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

TRAFFIC SAFETY FACTS
Research Note

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# Distracted Driving 2010

Distracted driving is a behavior dangerous to drivers, passengers, and nonoccupants alike. Distraction is a specific type of inattention that occurs when drivers divert their attention from the driving task to focus on some other activity instead.

- Nine percent of fatal crashes in 2010 were reported as distraction-affected crashes. Fatal crashes involving distraction in 2010 should not be compared to fatal crashes involving distraction for years 2009 and prior due to significant changes in data collection.
- Eighteen percent of injury crashes in 2010 were reported as distraction-affected crashes.
- In 2010, 3,092 people were killed in crashes involving distracted drivers and an estimated additional 416,000 were injured in motor vehicle crashes involving distracted drivers.
- Of those people killed in distraction-affected crashes, 408 occurred in crashes in which at least one of the drivers was using a cell phone (13% of fatalities in distraction-affected crashes) at the time of the crash. Use of a cell phone includes talking/listening to a cell phone, dialing/texting a cell phone, or other cell-phone-related activities. This definition is different than previous years and cannot be compared directly to cell phone involvement prior to 2010.
- Of those injured in distraction-affected crashes, an estimated 24,000 were injured in crashes that involved the use of cell phones at the time of the crashes (6% of injured people in distraction-affected crashes).
- Eleven percent of all drivers under age 20 involved in fatal crashes were reported as distracted at the time of the crashes. This age group has the largest proportion of drivers who were distracted.
- For drivers under age 20 involved in fatal crashes, 19 percent of the distracted drivers were distracted by the use of cell phones.

## New Measure of Distraction in Fatal Crashes

In keeping with the National Highway Traffic Safety Administration's distraction plan (*Overview of the National Highway Traffic Safety Administration's Driver Distraction Program,* April 2010, DOT HS 811 299), the agency continues to refine collection of information about the role of distracted driving in police-reported crashes. This effort is intended to gather data on specific distracting activities to support the development of safety countermeasures and to conduct improved data analysis. Refinements in data collection include revisions to the Model Minimum Uniform Crash Criteria (MMUCC) to foster uniformity in police accident reports (PARs) across the Nation. Additionally, NHTSA plans to review a large, naturalistic driving study called the Strategic Highway Research Plan 2 (SHRP2), sponsored by the Transportation Research Board, to identify distracting behaviors that could be incorporated into NHTSA's data collection system.

The data collection improvement that has the most impact on current data analysis pertains to coding changes in the Fatality Analysis Reporting System (FARS). Prior to 2010, FARS, which contains data about fatal motor vehicle crashes, and the National Automotive Sampling System (NASS) General Estimates System (GES), which contains data about a sample of all severities of police-reported crashes, coded distraction information in different formats. FARS was more general and inclusive of generally inattentive behavior, whereas GES identified specific distracted driving behaviors. In 2010, the two systems' coding of distraction was unified. Beginning in 2010 for both systems, when looking at distraction-affected crashes, the driver in both FARS and GES is identified as "Yes-Distracted," "No-Not distracted," or "Unknown if distracted." If the driver is identified as distracted, further coding is performed to distinguish the specific activity that was distracting the driver. This was not a change for data coding for GES, but was in FARS. The data collected on the PAR did not change; rather, it is the way the data is classi-



Ford Ex. 1055 Page 1

fied in FARS to focus the fatal crash data on the set of distractions most likely to affect the crash. Prior to 2010 in FARS, distraction was not first identified in a Yes/No/Unknown manner. Rather, specific behaviors of the driver as coded on the PAR were combined and categorized as "distracted."

Because of this change in data coding in FARS, the 2010 FARS distraction-affected crash data cannot be compared to distracted-driving-related data from FARS from previous years. Therefore any fatal crash data presented in this document will only pertain to 2010 data. GES data can be compared over the years, as the data coding did not change in this system.

Appendix A contains a table to describe the coding for distraction-affected crashes in 2010 FARS.

Of additional note is the terminology used in this document about distraction. For FARS and GES data, beginning with 2010 data, any crash in which a driver was identified as distracted at the time of the crash is referred to as a distraction-affected crash. Discussion of cell phones is also more specific starting with the 2010 data. Starting in 2010, FARS no longer offers "cell phone present in vehicle" as a coding option, thus this code cannot be considered a distraction within the data set. From discussion with law enforcement officers, this code in years past was used when it was believed that the driver was using a cell phone at the time of the crash and thus contributed to the crash, but proof was not available. The use of a cell phone is more specific with the 2010 coding and if the specific involvement cannot be determined, law enforcement has other options available to discuss the role of the cell phone and thus the coding would reflect such. Because of these changes, the language referring to cell phones in 2010 is that the crash involved the *use of a cell phone* as opposed to the generic *cell-phone-involvement* used previously.

## Methodology

The data sources include NHTSA's FARS and NASS GES systems. FARS annually collects fatal crash data from all 50 States, the District of Columbia, and Puerto Rico, and is a census of all fatal crashes that occur on the Nation's roadways. NASS GES contains data from a nationally representative sample of police-reported crashes of all severities, including those that result in death, injury, or property damage. The national estimates produced from GES data are based on a probability sample of crashes and are subject to sampling errors.

As defined in the *Overview* (DOT HS 811 299), distraction is a specific type of inattention that occurs when drivers divert their attention from the driving task to focus on some other activity instead. It is worth noting that *distraction* is a subset of *inattention* (which also includes fatigue, physical, and emotional conditions of the driver) as referenced in the *Overview*.

There are inherent limitations in the data for distraction-affected crashes and the resulting injuries and fatalities. These limitations are being addressed through efforts within and outside of NHTSA as detailed in the *Overview*. Appendix B describes limitations in the distracted driving data.

## Data

### *Fatalities in Distraction-Affected Crashes*

In 2010, there were a total of 30,196 fatal crashes in the United States involving 44,440 drivers. In those crashes, 32,885 people were killed. In 2010, 2,843 fatal crashes occurred that involved distraction (9% of all fatal crashes). These crashes involved 2,912 distracted drivers, as some crashes involved more than one distracted driver. Distraction was reported for 7 percent (2,912) of the drivers involved in fatal crashes. In these distraction-affected crashes, 3,092 fatalities (9% of overall fatalities) occurred. Table 1 provides information on crashes, drivers, and fatalities involved in distraction-affected crashes.

Of those drivers distracted during fatal crashes, cell phones are often a leading distraction (of those identified). In 2010, 355 fatal crashes were reported to have involved the use of cell phones as a distraction (12% of all fatal distraction-affected crashes). For these distraction-affected crashes, the PAR stated the driver used a cell phone to talk, listen, dial, or text (or other cell phone activity) at the time of the crash. Cell phones were

Table 1
**Fatal Crashes, Drivers in Fatal Crashes, and Fatalities, 2010**

| | Crashes | Drivers | Fatalities |
|---|---|---|---|
| Total | 30,196 | 44,440 | 32,885 |
| Distraction-Affected | 2,843 (9% of total crashes) | 2,912 (7% of total drivers) | 3,092 (9% of total fatalities) |
| Cell Phone in Use | 355 (12% of D-A crashes) | 367 (13% of distracted drivers) | 408 (13% of fatalities in D-A crashes) |

Source: NCSA, FARS 2010 (ARF)



Ford Ex. 1055 Page 2

reported as a distraction for 13 percent of the distracted drivers in fatal crashes. A total of 408 people died in fatal crashes that involved the use of cell phones as distractions.

Table 2 describes 2010 fatal crash data for distraction-affected crashes by driver age and type of vehicle driven. Eleven percent of all drivers under 20 involved in fatal crashes were distracted at the time of the crashes. This age group is the group with the largest proportion of drivers who were distracted. An additional way to look at the age groups is how large a percentage of the total number of drivers involved were in each age group. For all fatal crashes, only 8 percent of the drivers in the fatal crashes were under 20. However, for distraction, 13 percent of the drivers in fatal distraction-affected crashes were under 20. Likewise, drivers in their 20s were over-represented in distraction-affected crashes relative to their proportion in total drivers — 23 percent of all drivers in fatal crashes were in their 20s but 26 percent of distracted drivers were in their 20s. Both methods of looking at age illustrate the increased prevalence of distracted younger drivers in fatal crashes.

For drivers under 20, 19 percent of the distracted drivers were distracted by the use of cell phones at the time of the crash. This was the age group that had the highest portion of distracted drivers identified as using cell phones. Among all distracted drivers in fatal crashes using cell phones, those drivers age 20 to 29 represent 34 percent, which is an over representation of this age group when compared to drivers overall.

With respect to the vehicles driven by distracted drivers, the distribution of vehicles among distracted drivers is similar to the distribution of vehicles among all drivers (Table 3).

In 2010, 86 percent of the fatalities in distraction-affected crashes involved motor vehicle occupants or motorcyclists. This compares to 85 percent of all motor vehicle crash fatalities involving occupants. Thus, the victims of distraction-affected crashes vary little from the victims of crashes overall. Table 4 describes the role of the people killed in distraction-affected crashes in 2010.

### *Estimates of People Injured in Distraction-Affected Crashes*

In 2010, an estimated 2,239,000 people were injured in motor vehicle traffic crashes (Table 5). The number of people injured in a distraction-affected crash in 2010 was estimated at 416,000 (19% of all the injured people).

Table 2
**Drivers Involved in Fatal Crashes by Age, 2010**

| Age Group | Total Drivers | Distracted Drivers | Drivers Using Cell Phone |
|---|---|---|---|
| Total | 44,440 | 2,912<br>(7% of total drivers) | 367<br>(13% of distracted drivers) |
| Under 20 | 3,565<br>(8% of total drivers) | 375<br>(11% of drivers under 20;<br>13% of distracted drivers) | 70<br>(19% of distracted drivers under 20;<br>19% of cell phone drivers) |
| 20-29 | 10,307<br>(23% of total drivers) | 755<br>(7% of drivers 20-29;<br>26% of distracted drivers) | 123<br>(16% of distracted drivers 20-29;<br>34% of cell phone drivers) |
| 30-39 | 7,538<br>(17% of total drivers) | 469<br>(6% of drivers 30-39;<br>16% of distracted drivers) | 66<br>(14% of distracted drivers 30-39;<br>18% of cell phone drivers) |
| 40-49 | 7,540<br>(17% of total drivers) | 402<br>(5% of drivers 40-49;<br>14% of distracted drivers) | 59<br>(15% of distracted drivers 40-49;<br>16% of cell phone drivers) |
| 50-59 | 6,767<br>(15% of total drivers) | 394<br>(6% of drivers 50-59;<br>14% of distracted drivers) | 26<br>(7% of distracted drivers 50-59;<br>7% of cell phone drivers) |
| 60-69 | 4,108<br>(9% of total drivers) | 207<br>(5% of drivers 60-69;<br>7% of distracted drivers) | 16<br>(8% of distracted drivers 60-69;<br>4% of cell phone drivers) |
| 70+ | 3,864<br>(9% of total drivers) | 274<br>(7% of drivers 70+;<br>9% of distracted drivers) | 6<br>(2% of distracted drivers 70+;<br>2% of cell phone drivers) |

Source: NCSA, FARS 2010 (ARF)



Ford Ex. 1055 Page 3

Table 3
**Drivers Involved in Fatal Crashes by Vehicle Type, 2010**

| Vehicle Type | Total Drivers | Distracted Drivers | Drivers Using Cell Phone |
|---|---|---|---|
| Total | 44,440 | 2,912 (7% of total drivers) | 367 (13% of distracted drivers) |
| Passenger Car | 17,623 (40% of total drivers) | 1,165 (7% of passenger car drivers; 40% of distracted drivers) | 159 (14% of distracted passenger car drivers; 43% of cell phone drivers) |
| Light Truck | 17,322 (39% of total drivers) | 1,256 (7% of light truck drivers; 43% of distracted drivers) | 180 (14% of distracted light truck drivers; 49% of cell phone drivers) |
| Motorcycle | 4,629 (10% of total drivers) | 228 (5% of motorcycle operators; 8% of distracted drivers) | 6 (3% of distracted motorcycle operators; 2% of cell phone drivers) |
| Large Truck | 3,446 (8% of total drivers) | 188 (5% of large-truck drivers; 6% of distracted drivers) | 17 (9% of distracted large-truck drivers; 5% of cell phone drivers) |
| Bus | 248 (1% of total drivers) | 19 (8% of bus drivers; 1% of distracted drivers) | 2 (11% of distracted bus drivers; 1% of cell phone drivers) |

Source: NCSA, FARS 2010 (ARF)

Table 4
**People Killed in Distraction-Affected Crashes, by Person Type, 2010**

| Occupant | | | Nonoccupant | | | |
|---|---|---|---|---|---|---|
| Driver | Passenger | Total | Pedestrian | Pedalcyclist | Other | Total |
| 1,862 (60%) | 795 (26%) | 2,657 (86%) | 353 (11%) | 58 (2%) | 24 (1%) | 435 (14%) |

Source: NCSA, FARS 2010 (ARF)

Table 5
**Estimated Number of People Injured in Crashes and People Injured in Distraction-Affected Crashes**

| Year | Overall | Distraction | |
|---|---|---|---|
| | | Estimate (% of Total Injured) | Cell Phone Use (% of People Injured in Distraction-Affected Crashes) |
| 2006 | 2,575,000 | 503,000 (20%) | 10,000 (2%) |
| 2007 | 2,491,000 | 448,000 (18%) | 24,000 (5%) |
| 2008 | 2,346,000 | 466,000 (20%) | 29,000 (6%) |
| 2009 | 2,217,000 | 448,000 (20%) | 24,000 (5%) |
| 2010 | 2,239,000 | 416,000 (19%) | 24,000 (6%) |

Source: NCSA, GES 2006-2010

Table 6
**Estimates of Distraction-Affected Injury Crashes, Drivers, and Injured People, 2010**

| Distraction-Affected Injury Crashes | Distracted Drivers in Distraction-Affected Crashes | People Injured in Distraction-Affected Crashes |
|---|---|---|
| 279,000 (18% of all injury crashes) | 286,000 (10% of all drivers in injury crashes) | 416,000 (19% of all injured people) |

Source: NCSA, GES 2010

An estimated 24,000 people were injured in distraction-affected crashes in 2010 involving cell phones. These injured people comprised 6 percent of all people injured in distraction-affected crashes.

Over the past five years, the number of people injured in distraction-affected crashes has fallen from 503,000 to 416,000, a 17 percent decline (compared to a 13% decline in the number of people injured overall during this time period). However, the percentage of injured people in distraction-affected crashes as a portion of all injured people has remained relatively constant (20% in 2006 and 19% in 2010).



Ford Ex. 1055 Page 4

### *Crashes of All Severity*

Table 7 provides information for all police-reported crashes from 2006 through 2010 including injury crashes, and property-damage-only (PDO) crashes for the year. During this time period, the percentage of injury crashes that were distraction-affected fluctuated slightly, but remained relatively constant. The percentage of PDO crashes that were distraction-affected has remained at 16 percent for 5 years, as the percentage for total crashes has remained at 17 percent.

Table 7
**Motor Vehicle Traffic Crashes and Distraction-Affected Crashes by Year**

| Crash by Crash Severity | | Overall Crashes | Distraction-Affected Crashes | D-A Crashes Involving Cell Phone Use |
|---|---|---|---|---|
| 2006 | **Non-Fatal Crashes** | | | |
| | Injury Crash | 1,746,000 | 339,000 (19%) | 7,000 (2%) |
| | PDO Crash | 4,189,000 | 676,000 (16%) | 17,000 (3%) |
| | Total | 5,973,000 | 1,020,000 (17%) | 25,000 (2%) |
| 2007 | **Non-Fatal Crashes** | | | |
| | Injury Crash | 1,711,000 | 309,000 (18%) | 17,000 (6%) |
| | PDO Crash | 4,275,000 | 689,000 (16%) | 31,000 (4%) |
| | Total | 6,024,000 | 1,003,000 (17%) | 49,000 (5%) |
| 2008 | **Non-Fatal Crashes** | | | |
| | Injury Crash | 1,630,000 | 314,000 (19%) | 19,000 (6%) |
| | PDO Crash | 4,146,000 | 650,000 (16%) | 30,000 (5%) |
| | Total | 5,811,000 | 969,000 (17%) | 49,000 (5%) |
| 2009 | **Non-Fatal Crashes** | | | |
| | Injury Crash | 1,517,000 | 307,000 (20%) | 16,000 (5%) |
| | PDO Crash | 3,957,000 | 647,000 (16%) | 29,000 (5%) |
| | Total | 5,505,000 | 959,000 (17%) | 46,000 (5%) |
| 2010 | **Non-Fatal Crashes** | | | |
| | Injury Crash | 1,542,000 | 279,000 (18%) | 16,000 (6%) |
| | PDO Crash | 3,847,000 | 618,000 (16%) | 30,000 (5%) |
| | Total | 5,419,000 | 900,000 (17%) | 47,000 5%) |

Source: NCSA, GES 2006-2010; PDO – Property Damage Only

## Appendix A

As discussed in the Methodology section of this Research Note, FARS and GES were accessed to retrieve distraction-affected crashes. Table A contains every variable attribute available for coding for driver distraction along with examples to illustrate the meaning of the attribute. This is the coding scheme available for FARS and GES for the 2010 data. Table A further indicates whether that attribute was included in the analysis for distraction-affected crashes.

In the *Visual-Manual National Highway Traffic Safety Administration Driver Distraction Guidelines: In-Vehicle Electronic Devices* (FR Document Number 2012-4017), there is a table that details the number of distraction-affected crashes that involved devices/controls integral to the vehicle and crashes that involved the use of an electronic device (same codes used to identify use of a cell phone). Table A includes indication of which attributes were used to develop each of these estimates, as presented in the Guidelines.

If there are no indications of usage for either the distraction-affected crashes, devices/controls integral to the vehicle, or electronic device use, the attribute was not considered as a type of distraction behavior and therefore not included in the analysis.

Data users often request information regarding the frequency of each attribute with respect to distracted drivers. Table A provides the frequency of driver distraction reported for distracted drivers in FARS 2010. Each driver could potentially have multiple distraction behaviors noted in the PAR and thus these attributes *are not* mutually exclusive. This column *will not* sum to the number of distracted drivers in 2010.



Ford Ex. 1055 Page 5

Table A
**Attributes Included in "Driver Distracted By" Element and Indication of Inclusion in Distraction-Affected Definitions, GES and FARS; Frequency of Distraction Attributes for FARS 2010**

| Attribute | Examples | Included in: | | | Frequency of Driver Distraction |
|---|---|---|---|---|---|
| | | Distraction-Affected Crashes | Devices/ Controls Integral to the Vehicle | Electronic Device Use | |
| Not distracted | Completely attentive to driving; no indication of distraction or noted as Not Distracted | | | | |
| Looked but did not see | Driver paying attention to driving but does not see relevant vehicle, object, etc. | | | | |
| By other occupant | Distracted by occupant in driver's vehicle; includes conversing with or looking at other occupant | X | | | 163 |
| By moving object in vehicle | Distracted by moving object in driver's vehicle; includes dropped object, moving pet, insect, cargo. | X | | | 21 |
| While talking or listening to cellular phone | Talking or listening on cellular phone | X | | X | 136 |
| While dialing cellular phone | Dialing or text messaging on cell phone or any wireless email device | X | | X | 36 |
| Other cellular phone-related (2007 and later) | Used when the Police Report indicated the driver is distracted from the driving task due to cellular phone involvement, but none of the specified codes are applicable (e.g., reaching for cellular phone, etc.). This code is also applied when specific details regarding cellular phone distraction/usage are not provided. | X | | X | 201 |
| Adjusting audio and/ or climate controls | While adjusting air conditioner, heater, radio, cassette, using the radio, using the cassette or CD mounted into vehicle | X | X | | 49 |
| While using other devices/controls integral to vehicle | Adjusting windows, door locks, rear/side view mirrors, seat, steering wheel, seat belts, on-board navigational devices, etc. | X | X | | 11 |
| While using or reaching for device/ object brought into vehicle | Radar detector, CDs, razors, portable CD player, headphones, a navigational device, cigarette lighter, etc.; if unknown if device is brought into vehicle or integral, use Object Brought Into Vehicle | X | | | 70 |
| Distracted by outside person, object, or event | Animals on roadside or previous crash. Do not use when driver has recognized object/event and driver has taken evasive action | X | | | 222 |
| Eating or drinking | Eating or drinking or actively related to these actions | X | | | 51 |
| Smoking related | Smoking or involved in activity related to smoking | X | | | 14 |
| No driver present | When no driver is in this vehicle | | | | |
| Distraction/ inattention, details unknown | Distraction and/or inattention are noted on the PAR but the specifics are unknown | X | | | 1,274 |
| Not reported | No field available on PAR; field on PAR left blank; no other information available | | | | |
| Inattentive or lost in thought | Driver is thinking about items other than the driving task (e.g., daydreaming) | X | | | 566 |
| Other distraction | Details regarding the driver's distraction are known but none of the specified codes are applicable | X | | | 244 |
| Unknown if distracted | PAR specifically states unknown | | | | |



Ford Ex. 1055 Page 6

For comparison of coding of distraction-affected crashes in FARS, the following table shows the coding scheme used for analysis of 2009 or earlier data.

Table B
**Attributes for Driver-Related Factor in the FARS Database, 2009 and Earlier**

| Attribute | Examples |
|---|---|
| Operating the Vehicle in Careless or Inattentive Manner | Includes use of car/cell phones, text messaging, fax, GPS/head-up display systems, DVD player, etc.; Driver distracted by children; Driver lighting cigarette; Operating or adjusting radio and other accessories; Reading, talking, daydreaming, eating, looking for an address, crash in next lane, automated highway sign, approaching emergency vehicle, using electric razor, applying cosmetics, painting nails, etc. |
| Cellular Telephone Present in Vehicle | Includes hand-held and hands-free cellular telephones. 1991-2001: Includes the use of or presence of a phone. 2001 and later: Includes only presence in vehicle |
| Cellular phone in Use in Vehicle | Includes hand-held and hands-free cellular telephone |
| Computer/Fax Machines/Printers | Laptop/notebook computers; PDAs; fax machines |
| Onboard Navigation System | |
| Two-Way Radio | |
| Head-Up Display | |

## Appendix B

NHTSA recognizes that there are limitations to the collection and reporting of FARS and GES data with regard to driver distraction. The data for FARS and GES are based on PARs and investigations conducted after the crash has occurred.

One significant challenge for collection of distracted driving data is the PAR itself. Police accident reports vary across jurisdictions, thus creating potential inconsistencies in reporting. Many variables on the police accident report are nearly universal, but distraction is not one of those variables. Some police accident reports identify distraction as a distinct reporting field, while others do not have such a field and identification of distraction is based upon the narrative portion of the report. The variation in reporting forms contributes to variation in the reported number of distraction-affected crashes. Any national or State count of distraction-affected crashes should be interpreted with this limitation in mind due to potential under-reporting in some States/primary sampling units and over-reporting in others.

The following are potential reasons for underreporting of distraction-affected crashes.

- There are negative implications associated with distracted driving—especially in conjunction with a crash. Survey research shows that self-reporting of negative behavior is lower than actual occurrence of that negative behavior. There is no reason to believe that self-reporting of distracted driving to a law enforcement officer would differ. The inference is that the reported driver distraction during crashes is lower than the actual occurrence.
- If a driver fatality occurs in the crash, law enforcement must rely on the crash investigation in order to report on whether driver distraction was involved. Law enforcement may not have information to indicate distraction. These investigations may rely on witness account and oftentimes these accounts may not be available either.



Ford Ex. 1055 Page 7

Also to be taken into consideration is the speed at which technologies are changing and the difficulty in updating the PAR to accommodate these changes. Without broad-sweeping changes to the PAR to incorporate new technologies and features of technologies, it is difficult to capture the data that involve interaction with these devices.

In the reporting of distraction-affected crashes, oftentimes external distractions are identified as a distinct type of distraction. Some of the scenarios captured under external distractions might actually be related to the task of driving (e.g., looking at a street sign). However, the crash reports may not differentiate these driving-related tasks from other external distractions (looking at previous crash or billboard). Currently, the category of external distractions is included in the counts of distraction-affected crashes.

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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