



**CRASH REPORT**

Owner's Name

Owner's Address

# Crashes Involving Cell Phones

## Challenges of Collecting and Reporting Reliable Crash Data

FROM THE NATIONAL SAFETY COUNCIL



making our world safer®



# Introduction

## Through its efforts to reduce distracted driving, the National Safety Council

works with people who lost loved ones in crashes that involved driver cell phone use. During conversations with the families about the crashes, a disconcerting pattern emerged: For many, the crash reports did not reflect drivers' cell phone use although cell phone involvement was apparent. For example:



In January 2010 in Sault Ste. Marie, Mich., **17-year-old Kelsey Raffaele** lost control of her car when she passed another vehicle while talking on the phone with

a friend. The friend later told Kelsey's parents that Kelsey's last words on the phone were "oh s\*\*\*, I'm going to crash." Kelsey died a few hours later in the hospital. Cell phone use is not recorded in the crash report.



## Chelsey Murphy, 19 years old

and four months pregnant, was walking across a road with a friend in Naples, Fla. in May 2010. Both women were struck

by a teen driver talking on his cell phone. The person he was talking with heard the impact through the phone, and asked what it was. The driver said he thought he hit a water cooler. He kept driving. Chelsey fell into a coma, was declared brain dead five days later and passed away. Her unborn baby also died. Chelsey's friend was seriously injured. The crash report does not mention cell phone use.

For these cases and many more, the involvement of cell phones was not included as a crash factor in national fatal crash data. **There is strong evidence to support that under-reporting of driver cell phone use in crashes is resulting in a substantial under-estimation of the magnitude of this public safety threat.**



# The problem of under-reporting

## Why is it important to know the scope of cell phone involvement in crashes?

Details from police fatal crash reports are included in the National Highway Traffic Safety Administration's (NHTSA) Fatality Analysis Reporting System (FARS), which is the nation's statistics database of fatal motor vehicle crashes and the factors contributing to them. There are wide-ranging, negative ramifications to safety if a fatal crash factor is substantially under-reported, as appears to be the case with cell phone use in crashes.

FARS data have widespread influence. They influence national prevention priorities, funding decisions, media attention, legislation, and even vehicle and roadway engineering. By accurately coding cell phone use in crash reports, this issue is more likely to receive the funding, attention and legislation needed to appropriately address this public safety threat.

## What is the scope of the problem?

Currently there is no reliable method to accurately determine how many crashes involve cell phone use; therefore, it is impossible to know the true scope of the problem. There are many challenges to verifying that cell phone use was a contributing factor in a motor vehicle crash:

- Police must often rely on drivers to admit to cell phone use. This is not possible when drivers are not forthcoming or are seriously injured or deceased.
- Witness memories and statements may be inaccurate.
- Police may not fully investigate cell phone use if it's not a violation in their jurisdiction, if a more obvious violation such as speeding or lane departure is identified, or if a more serious violation is involved such as alcohol or other drug impairment.

- If cell phone use is identified as a contributing factor during the police investigation, or criminal or civil court cases, crash reports may not be updated.
- Cell phone records can be difficult to obtain from wireless companies.
- If cell phone records are obtained, data must align with the precise moment of the crash - a moment which is not always known.

NHTSA has acknowledged that there are inherent limitations in the crash data, thus distraction factors are under-reported.<sup>i</sup> The agency is taking steps to improve reporting,<sup>ii iii</sup> but change will take years. There are thousands of agencies involved in collecting and compiling data including local communities, state agencies and the federal government. As long as reliance on driver admission is a factor in collecting these data, national statistics and reports can never represent the true scope of the problem.

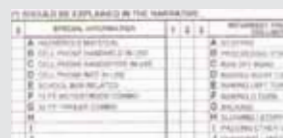
## Where are the data lost in the process?

### Local - Scenes of the Crashes



Data gathering begins at the scenes of crashes with drivers, passengers, witnesses and physical evidence.

### Local - Crash Report



Police officers or trained investigators record data either on paper or electronically; reports can differ by municipal and state jurisdiction.

### State - State Agencies



State agencies compile, code, audit and validate data. Paper forms are manually coded into electronic systems, and crash data from multiple source documents are recorded for national uniformity.

### National - Federal FARS Program

Crashes involving fatalities are compiled by NHTSA's FARS at more than 50 state sites into one standardized national database.



## The problem of under-reporting (cont.)

### What is the impact on crash and injury prevention when factors are under-reported?

Crash report information is used for multiple purposes by different professions. Law enforcement is primarily responsible for providing the information on the crash reports. Injury prevention professionals also use data from crash reports, but for very different purposes. For prevention purposes, all crash factors about the driver's behavior, vehicle and roadway should be accurately recorded. Because these factors are compiled in national fatality and injury databases, decisions about prevention resources and strategies are based on national data.

Law enforcement often focuses on recording violations and details that are relevant for criminal cases. Thus, in distracted driving crashes, a violation such as "Failure To Keep in Proper Lane" may be recorded on police crash reports as the

driver factor. But why did the driver fail to stay in the proper lane? The reasons why lead to crash prevention solutions. For example, this project's review of fatal crashes uncovered cases where drivers using cell phones crossed over center lines resulting in head-on crashes, but the crash reports did not mention cell phone use. These omissions limit the usefulness of these data for prevention. There are many reasons why a driver could cross over the center line including: attempting to pass, reaching for something in the vehicle, experiencing a medical problem, alcohol or other drug impairment, as well as using a cell phone. Each of these root factors would likely be addressed by different prevention strategies.



# Methods

## How crashes included in the project were identified

NSC and FocusDriven, an advocacy organization that works with cell phone distracted driving victims and their families, maintain a database of crashes. Currently about 600 crashes are included where cell phones were suspected or evidence showed they were involved in property damage, injury and fatal crashes. For this project, we identified 180 crashes that:

- Occurred during 2009-2011, the most recent years for which FARS data are available
- Resulted in one or more fatalities
- Involved driver cell phone use, as identified through reliable evidence

Reliable evidence that a driver was using a cell phone at the moment of crash impact is difficult to collect unless a driver admits to cell phone use. However, there are other methods that can indicate the likelihood of cell phone involvement:

- Caller or texter on other end of the phone during the crash reports the cell phone use
- Passenger reports driver cell phone use
- Police find unfinished message in phone at crash scene, or a caller remains on the phone
- Investigation results in police being confident enough about cell phone use to publicly identify it as a crash factor
- Coroner or other authoritative non-police report identifies cell phone use
- Court documents or testimony introduced during criminal or civil court cases, including wireless records

When cell phone use was speculative, crashes were not included in the analysis.

## Sources of the crash narratives

Beyond media and word-of-mouth, options for identifying cell phone-involved crashes were limited. Crash stories were obtained from several sources:

- Media articles via Google Alerts and Meltwater news tracking service
- People who contacted NSC or FocusDriven after media events
- FocusDriven board member contacts
- Referrals from traffic safety colleagues

Police crash reports are not included as a source because the project's goal was to find cell phone-involved crashes that were not recorded as such on crash reports. Thus, sources beyond police crash reports were needed.

## Limitations of this project

This project is based on a convenience sample of identified crashes. It is not possible to identify crashes involving cell phones either as a random sample or as a census. In addition, the media may be more likely to play up certain crash stories, such as those that occurred in more populated areas, involved multiple fatalities or included unique circumstances with news value. The Internet search method is more likely to capture information from media outlets with an online presence, and with websites that rank higher in searches.

Crashes involving cell phone use can occur without any media report, or media may not mention cell phone use as a factor. These crashes would not be included in the sample unless an NSC or FocusDriven contact became aware of these crashes.

Crashes also may occur where only the driver knows a cell phone was being used. If no family, friends, police, media or attorneys are aware of cell phone use, it is impossible to identify those crashes.

Thus, this convenience sample is not representative of all crashes involving cell phones.



# Evidence of under-reporting in national crash data

NSC reviewed 180 fatal crashes that occurred from 2009 to 2011, where evidence indicated a driver was using a cell phone. Crash stories were obtained from families who lost loved ones in crashes, referrals from traffic safety colleagues and media articles. Crash reports and crash records in the FARS database were examined to identify whether driver cell phone use was recorded.

## Findings

In 2011, only 52 percent of the fatal crashes reviewed by NSC were coded in FARS as involving cell phones. That means the involvement of cell phones was not included as a crash factor in about half of the crashes NSC reviewed.

Driver admission of cell phone use is the most valid way to confirm a cell phone was involved. However, even when drivers admitted using cell phones, only 50 percent of fatal crashes reviewed were coded in FARS as involving a cell phone.

Based on these findings, evidence indicates a substantial under-reporting of cell phone involvement in fatal crashes.

## Findings from 2009 to 2011

The findings below show some improvement in data collection in recent years. Due to inherent limitations in confirming driver cell phone use in all cases, data may never be completely accurate.

In 2010, of the crashes NSC reviewed where evidence indicated a driver was using a cell phone, 35 percent were coded in FARS as cell phone-affected (Chart 1). In 2009, only 8 percent of such crashes were coded as involving cell phones.

Chart 1: Agreement between NSC review of 180 crash cases and FARS

Year	Percent Agreement
2011	52
2010	35
2009	8

In 57 of the 180 crashes NSC reviewed, drivers admitted using cell phones. Of these cases, crashes were coded as involving cell phones 40 percent of the time in 2010 and 33 percent of the time in 2009 (Chart 2).

Chart 2: Agreement between 57 cases where driver admitted cell phone use and FARS

Year	Percent Agreement
2011	50
2010	40
2009	33

NSC analysis also found that when police crash reports included checkbox type fields or numerical codes to note driver cell phone use as a factor, it was more likely to be recorded and to be reflected in FARS data. When police crash reports included a checkbox or codes, among the crashes NSC reviewed, 62 percent of crashes were coded as cell phone-affected in FARS in 2011, 37 percent in 2010 and 42 percent in 2009 (Chart 3).

**Chart 3: Agreement between crash reports with checkbox or numerical codes and FARS**

Year	Percent Agreement
2011	62
2010	37
2009	42

NSC analysis found that when cell phone factors are missing from national data, most often they were not recorded in police crash reports.

### FARS cell phone factor codes analyzed

NHTSA unveiled a new measure of distracted driving fatal crashes beginning with 2010 data. The new measure is called “distraction-affected crashes”, and is narrower than the measure used for 2009 and prior data. Thus NHTSA’s 2010 distraction fatality data cannot be compared to data from previous years. NHTSA explains the new measure as “designed to focus more narrowly on crashes in which a driver was most likely to have been distracted. While FARS previously recorded a broad range of potential distractions, such as careless driving and cell phone present in the vehicle, the new measure focuses

on distractions that are most likely to affect crash involvement, such as distraction by dialing a cellular phone or texting, and distraction by an outside person/event.”<sup>iv</sup>

NSC uses the term “cell phone involved” because NSC review of driver use of cell phones includes all behaviors drivers were engaging in with their cell phones when crashes occurred: talking; typing or reading text or email; dialing phone numbers; using music, navigation or other apps; looking at phone; and reaching for the phone if it was ringing. A cell phone simply being present in the vehicle does not qualify as “cell phone involved;” there must have been evidence identified that a driver was engaging with the phone.

For fatal crashes that occurred in 2009, the following FARS Driver Distracted By codes were included in the “cell phone involved” analysis:

94 – Cellular Telephone In Use in Vehicle

For fatal crashes that occurred in 2010 and 2011, the following FARS Driver Distraction codes were included in the “cell phone involved” analysis:

5 – While Talking or Listening to Cellular Phone

6 – While Dialing Cellular Phone

15 – Other Cellular Phone Related



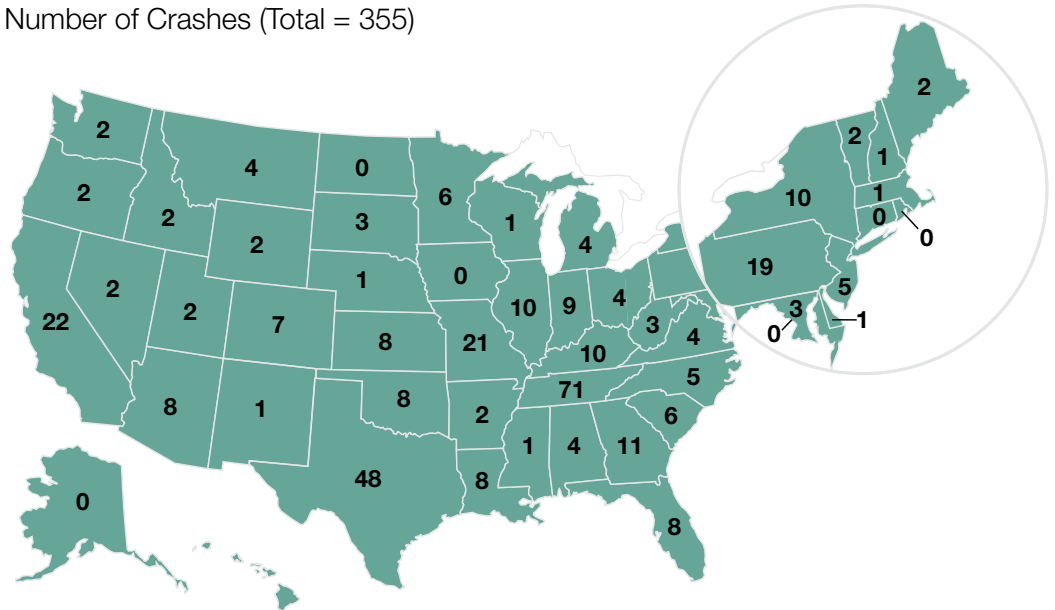
# State distribution of fatal crashes involving cell phones

Large variances in reporting across states were observed when reviewing crashes in FARS that were coded as cell phone-affected in 2010 and 2011.

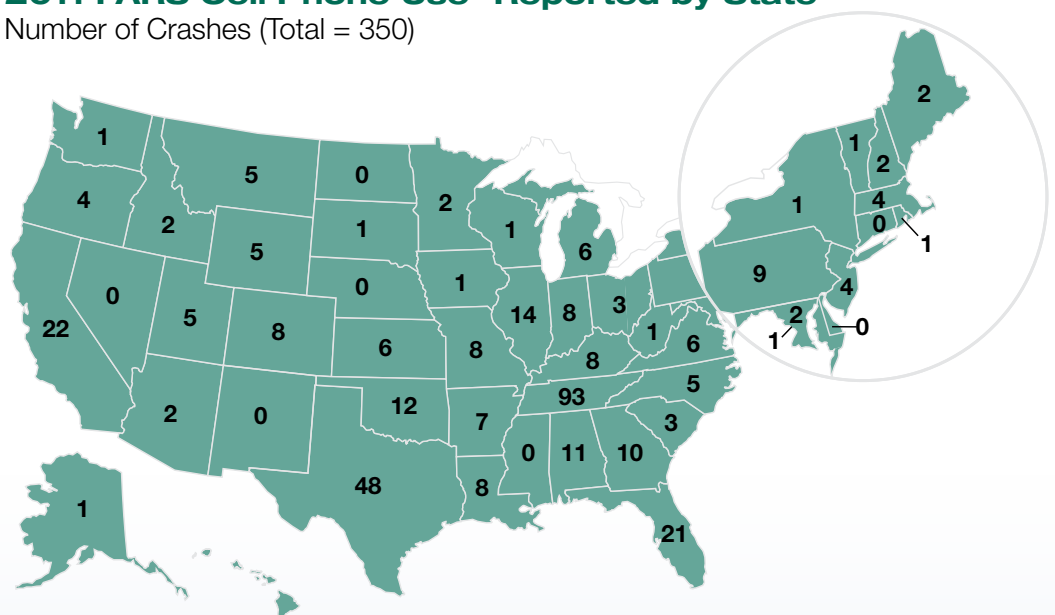
For example, Tennessee reported 71 fatal crashes involving cell phones in 2010 and 93 in 2011. However, states with much larger populations of drivers reported far fewer crashes involving cell phones. New York reported 10 such crashes in 2010 and one in 2011. New Jersey reported five in 2010 and four in 2011.

The maps to the right show the number of crashes involving cell phones reported by each state in 2010 and 2011.

**2010 FARS Cell Phone Use\* Reported by State**  
Number of Crashes (Total = 355)



**2011 FARS Cell Phone Use\* Reported by State**  
Number of Crashes (Total = 350)



\*Driver Distraction \* Codes 5, 6, 15

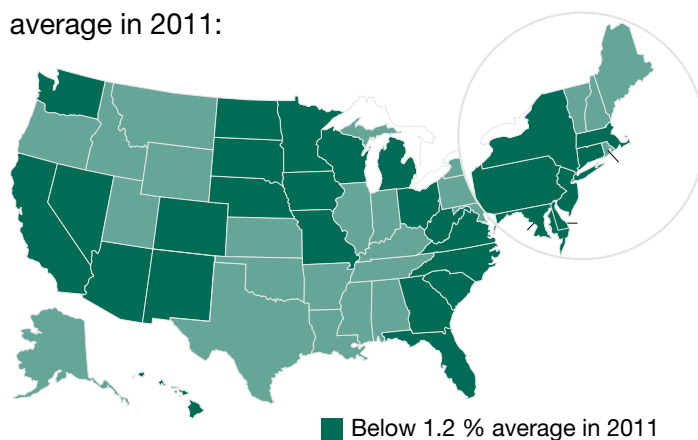


The average percentage, across all states, of fatal crashes coded as involving driver cell phone use was 1.2 percent in both 2010 and 2011. The range across the states was 0 percent to 7.4 percent in 2010, and 0 percent to 10.6 percent in 2011.

State	2010 % of Cell Phone Involved Crashes	State	2011 % of Cell Phone Involved Crashes
TN	7.4	TN	10.6
VT	3.2	DC	4.5
MO	2.7	WY	4.2
MT	2.5	MT	2.7
SD	2.4	NH	2.4
KS	2.1	UT	2.3
TX	1.8	VT	2.1
CO	1.7	OK	2.0
MN	1.6	IL	1.7
PA	1.6	KS	1.7
KY	1.4	AK	1.6
ME	1.4	ME	1.6
WY	1.4	RI	1.6
IN	1.3	AL	1.4
LA	1.3	AR	1.4
OK	1.3	TX	1.4
Average	1.2	ID	1.3
IL	1.2	LA	1.3
AZ	1.1	OR	1.3
DE	1.1	Average	1.2
ID	1.1	IN	1.2
WV	1.1	KY	1.2
GA	1.0	MA	1.2
UT	1.0	MO	1.1
CA	0.9	FL	1.0
HI	0.9	SD	1.0
NV	0.9	GA	0.9
NJ	0.9	VA	0.9
NY	0.9	CA	0.8
NH	0.8	PA	0.8
SC	0.8	CO	0.7
MD	0.7	MI	0.7
OR	0.7	NJ	0.7
NE	0.6	MN	0.6
VA	0.6	MD	0.4
AL	0.5	NC	0.4
MI	0.5	SC	0.4

State	2010 % of Cell Phone Involved Crashes	State	2011 % of Cell Phone Involved Crashes
WA	0.5	AZ	0.3
AR	0.4	IA	0.3
FL	0.4	OH	0.3
NC	0.4	WV	0.3
OH	0.4	WA	0.2
MA	0.3	WI	0.2
NM	0.3	NY	0.1
MS	0.2	CT	0.0
WI	0.2	DE	0.0
AK	0.0	HI	0.0
CT	0.0	MS	0.0
DC	0.0	NE	0.0
IA	0.0	NV	0.0
ND	0.0	NM	0.0
RI	0.0	ND	0.0

Many of the most populous states, according to the 2010 U.S. Census, were below the 1.2 percent average in 2011:



It is possible some states experience below-average rates of crashes involving drivers using cell phones since reporting from many of these states is substantially lower than the national average. The variances raise questions about whether crashes involving cell phones are under-reported in many states, and if so, by what magnitude?



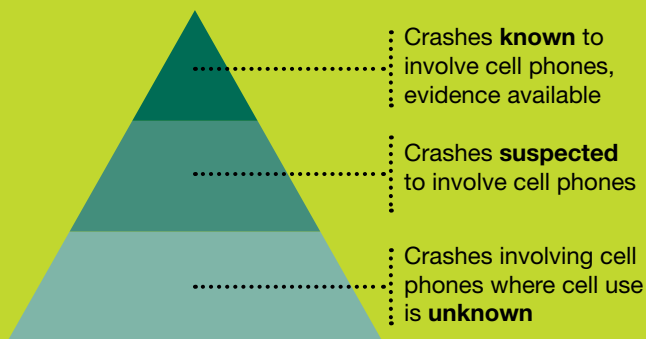
# Discussions and recommendations

National, state and local organizations are taking steps to improve collection of crash data about driver cell phone use. These findings show data collection may be improving in recent years. However, inherent limitations in confirming driver cell phone use in all cases indicates data may never be completely accurate.

Even if cell phone involvement in known crashes was captured 100 percent of the time, data would still be under-reported. This is because the number of crashes in which cell phone use is suspected or unknown would still be unidentified.

## The number of cell phone crashes: a hypothetical

We don't know exactly how many crashes involve drivers using cell phones, and it may not be possible to know.



Even if 100% of known crashes were captured, data would still be greatly under-reported.

### NSC recommends several changes in how cell phone crash data are currently addressed:

**1.** National distracted driving and cell phone crash statistics should be described as the minimum number collected and reported by a process full of limitations.

Federal data show cell phones were involved in 350 fatal crashes in 2011. People may think it's not a serious problem compared to other fatality factors that can be more reliably measured such as impaired driving or not wearing seat belts. If cell phone distraction is involved in far more fatal crashes than the current statistics show (as indicated by the NSC analysis), the public is led to erroneous beliefs about fatal crash risks.

**2.** Based on these findings and the inherent difficulty of identifying the true scope of the problem, policy makers should assume that cell phone involvement in crashes is substantially greater than shown by crash statistics when making policy decisions.

**3.** NHTSA should conduct a feasibility study to determine if an under-reporting correction is possible for cell phone use, similar to the imputed data on blood alcohol concentration (BAC) for drivers who were not tested for BAC or whose test results are unknown.

# References

- i U.S. Department of Transportation, National Highway Traffic Safety Administration. (2010). **Traffic Safety Facts Research Note. Distracting Driving 2009.** Retrieved from <http://www.distraction.gov/research/PDF-Files/Distracted-Driving-2009.pdf>
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- iv U.S. Department of Transportation. **"U.S. Transportation Secretary LaHood Announces Lowest Level Of Annual Traffic Fatalities In More Than Six Decades.** Updated 2010 FARS data includes new measure of 'distraction-affected' fatalities; national attitude survey offers additional insight into problem of distracted driving." December 8, 2011. Retrieved from <http://www.distraction.gov/content/press-release/2011/12-8.html>

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