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

TRAFFIC SAFETY FACTS
Research Note

NHTSA

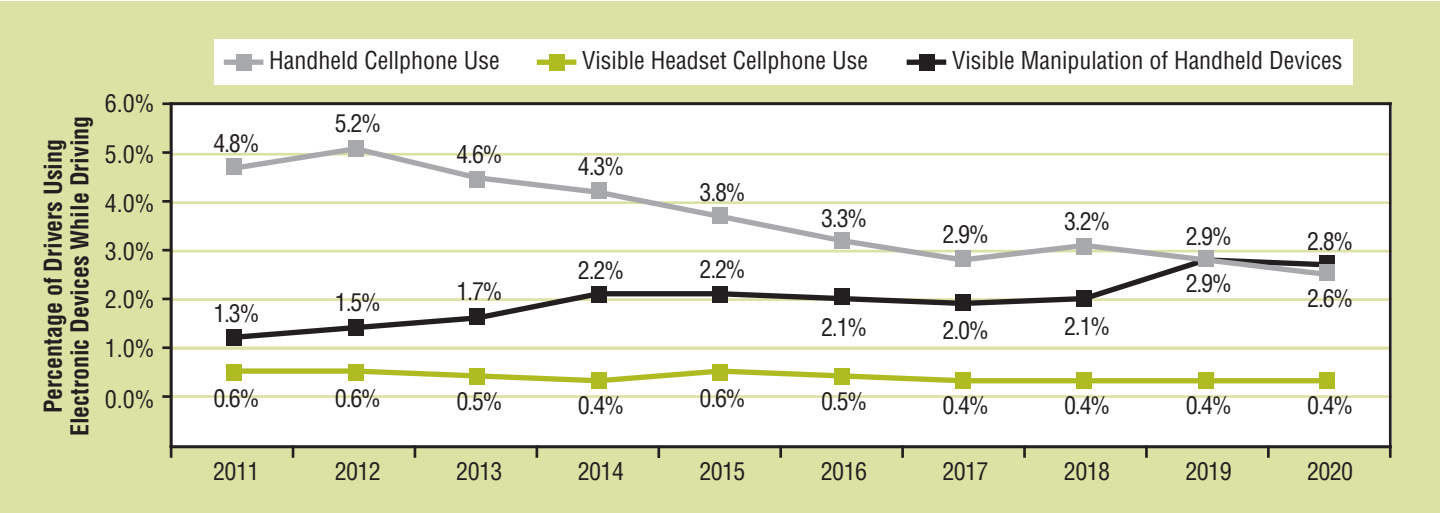
DOT HS 813 184 | Summary of Statistical Findings | November 2021(revised)

Driver Electronic Device Use in 2020

Summary

The percentage of passenger vehicle drivers talking on handheld phones decreased from 2.9 percent in 2019 to 2.6 percent in 2020 (Figure 1 and Table 1). The percentage of drivers speaking with visible headsets while driving did not change from 2019 to 2020; both years were 0.4 percent (Figure 1 and Table 2). Drivers' visible manipulation of handheld devices decreased from 2.9 percent in 2019 to 2.8 percent in 2020 (Figure 1 and Table 3). 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. NOPUS is conducted annually by the National Center for Statistics and Analysis (NCSA) of the National Highway Traffic Safety Administration. The percentages provided in this research note are interpreted as the percentage of drivers nationwide during an average daylight moment.

Figure 1
Driver Use of Electronic Devices, 2011-2020



Results

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." The results of these observations follow.

Drivers Holding Phones to Their Ears While Driving

The percentage of drivers holding cellphones to their ears while driving decreased from 2.9 percent in 2019 to 2.6 percent in 2020 (Figure 1 and Table 1). This translates to an estimated 354,415 passenger vehicle drivers holding cell phones to their ears while driving at a typical daylight moment in 2020. An estimated 7.9 percent of drivers were using some type of phone, either handheld or hands-free, at a typical daylight moment in 2020 (refer to the section **Estimating Overall Cellphone Use, Both Handheld and Hands-Free** for more details on this estimate).

The 2020 NOPUS found that handheld cellphone use continued to be higher among female drivers than male drivers; however, the difference has been decreasing in recent years (Figure 2 and Table 1). In previous years handheld cellphone use was found to be highest among 16- to 24-year-old drivers and lowest among drivers 70 and older. However, in 2020 handheld cellphone use was highest among 25- to 69-year old drivers while remaining lowest among drivers 70 and older (Figure 3 and Table 1).

Figure 2
Driver Handheld Cellphone Use by Gender, 2011-2020

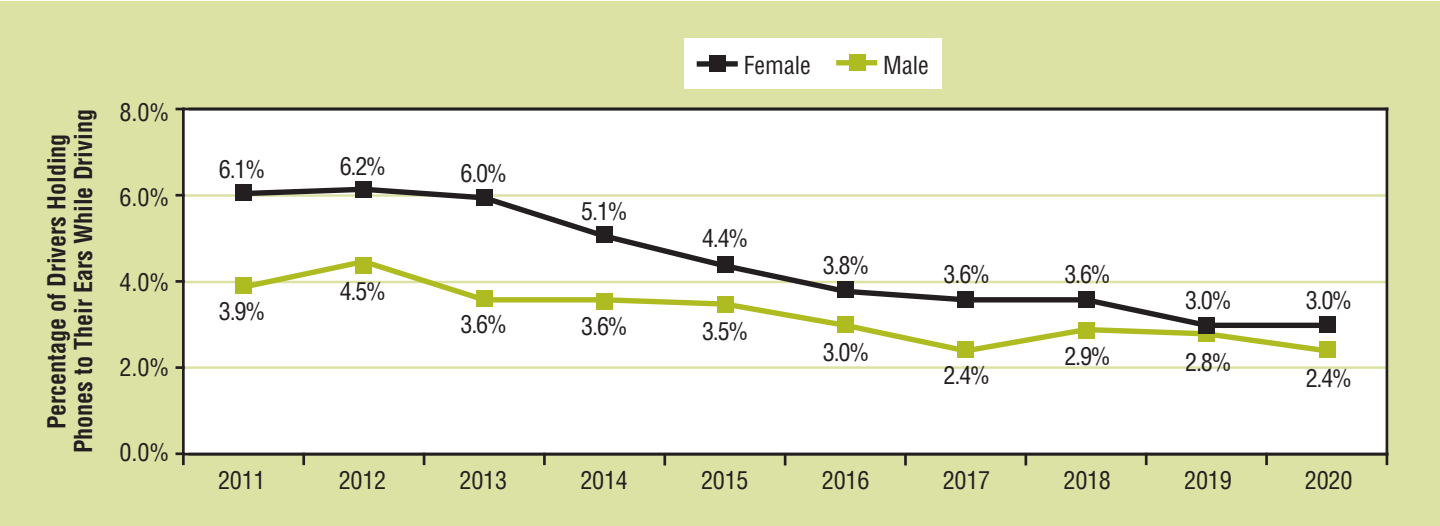
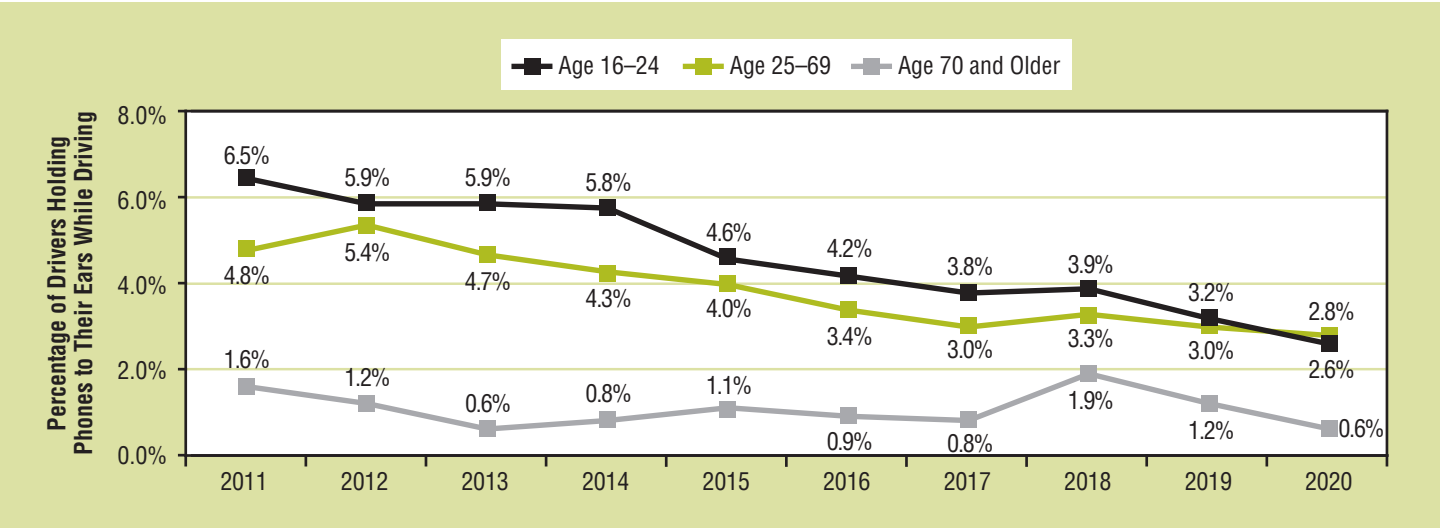


Figure 3
Driver Handheld Cellphone Use by Age, 2011-2020

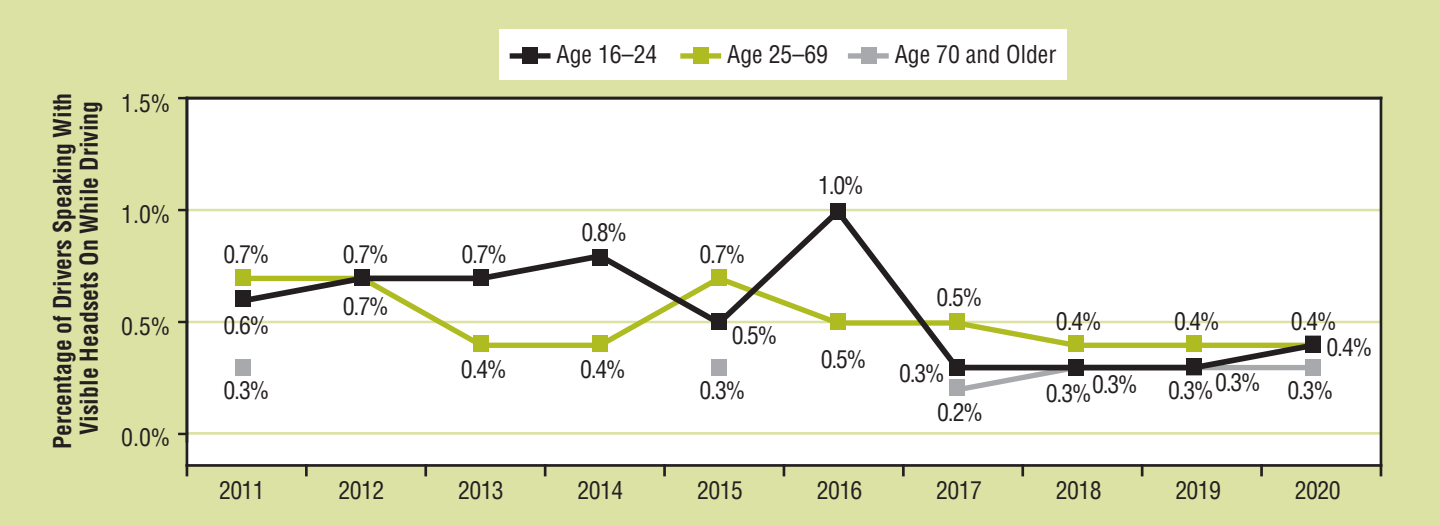


Drivers Speaking With Visible Headsets On While Driving

Table 2 shows the percentages of drivers speaking with visible headsets on while driving in 2019 and 2020, by major characteristics.

The percentage of drivers speaking with visible headsets while driving remained the same; it was 0.4 percent in 2019 and 2020, as shown in Figure 1 and Table 2. Figure 4 displays the trends of drivers speaking with visible headsets for the three age groups over a 10-year period. There was no significant change in headset use from 2019 to 2020 for any age group.

Figure 4
Drivers Speaking With Visible Headsets On by Age, 2011–2020



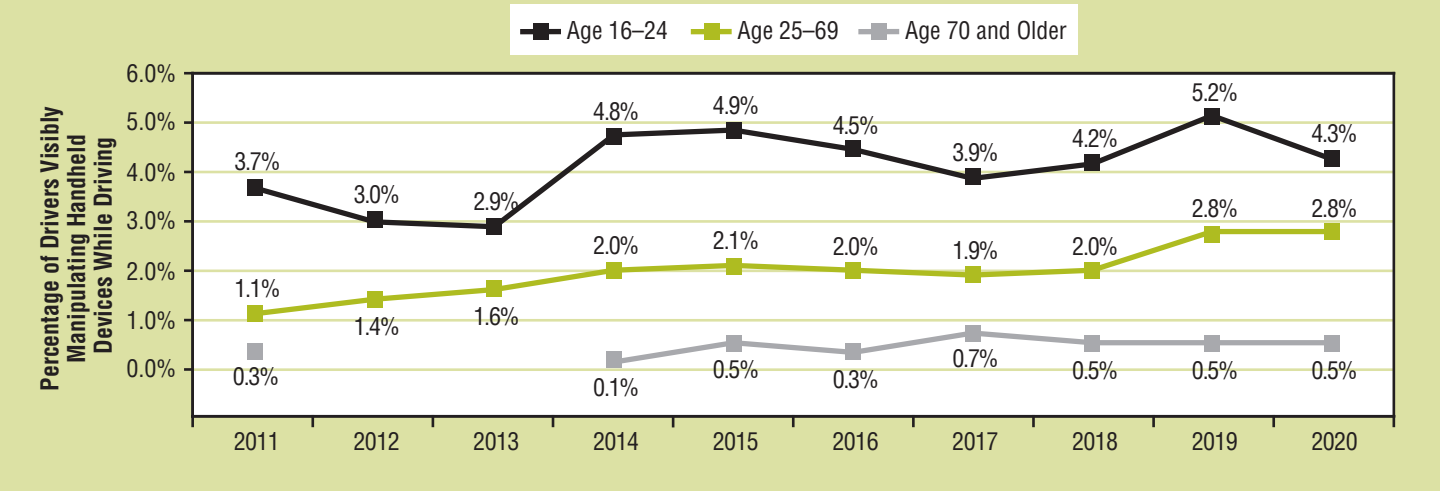
Note: Missing data points signify insufficient data to produce reliable estimates.

Drivers Visibly Manipulating Handheld Devices While Driving

The percentage of drivers visibly manipulating handheld devices while driving decreased from 2.9 percent in 2019 to 2.8 percent in 2020 (Figure 1 and Table 3). Table 3 presents the percentages of drivers visibly manipulating handheld devices in 2019 and 2020 by major characteristics.

Figure 5 shows that driver manipulation of handheld devices continued to be higher among 16- to 24-year-olds than other age groups.

Figure 5
Drivers Visibly Manipulating Handheld Devices by Age, 2011-2020



Note: Missing data points signify insufficient data to produce reliable estimates.

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

Driver Group[1]	2019		2020		2019–2020 Change		
	% of Drivers Holding Phones to Ears[2]	95% Confidence Interval[3]	% of Drivers Holding Phones to Ears[2]	95% Confidence Interval[3]	Change in Percentage Points[7]	95% Confidence Interval[4]	P-Value[5]
All Drivers[6]	2.9%	(2.4, 3.4)	2.6%	(1.8, 3.9)	-0.2	(-1.5, 1.0)	0.70
Males	2.8%	(2.2, 3.4)	2.4%	(1.5, 3.9)	-0.4	(-1.8, 1.0)	0.60
Females	3.0%	(2.5, 3.5)	3.0%	(2.3, 4.0)	0.0	(-1.0, 1.0)	0.99
Drivers by Age Group[6]							
16–24	3.2%	(2.5, 4.2)	2.6%	(2.0, 3.5)	-0.6	(-1.2, 0.0)	0.06
25–69	3.0%	(2.4, 3.6)	2.8%	(1.8, 4.3)	-0.2	(-1.6, 1.2)	0.81
70 and Older	1.2%	(0.8, 2.0)	0.6%	(0.3, 1.2)	-0.6	(-1.4, 0.2)	0.12
Drivers by Race[6]							
White	2.8%	(2.3, 3.5)	2.6%	(1.6, 4.1)	-0.2	(-1.6, 1.1)	0.71
Black	3.9%	(2.9, 5.3)	3.4%	(2.8, 4.2)	-0.5	(-1.7, 0.8)	0.42
Other Races	2.1%	(1.5, 2.9)	2.2%	(1.4, 3.3)	0.1	(-1.1, 1.2)	0.92
Drivers on							
Expressway Exit Ramps	2.8%	(2.1, 3.6)	2.8%	(1.4, 5.4)	0.0	(-2.3, 2.3)	0.97
Other Surface Streets	2.9%	(2.5, 3.4)	2.5%	(2.1, 3.1)	-0.4	(-1.0, 0.2)	0.18
Drivers Traveling Through							
Not Clear Weather Conditions	4.5%	(3.3, 6.0)	4.1%	(1.9, 8.9)	-0.3	(-3.9, 3.3)	0.85
Clear Weather Conditions	2.7%	(2.3, 3.2)	2.4%	(1.8, 3.3)	-0.3	(-1.2, 0.7)	0.57
Drivers of							
Passenger Cars	2.6%	(2.1, 3.1)	2.5%	(1.9, 3.3)	0.0	(-1.0, 0.9)	0.92
Vans and SUVs	**2.8%**	**(2.3, 3.4)**	**2.2%**	**(1.8, 2.6)**	**-0.6**	**(-1.3, 0.0)**	**0.05**
Pickup Trucks	3.6%	(2.7, 4.7)	3.8%	(1.7, 8.3)	0.2	(-3.2, 3.6)	0.91
Drivers in the							
Northeast	2.0%	(0.9, 4.6)	1.1%	(0.8, 1.7)	-0.9	(-2.6, 0.8)	0.30
Midwest	**3.3%**	**(2.4, 4.5)**	**2.0%**	**(1.6, 2.5)**	**-1.3**	**(-2.4, -0.2)**	**0.02**
South	3.8%	(3.0, 4.9)	4.4%	(2.3, 8.0)	0.5	(-2.6, 3.7)	0.73
West	1.5%	(1.2, 2.1)	1.5%	(1.2, 1.9)	0.0	(-0.7, 0.7)	0.99
Drivers in							
Urban Areas	2.7%	(2.3, 3.3)	2.3%	(1.9, 2.7)	-0.4	(-1.1, 0.2)	0.17
Rural Areas	3.2%	(2.6, 4.0)	3.4%	(1.6, 7.0)	0.2	(-2.6, 2.9)	0.89
Drivers Traveling During							
Weekdays	3.2%	(2.6, 3.8)	3.0%	(2.0, 4.6)	-0.2	(-1.7, 1.4)	0.83
Rush Hours	3.2%	(2.6, 4.1)	3.0%	(1.9, 4.7)	-0.2	(-1.8, 1.3)	0.75
Non-Rush Hours	3.1%	(2.6, 3.8)	3.0%	(2.0, 4.6)	-0.1	(-1.7, 1.6)	0.92
Weekends	2.0%	(1.4, 2.7)	1.6%	(1.2, 2.1)	-0.4	(-1.0, 0.3)	0.28
Drivers With[5]							
No Passengers	3.5%	(2.9, 4.1)	3.3%	(2.1, 5.0)	-0.2	(-1.9, 1.5)	0.82
At Least One Passenger	1.4%	(1.1, 1.9)	1.1%	(0.8, 1.4)	-0.3	(-0.8, 0.1)	0.09
Drivers With[5]							
No Passengers	3.5%	(2.9, 4.1)	3.3%	(2.1, 5.0)	-0.2	(-1.9, 1.5)	0.82
Passengers All Under Age 8	3.7%	(2.7, 5.0)	2.7%	(1.6, 4.5)	-1.0	(-2.7, 0.6)	0.21
Passengers All 8 and Older	1.2%	(0.9, 1.7)	1.0%	(0.7, 1.3)	-0.3	(-0.8, 0.2)	0.21
Some Passengers Under 8, and Some 8 or Older	0.6%	(0.2, 1.6)	1.0%	(0.4, 2.3)	0.4	(-0.3, 1.0)	0.23

[1] Drivers of passenger vehicles stopped at a stop sign or stoplight from 7 a.m. to 6 p.m.
[2] The percent of drivers holding phones to their ears, based on the subjective assessments of roadside observers.
[3] The Wilson confidence interval is used in the estimated percentages in the driver group (e.g., drivers in urban areas), which is in the form: $\{(2n_{EFF}p + t^2) \pm t\sqrt{(t^2 + 4n_{EFF}pq)}\} / (2(n_{EFF} + t^2))$, where p is the estimated percentage of drivers holding phones to ears, $n_{EFF} = n/D_{EFF}$ is the effective sample size (where n is the sample size and D_{EFF} is the design effect), $t = t_{(1-\alpha/2)}(df)$, is a multiplier from the t-distribution with df degrees of freedom, and $q = 1 - p$. For percentages, these endpoints are multiplied by 100.
[4] The regular symmetric interval was used for the estimated change in percentage point, which is in the form: $p \pm t_{(1-\alpha/2)}(df)\sqrt{v(p)}$, where p is the estimated change in percentage point, $v(p)$ is its estimated variance, and $t_{(1-\alpha/2)}(df)$ is a multiplier from the t-distribution with df degrees of freedom. The degrees of freedom used in 2020 is different from that used in 2019.
[5] A p-value of 0.05 or less indicates that there is a statistically significant difference (at the alpha=0.05 level) between the 2019 and 2020 estimates for the group in question, indicated with bold type.
[6] Age, gender, and racial classifications are based on the subjective assessments of roadside observers.
[7] The "Change in Percentage Points" column was computed using unrounded estimates and may not equal the difference between the rounded estimates displayed in the table.

Sources: NOPUS, NCSA, 2019, 2020

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

Driver Group[1]	2019		2020		2019–2020 Change		
	% of Drivers Speaking with Headsets[2]	95% Confidence Interval[3]	% of Drivers Speaking with Headsets[2]	95% Confidence Interval[3]	Change in Percentage Points[7]	95% Confidence Interval[4]	P-Value[5]
All Drivers[6]	0.4%	(0.2, 0.6)	0.4%	(0.3, 0.5)	0.0	(-0.2, 0.2)	0.86
Males	0.3%	(0.2, 0.6)	0.3%	(0.3, 0.4)	0.0	(-0.2, 0.2)	1.00
Females	0.4%	(0.3, 0.6)	0.4%	(0.2, 0.6)	0.0	(-0.3, 0.2)	0.77
Drivers by Age Group[6]							
16–24	0.3%	(0.1, 0.7)	0.4%	(0.2, 0.7)	0.1	(-0.2, 0.4)	0.56
25–69	0.4%	(0.2, 0.6)	0.4%	(0.3, 0.5)	0.0	(-0.2, 0.2)	0.78
70 and Older	0.3%	(0.1, 0.6)	0.3%	(0.1, 0.7)	0.0	(-0.3, 0.3)	0.96
Drivers by Race[6]							
White	0.3%	(0.2, 0.5)	0.4%	(0.3, 0.5)	0.1	(-0.1, 0.3)	0.53
Black	0.5%	(0.3, 0.8)	0.4%	(0.3, 0.6)	-0.1	(-0.4, 0.2)	0.51
Members of Other Races	0.7%	(0.4, 1.4)	0.3%	(0.2, 0.5)	-0.4	(-0.9, 0.1)	0.08
Drivers on							
Expressway Exit Ramps	0.4%	(0.2, 0.9)	0.4%	(0.3, 0.5)	0.0	(-0.4, 0.3)	0.85
Other Surface Streets	0.3%	(0.3, 0.5)	0.3%	(0.3, 0.5)	0.0	(-0.1, 0.1)	0.95
Drivers Traveling Through							
Not Clear Weather Conditions	0.4%	(0.2, 0.7)	0.3%	(0.1, 0.9)	-0.1	(-0.4, 0.3)	0.79
Clear Weather Conditions	0.4%	(0.2, 0.6)	0.4%	(0.3, 0.5)	0.0	(-0.2, 0.2)	0.90
Drivers of							
Passenger Cars	0.4%	(0.2, 0.5)	0.4%	(0.3, 0.6)	0.0	(-0.2, 0.2)	0.75
Vans and SUVs	0.4%	(0.3, 0.8)	0.4%	(0.3, 0.6)	0.0	(-0.4, 0.3)	0.79
Pickup Trucks	0.2%	(0.2, 0.4)	0.2%	(0.1, 0.3)	0.0	(-0.2, 0.1)	0.61
Drivers in the							
Northeast	0.8%	(0.3, 1.8)	0.3%	(0.2, 0.5)	-0.5	(-1.2, 0.2)	0.19
Midwest	0.2%	(0.1, 0.3)	0.4%	(0.2, 0.7)	0.2	(-0.1, 0.5)	0.16
South	0.4%	(0.2, 0.6)	0.4%	(0.3, 0.6)	0.1	(-0.2, 0.3)	0.61
West	0.2%	(0.2, 0.4)	0.2%	(0.2, 0.3)	0.0	(-0.1, 0.1)	0.92
Drivers in							
Urban Areas	0.4%	(0.3, 0.7)	0.4%	(0.3, 0.5)	0.0	(-0.3, 0.2)	0.68
Rural Areas	0.3%	(0.2, 0.4)	0.3%	(0.2, 0.5)	0.1	(-0.2, 0.3)	0.56
Drivers Traveling During							
Weekdays	0.4%	(0.3, 0.7)	0.4%	(0.3, 0.5)	0.0	(-0.2, 0.2)	0.97
Rush Hours	0.5%	(0.3, 0.9)	0.4%	(0.3, 0.6)	0.0	(-0.4, 0.3)	0.77
Non Rush Hours	0.3%	(0.2, 0.7)	0.4%	(0.3, 0.6)	0.0	(-0.2, 0.3)	0.74
Weekends	0.2%	(0.1, 0.4)	0.2%	(0.1, 0.4)	0.0	(-0.2, 0.1)	0.68
Drivers With[5]							
No Passengers	0.5%	(0.3, 0.7)	0.5%	(0.3, 0.6)	0.0	(-0.3, 0.2)	0.88
At Least One Passenger	0.1%	(0.1, 0.3)	0.1%	(0.1, 0.2)	0.0	(-0.1, 0.1)	0.82
Drivers With[5]							
No Passengers	0.5%	(0.3, 0.7)	0.5%	(0.3, 0.6)	0.0	(-0.3, 0.2)	0.88
Passengers All Under Age 8	NA	NA	NA	NA	NA	NA	NA
Passengers All 8 and Older	0.1%	(0.1, 0.3)	0.1%	(0.1, 0.2)	0.0	(-0.1, 0.1)	0.91
Some Passengers Under 8, and Some 8 or Older	NA	NA	NA	NA	NA	NA	NA

[1] Drivers of passenger vehicles stopped at a stop sign or stoplight from 7 a.m. to 6 p.m.
[2] The percentage of drivers speaking with visible headsets while driving, based on the subjective assessments of roadside observers.
[3] The Wilson confidence interval is used in the estimated percentages in the driver group (e.g., drivers in urban areas), which is in the form: $\{(2n_{EFF}p + t^2) \pm t\sqrt{(t^2 + 4n_{EFF}pq)}\}/(2(n_{EFF} + t^2))$, where p is the estimated percentage of drivers holding phones to ears, $n_{EFF} = n/D_{EFF}$ is the effective sample size (where n is the sample size and D_{EFF} is the design effect), $t = t_{(1-\alpha/2)}(df)$, is a multiplier from the t-distribution with df degrees of freedom, and $q = 1 - p$. For percentages, these endpoints are multiplied by 100.
[4] The regular symmetric interval was used for the estimated change in percentage point, which is in the form: $p \pm t_{(1-\alpha/2)}(df)\sqrt{v(p)}$, where p is the estimated change in percentage point, $v(p)$ is its estimated variance, and $t_{(1-\alpha/2)}(df)$ is a multiplier from the t-distribution with df degrees of freedom. The degrees of freedom used in 2020 is different from that used in 2019.
[5] A p-value of 0.05 or less indicates that there is a statistically significant difference (at the alpha=0.05 level) between the 2019 and 2020 estimates for the group in question, indicated with bold type.
[6] Age, gender, and racial classifications are based on the subjective assessments of roadside observers.
[7] The "Change in Percentage Points" column was computed using unrounded estimates and may not equal the difference between the rounded estimates displayed in the table.
NA: Data not sufficient to produce a reliable estimate.

Sources: NOPUS, NCSA, 2019, 2020

Table 3
The Percentage of Drivers Visibly Manipulating Handheld Devices While Driving, by Major Characteristics

Driver Group[1]	2019		2020		2019–2020 Change		
	% of Drivers Manipulating Handheld Devices[2]	95% Confidence Interval[3]	% of Drivers Manipulating Handheld Devices[2]	95% Confidence Interval[3]	Change in Percentage Points[7]	95% Confidence Interval[4]	P-Value[5]
All Drivers[6]	2.9%	(2.1, 3.9)	2.8%	(1.9, 4.1)	-0.1	(-0.9, 0.7)	0.77
Males	2.4%	(1.7, 3.2)	2.5%	(1.7, 3.6)	0.1	(-0.7, 0.9)	0.82
Females	3.6%	(2.6, 5.1)	3.3%	(2.1, 5.0)	-0.4	(-1.2, 0.5)	0.40
Drivers by Age Group[6]							
16–24	5.2%	(3.6, 7.4)	4.3%	(2.9, 6.3)	-0.9	(-3.1, 1.3)	0.40
25–69	2.8%	(2.0, 4.0)	2.8%	(1.9, 4.2)	0.0	(-0.8, 0.7)	0.92
70 and Older	0.5%	(0.3, 0.9)	0.5%	(0.3, 1.1)	0.0	(-0.4, 0.4)	0.99
Drivers by Race[6]							
White	2.2%	(1.7, 2.9)	2.4%	(1.8, 3.1)	0.2	(-0.5, 0.8)	0.60
Black	5.4%	(2.9, 9.7)	5.7%	(2.2, 13.9)	0.3	(-2.5, 3.2)	0.82
Members of Other Races	**4.7%**	**(3.3, 6.6)**	**2.5%**	**(1.6, 3.9)**	**-2.2**	**(-3.7, -0.7)**	**0.00**
Drivers on							
Expressway Exit Ramps	3.0%	(1.9, 4.8)	2.8%	(1.6, 5.1)	-0.1	(-1.4, 1.1)	0.81
Other Surface Streets	2.8%	(2.1, 3.6)	2.7%	(2.0, 3.5)	-0.1	(-0.8, 0.6)	0.80
Drivers Traveling Through							
Not Clear Weather Conditions	2.0%	(1.3, 3.0)	2.6%	(1.7, 3.9)	0.7	(-0.7, 2.0)	0.32
Clear Weather Conditions	3.0%	(2.1, 4.1)	2.8%	(1.8, 4.3)	-0.2	(-1.0, 0.6)	0.64
Drivers of							
Passenger Cars	3.5%	(2.4, 5.0)	3.4%	(2.1, 5.6)	-0.1	(-1.2, 1.1)	0.91
Vans and SUVs	2.9%	(2.1, 4.0)	2.7%	(2.0, 3.7)	-0.1	(-0.9, 0.6)	0.69
Pickup Trucks	1.6%	(1.2, 2.3)	1.7%	(1.1, 2.7)	0.1	(-0.8, 0.9)	0.84
Drivers in the							
Northeast	2.3%	(1.1, 4.8)	2.8%	(2.2, 3.6)	0.5	(-0.9, 1.9)	0.50
Midwest	2.4%	(1.8, 3.2)	2.4%	(1.7, 3.4)	0.0	(-0.7, 0.7)	0.99
South	3.4%	(1.8, 6.2)	3.1%	(1.3, 7.5)	-0.2	(-2.0, 1.6)	0.80
West	3.0%	(1.9, 4.6)	2.5%	(1.6, 3.9)	-0.5	(-1.7, 0.7)	0.42
Drivers in							
Urban Areas	3.5%	(2.5, 5.0)	3.4%	(2.2, 5.3)	-0.1	(-1.1, 0.9)	0.80
Rural Areas	1.3%	(0.9, 1.8)	1.4%	(1.0, 1.9)	0.1	(-0.6, 0.8)	0.74
Drivers Traveling During							
Weekdays	3.1%	(2.3, 4.1)	2.9%	(2.0, 4.3)	-0.1	(-1.0, 0.7)	0.75
Rush Hours	2.9%	(2.2, 3.8)	2.8%	(2.0, 3.8)	-0.1	(-1.0, 0.8)	0.82
Non-Rush Hours	3.3%	(2.3, 4.7)	3.1%	(2.0, 4.7)	-0.2	(-1.2, 0.9)	0.73
Weekends	2.3%	(1.4, 3.7)	2.3%	(1.4, 3.8)	0.0	(-0.9, 0.9)	0.95
Drivers With[5]							
No Passengers	3.4%	(2.5, 4.7)	3.4%	(2.3, 5.0)	0.0	(-1.0, 0.9)	0.94
At Least One Passenger	1.5%	(1.0, 2.3)	1.2%	(0.7, 2.1)	-0.3	(-0.9, 0.3)	0.32
Drivers With[5]							
No Passengers	3.4%	(2.5, 4.7)	3.4%	(2.3, 5.0)	0.0	(-1.0, 0.9)	0.94
Passengers All Under Age 8	3.7%	(2.4, 5.8)	3.9%	(2.0, 7.4)	0.1	(-2.1, 2.4)	0.89
Passengers All 8 and Older	1.1%	(0.7, 1.8)	1.0%	(0.6, 1.7)	-0.1	(-0.7, 0.4)	0.58
Some Passengers Under 8, and Some 8 or Older	2.8%	(1.2, 6.4)	0.9%	(0.4, 1.8)	-1.9	(-4.4, 0.6)	0.13

[1] Drivers of passenger vehicles stopped at a stop sign or stoplight from 7 a.m. to 6 p.m.
[2] The percent of drivers visibly manipulating handheld devices while driving, based on the subjective assessments of roadside observers.
[3] The Wilson confidence interval is used in the estimated percentages in the driver group (e.g., drivers in urban areas), which is in the form: $\{(2n_{EFF}p + t^2) \pm t\sqrt{(t^2 + 4n_{EFF}pq)}\}/(2(n_{EFF} + t^2))$, where p is the estimated percentage of drivers holding phones to ears, $n_{EFF} = n/D_{EFF}$ is the effective sample size (where n is the sample size and D_{EFF} is the design effect), $t = t_{(1-\alpha/2)}(df)$, is a multiplier from the t-distribution with df degrees of freedom, and $q = 1 - p$. For percentages, these endpoints are multiplied by 100.
[4] The regular symmetric interval was used for the estimated change in percentage point, which is in the form: $p \pm t_{(1-\alpha/2)}(df)\sqrt{v(p)}$, where p is the estimated change in percentage point, $v(p)$ is its estimated variance, and $t_{(1-\alpha/2)}(df)$ is a multiplier from the t-distribution with df degrees of freedom. The degrees of freedom used in 2020 is different from that used in 2019.
[5] A p-value of 0.05 or less indicates that there is a statistically significant difference (at the alpha=0.05 level) between the 2019 and 2020 estimates for the group in question, indicated with bold type.
[6] Age, gender, and racial classifications are based on the subjective assessments of roadside observers.
[7] The "Change in Percentage Points" column was computed using unrounded estimates and may not equal the difference between the rounded estimates displayed in the table.
NA: Data not sufficient to produce a reliable estimate.

Sources: NOPUS, NCSA, 2019, 2020

NOPUS Data Collection and Estimation

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 cellphones and other electronic devices while driving.

The survey data are 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. Data are collected from 7 a.m. to 6 p.m. Only stopped vehicles are observed to allow time to collect the variety 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 2020 NOPUS data were collected from July 27 to August 16, 2020, which is two months later than the usual time frame due to the coronavirus pandemic. The 2019 NOPUS data were collected from June 2 to June 17, 2019. Another consequence of the pandemic was the absence of the *Click It or Ticket* campaign that typically precedes the NOPUS data collection.

Statistically significant increases and decreases in the use of handheld phones, headset use, and manipulation of handheld devices from 2019 to 2020 are shown in Table 1, Table 2, and Table 3 by having a p-value of 0.05 or less in the tables' far-right column.

The NOPUS uses a complex multistage probability sample, statistical data editing, imputation of unknown values, and complex estimation procedures. The sample sites for the 2020 NOPUS were entirely from the 2015 NOPUS sample redesign. Table 4 shows the observed sample sizes of the 2020 NOPUS. There were 48,090 vehicles observed at the 1,629 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 4
Sites and Vehicles Observed in the 2019 NOPUS

Number of	2019	2020	Percentage Change
Sites Observed	1,615	1,629	0.9%
Vehicles Observed	52,268	48,090	-8.0%

Data collection, estimation, and variance estimation for NOPUS are conducted by Westat, Inc., under the direction of NCSA under Federal contract number 693JJ918D000001.

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."

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 cellphone. Talking via a visible Bluetooth headset (usually on the driver's right ear) would also be included in this category. 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 handheld devices" if they appear to be manipulating some type of electronic device such as a cellphone, a smart phone, tablet, 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 tablet (e.g., iPad) to view travel directions, check emails or calendar appointments, or surf the internet, manual dialing, playing handheld 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 handheld device" may or may not have been speaking.

There are means by which the drivers can use cellphones that would neither be recorded as "holding phones to their ears" nor as "speaking with visible headsets on" nor as "visibly manipulating handheld devices" in the NOPUS. These

would include: (1) a driver using a cellphone 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 cellphone holder on the vehicle dashboard, a driver using a phone that is built into the vehicle (e.g., OnStar), and a driver using the cellphone 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 cellphones 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 7 a.m. to 9:30 a.m. and 3:30 p.m. to 6 p.m. on weekdays, while "Weekday Non-Rush Hours" comprise all other weekday hours (9:30 a.m. to 3:30 p.m.).

As of 2018, sites where light precipitation or light fog are present are collapsed into a single category, "Not Clear Weather Conditions."

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

Please note that since 2015, we use an objective area type classification to replace the subjective area type based on trained data collectors' best judgement. Each NOPUS site is assigned an objective area type characterization based on the Census Bureau definitions of urbanized areas and urban clusters (see www.census.gov/programs-surveys/geography/guidance/geo-areas/urban-rural.html). It is defined as:

- **Urban:** A site which intersects an urbanized area or urban cluster (i.e., an area of at least 2,500 people);
- **Rural:** All other sites.

Estimating Overall Cellphone Use, Both Handheld and Hands-Free

NHTSA's 2016 Motor Vehicle Occupant Safety Survey (MVOSS) estimated that for drivers using cellphones while driving, 33 percent tended to use handheld cellphones and 67 percent tended to use hands-free phones (Diecker, & Block, 2020). Applying the proportion 2.0303 (= 67/33) of these percentages to the 2.6 percent estimate of drivers using handheld cellphones in 2020 from NOPUS shows an estimated 5.3 (= 2.0303 × 2.6) percent of drivers using hands-free cellphones. Thus, a total of 7.9 (= 2.6 + 5.3) percent of drivers are estimated to be using either a handheld or a hands-free cellphone while driving at a typical daylight moment in the United States in 2020. Please note that the MVOSS estimates are based on self-reported use from both day and nighttime driving while the NOPUS estimates are observed during daylight hours.

State Laws on Driver Electronic Device Use (Enacted as of July 15, 2020)

Many States restrict cellphone use by drivers. As of July 15, 2020, no State completely bans all forms of cellphone use by drivers. However, Table 5 shows that a ban on driving while talking on a handheld cellphone was in place in 23 States, the District of Columbia, Puerto Rico, Guam, the U.S. Virgin Islands, and the Northern Mariana Islands (Governors Highway Safety Association, 2021; Highway Loss Data Institute, 2021). All these laws are primary enforcement—an officer may cite a driver for using a handheld cellphone without any other traffic offense taking place.

According to the Governors Highway Safety Association and Highway Loss Data Institute, 48 States, the District of Columbia, Puerto Rico, Guam, the U.S. Virgin Islands, and the Northern Mariana Islands ban text messaging for all drivers (Table 6). The only exceptions are Missouri and Montana. Missouri only bans text messaging for drivers 21 or younger. In 44 States, the District of Columbia, Guam, Puerto Rico, the U.S. Virgin Islands, and the Northern Mariana Islands, texting laws are primary enforcement, and 4 States have secondary enforcement of texting for drivers (Governors Highway Safety Association, 2021; Highway Loss Data Institute, 2021).

Table 5
States and U.S. Territories With Laws† Banning Handheld Cellphone Use While Driving

Arizona	California	Connecticut	Delaware	Georgia
Hawaii	Idaho	Illinois	Indiana	Maine
Maryland	Massachusetts	Minnesota	Nevada	New Hampshire
New Jersey	New York	Oregon	Rhode Island	Tennessee
Vermont	Washington	West Virginia	District of Columbia	Puerto Rico
Guam	U.S. Virgin Islands	Northern Mariana Islands		

†States and the District of Columbia with laws in effect as of July 15, 2020.

Table 6
States and U.S. Territories With Laws† Banning Text-Messaging While Driving

Alabama	Alaska	Arizona	Arkansas	California
Colorado	Connecticut	Delaware	Florida*	Georgia
Hawaii	Idaho	Illinois	Indiana	Iowa
Kansas	Kentucky	Louisiana	Maine	Maryland
Massachusetts	Michigan	Minnesota	Mississippi	Nebraska*
Nevada	New Hampshire	New Jersey	New Mexico	New York
North Carolina	North Dakota	Ohio*	Oklahoma	Oregon
Pennsylvania	Rhode Island	South Carolina	South Dakota*	Tennessee
Texas	Utah	Vermont	Virginia	Washington
West Virginia	Wisconsin	Wyoming	District of Columbia	Puerto Rico
Guam	U.S. Virgin Islands	Northern Mariana Islands		

†States and the District of Columbia with laws in effect as of July 15, 2020.
*States with secondary enforcement of texting for drivers.

Arkansas also bans the use of handheld cellphones while driving in a school zone or in a highway construction zone. This law is secondarily enforced. Texas has banned the use of cellphones and texting in school zones (Governors Highway Safety Association, 2021).

References

Diecker, K., & Block, A. (2020, January). *2016 Motor Vehicle Occupant Safety Survey, Volume #4: Emergency medical services, crash injury experience, and other traffic safety topics* (Report No. DOT HS 812 788). National Highway Traffic Safety Administration. Available at https://rosap.ntl.bts.gov/view/dot/43788

Governors Highway Safety Association. (2021, April). Distracted driving (Web page). Available at www.ghsa.org/state-laws/issues/distracted%20driving

Highway Loss Data Institute. (2021, May). Distracted driving (Web page). Insurance Institute for Highway Safety. Available at https://www.iihs.org/topics/distracted-driving/cellphone-use-laws

For More Information

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

For more information on NHTSA's policy on distracted driving, please visit www.nhtsa.gov/risky-driving/distracted-driving.

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This research note and other general information on highway traffic safety may be accessed at: https://crashstats.nhtsa.dot.gov/

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