 0.4 percent of drivers in 2004 to 0.7 percent in 2005.
- In the first nationwide probability-based estimate of the incidence of hand-held device manipulation, the survey found that 0.2 percent of drivers were dialing phones, checking PDAs, or otherwise manipulating some hand-held device while driving in 2005.

#### The Percent of Drivers Holding Phones to Their Ears



Source: National Occupant Protection Use Survey, NHTSA's National Center for Statistics and Analysis, 2004-2005

#### Various Distraction Behaviors, 2004-2005



Source: National Occupant Protection Use Survey, NHTSA's National Center for Statistics and Analysis, 2004-2005

# The Percent of Drivers Holding Phones to their Ears, by Major Characteristics

Motorist Group <sup>1</sup>	2004		2005		2004-2005 Change	
	% of Drivers Holding Phone to Ear <sup>2</sup>	Significantly High or Low Rates <sup>3</sup>	% of Drivers Holding Phone to Ear <sup>2</sup>	Significantly High or Low Rates <sup>3</sup>	Difference in Percentage Points	Confidence in a Change in % of Drivers Holding Phone to Ear <sup>4</sup>
All Drivers	5%		6%		1	84%
Males	4%		5%		1	40%
Females	6%		8%		2	<b>99%</b>
Drivers Who Appear to Be						
Ages 16-24	8%	H	10%		2	<b>93%</b>
Ages 25-69	5%		6%	L	1	70%
Ages 70 and Up	1%	L	1%	L	0	16%
Drivers Who Appear to Be						
White	5%		6%		1	65%
Black	5%		6%		1	57%
Members of Other Races	3%	L	6%	L	3	<b>97%</b>
Drivers on						
Expressway Exit Ramps	6%		7%		1	74%
Surface Streets	5%		6%		1	76%
Drivers Traveling Through						
Light Precipitation	5%		6%		1	66%
Fog	NA		6%		NA	
Clear Weather Conditions	5%		6%		1	81%
Drivers of						
Passenger Cars	4%		6%		2	<b>93%</b>
Vans & SUVs	6%		7%		1	52%
Pickup Trucks	5%		5%		0	18%
Drivers in the						
Northeast	3%	L	4%	L	1	81%
Midwest	5%		8%		3	88%
South	6%		5%		-1	41%
West	6%		8%		2	<b>98%</b>
Drivers in						
Urban Areas	7%		7%		0	47%
Suburban Areas	4%		7%		3	<b>99%</b>
Rural Areas	6%		3%		-3	86%
Drivers Traveling During						
Weekdays	5%		7%		2	80%
Rush Hours	5%		8%		3	<b>99%</b>
Nonrush Hours	5%		6%		1	15%
Weekends	3%		4%		1	<b>90%</b>
Drivers With <sup>5</sup>						
No Passengers	6%	H	8%	H	2	88%
At Least One Passenger	2%	L	2%	L	0	<b>92%</b>
Drivers With <sup>5</sup>						
No Passengers	6%		8%	H	2	89%
Passengers All Under Age 8	7%		6%		-1	33%
Passengers All Ages 8 and Older	2%		2%	L	0	64%
Some Passengers Under Age 8 and Some Age 8 or Older	2%		2%	L	0	16%

<sup>1</sup> Drivers of passenger vehicles with no commercial or government markings stopped at a stop sign or stoplight between the hours of 8 a.m. and 6 p.m.

<sup>2</sup> The percent of drivers who appeared to be holding a phone to their ears. Age, gender, and racial classifications are based on the subjective assessments of roadside observers.

<sup>3</sup> Rates flagged with an "H" or "L" are statistically high or low in their category at a 90% confidence level.

<sup>4</sup> The degree of statistical confidence that the 2005 use rate is different from the 2004 rate.

<sup>5</sup> Among passengers observed in the right-front seat and the second row of seats.

NA: Data not sufficient to produce a reliable estimate.

Source: National Occupant Protection Use Survey, National Highway Traffic Safety Administration, National Center for Statistics and Analysis

# The Percent of Drivers Speaking with Headsets On, by Major Characteristics

Motorist Group <sup>1</sup>	2004		2005		2004-2005 Change	
	% of Drivers Speaking with Headsets <sup>2</sup>	Significantly High or Low Rates <sup>3</sup>	% of Drivers Speaking with Headsets <sup>2</sup>	Significantly High or Low Rates <sup>3</sup>	Difference in Percentage Point Tenths	Confidence in a Change in % of Drivers Speaking with Headsets <sup>4</sup>
All Drivers	0.4%		0.7%		0.3	88%
Males	0.5%		0.7%		0.2	75%
Females	0.2%		0.6%		0.4	96%
Drivers Who Appear to Be						
Ages 16-24	0.8%		1.3%		0.5	49%
Ages 25-69	0.3%		0.6%		0.3	94%
Ages 70 and Up	NA		NA		NA	
Drivers Who Appear to Be						
White	0.3%		0.6%		0.3	87%
Black	0.8%		1.3%		0.5	41%
Members of Other Races	0.2%		0.7%	L	0.5	85%
Drivers on						
Expressway Exit Ramps	0.4%		0.9%		0.5	80%
Surface Streets	0.3%		0.6%		0.3	76%
Drivers Traveling Through						
Light Precipitation	0.1%	L	0.4%	L	0.3	73%
Fog	NA		NA		NA	
Clear Weather Conditions	0.4%	H	0.7%		0.3	87%
Drivers of						
Passenger Cars	0.4%		0.7%		0.3	76%
Vans and SUVs	0.3%		1.0%		0.7	97%
Pickup Trucks	0.4%		0.3%		-0.1	45%
Drivers in the						
Northeast	1.0%		0.9%		-0.1	17%
Midwest	0.2%		1.7%		1.5	98%
South	0.4%		0.4%	L	0.0	7%
West	0.3%		0.3%	L	0.0	39%
Drivers in						
Urban Areas	0.9%		0.9%		0.0	1%
Suburban Areas	0.2%		0.7%	L	0.5	99%
Rural Areas	0.4%		0.5%		0.1	26%
Drivers Traveling During						
Weekdays	0.4%		0.8%		0.4	91%
Rush Hours	0.6%		0.8%		0.2	47%
Nonrush Hours	0.3%		0.8%		0.5	95%
Weekends	0.2%		0.2%		0.0	30%
Drivers With <sup>5</sup>						
No Passengers	0.5%	H	0.8%	H	0.3	84%
At Least One Passenger	0.1%	L	0.4%	L	0.3	84%
Drivers With <sup>5</sup>						
No Passengers	0.5%		0.8%		0.3	84%
Passengers All Under Age 8	NA		1.0%	L	NA	
Passengers All Ages 8 and Older	0.1%		0.3%	L	0.2	65%
Some Passengers Under Age 8 and Some Age 8 or Older	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 8 a.m. and 6 p.m.

<sup>2</sup> The percent of drivers who appeared to be wearing a headset with a microphone and speaking. Age, gender, and racial classifications are based on the subjective assessments of roadside observers.

<sup>3</sup> Rates flagged with an "H" or "L" are statistically high or low in their category at a 90% confidence level.

<sup>4</sup> The degree of statistical confidence that the 2005 use rate is different from the 2004 rate.

<sup>5</sup> Among passengers observed in the right front seat and the second row of seats.

NA: Data not sufficient to produce a reliable estimate.

Source: National Occupant Protection Use Survey, National Highway Traffic Safety Administration, National Center for Statistics and Analysis

# The Percent of Drivers Manipulating Hand-Held Devices, by Major Characteristics

Motorist Group <sup>1</sup>	2005		
	% of Drivers Manipulating Hand-Held Devices <sup>2</sup>	Significantly High or Low Rates <sup>3</sup>	
All Drivers	0.2%		
Males	0.1%		
Females	0.2%		
Drivers Who Appear to Be			
Ages 16-24	0.3%		
Ages 25-69	0.1%		
Ages 70 and Up	NA		
Drivers Who Appear to Be			
White	0.2%		
Black	0.1%		L
Members of Other Races	0.2%		
Drivers on			
Expressway Exit Ramps	0.1%		
Surface Streets	0.2%		
Drivers Traveling Through			
Light Precipitation	0.3%		
Fog	NA		
Clear Weather Conditions	0.1%		
Drivers of			
Passenger Cars	0.2%		
Vans and SUVs	0.2%		
Pickup Trucks	0.1%		
Drivers in the			
Northeast	0.3%		
Midwest	0.1%		
South	0.2%		
West	0.1%		
Drivers in			
Urban Areas	0.1%		
Suburban Areas	0.2%		
Rural Areas	0.1%		
Drivers Traveling During			
Weekdays	0.2%		
Rush Hours	0.1%		L
Nonrush Hours	0.2%		H
Weekends	0.2%		
Drivers With <sup>4</sup>			
No Passengers	0.2%		H
At Least One Passenger	0.0%		L
Drivers With <sup>4</sup>			
No Passengers	0.2%		H
Passengers All Under Age 8	NA		
Passengers All Ages 8 and Older	0.0%		L
Some Passengers Under Age 8 and Some Age 8 or Older	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 8 a.m. and 6 p.m.

<sup>2</sup> The percent of drivers who appeared to be manipulating some type of electronic device, whether a cell phone, video game, or other device. Age, gender, and racial classifications are based on the subjective assessments of roadside observers.

<sup>3</sup> Rates flagged with an "H" or "L" are statistically high or low in their category at a 90% confidence level.

<sup>4</sup> Among passengers observed in the right-front seat and the second row of seats.

NA: Data insufficient to form a reliable estimate.

Source: National Occupant Protection Use Survey, National Highway Traffic Safety Administration, National Center for Statistics and Analysis.

# Survey Methodology

The National Occupant Protection Use Survey (NOPUS) is the only probability-based observational survey of driver cell phone use in the United States. The survey observes usage as it actually occurs at a random selection of roadway sites, and so provides the best tracking of the extent to which people in this country are using cell phones while driving.

The survey data is collected by sending trained observers to probabilistically sampled intersections controlled by a stop sign or stoplight, where motorists are observed from the roadside. Data is collected between the hours of 8 a.m. and 6 p.m. Only stopped vehicles are observed to permit time to collect the variety of information required by the survey, including subjective assessments of motorists' age and race. Observers collect data on the driver and observe the presence of a right-front passenger and up to two passengers in the second row of seats. Observers do not interview motorists, so that the NOPUS captures the untainted behavior of motorists. The 2005 NOPUS data was collected between June 6 and June 25, while the 2004 data was collected between June 7 and July 11, 2004, excluding the period July 2 – 5.

Because the NOPUS sites were chosen through probabilistic means, we can analyze the statistical significance of its results. Statistically significant increases in the use of hand-held phones (respectively, headset use or manipulation of hand-held devices) between 2004 and 2005 are identified in the tables of hand-held use estimates (respectively, headset use estimates or the percent of drivers manipulating devices) by having a result that is 90 percent or greater in column 7. Significantly high and low levels of hand-held use, headset use, or the manipulation of hand-held devices, such as the lower use of hand-held phones by drivers 70 and older than by younger drivers in 2005, are identified by H's and L's in columns 3 and 5. Such comparisons are made within categories, such as road type, 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 nonrush hour.

The estimates of the numbers of drivers on phones and the percent of drivers using cell phones hands-free were derived via calculations that use data from the publications (Boyle and Vanderwolf, to appear) and (Stutts et al., 2003), and from the Department of Transportation's National Household Travel Survey. These calculations are explained in detail in the upcoming publication, "Driver Cell Phone Use in 2004 – Analysis," expected to be published in the spring of 2005.

The NOPUS uses a complex multistage probability sample, statistical data editing, imputation of unknown values, and complex estimation and variance estimation procedures. See the NHTSA Technical Report referenced below for more information on these procedures.

Data collection, estimation, and variance estimation for the NOPUS are conducted by Westat, Inc., under the direction of the National Center for Statistics and Analysis in NHTSA under Federal contract number DTNH22-00-D-07001.

## Definitions

Drivers were counted as "holding phones to their ears" if they were holding to their ears what appeared to the observer to be a phone. In particular, drivers holding personal data assistants (PDAs) or corded car phones to their ears might have been counted as holding a phone. (They would have been so counted if the PDA or car phone appeared to the observer to be some type of phone.) Drivers need not have been speaking into the phone to be counted as using the phone.

Drivers were counted as "using a headset" if they appeared to have on their heads a device that had a microphone, and they appeared to be speaking. The microphone might be on a wand or other visible attachment. A device identified as a headset need not have a headpiece (i.e., a piece of plastic running across the top of the head), and need not have a wire attached to it. Drivers identified by the survey as using headsets might have been, for instance, using voice-activated software on laptops seated on the seat next to them, rather than speaking on cell phones. Observers did not attempt to distinguish these two behaviors because they cannot be reliably distinguished from the roadside. Likewise, drivers identified as using headsets might have been speaking to a passenger or themselves, rather than speaking into the headsets.

Drivers were counted as "manipulating a hand-held device" if they appeared to be manipulating some type of electronic device, whether a cell phone, video game, or other device. Such behaviors included dialing. Note that a driver characterized by the survey as "manipulating a hand-held device" might or might not have been speaking. If the driver was manipulating a phone while holding it to the ear, the driver would have been characterized as "holding a phone to the ear," rather than "manipulating a hand-held device."

We note that there are means by which drivers can use (or even talk on) cell phones that would neither be recorded as holding a phone nor as using a headset nor as manipulating a hand-held device in the NOPUS. For instance, some phones have a push-to-talk feature, in which the users push a button on the phone when they wish to speak and release the button when they wish to hear the people on the other end of the line via a speakerphone built into the cell phones. Additionally, some cell phones have built-in speakerphones by which drivers can converse on phones hands-free. Drivers conversing on phones using either of these technologies would not appear to roadside observers to be holding phones to their ears (assuming the push-to-talk users are not holding the phones to their ear) and would not be wearing

## Sites and Vehicles Observed

Numbers of	2004	2005	Percentage Change
Sites Observed	1,200	1,200	0%
Vehicles Observed	38,000	43,000	13%

headsets. If the drivers were using built-in speakerphones, or were using push-to-talk features with their hands out of the data collector's view, they would not be characterized as "manipulating a hand-held device."

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

"Expressway exit ramps" are defined as the access roads to roadways with limited access, while "surface streets" comprise all other roadways. A roadway is defined to have "fast traffic" if during the observation period the average speed of passenger vehicles that passed the observers exceeded 50 mph, with "medium speed traffic" defined as 31 - 50 mph and "slow traffic" defined as 30 mph or slower. A roadway is defined to have "heavy traffic" if the average number of vehicles per lane mile on the roadway during the observation period exceeded 45 vehicles per lane mile, with "moderately dense traffic" defined as 26 - 45 vehicles per lane per mile and "light traffic" having at most 25 vehicles per lane per mile.

Driver cell phone use is largely unrestricted by State laws. No States ban use outright. Currently, three States and the District of Columbia ban the use of hand-held phones while driving. One of these bans took effect in 2001 (New York), two in 2004 (New Jersey in May 2004 and DC in July 2004), and one in 2005 (Connecticut). However, Connecticut's ban took effect in October, after the 2005 NOPUS was conducted. A small number of States otherwise restrict the manner of use, e.g., by requiring sound to travel unimpaired to at least one of the driver's ears or requiring at least one hand on the steering wheel at all times. A few States ban use in certain situations, such as when operating a school bus or public transit vehicle. In addition, some major cities have hand-held bans or otherwise restrict use.

## States with Laws Banning Hand-Held Cell Phone Use While Driving<sup>1</sup>

New York	New Jersey	District of Columbia
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<sup>1</sup>States with laws in effect as of June 30, 2005. Also includes DC. In no other States did such laws take effect during the period June 30, 2004 - June 30, 2005. However, Connecticut enacted a law that took effect in October 2005.

Driving while using a headset is even less restricted by traffic laws. No States or major cities ban use outright. As with driver cell phone use, a small number of States restrict the manner of use, e.g., by requiring sound to travel unimpaired to at least one of the driver's ears, or ban certain types of use in certain situations, such as by banning cell phone use (whether hand-held or hands-free) when operating a school bus or public transit vehicle.

NHTSA's policy on using cell phones while driving is conveyed in the following statements from [www.nhtsa.gov](http://www.nhtsa.gov): "The primary responsibility of the driver is to operate a motor vehicle safely. The task of driving requires full attention and focus. Cell phone use can distract drivers from this task, risking harm to themselves and others. Therefore, the safest course of action is to refrain from using a cell phone while driving." More information on the agency's policy can be found on this Web site.

## For More Information

For detailed analyses of the data in this publication, as well as additional data and information on the survey design and analysis procedures, see the upcoming publication, "Driver Cell Phone Use in 2005 - Analysis," expected to be available at the Web site [www.nrd.nhtsa.dot.gov/departments/nrd-30/nca/AvailInf.html](http://www.nrd.nhtsa.dot.gov/departments/nrd-30/nca/AvailInf.html) in the spring of 2006.

The NOPUS also observes other types of restraints, such as safety belts, child safety seats, and motorcycle helmets. This publication is part of a series that presents overall results from the survey on these topics. Please see other members of the series, such as "Motorcycle Helmet Use in 2005 - Overall Results," and the corresponding NHTSA Technical Report "Motorcycle Helmet Use in 2004-5 - Analysis," for the latest data on these topics.

## References

Boyle, J., and Vanderwolf, P., 2003 Motor Vehicle Occupant Safety Survey, Volume 4, Crash Injury and Emergency Medical Services Report, NHTSA Technical Report, 2003.

Federal Highway Administration, Nationwide Personal Transportation Survey, 1995, and National Household Travel Survey, 2001.

Stutts, J., Hunter, W., and Huang, H., Cell Phone Use While Driving: Results of a Statewide Survey, Transportation Research Board, Annual Meeting CD-ROM, 2003

