Cell Phone Policy Kit

Thank you for your interest in the Cell Phone Policy Kit from the National Safety Council. You are among a group of employers seeking to better protect their employees from the dangers of cell phone distracted driving. This resource contains everything you need to successfully implement or strengthen a cell phone policy in your organization.

✓ Understanding the Issue

Managers who want to implement a policy will find resources useful for acquiring leadership support. We encourage you to share these materials with executives who will be instrumental in implementing a policy.

✓ Building Buy-in from Leadership

Once your organization decides to put a policy in place, the Council recommends that you establish a roll-out team – including staff from your HR and Marketing/Communications departments, as well as your Safety Team.

✓ Educating Your Employees

The kit contains dozens of ready-made communications to gain employee buy-in and compliance. Kit materials are designed to educate employees year-round and reinforce the policy that you establish. They can be used individually or as part of an ongoing communications plan.

Thank you for your dedication to making our roadways safer. You have made an important step on the Journey to Safety Excellence and are making a difference in saving lives and preventing injuries.

Click on title to view document

Table of contents

Annual Estimate of Cell Phone Crashes 2013

The National Safety Council created the Annual Estimate of Cell Phone Crashes because data about cell phone use as a factor in motor vehicle crashes is currently under-reported. In jurisdictions where police attempt to collect this data, they must rely almost entirely on driver self-reports or witness reports of cell phone use at the time of the crash, resulting in significant under reporting.

The NSC estimate includes property damage only crashes as well as injury and fatal crashes.

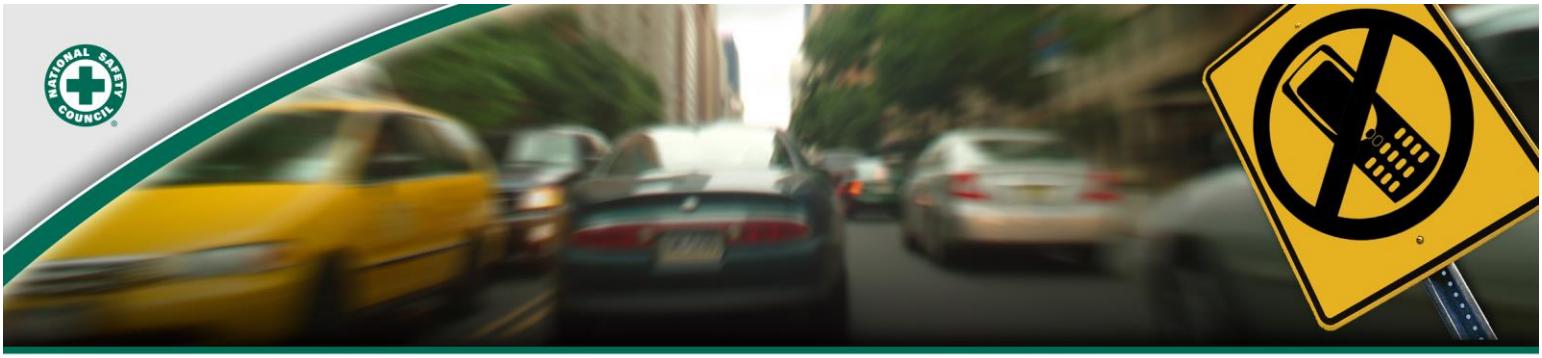
Estimates

- The NSC model estimates 21 percent of crashes or 1.2 million crashes in 2013 involve talking on handheld and hands-free cell phones.

- The model estimates an additional 6 percent or more crashes or a minimum of 341,000 of crashes in 2013 involve text messaging.

- Thus a total of a minimum of 27% of crashes involve drivers talking and texting on cell phones.

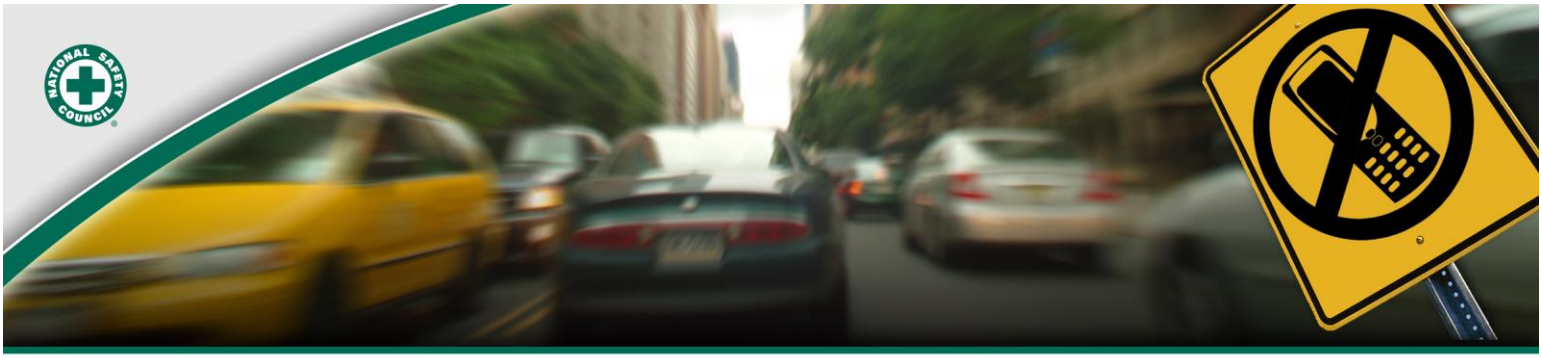
The NSC Cell Phone Policy Kit is made possible through generous donations from NSC employees.



The following are frequently asked questions about the NSC Annual Estimate of Cell Phone Crashes:

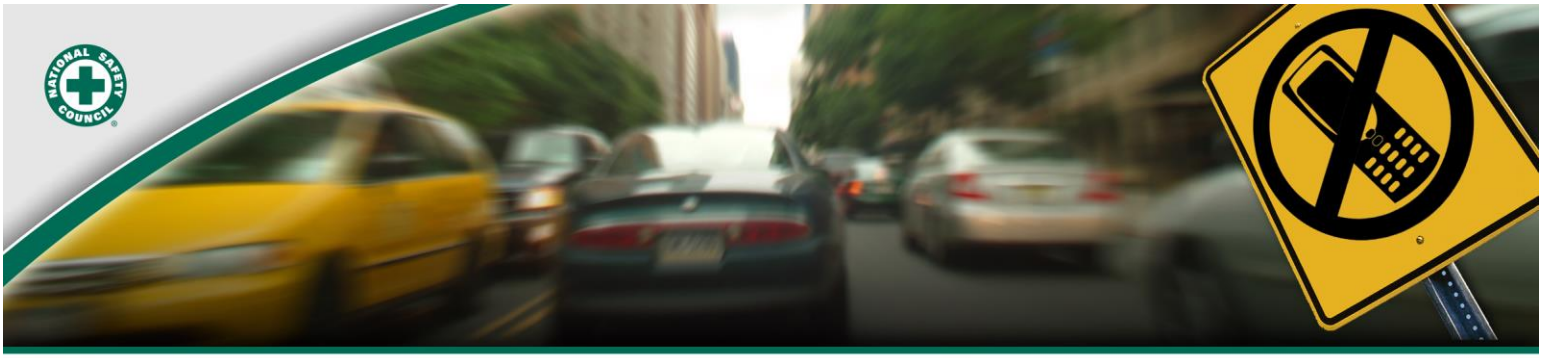
Question	Annual Estimate	Source
Background		
How many total crashes were there in 2013?	5,687,000	2013 Motor Vehicle Crash Overview National Highway Traffic Safety Administration
NSC's estimate is based on an "attributable risk estimate model." What does attributable risk mean?	"Attributable" indicates that a behavior or circumstance is a contributing factor to a negative outcome.	
What is relative risk?	Relative risk is a measure of the risk of a certain event happening in one group compared to the risk of the same event happening in another group. Relative risk of one means there is no difference between two groups in terms of their risk. A relative risk of greater than one or less than one means an activity or circumstance either increases (relative risk greater than one) or decreases (relative risk less than one) the risk of the adverse outcome.	
What is an attributable risk percent estimate?	An attributable risk percent estimate is a mathematical model that estimates the percent of adverse outcomes that can be attributed to an unsafe activity or circumstance. The estimate is based on two factors: 1) the prevalence and 2) the relative risk of the unsafe activity or circumstance.	
Is attributable risk mutually exclusive?	Attributable risk estimates are not mutually exclusive. Multiple risks can attribute to one adverse outcome.	

The NSC Cell Phone Policy Kit is made possible through generous donations from NSC employees.



Question	Annual Estimate	Source
Cell Phones		
How did the NSC estimate attributable risk percent for cell phones?	The NSC attributable risk percent estimate of cell phones is based on two factors: 1) the prevalence of drivers talking on cell phones and 2) the relative risk of this activity compared to not using cell phones while driving.	
What is the prevalence of drivers talking on cell phones in 2013?	9% of drivers during any daylight moment	Driver Electronic Device Use in 2013, National Highway Traffic Safety Administration
What is the relative risk of cell phone use while driving?	4 times as likely to crash risk (as measured by emergency department visits and property damage only crashes)	McEvoy et al (2005); Redelmeier & Tibshirani (1997)
What percent of fatal, injury and property damage-only crashes are likely attributable to talking on cell phones while driving in 2013?	21%	NSC Estimate
How many crashes likely involve drivers talking on cell phones in 2013?	1.2 million	NSC Estimate • Estimate uses a similar set of assumptions as were used by Cohen and Graham (2003) • The attributable risk estimate based on emergency department visits was generalized to estimate crash numbers.

The NSC Cell Phone Policy Kit is made possible through generous donations from NSC employees.



Question	Annual Estimate	Source
Text Messaging		
What is the prevalence of drivers who are text messaging in 2013?	The prevalence of text messaging is not specifically measured, however it is has been observed that 1.7% of drivers “manually manipulate” handheld devices at any given daylight moment. Because text messaging is only one of several activities in this category (e.g. dialing phone numbers); it is assumed the prevalence of text messaging is 1.7% or less. For the purposes of the NSC estimate it is being assumed that about half of the 1.7% of drivers or 0.85% are text messaging.	Driver Electronic Device Use in 2013, National Highway Traffic Safety Administration
What is the relative risk of text messaging while driving?	The relative risk of text messaging has not been studied to the same extent as it has for talking on cell phones. Two studies attempted to measure the relative risk of text messaging while driving. Because of methodological issues the applicability of these studies is limited. At this time no one risk level can be established for text messaging. Instead, a range from 8 to 23 times increased risk is currently the best estimate.	Drews et al (2009) and Olsen et al (2009)
What percent of crashes are likely attributable to text messaging in 2013?	6% to 16%	NSC Estimate
How many crashes are likely attributable to text messaging in 2013?	341,000 to 910,000 Because the relative risk estimates available for text messaging are either based on computer simulations or factors other than crashes, confidence in this estimate is low.	NSC Estimate

The NSC Cell Phone Policy Kit is made possible through generous donations from NSC employees.

Executive Summary

Why is cell phone use while driving a problem?

Motor vehicle crashes are the No. 1 cause of work-related death (CDC) and account for more than 35,000 deaths each year in the United States (NHTSA). Beyond concern for the safety of employees, crashes are also costly to employers. An on-the-job property damage crash costs an employer more than $24,500. That cost rises to more than $150,000 if the crash involves injury, and can be as much as $3.6 million if the crash involves a fatality (NHTSA and FMCSA). All employers face ongoing liability, insurance, productivity and absenteeism costs.

Driver distraction is a significant contributor to crashes and cell phone use has played an increasingly larger role. Nearly everyone now has a cell phone. Today there are more cell phone subscriptions than there are people living in the U.S., and nearly one-third of households are wireless only (CTIA).

At a typical daylight moment, 9 percent of drivers on the road are talking on their cell phones (NHTSA). More than 2 in 3 drivers admit talking on a cell phone while driving (AAAFTS). More than 1 in 4 drivers admit to typing or sending text messages while driving and more than 1 in 3 report reading a text message or email while driving (AAAFTS).

The risks and costs associated with cell phone use while driving will continue to grow in the coming years. So, what is an employer to do?

Solution

The National Safety Council recommends employers issue an organization-wide policy prohibiting the use of cell phones while driving. The policy should state:

- Employees are not permitted to use electronic devices, either handheld or hands-free, while they are driving
- Employees are not permitted to answer calls while driving. Incoming calls must be directed to voicemail
- Employees are not permitted to read or respond to text messages and emails while driving
- If it is necessary for an employee to make an emergency call (911), the employee must park the vehicle in a safe location before making the call

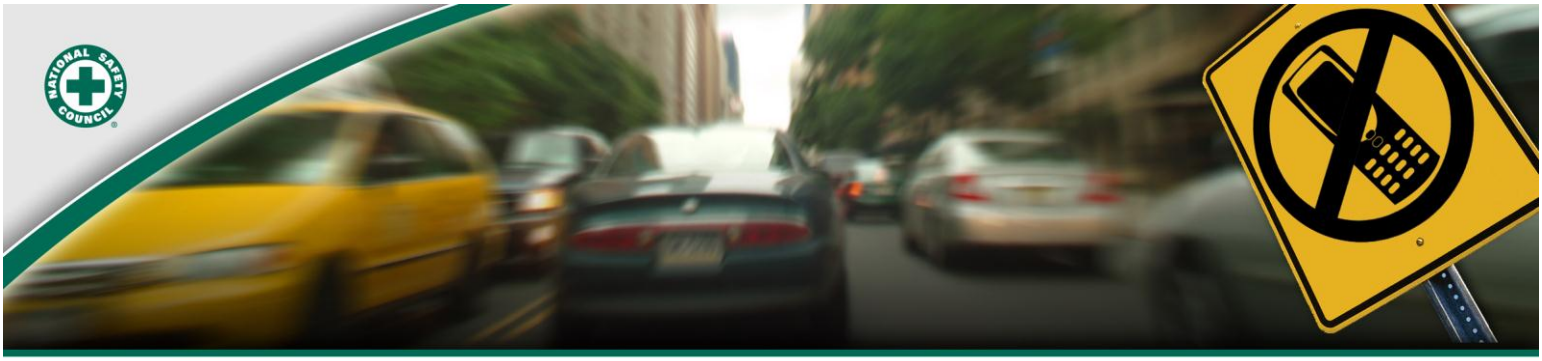
What are the risks?

Three types of driver distraction are:

- Visual – eyes on road
- Mechanical – hands on wheel
- Cognitive – mind on driving

Cell phones are unique from other forms of driver distraction because they usually involve all three forms of distraction. Many people tend to focus on visual and mechanical distractions. However, cognitive distraction is very risky because people do not always recognize they are cognitively

The NSC Cell Phone Policy Kit is made possible through generous donations from NSC employees.



distracted and this distraction lasts much longer than the other two types. There is a false perception that hands-free phones are safer than handheld. But research has found no safety benefits to hands-free phones.

Specific risks faced by drivers talking on cell phones include:

- Four times as likely to be in crashes resulting in injury or property damage
- More likely to commit driver errors and traffic violations
- Slower reaction time than drivers impaired at .08 blood alcohol level
- Looking but failing to see up to 50 percent of the driving environment
- Cognitive impairment – more than one-third of the brain's processing resources are drawn away from driving tasks

How do cell phones compare to other driver distractions?

Talking on cell phones may not be the riskiest thing we do in our cars. But many other distractions are rare and/or occur for very short lengths of time. Cell phone conversations are common and can be lengthy.

Talking with passengers does not increase crash risk in the way that talking on a cell phone does. Adult passengers actually lower the crash risk and add a safety benefit to adult drivers. Passengers share awareness of the driving environment and can serve as “co-pilots.” People on the other end of cell phone conversations cannot provide this safety benefit or moderate their conversation when the driver faces a challenging traffic situation.

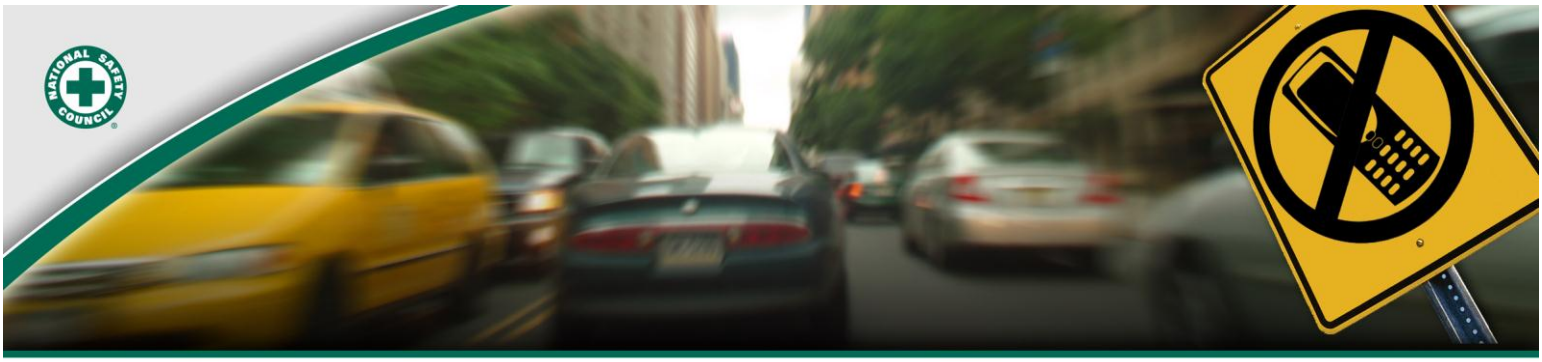
What are the implications for employers?

Two major implications are the safety of employees and employer liability. Allowing employees to conduct business on cell phones while driving is to allow a four times increase in crash risk. Even higher risks are associated with text messaging and emailing while driving.

Jury awards and settlements in recent years have included amounts $21.6 million, $18 million, $16.1 million, $5.2 million and $2 million. Scenarios included a mix of business and personal time, and company- and personal-owned phones and vehicles. Policies should be designed to protect employees and employers in all possible scenarios.

A 2010 national survey conducted by NHTSA estimates 10 percent of drivers read incoming email or text messages while driving, and 6 percent send email or text messages. Ten and 6 percent does not sound like a large number, but if a company employs 20,000 people that means 1,200-2,000 employees send or read text or email messages while driving. That is a significant number of employees exposed to very high crash risk. Drivers who text are 8 to 23 times as likely to crash.

The NSC Cell Phone Policy Kit is made possible through generous donations from NSC employees.



What solutions are available to employers?

Even when people know the risks, voluntary compliance is very difficult. Education alone is not an effective solution. Safety, human resource and employment law experts recommend employers implement and enforce policies banning cell phone use while driving that include:

- Clear policy language
- Documented training and employee communication
- A requirement that employees read and sign the policy
- Disciplinary action with firm enforcement

Although not a shield from lawsuits, strictly enforced policies can help reduce risk of crashes, injuries and costly outcomes.

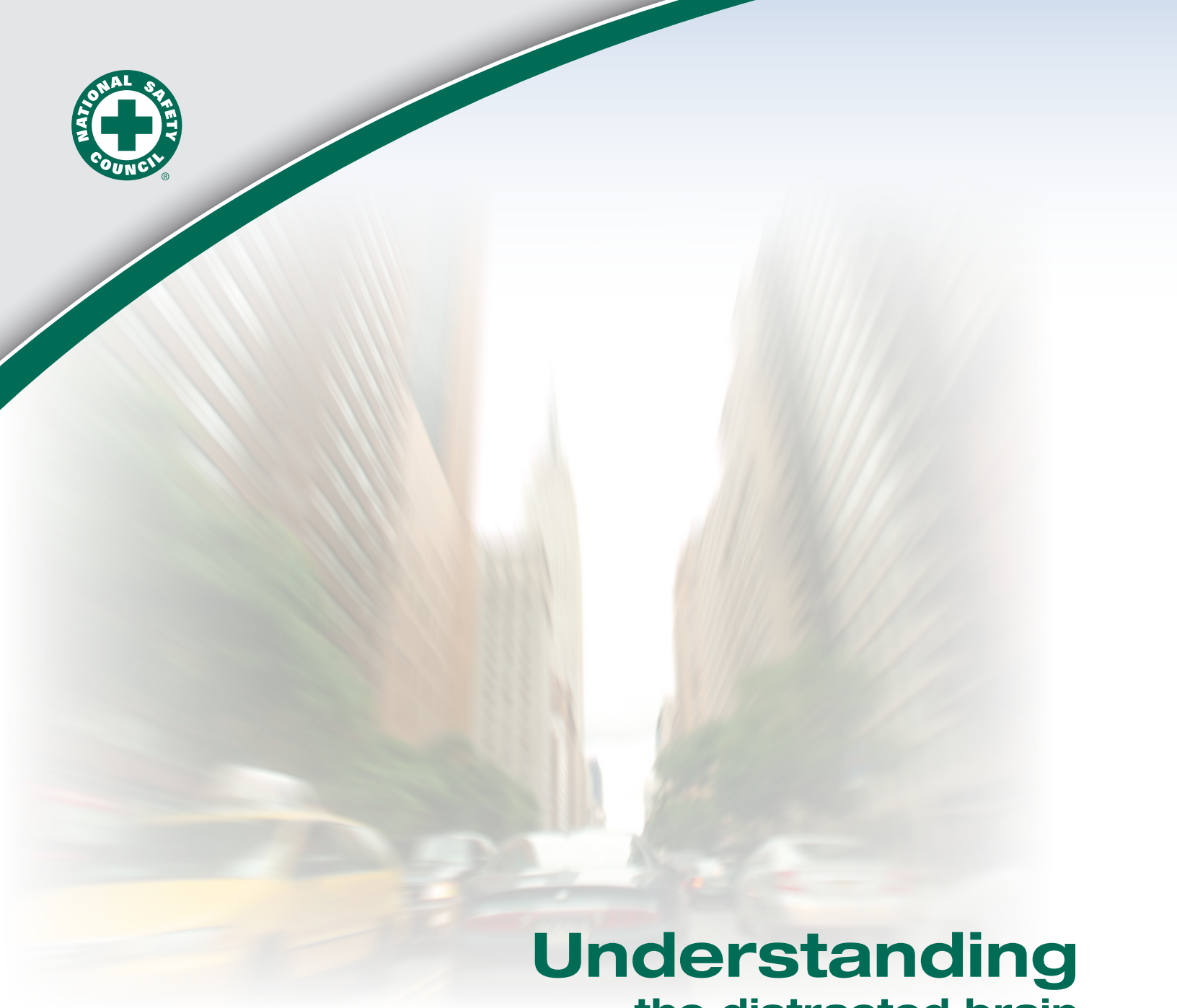
Among 2,000 National Safety Council members surveyed in 2009:

- 23.3 percent already ban both handheld and hands-free phone use while driving
- Of members without policies, 36.1 percent planned to create a policy within the next 12 months

Although productivity and employee accessibility is an initial concern of many, National Safety Council members and others have found employees were motivated to develop solutions to maintain productivity. Of 469 National Safety Council members with total cell phone ban policies, only seven companies (1.5 percent) reported a decrease in employee productivity.

Currently, no state law addresses both hands-free and handheld phone use among all drivers for both talking and text messaging. Because no state law provides optimum prevention, NSC recommends employer policies exceed state law requirements. Technology should also be considered as a solution to prevent cell phone use while driving, making it easier for employees to comply with policies and laws.

The NSC Cell Phone Policy Kit is made possible through generous donations from NSC employees.



Understanding
the distracted brain

WHY DRIVING WHILE USING HANDS-FREE CELL PHONES IS RISKY BEHAVIOR

National Safety Council

White Paper
April 2012

making our world safer®

distracteddriving.nsc.org

Summary

In January 2004, at 4:00 p.m., in Grand Rapids, Michigan, a 20-year-old woman ran a red light while talking on a cell phone. The driver's vehicle slammed into another vehicle crossing with the green light directly in front of her. The vehicle she hit was not the first car through the intersection, it was the third or fourth. The police investigation determined the driver never touched her brakes and was traveling 48 mph when she hit the other vehicle. The crash cost the life of a 12-year-old boy. Witnesses told investigators that the driver was not looking down, not dialing the phone, or texting. She was observed looking straight out the windshield talking on her cell phone as she sped past four cars and a school bus stopped in the other south bound lane of traffic. Researchers have called this crash a classic case of inattention blindness caused by the cognitive distraction of a cell phone conversation.

Vision is the most important sense for safe driving. Yet, drivers using hands-free phones (and those using handheld phones) have a tendency to "look at" but not "see" objects. Estimates indicate that drivers using cell phones look but fail to see up to 50 percent of the information in their driving environment.[1] Distracted drivers experience what researchers call inattention blindness, similar to that of tunnel vision. Drivers are looking out the windshield, but they do not process everything in the roadway environment that they must know to effectively monitor their surroundings, seek and identify potential hazards, and respond to unexpected situations.[2]

Today there are more than 320 million wireless connections in the U.S. And although public sentiment appears to be turning against cell phone use while driving, many admit they regularly talk or text while driving. The National Highway Traffic Safety Administration estimates that nine percent of all drivers at any given time are using cell phones, and the National Safety Council estimates about one in four motor vehicle crashes involve cell phone use at the time of the crash.

Cell phone distracted driving has become a serious public health threat. A few states have passed legislation making it illegal to use a handheld cell phone while driving. These laws give the false impression that using a hands-free phone is safe.

The driver responsible for the above crash was on the phone with her church where she volunteered with children the age of the young boy who lost his life as the result of her phone call. She pled guilty to negligent homicide and the lives of two families were terribly and permanently altered. Countless numbers of similar crashes continue everyday.

This paper will take an in-depth look at why hands-free cell phone use while driving is dangerous. It is intended that this information will provide background and context for lawmakers and employers considering legislation and policies.

CONTENTS

The distracted driving problem

Motor vehicle crashes are among the top two causes of injury death throughout a person's lifetime.[3] They also are the No. 1 cause of work-related death.[4] Annually, more U.S. soldiers are killed in crashes in privately-owned vehicles than all other Army ground casualties combined.[5]

Each year since 1994, between 32,800 and 43,500 people have been killed in motor vehicle crashes.[6] That's more than 737,000 lives lost during these years. It includes people inside and outside of vehicles, as well as motorcyclists, bicyclists and pedestrians who were struck by vehicles. There are activities people tend to think are riskier than driving, such as flying in an airplane, but consider this: The lives lost on U.S. roadways each year are equivalent to the lives that would be lost from a 100-passenger jet crashing every day of the year.

In addition to the thousands of fatalities, many more people suffer serious life-changing injuries in motor vehicle crashes. More than 2.2 million injuries resulted from vehicle crashes in 2010.[7]

To reduce this toll, prevention must focus on the top factors associated with crashes. Driver distractions have joined alcohol and speeding as leading factors in fatal and serious injury crashes. The National Safety Council estimates 21 percent of all crashes in 2010 involved talking on cell phones – accounting for 1.1 million crashes that year. A minimum of three percent of crashes are estimated to involve texting.[8]

Cell phone use has grown dramatically over the past 15 years. In 1996, cell phone subscriptions covered only 14 percent of the U.S. population; by 2011, that had grown to 102.4 percent.[9]

The National Highway Traffic Safety Administration estimates that at any point during the day, nine percent of drivers are using cell phones.[10] More than two-thirds of respondents to a AAA Foundation for Traffic Safety survey reported talking on cell phones while driving during the previous 30 days.[11] Nearly one in three admitted they engaged in this behavior fairly often or regularly.

Because text messaging has grown dramatically – an almost 10,000-fold increase in 10 years – and because there is already near-public consensus that it's a serious driving safety risk, texting receives a great deal of attention. More than one-third of people admitted to reading a text or email while driving in the past 30 days, and more than one-quarter admitted to sending a text or email.[12] Although texting is clearly a serious distraction, NSC data show drivers talking on cell phones are involved in more crashes. More people are talking on cell phones while driving more often, and for greater lengths of time, than they are texting. Thus, in 2010, an estimated minimum of 160,000 crashes involved texting or emailing, versus 1.1 million crashes involving talking on cell phones.[13]

Cell phone distracted driving has captured the attention of nation's political leaders and employers and they are taking action:

- In December 2011, the National Transportation Safety Board recommended that all 50 states and the District of Columbia enact complete bans of all portable electronic devices for all drivers – including banning use of hands-free devices.[14]
- While no state yet prohibits all drivers from any cell phone use, as of March 2012, 31 states prohibit teen drivers from any cell phone use, including handheld and hands-free.[15]
- The Federal Government has taken action. President Barack Obama issued an Executive Order banning federal employees from texting while driving.[16] Rules about employee use of cell phones while driving have been issued by the Occupational Safety and Health Administration, Federal Motor Carrier Safety Administration and Federal Railroad Administration.
- A National Safety Council membership survey showed employers of all sizes, sectors and industries are implementing employee policies banning talking and texting while driving.[17]
- Public opinion polls show a majority of the public support these efforts.[18]

Distractions now join alcohol and speeding as leading factors in fatal and serious injury crashes.

But there's a troubling common thread to these prevention efforts:

- Nearly all legislation focuses on banning only handheld phones or only texting while driving.
- All state laws and many employer policies allow hands-free cell phone use.
- Public opinion polls show people recognize the risks of talking on handheld phones and texting more than they recognize the risks of hands-free phones.[19]
- Many drivers mistakenly believe talking on a hands-free cell phone is safer than handheld.[20]

A hands-free device most often is a headset that communicates via wire or wireless with a phone, or a factory-installed or aftermarket feature built into vehicles that often includes voice recognition. Many hands-free devices allow voice-activated dialing and operation.

Hands-free devices often are seen as a solution to the risks of driver distraction because they help eliminate two obvious risks – visual, looking away from the road and manual, removing your hands off of the steering wheel. However, a third type of distraction can occur when using cell phones while driving – cognitive, taking your mind off the road.

Hands-free devices do not eliminate cognitive distraction.

The amount of exposure to each risk is key. Crashes are a function of the severity of each risk and how often the risk occurs. Most people can recognize when they are visually or mechanically distracted and seek to disengage from these activities as quickly as possible. However, people typically do not realize when they are cognitively distracted, such as taking part in a phone conversation; therefore, the risk lasts much, much longer. This likely explains why researchers have not been able to find a safety benefit to hands-free phone conversations.

The National Safety Council has compiled more than 30 research studies and reports by scientists around the world that used a variety of research methods, to compare driver performance with handheld and hands-free phones. All of these studies show hands-free phones offer no safety benefit when driving (Appendix A). Conversation occurs on both handheld and hands-free phones. The cognitive distraction from paying attention to conversation – from listening and responding to a disembodied voice – contributes to numerous driving impairments. Specific driving risks are discussed in detail later in this paper. First, let us look at why hands-free and handheld cell phone conversations can impair your driving ability.

Hands-free devices offer no safety benefit when driving.

Hands-free devices do not eliminate cognitive distraction.

Multitasking: A brain drain

This section provides the foundation to understand the full impact of driving while engaging in cell phone conversations on both handheld and hands-free phones. It explains how cognitively complex it is to talk on the phone and drive a vehicle at the same time, and why this drains the brain's resources.

Multitasking is valued in today's culture, and our drive for increased productivity makes it tempting to use cell phones while behind the wheel. People often think they are effectively accomplishing two tasks at the same time. And yes, they may complete a phone conversation while they drive and arrive at their destination without incident, thus accomplishing two tasks during the same time frame. However, there are two truths to this common belief.

1. People actually did not "multitask."
2. People did not accomplish both tasks with optimal focus and effectiveness.

Multitasking is a myth. Human brains do not perform two tasks at the same time. Instead, the brain handles tasks sequentially, switching between one task and another. Brains can juggle tasks very rapidly, which leads us to erroneously believe we are doing two tasks at the same time. In reality, the brain is switching attention between tasks – performing only one task at a time.

In addition to "attention switching," the brain engages in a constant process to deal with the information it receives:

1. **Select** the information the brain will attend to
2. **Process** the information
3. **Encode,** a stage that creates memory
4. **Store** the information.

Depending on the type of information, different neural pathways and different areas of the brain are engaged. Therefore, the brain must communicate across its pathways.

Furthermore, the brain must go through two more cognitive functions before it can act on saved information. It must:

5. **Retrieve** stored information
6. **Execute** or act on the information.[21]

When the brain is overloaded, all of these steps are affected. But people may not realize this challenge within their brains (see below).

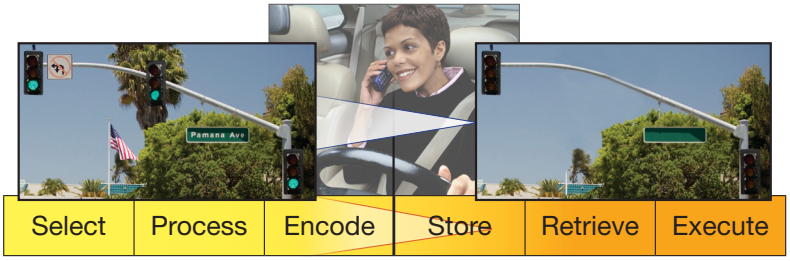


Figure 1. Inattention blindness and encoding. Source: National Safety Council

Why do drivers miss important driving cues?

Everything people see, hear, feel taste or think – all sensory information – must be committed to short-term memory before it can be acted on. Short-term memory can hold basic information for a few seconds. However, to get even very basic information into short-term memory, the brain goes through three stages to prioritize and process information. The first stage is called "encoding."

Encoding is the step in which the brain selects what to pay attention to. Encoding is negatively affected by distractions and divided attention. During this first stage, the brain will "screen out" information as a way to deal with distraction overload (Figure 1).

All human brains have limited capacity for attention. When there is too much information, the brain must decide what information is selected for encoding. Some decision processes are conscious and within a person's "control," while other decisions are unconscious so we're not aware of them. Therefore, people do not have control over what information the brain processes and what information it filters out.

For example, a person who is talking on a cell phone while driving has a brain that's dealing with divided attention. The brain is overloaded by all the information coming in. To handle this overload, the driver's brain will not encode and store all of the information.[22, 23]

Some information is prioritized for attention and possible action, while some is filtered out. The driver may not be consciously aware of which critical roadway information is being filtered out.

Performance is impaired when filtered information is not encoded into working short-term memory.[24] The brain doesn't process critical information and alert the driver to potentially hazardous situations. This is why people miss critical warnings of navigation and safety hazards when engaged in cell phone conversations while driving.

Multitasking: A brain drain (cont.)

The brain not only juggles tasks, it also juggles focus and attention. When people attempt to perform two cognitively complex tasks such as driving and talking on a phone, the brain shifts its focus (people develop "inattention blindness") (page 9). Important information falls out of view and is not processed by the brain. For example, drivers may not see a red light. Because this is a process people are not aware of, it's virtually impossible for people to realize they are mentally taking on too much.

When we look at a view before us – whether we are in an office, restaurant or hospital, at the beach, or driving in a vehicle – we believe we are aware of everything in our surroundings. However, this is not the case. Very little information actually receives full analysis by our brains. Research shows we are blind to many changes that happen in scenery around us, unless we pay close and conscious attention to specific details, giving them full analysis to get transferred into our working memory.[25]

Brain researchers have identified "reaction-time switching costs,"[26] which is a measurable time when the brain is switching its attention and focus from one task to another. Research studying the impact of talking on cell phones while driving has identified slowed reaction time to potential hazards are tangible, measurable and risky (page 10). Longer reaction time is an outcome of the brain switching focus. This impacts driving performance.

The cost of switching could be a few tenths of a second per switch. When the brain switches repeatedly between tasks, these costs add up.[27]

Even small amounts of time spent switching can lead to significant risks from delayed reaction and braking time. For example, if a vehicle is traveling 40 mph, it goes 120 feet before stopping. This equals eight car lengths (an average car length is 15 feet). A fraction-of-a-second delay would make the car travel several additional car lengths. When a driver needs to react immediately, there is no margin for error.

Brains may face a "bottleneck" in which different regions of the brain must pull from a shared and limited resource for seemingly unrelated tasks, constraining the mental resources available for the tasks.[28, 29] Research has identified that even when different cognitive tasks draw on two different regions of the brain, we still can have performance problems when trying to do dual tasks at the same time. This may help explain why talking on cell phones could affect what a driver sees: two usually unrelated activities become interrelated when a person is behind the wheel. These tasks compete for our brain's information processing resources. There are limits to our mental workload.[30]

The workload of information processing can bring risks when unexpected driving hazards arise.[31] Under most driving conditions, drivers are performing well-practiced, automatic driving tasks. For example, without thinking about it much, drivers slow down when they see yellow or red lights, and activate turn signals when intending to make a turn or lane change. These are automatic tasks for experienced drivers. Staying within a lane, noting the speed limit and navigation signs, and checking rear- and side-view mirrors also are automatic tasks for most experienced drivers. People can do these driving tasks safely with an average cognitive workload. During the vast majority of road trips, nothing bad happens, as it should be. But that also can lead people to feel a false sense of security or competency when driving. Drivers may believe they can safely multitask; however, a driver always must be prepared to respond to the unexpected.

Multitasking impairs performance

A driver's response to sudden hazards, such as another driver's behavior, weather conditions, work zones, animals or objects in the roadway, often is the critical factor between a crash and a near-crash. When the brain is experiencing an increased workload, information processing slows and a driver is much less likely to respond to unexpected hazards in time to avoid a crash.

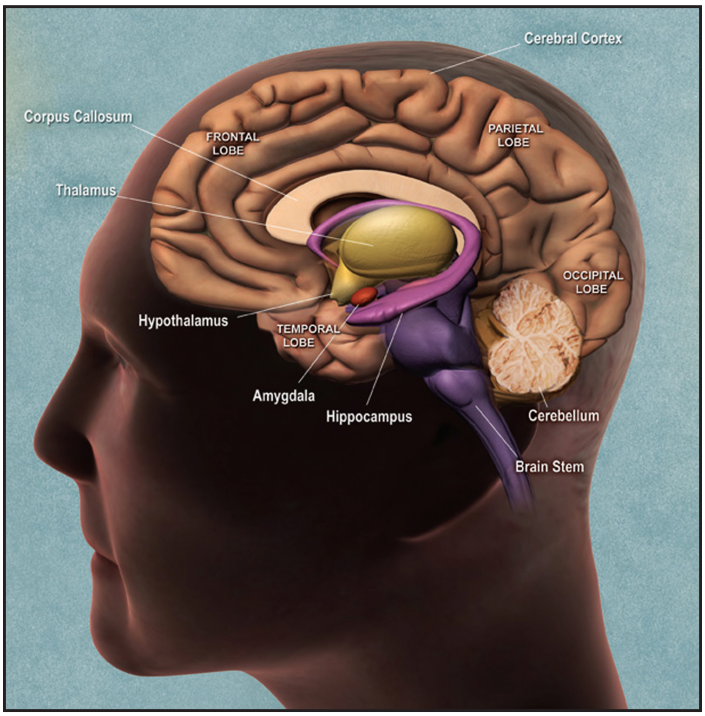


Figure 2. The four lobes of the brain.
Source: National Institutes of Health

The industrial ergonomics field has been able to identify physical workload limits and, in the same way, the workload limits of our brains now are being identified. The challenge to the general public is the bottlenecks and limits of the brain are more difficult to feel and literally see than physical limits.

Multitasking Impairs Performance

We can safely walk while chewing gum in a city crowded with motor vehicles and other hazards. That is because one of those tasks – chewing gum – is not a cognitively demanding task.

When chewing gum and talking, people still are able to visually scan the environment for potential hazards:

- Light poles along the sidewalk
- Boxes suddenly pushed out a doorway at ground level before the delivery man emerges
- Moving vehicles hidden by parked vehicles
- Small dog on a leash
- Uneven sidewalk

People do not perform as well when trying to perform two attention-demanding tasks at the same time.[32] Research shows even pedestrians don't effectively monitor their environment for safety while talking on cell phones.[33-35] The challenge is managing two tasks demanding our cognitive attention.

Certainly most would agree that driving a vehicle involves a more complex set of tasks than walking.

What are primary and secondary tasks? What happens when people switch attention between them?

When people perform two tasks at the same time, one is a primary task and the other a secondary task. One task gets full focus (primary) and the other moves to a back burner (secondary). People can move back and forth between primary and secondary tasks.

Secondary, or back-burner status, doesn't mean people are ignoring the task. When a person stands before a stovetop full of pots, all pots and burners can be monitored at the same time. But one pot is getting primary attention, such as a front pot being stirred. While stirring the right front pot, the person sees the covered left back burner pot begin to boil and bubble over. Quickly, the person must remove the hot lid, remembering to grab a potholder first. The person also must keep his or her hand away from steam as the lid is lifted. It is difficult to continue evenly stirring the right front pot while switching attention and attending to the back burner pot. A person may or may not be aware that the stirring pattern has changed in the front pot, which was supposed to be the primary task getting full attention. Or a person may have even put the spoon down, knowing he or she can't do two potentially harmful tasks at one time and stay safe.

Certainly, driving a vehicle is a more cognitively complex activity than cooking. The human brain does the same switching between primary and secondary tasks when a person is driving a vehicle (primary task) while talking on a handheld or hands-free cell phone (secondary task).

Should driving a vehicle ever be a "back burner" task?

Multitasking impairs performance (cont.)

The brain is behind all tasks needed for driving: visual, auditory, manual and cognitive. Recent developments in functional magnetic resonance imaging (fMRI) now allow researchers to see the brain's reactions to specific challenges and tasks.

A Carnegie Mellon University study produced fMRI pictures of the brain while study participants drove on a simulator and listened to spoken sentences they were asked to judge as true or false.36 The pictures below show that listening to sentences on cell phones decreased activity by 37 percent in the brain's parietal lobe (Figure 2), an area associated with driving. In other words, listening and language comprehension drew cognitive resources away from driving. This area of the brain is important for navigation and the type of spatial processing associated with driving. Because this study involved listening and thinking of an answer and not actual cell phone conversation, the researchers concluded the results may underestimate the distractive impact of cell phone conversation.

The same study also found decreased activity in the area of the brain that processes visual information, the occipital lobe (Figure 2). While listening to sentences on cell phones, drivers had more problems, such as weaving out of their lane and hitting guardrails. This task did not require holding or dialing the phone, and yet driving performance deteriorated. The scientists concluded this study demonstrates there is only so much the brain can do at one time, no matter how different the two tasks are, even if the tasks draw on different areas and neural networks of the brain. The brain has a capacity limit. These fMRI images provide a biological basis of the risks faced by drivers.

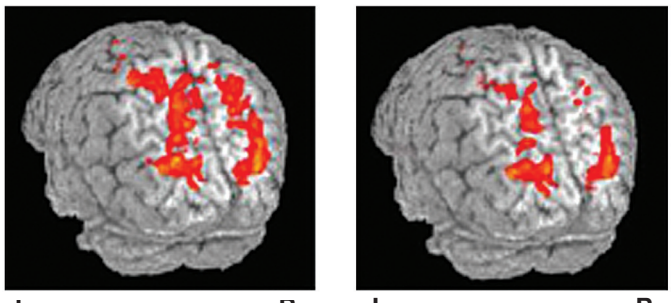


Figure 3. Functional magnetic resonance imaging images. Source: Carnegie Mellon University

How do cell phones differ from talking to passengers or listening to music while driving?

While this paper shows the distraction of cell phone conversation, many people understandably wonder how this risk compares to talking with passengers or listening to a radio.

Drivers talking on cell phones make more driving errors than drivers talking with passengers.

Drivers are more likely to drift out of lanes and miss exits than drivers talking with passengers. Why? Adult passengers often actively help drivers by monitoring and discussing traffic.[37] Passengers tend to suppress conversation when driving conditions are demanding.[38, 39] Although some studies found that passengers did not reduce conversation distraction, so research evidence is mixed.[40]

Talking on cell phones has a different social expectation because not responding on a cell phone can be considered rude. In addition, callers cannot see when a driving environment is challenging and cannot suppress conversation in response.[41, 42] Passengers can see the roadway and may moderate the conversation.[43, 44]

Listening to music does not result in lower response time, according to simulator studies. But when the same drivers talk on cell phones, they do have a slower response time. Researchers have concluded that voice communication influenced the allocation of visual attention, while low and moderate volume music did not.[45]

This discussion does not mean that listening to music or talking with passengers is never distracting. Loud music can prevent drivers from hearing emergency sirens, and cognitive processing can lead to a decrement in vehicle control.[46] Some conversations with passengers can be distracting to drivers.[47] Any task that distracts a driver should be avoided.

Driving risks of hands-free and handheld cell phones

We now understand how our brains have difficulty juggling multiple cognitive tasks that demand our attention. Next we will discuss specific risks that cell phone conversations bring to driving, with an overview of crash risks and driver errors most often associated with both hands-free and handheld cell phones.

Inattention Blindness – Vision is the most important sense we use for safe driving. It's the source of the majority of information when driving. Yet, drivers using hands-free and handheld cell phones have a tendency to "look at" but not "see" objects. Estimates indicate drivers using cell phones look at but fail to see up to 50 percent of the information in their driving environment.[48] Cognitive distraction contributes to a withdrawal of attention from the visual scene, where all the information the driver sees is not processed.[49] This may be due to the earlier discussion of how our brains compensate for receiving too much information by not sending some visual information to the working memory. When this happens, drivers are not aware of the filtered information and cannot act on it.

Distracted drivers experience inattention blindness. They are looking out the windshield, but do not process everything in the roadway environment necessary to effectively monitor their surroundings, seek and identify potential hazards, and to respond to unexpected situations. Their field of view narrows.[50] To demonstrate this, Figure 4 is a typical representation of where a driver would look while not using a phone. Figure 5 shows where drivers looked while talking on hands-free cell phones.[51]

Drivers talking on hands-free cell phones are more likely to not see both high and low relevant objects, showing a lack of ability to allocate attention to the most important information.[52] They miss visual cues critical to safety and navigation. They tend to miss exits, go through red lights and stop signs, and miss important navigational signage.[53] Drivers on cell phones are less likely to remember the content of objects they looked at, such as billboards. Drivers not using cell phones were more likely to remember content.[54]

The danger of inattention blindness is that when a driver fails to notice events in the driving environment, either at all or too late, it's impossible to execute a safe response such as a steering maneuver or braking to avoid a crash.[55]

To explore how cell phone use can affect driver visual scanning, Transport Canada's Ergonomics Division tracked the eye movements of drivers using hands-free phones, and again when these drivers were not on the phone. The blue boxes in Figures 4 and 5 show where drivers looked.[56] In addition to looking less at the periphery, drivers using hands-free phones reduced their visual monitoring of instruments and mirrors, and some drivers entirely abandoned those tasks. At intersections, these drivers made fewer glances to traffic lights and to traffic on the right. Some drivers did not even look at traffic signals.[57]

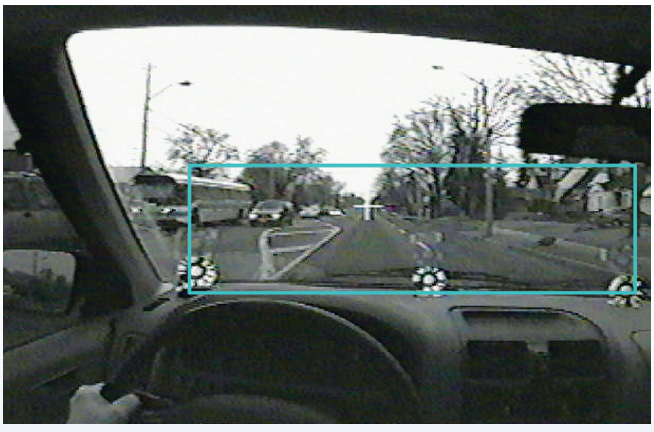


Figure 4. Where drivers not using a hands-free cell phone looked.
Source: Transport Canada

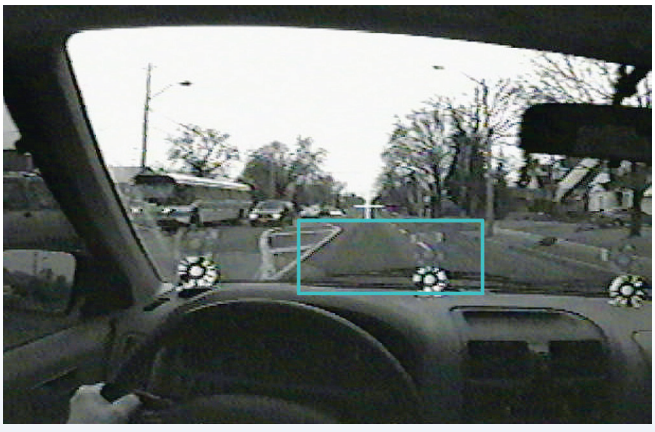


Figure 5. Where drivers using a hands-free cell phone looked.
Source: Transport Canada

Driving risks of hands-free and handheld cell phones (cont.)

Slower Response Time and Reaction Time – Response time includes both reaction time and movement time. Reaction time involves attentional resources and information processing, while movement time is a function of muscle activation. Cell phone use has been documented to affect reaction time.[58]

Due to the "attention switching" costs discussed earlier, it makes sense that driver reactions may be slower when using cell phones. For every information input, the brain must make many decisions: whether to act on information processed, how to act, execute the action and stop the action. While this process may take only a fraction of a second, all of these steps do take time. When driving, fractions of seconds can be the time between a crash or no crash, injury or no injury, life or death.

Numerous studies show delayed response and reaction times when drivers are talking on hands-free and handheld cell phones (Appendix A). Reaction time has shown impairment in a variety of scenarios:

- A University of Utah driving simulator study found drivers using cell phones had slower reaction times than drivers impaired by alcohol at a .08 blood alcohol concentration, the legal intoxication limit.[59] Braking time also was delayed for drivers talking on hands-free and handheld phones.
- Drivers talking on hands-free phones in simulated work zones took longer to reduce their speed when following a slowing vehicle before them and were more likely to brake hard than drivers not on the phone. Many braking scenarios included clues that traffic was going to stop. Side-swipe crashes also were more common. Work zones are challenging environments for all drivers, and rear-end collisions are a leading type of work zone crash, putting workers and vehicle occupants at risk. Driver distraction is a significant contributing factor to work zone crashes.[60]
- Hands-free phone use led to an increase in reaction time to braking vehicles in front of drivers, and reaction time increased more and crashes were more likely as the traffic density increased.[61]
- Testing of rear-end collision warning systems showed significantly longer reaction time during complex hands-free phone conversations.[62]

Drivers in reaction time studies tended to show compensation behaviors by increasing following distance. However, drivers in three studies who attempted to compensate for their reduced attention this way found increased headway often was not adequate to avoid crashing.[63]

Problems Staying in Lane – "Lane keeping" or "tracking" is the driver's ability to maintain the vehicle within a lane. While most cell phone driver performance problems involve significant reaction time impairment, there are minor, less significant costs with lane keeping. It is suggested that lane keeping may depend on different visual resources than responding to hazards by reacting. In addition, avoiding hazards requires drivers to watch for unexpected events, choose an appropriate response and act. This requires information processing and decision-making that is more cognitively demanding than lane keeping tasks, which is more automatic.[64]

Still, when we are driving at roadway and freeway speeds with vehicles spaced less than a few feet from each other in parallel lanes, the margin of error for decision-making and response time to avoid a crash is very small. Perhaps drivers who create a hazard by straying from their lanes must depend on other drivers around them to drive defensively and respond appropriately, and it may be those reacting drivers whose cell phone use should be of concern.

Cell Phone Conversation Brings 4 Times Crash Risk – Beyond the driver performance problems described above in controlled simulator and track studies, increased injury and property damage crashes have been documented. Studies conducted in the United States, Australia and Canada found the same result:

Driving while talking on cell phones – handheld and hands-free – increases risk of injury and property damage crashes fourfold.[65, 66] Research evidence is compelling when studies of varying research designs are conducted in different cultures and driving environments and have similar results.

Recent naturalistic studies[67, 68] have reported a risk of crashing while talking on a cell phone to be significantly less than the fourfold risk found in the above epidemiological studies. This new methodology, although offering great promise in the endeavor to understand what really goes on in a vehicle prior to a crash, has significant limitations, including:

- Very small number of observed crashes.
- The use of "near-crash" data to calculate crash risk.
- Inability to collect all near-crash occurrences.
- Inability to observe or measure cognitive distraction.
- Inability to observe hands-free phone use.

All methodologies have strengths and significant limitations. There is no "gold standard" of research methodology. Each research method provides valuable knowledge. In this case, experimental studies have been used to measure the risks of cognitive distraction, because other methods, particularly naturalistic research methods, cannot effectively measure it. In making decisions about laws, vehicle and roadway improvements, and driver behavior, the entire body of research should always be considered. When doing so, it is clear that the risk of crashing when engaged in a hands-free phone conversation is about 4 times greater than when not using a phone while driving.

Are drivers able to reduce their own risk?

There is evidence that people are aware of distracted driving risks to drivers, in general. In a AAA Foundation for Traffic Safety survey, 83 percent of respondents said drivers using cell phones is a "serious" or "extremely serious" problem. It was rated a serious or extremely serious problem more often than aggressive drivers, excessive speeding and running red lights. Only alcohol-impaired driving was rated as a serious problem by more people.[69] But do these people recognize their own risks of using cell phones while driving? Despite their stated belief in the dangers, more than half of the same survey respondents reported talking on cell phones while driving during the previous 30 days. Seventeen percent admitted this behavior "often" or "very often."

Furthermore, due to how our brains filter information, as discussed earlier, we are never aware of the information that was filtered out. This may add to the lack of awareness of our limitations. Some researchers have studied whether distracted drivers are aware of their decrease in safe driving performance. Findings show distracted drivers may not be aware of the effects of cognitive distraction[70] and using cell phones while they are driving.[71-74] Also, drivers perceived they were safer drivers when using hands-free phones, but actually showed decreased performance while using hands-free phones.[75] One study found drivers who thought the task was easy tended to perform the worst.[76]

It is well-known from many traffic safety issues with a long history of injury prevention strategies – impaired driving, teen driving, speeding, safety belts and child safety seats – that even when people are aware of the risks, they may not easily change behaviors to reduce the risk.

Drivers believe their own crash risk is lower than other drivers.

What are possible prevention steps?

Eliminating driver distraction due to cell phone use faces significant challenges, even beyond combating drivers' desire to be connected and productive. Drivers can help avoid this by informing frequent callers that they will not participate in phone conversations while driving. When facing multiple demands for their cognitive attention, drivers may not be aware they are missing critical visual information, and they may not be aware of the full impact of that oversight. This lack of awareness of the distraction could prolong it. Widespread education is needed about the risks of hands-free devices, conversation and cognitive distraction.

There is a shared responsibility among all involved in cell phone conversations to avoid calling and talking while driving – including drivers, callers and the people that drivers may call. Vehicle manufacturers are including more wireless and voice recognition communications technologies in vehicles, but their impact on distraction has yet to be fully studied. Consumers should consider their exposure to cognitive distraction and increased crash risk while using these in-vehicle technologies.

But even when people are aware of the risks, they tend to believe they are more skilled than other drivers, and many still engage in driving behaviors they know are potentially dangerous. Prevention strategies should consider how people behave in reality, not only how they should behave. We know from other traffic safety issues – impaired driving, safety belts, speeding – that consistent enforcement of laws is the single most important effective strategy in changing behavior. Therefore, prevention strategies that may show the most promise are legislative and corporate policies, coupled with high-visibility enforcement and strict consequences. Technology solutions can go even further by preventing calls and messages from being sent or received by drivers in moving vehicles. To provide safety benefits and provide a positive influence on reducing crashes, injuries and deaths, these efforts – including education, policies, laws and technology – must address the prevention of both handheld and hands-free cell phone use by drivers.

Appendix A
Studies Comparing Hands-Free and Handheld Cell Phones

Authors	Title	Publication/ Organization, Issue, Year	No. of Study Participants	Setting	Phone Task	Road Complexity	Phone Type	Measured Outcomes	Key Findings	Publication Type
Abdel-Aty, M.	Investigating the relationship between cellular phone use and traffic safety	ITE Journal 73 (10) 2003	20	Simulator	Conversation	Low/high	HH, HF	Lane deviation, leaving road, crossing median, disobeying speed limit, crashing, failing to stop, wrong way, and hitting pedestrian	Results show no significant difference between using a hands-free or a handheld cell phone, although both were related to significantly higher error rates than baseline. Lane deviation and crossing the median were significantly more likely to occur than other errors. Crashing and failing to stop were significantly less likely to occur than other errors. Also, distraction-related errors did not end with termination of the phone call. Drivers with higher citation rates and lower levels of experience tended to make more errors while driving and using a phone.	Original research
Alm, H. Nilsson, L.	Changes in driver behaviour as a function of hands-free cell phones – a simulator study	Accident Analysis and Prevention 26 1994	40	Simulator	Information processing	Low/High	HF	Reaction time, lane position, speed level, and workload	Findings show a mobile telephone task negatively affected reaction time and led to reduction of speed level. When drivers had to perform a difficult driving task, findings showed a mobile telephone task had an effect only on the driver's lateral position. The mobile telephone task led to increased workload for both the easy and the dificult driving task.	Original research
Alm, H. Nilsson, L.	The effects of a mobile telephone task on driver behaviour in a car following situation	Accident Analysis and Prevention 27 1995	40	Simulator	Information processing	N/A	HF	Choice reaction time, headway, lateral position, and workload	A mobile telephone task had a negative effect on drivers' choice reaction time, and the effect was more pronounced for elderly drivers. Subjects did not compensate for increased reaction time by increasing their headway during the phone task. The subjects' mental workload, as measured by the NASA-TLX, increased as a function of the mobile telephone task. No effect on the subjects' lateral position could be detected.	Original research
Beede, K.E. Kass, S.J.	Engrossed in conversation: The impact of cell phones on simulated driving performance	Accident Analysis and Prevention 2, 415-421 2006	36	Lab	Cognitive	N/A	HF	Traffic violations (e.g., speeding, running stop signs), driving maintenance (e.g., standard deviation of lane position), attention lapses (e.g., stops at green lights, failure to visually scan for intersection traffic), and response time	Performance was significantly impacted in all four categories when drivers were concurrently talking on a hands-free phone. Performance on the signal detection task was poor and not significantly impacted by the phone task, suggesting that considerably less attention was paid to detecting these peripheral signals. However, the signal detection task did interact with the phone task on measures of average speed, speed variability, attention lapses, and reaction time.	Original research
Brace, C.L. Young, K.L. Regan, M.A.	Analysis of the literature: The use of mobile phones while driving	Monash University Report No. 2007: 35 2007	N/A	N/A	N/A	N/A	N/A	Visual search pattern, reaction time, speed, lateral position, and throttle control	Using a cell phone can distract drivers visually, physically, and cognitively. Distraction caused by talking on a cell phone, regardless of handheld or hands-free application, impairs drivers' ability to maintain appropriate speed, throttle control, and lateral position of the vehicle. It also can impair drivers' visual search patterns, reaction time, and decision-making process.	Literature review

Authors	Title	Publication/ Organization, Issue, Year	No. of Study Participants	Setting	Phone Task	Road Complexity	Phone Type	Measured Outcomes	Key Findings	Publication Type
Brookhuis, K.A. De Vries, G. De Waard, D.	The effects of mobile telephoning on driving performance	Accident Analysis and Prevention 23 1991	12	Field	Information processing	Light/heavy/ city	HH, HF	Lateral position speed, following distance, reaction time, number of mirror glances, and heart rate	Results showed no difference in workload between handheld and hands-free. Both types had a significant decrease in changes in lateral positioning while on the phone. Subjects checked the rearview mirror significantly less often while phoning. Reaction time to brake increased (although not significantly) on the phone. Reaction time to speed variations and heart rate increased significantly. When subjects manually dialed numbers, a substantial effect on steering wheel amplitude was apparent. Distraction is not inhibiting at the operational level, but at the tactical level.	Original research
Caird, J.K. Willness C.R. Steel, P. Scialfa, C.	A meta-analysis of the effects of cell phones on driver performance	Accident Analysis and Prevention 40, 1282-1293 2008	~2,000	N/A	N/A	N/A	N/A	Reaction time, vehicle control, and speed	A comprehensive meta-analytical study of effects of cell phone use on driving performance based on 33 independent inquiries. Handheld and hands-free phones produced similar reaction time decrements. A mean increase in reaction time of .25 seconds was found for all types of phone-related tasks. Drivers using either phone type do not appreciably compensate by giving greater headway or reducing speed.	Meta-analysis
Charlton, S.G.	Distractive effects of cell phone use	Land Transport NZ Report No. 349 2008	119	Simulator	Naturalistic	Low/high	HF	Reaction to hazards	Driving performance suffered during cell phone use when compared to in-car passenger conversations and no-conversation controls in terms of speed, reaction times, and avoidance of road and traffic hazards.	Original research
Cooper, P.J. Zheng, Y. Richard, C. Vavrik, J. Heinrichs, B. Sigmund, G.	The impact of hands-free message reception/ response on driving task performance	Accident Analysis and Prevention 35 2003	41	Field	Information processing	Low/High	HF	Reaction time	The results clearly showed a negative impact of the message task on driver decision-making performance when this involved the more complex tasks of weaving, especially left-turning. These decision-making decrements were exacerbated by adverse pavement surface conditions. Overall effect of the messages on the traffic signal task (long trigger) was to produce a more conservative response among subject drivers. When the driving task moved away from the familiar and towards the more demanding, the effect of the cell message intervention on driver performance changed. In the more critical short-trigger weave situation (short spaces between targets), drivers decelerated less when the messages were playing than they did under the no-message condition. Thus, made significantly less speed adjustment and drove substantially faster through the weave maneuver than they did when not exposed to the messages. The time to collision was shorter (less safe) when subjects were listening/responding to messages. Subjects did not adjust their safety margin to account for the wet road when they were listening and responding to messages as they did when not so engaged.	Original research
Horrey, W.J. Wickens, C.D.	Examining the impact of cell phone conversations on driving using meta-analytic techniques	Human Factors 48(1), 196-205 2006	N/A	N/A	N/A	N/A	N/A	Reaction time and lane keeping	A meta-analytical study based on 23 independent inquiries. Hands-free and handheld phones revealed similar patterns of results for both measures of performance. Conversation tasks tended to show greater costs than information-processing tasks.	Meta-analysis

Authors	Title	Publication/ Organization, Issue, Year	No. of Study Participants	Setting	Phone Task	Road Complexity	Phone Type	Measured Outcomes	Key Findings	Publication Type
Iqbal, S.T. Ju, Y.C. Horvitz, E.	Cars, calls, and cognition: Investigating driving and divided attention	CHI 2010 Paper	18	Simulator	Conversation and information processing	Low/High	HF	Collisions, following instructions, sudden braking, and speed	The collision rate in the driving-while-talking condition was significantly higher than in the no-phone driving condition (baseline). High-complexity road conditions were associated with higher collision rates. Talking on a phone increased the number of missed turns and the frequency of sudden braking. Talking on a phone also led to a decrease in speed. Information retrieval (e.g., answering questions) had the most negative influence on driving performance.	Original research
Ishigami, Y. Klein, R.M.	Is a hands-free phone safer than a handheld phone?	Journal of Safety Research 40, 157–164 2009	N/A	N/A	N/A	N/A	N/A	Speed, lane maintenance, and reaction time	Talking on the phone, regardless of phone type, negatively impacts driving performance, especially in detecting and identifying events. Performance while using a hands-free phone was rarely found to be better than when using a handheld phone. Drivers may compensate for the deleterious effects of cell phone use when using a handheld phone but neglect to do so when using a hands-free phone.	Literature review
Lamble, D. Kauranen, Laakso, Summala	Cognitive load and detection thresholds in car following situations: safety implications for using mobile (cellular) telephones while driving	Accident Analysis and Prevention 31 1999	19	Field	Information processing	Low	Simulated	Reaction time	The results indicated drivers' detection ability in a closing headway situation was impaired by about 0.5 seconds for brake reaction time and almost 1 second for time-to-collision when they were doing a non-visual cognitive task while driving. This impairment was similar to when the same drivers were dividing their visual attention between the road ahead and dialing series of random numbers on a keypad.	Original research
Lui, B.-S. Lee, Y.-H.	Effects of car-phone use and aggressive disposition during critical driving maneuvers	Transportation Research Part F: Traffic Psychology and Behaviour 8, 369-382 2005	12	On-road	Cognitive	Varied	HF	Task performance (response time, correct rate), driving performance, physiological responses, and compensatory behavior	Analysis of task performance revealed a mean correct rate of 90% for addition tests in the laboratory; however, this decreased to 87.5% in city traffic and 75.8% at intersections. The mean (SD) response time for these additional tests was 3.8 (1.9) seconds in the laboratory, 4.5 (1.9) seconds in city traffic, and 5.6 (2.4) seconds at the intersections. These results confirm the notion that the combination of decision making and car-phone communication at signalized intersections increases crash risk. This study examined compensatory behavior as drivers attempt to reduce workload. Driving speed while passing through green lights and simultaneously performing additional tests was 6.4% lower (45.1 km/h) than in normal driving. This indicates drivers adjust their speeds to keep subjective perception of risk levels constant. When they respond to a red light, distraction causes drivers to react later; to compensate, drivers brake harder.	Original research
Lui, B.-S. Lee, Y.-H.	In-vehicle workload assessment: effects of traffic situations and cellular telephone use	Journal of Safety Research 37 (1), 99-105 2006	12	On-road	Cognitive	Varied	HF	Lateral position, speed, task and driving performance, physiological responses, and compensatory behavior	Analysis of task performance revealed mean response time was markedly increased (11.9%) for driving on urban roads compared with motorways. Mean driving speed only decreased 5.8% during phone tasks in comparison to driving without distractions. Overall physiological workload increased through compensatory behavior in response to phone tasks.	Original research

Authors	Title	Publication/ Organization, Issue, Year	No. of Study Participants	Setting	Phone Task	Road Complexity	Phone Type	Measured Outcomes	Key Findings	Publication Type
Matthews, R. Legg, Charlton	The effect of cell phone type on drivers subjective workload during concurrent driving and conversing	Accident Analysis and Prevention 35 2003	13	Field	Conversation	Low	HH, HF	Workload	All phone types resulted in significantly higher ratings of workload than control, including mental demand, physical demand, temporal demand, performance, effort, and frustration. Intelligibility was lower than the handheld phone for the hands-free speaker, but not the hands-free headset. Significant differences were found in physical demands between the handheld and hands-free phones, and frustration between handheld and hands-free speaker versus hands-free headset phones. No significant differences between the phone types were found for mental demand, temporal demand, performance or effort.	Original research
McEvoy, S.P. Stevenson, M. R. McCartt, A. T. Woodward M. Haworth, C. Palamara, P.	Role of mobile phones in motor vehicle crashes resulting in hospital attendance: A case-crossover study	British Medical Journal 331(7514) 2005	456	N/A	N/A	N/A	N/A	Crashes	Mobile phone use during and up to 10 minutes before the estimated time of crash was associated with a fourfold increase in the likelihood of crashing. Similar results were obtained when we analyzed only the interval up to 5 minutes before a crash. Analyses with paired matching to compare the hazard interval to an equivalent single control interval also showed significant associations between mobile phone use and the likelihood of a crash. Sex, age group, or type of mobile phone did not affect the association between phone use and risk of crash. Both handheld and hands-free phone use while driving was associated with a fourfold increased risk.	Original research
Nilsson, L. Alm, H.	Effects of mobile telephone use on elderly drivers' behavior – including comparisons to younger drivers' behavior	VTI, DRIVE Project V1017 (BERTIE) Report No. 53 1991	20	Simulator	Information processing	Low	HF	Reaction time, speed, lateral position, and mental workload	Cell phone conversation had a negative impact on reaction times for both older and younger drivers. Cell phone use was associated with a reduction in speed and increased variation in lateral position.	Original research
Parkes, A.M. Hooijmeijer, V.	Driver situation awareness and carphone use	Proceedings of the 1st Human-Centered Transportation Simulation Conference (U of Iowa) 2001	15	Simulator	Information processing	Low	HF	Tracking and reaction time	Drivers who talked on a hands-free cell phone showed slower reaction time, particularly at the beginning of the conversation, and reduced awareness of surroundings compared with drivers who were not using a cell phone.	Original research
Patten, CJD. Kircher, A. Östlund, J. Nilsson, L.	Using mobile telephones: Cognitive workload and attention resource allocation	Accident Analysis and Prevention 36(3) 2004	40	Field	Information processing	Low	HH, HF	Reaction time	Participants' reaction times to LED increased significantly when conversing, but there was no significant difference between hands-free and handheld units. Increasing the complexity of conversation significantly increased reaction time for both phone types. Accuracy of peripheral detection was significantly lower for both phone types versus baseline. Handheld usage led to lower means speeds while hands-free usage was associated with increases in mean speed.	Original research
Rakauskas, M. Gugerty, L. Ward, N.J.	Effects of cell phone conversations on driving performance with naturalistic conversation	Journal of Safety Research 35, 453-464 2004	24	Simulator	Conversation	Low/high	HF	Workload demand, tracking, and reaction time	Hands-free cell phone use caused participants to have higher variation in accelerator pedal position, drive more slowly with more variation in speed, and report a higher level of workload regardless of conversation difficulty level.	Original research

Authors	Title	Publication/ Organization, Issue, Year	No. of Study Participants	Setting	Phone Task	Road Complexity	Phone Type	Measured Outcomes	Key Findings	Publication Type
Ranney, T. Watson, G. Mazzae, E.N. Papelis, Y.E. Ahmad, O. Wightman, J.R.	Examination of the distraction effects of wireless phone interfaces using the National Advanced Driving Simulator-Preliminary report on freeway pilot study	NHTSA Pre. No. DOT 809 737 2004	12	Simulator	Cognitive	Low/high	HF, HH	Reaction time, lateral position, headway, speed, and time to collision	There were no statistically significant differences between drivers using hands-free and handheld on the driving performance outcome measures. Handheld phone use was associated with fastest dialing times and fewest dialing errors.	Original research
Redelmeier, D.A. Tibshirani, R.J.	Association between cellular-telephone calls and motor vehicle collisions	New England Journal of Medicine 336(7) 1997	699	N/A	N/A	N/A	N/A	Crashes	Cell phone use is associated with an increased risk of property-damage-only collision compared with no cell phone use.	Original research
Rosenbloom, T.	Driving performance while using cell phones: An observational study	Journal of Safety Research 37, 207-212 2006	24	Field	Conversation	Varied	HF	Speed, gap, and self-reported disturbance	There were no statistically significant correlations between drivers' self-reported driving disturbance and actual disturbances in speed and gap keeping, thus they were not aware of their performance decrements. Speed was not significantly different when drivers were on the phone versus not on the phone. However, safe gap keeping diminished significantly when drivers were on the phone.	Original research
Strayer, D.L. Drews, F.A.	Effects of cell phone conversations on younger and older drivers	Proceedings of the Human Factors and Ergonomics Society 47th Annual Meeting pp. 1860-1864 2003	40	Simulator	Conversation	Low	HF	Brake onset time, following distance, speed, and recovery time	Cell phone use in simulated driving slowed braking reaction time by 18 percent, increased following distance by 12 percent, had no impact on speed, and increased speed recovery time by 17 percent compared with driving only.	Original research
Strayer, D.L. Drews, F.A. Johnston, W.A.	Cell phone-induced failures of visual attention during simulated driving	Journal of Experimental Psychology: Applied 9, 23-32 2003	Varied (20-40)	Simulator	Information processing	Low/high	HF	Reaction time	Use of a hands-free cell phone degrades driving performance compared with control conditions. Cell phone conversations increased braking reaction time and impaired both explicit recognition and implicit perceptual memory.	Original research
Strayer, D.L. Drews, F.A.	Profiles in driver distraction: Effects of cell phone conversations on younger and older drivers	Human Factors 46 (4), 640-649 2004	40	Simulator	Naturalistic conversation	Moderate	HF	Reaction time, headway, and speed	Drivers distracted by competing activities (i.e., cell phone conversation) demonstrated poor ability to control their speed and following distance. Cell phone use was associated with a twofold increase in the number of rear-end collisions.	Original research
Strayer, D.L. Drews, F.A. Crouch, D.J.	A comparison of the cell phone driver and the drunk driver	Human Factors 48(2) 2006	40	Simulator	Conversation	Low/high	HFH	Braking response, driving speed, and following distance	Handheld and hands-free cell phone cause similar levels of impairment in driving performance. When drivers were talking on either a handheld or hands-free phone, their braking reactions were delayed and they were involved in more crashes than when they were not talking on a cell phone.	Original research

Authors	Title	Publication/ Organization, Issue, Year	No. of Study Participants	Setting	Phone Task	Road Complexity	Phone Type	Measured Outcomes	Key Findings	Publication Type
Strayer, D.L. Johnston, W.A.	Driven to distraction: Dual-task studies of simulated driving and conversing on a cellular telephone	Psychological Science 12(6) 2001	48	Non-driving	Conversation	N/A	HH, HF	Reaction time and missed signals	Handheld and hands-free both showed significant increases in reaction time, but there were no differences found between decrements for handheld versus hands-free. Probability of missing the simulated traffic signal doubled when subjects were on the phone. Response time slowed significantly for both, but was slower when study subjects were talking than when they were listening. Gender and age did not contribute to differences.	Original research
Törnros, J.E.B. Bolling, A.K.	Mobile phone use – Effects of handheld and handsfree phones on driving performance	Accident Analysis and Prevention 37(5) 2005	48	Simulator	Information processing	Low/high	HF	Peripheral detection, lateral position, and speed	Use of handheld and hands-free phone increased mental workload (peripheral detection), lateral position deviation due to dialing, and decreased lateral position deviation due to talking. Talking on a handheld phone reduced speed (compensatory effect).	Original research
Treffner, P.J. Barrett, R.	Hands-free mobile phone speech while driving degrades coordination and control	Transportation Research Part F7, 229–246 2004	9	On-road	Information processing	Low	HF	Cornering, controlled braking, and obstacle avoidance	While talking on a cell phone, drivers demonstrated brake initiation that was temporally closer to the corner than when not using the phone. During the conversations, drivers had to employ a higher degree of late deceleration, resulting in a harsher style of braking. Under conversation, there was a later onset of mediolateral g-forces, which suggests a delayed or slower anticipatory response under critical conditions such as obstacle avoidance.	Original research
Uno, H Hiramatsu, K.	Effects of auditory distractions on driving behavior during lane change course negotiation: Estimation of spare mental capacity as an index of distraction.	JSAE Review 21, 219-224 2000	16	On-road	Cognitive	Low/high	HF	Speed	Speed control deteriorated when the driver's mental capacity decreased below a certain level (6-7 bits/second) due to an auditory arithmetic task that was communicated via headphones.	Original research
Young, K. Regan, M	Driver distraction: A review of the literature	Australasian College of Road Safety, 379-405 2007	N/A	N/A	N/A	N/A	N/A	Degradations in driving performance	Results showed that although the physical distraction associated with handling the phone can present a significant safety hazard, the cognitive distraction associated with being engaged in a conversation also can have a considerable effect on driving. Indeed, studies have found that conversing on a hands-free phone while driving is no safer than using a handheld phone.	Literature review

References

[1] Strayer, D. L. (2007, February 28). Presentation at Cell Phones and Driver Distraction. Traffic Safety Coalition, Washington DC.
[2] Maples, W. C., DeRosier, W., Hoenes, R., Bendure, R., & Moore S. (2008). The effects of cell phone use on peripheral vision. Optometry – *Journal of the American Optometric Association. 79* (1), 36-42.
[3] Centers for Disease Control, National Center for Injury Prevention and Control. (2012). 10 Leading Causes of Unintentional Injury Deaths, United States 2009.
[4] U.S. Department of Labor, Bureau of Labor Statistics. (2009). National Census of Fatal Occupational Injuries in 2008. Retrieved from http://stats.bls.gov/news.release/pdf/cfoi.pdf
[5] Thompson, M.A., Lyle, C., & Davis, G. (2009). How'd Your Army Do? Fiscal 2008 End-of-Year Review. KNOWLEDGE Official Safety Magazine of the U.S. Army. Vol. 3. Retrieved from https://safety.army.mil/Knowledge_Online/Portals/january2009/Knowledge_January_2009.pdf
[6] National Highway Traffic Safety Administration. (2012). Fatality Analysis Reporting System. Retrieved from http://www-fars.nhtsa.dot.gov/Main/index.aspx.
[7] National Highway Traffic Safety Administration. (2011). 2010 Motor Vehicle Crashes:Overview. Retrieved from http://www-nrd.nhtsa.dot.gov/Pubs/811552.pdf
[8] Kolosh, K. Summary of Estimate Model. (2012). National Safety Council. Retrieved from http://www.nsc.org/news_resources/Resources/Documents/NSC Estimate Summary.pdf
[9] CTIA-The Wireless Association. Retrieved from http://ctia.org/advocacy/research/index.cfm/AID/10323
[10] National Highway Traffic Safety Administration. (2011). Traffic Safety Facts: Driver Electronic Device Use in 2010. Retrieved from http://www.distraction.gov/download/research-pdf/8052_TSF_RN_DriverElectronicDeviceUse_1206111_v4_tag.pdf
[11] AAA Foundation for Traffic Safety. (2011). Traffic Safety Culture Index.
[12] AAA Foundation for Traffic Safety. (2011). Traffic Safety Culture Index.
[13] Kolosh, K. Summary of Estimate Model. (2012). National Safety Council. Retrieved from http://www.nsc.org/news_resources/Resources/Documents/NSC Estimate Summary.pdf
[14] National Transportation Safety Board. (2011, December 13). No call, no text, no update behind the wheel: NTSB calls for nationwide ban on PEDs while driving. Retrieved from http://www.ntsb.gov/news/2011/111213.html
[15] Insurance Institute for Highway Safety, Cell phone and texting laws. Retrieved from http://www.iihs.org/laws/cellphonelaws.aspx
[16] Executive Order 13513 of October 1, 2009. Federal Leadership On Reducing Text Messaging While Driving. (2009, October 6). *Federal Register*.
[17] National Safety Council. NSC Member Survey Results – Employer Cell Phone Policies: No Decrease in Productivity. (2009). Retrieved from http://www.nsc.org/news_resources/Resources/Documents/Employer Cell Phone Policies.pdf
[18] National Safety Council. Public Calls to Reduce Distraction. (2010). Retrieved from http://www.nsc.org/news_resources/Resources/Documents/Public Opinion Fact Sheet.pdf
[19] National Safety Council. Public Calls to Reduce Distraction. (2010). Retrieved from http://www.nsc.org/news_resources/Resources/Documents/Public Opinion Fact Sheet.pdf
[20] AAA Foundation for Traffic Safety. (2008). Cell Phones and Driving: Research Update.
[21] Dzubak, C.M. Multitasking: The good, the bad, and the unknown. (2007). *Association for the Tutoring Profession.* Orlando, FL.
[22] Strayer, D.L., Cooper, J.M., & Drews, F.L. (2004). What Do Drivers Fail to See When Conversing on a Cell Phone? *Proceedings of the Human Factors and Ergonomics Society 48th Annual Meeting.*
[23] McCarley, J.S., Vais, M.J., Pringle, H., Kramer, A.F., Irwin, D.E., & Strayer, D.L. (2004). Conversation disrupts change detection in complex traffic scenes. *The Journal of the Human Factors and Ergonomics Society, 46* (3), 424-436.
[24] Dzubak, C.M. Multitasking: The good, the bad, and the unknown. (2007). *Association for the Tutoring Profession.* Orlando, FL.
[25] Trick, L. M., Enns, J. T., Mills, J., & Vavrik J. (2004). Paying attention behind the wheel: a framework for studying the role of attention and driving. Theoretical Issues in Ergonomics Science, 5 (5), 385-424.
[26] Dzubak, C. M. Multitasking: The good, the bad, and the unknown. (2007). *Association for the Tutoring Profession.* Orlando, FL.
[27] Dzubak, C. M. Multitasking: The good, the bad, and the unknown. (2007). *Association for the Tutoring Profession.* Orlando, FL.

[28] Just, M. A., Carpenter, P. A., Keller, T. A., Emery, L., Zajac, H., & Thulborn, K.R. (2001). Interdependence of nonoverlapping cortical systems in dual cognitive tasks. *NeuroImage*, 14 (2), 417-426.
[29] Dux, P. E., Ivanoff, J., Asplund, C. L., & Marois, R. (2006). Isolation of a central bottleneck of information processing with time-resolved fMRI. *Neuron* 52, 1109-1120.
[30] Wickens, C. D. (2008). Multiple resources and mental workload. *Human Factors*, 50 (3), 449-455.
[31] Horrey, W. J., & Wickens, C. D. (2006). Examining the impact of cell phone conversations on driving using meta-analytic techniques. *Human Factors*, 48 (1), 196-205.
[32] Hallowell, E. M. (2005, January 1). Overloaded circuits: Why smart people underperform. *Harvard Business Review*.
[33] Nasar, J., Hecht, P., & Wener, R. (2008). Mobile telephones, distracted attention, and pedestrian safety. *Accident Analysis and Prevention 40,* (1) 69-75.
[34] Hatfield, J., & Murphy, S. (2007). The effects of mobile phone use on pedestrian crossing behavior at signalised and unsignalised intersections. *Accident Analysis and Prevention, 39* (1), 197-205.
[35] Neider, M.B., McCarley, J.S., Crowell, J.A., Kaczmarski, H., & Kramer, A. F. (2010). Pedestrians, vehicles, and cell phones. *Accident Analysis & Prevention, 42* (2), 589-594.
[36] Just, M. A., Keller, T. A., & Cynkar, J. A. (2008). A decrease in brain activation associated with driving when listening to someone speak. *Brain Research,* 1205, 70-80.
[37] Drews, F. A, Pasupathi, M., & Strayer, D. L. (2008). Passenger and cell phone conversations in simulated driving. *Journal of Experimental Psychology: Applied*, 14 (4), 392-400.
[38] Crundall, D., Bains, M., Chapman, P., & Underwood, G. (2005). Regulating conversation during driving: a problem for mobile telephones? *Transportation Research Part F: Traffic Psychology and Behavior*, *8* (3), 197-211.
[39] Charlton, S. G. (2009). Driving while conversing: Cell phones that distract and passengers who react. *Accident Analysis & Prevention, 41* (1), 160-173.
[40] Horrey, W. J., & Wickens, C. D. (2006). Examining the impact of cell phone conversations on driving using meta-analytic techniques. *Human Factors,* 48, (1), 196-205.
[41] Charlton, S. G. (2009). Driving while conversing: Cell phones that distract and passengers who react. *Accident Analysis & Prevention, 41* (1), 160-173.
[42] Crundall, D., Bains, M., Chapman, P., & Underwood, G. (2005). Regulating conversation during driving: a problem for mobile telephones? *Transportation Research Part F: Traffic Psychology and Behaviour, 8* (3), 197-211.
[43] Drews, F. A., Pasupathi, M., & Strayer, D. L. (2008). Passenger and cell phone conversations in simulated driving. *Journal of Experimental Psychology: Applied, 14* (4), 392-400.
[44] Charlton, S. G. (2009). Driving while conversing: Cell phones that distract and passengers who react. Accident Analysis & Prevention. Volume 41, Issue 1, Pages 160-173.
[45] Bellinger, D. B., Budde, B. M., Machida, M., Richardson, G. B., & Berg, W. P. (2009). The effect of cellular telephone conversation and music listening on response time in braking. *Transportation Research Part F: Traffic Psychology and Behaviour 12* (6), 441-451.
[46] Bellinger, D. B., Budde, B. M., Machida, M., Richardson, G. B., & Berg, W. P. (2009). The effect of cellular telephone conversation and music listening on response time in braking. *Transportation Research Part F: Traffic Psychology and Behaviour 12* (6), 441-451.
[47] Laberge, J., Scialfa, C., White, C., & Caird, J. (2004). Effects of passenger and cellular phone conversations on driver distraction. *Transportation Research Record: Journal of the Transportation Research Board,* No. 1899. TRB, National Research Council:Washington DC, 109-116.
[48] Strayer, D. L. (2007, February 28). Presentation at Cell Phones and Driver Distraction. Traffic Safety Coalition, Washington DC.
[49] Strayer, D. L., Drews, F. A., & Johnston, W. A. (2003). Cell phone induced failures of visual attention during simulated driving. *Journal of Experimental Psychology: Applied, 9*(1), 23-32.
[50] Maples, W. C., DeRosier, W., Hoenes, R., Bendure, R., & Moore S. (2008). The effects of cell phone use on peripheral vision. *Optometry – Journal of the American Optometric Association. 79* (1), 36-42.
[51] Noy, Y. I. *Human Factors Issues Related to Driver Distraction From In-Vehicle Systems.* [PowerPoint slides]. Retrieved from
http://www.safercar.gov/staticfiles/DOT/NHTSA/NRD/Multimedia/PDFs/Crash Avoidance/Driver Distraction/NoyI_ppt.pdf
[52] Strayer, D. L., Cooper, J. M., & Drews, F. L. (2004). What Do Drivers Fail to See When Conversing on a Cell Phone? *Proceedings of the Human Factors and Ergonomics Society 48th Annual Meeting.*
[53] Drews, F. A., Pasupathi, M., & Strayer, D. L. (2008). Passenger and Cell Phone Conversations in Simulated Driving. *Journal of Experimental Psychology: Applied, 14* (4), 392-400.

[54] Strayer, D. L., Drews, F. A., & Johnston, W. A. (2003). Inattention-blindness behind the wheel. *Journal of Vision, 3* (9), 157a.
[55] Wickens, C. D., & Horrey, W. J. (2009). Models of Attention, Distraction, and Highway Hazard Avoidance. In Driver Distraction: Theory, Effects, and Mitigation. Ed. Michael A Regan, John D Lee, Kristie L Young. CRC Press, Taylor & Francis Group: Boca Raton, FL.
[56] Noy, Y. I. *Human Factors Issues Related to Driver Distraction From In-Vehicle Systems.* [PowerPoint slides]. Retrieved from http://www.safercar.gov/staticfiles/DOT/NHTSA/NRD/Multimedia/PDFs/Crash Avoidance/Driver Distraction/NoyI_ppt.pdf
[57] Harbluk, J. L., Noy, Y. I., Trbovich, P. L., & Eizenman, M. (2007). An on-road assessment of cognitive distraction: Impacts on drivers' visual behavior and braking performance. *Accident Analysis and Prevention, 39* (2), 372-378.
[58] Bellinger, D. B., Budde, B. M., Machida, M., Richardson, G. B., & Berg, W. P. (2009). The effect of cellular telephone conversation and music listening on response time in braking. *Transportation Research Part F: Traffic Psychology and Behaviour, 6* (12), 441-451.
[59] Strayer, D. L., Drews, F. A., & Crouch, D. J. (2006). A comparison of the cell phone driver and the drunk driver. *Human Factors, 48* (2), 381-391.
[60] Muttart, J. W., Fisher, D. L., Knodler, M., & Pollatsek, A. (2007). *Driving Simulator Evaluation of Driver Performance during Hands-Free Cell Phone Operation in a Work Zone: Driving without a Clue.* Transportation Research Board 2007 Annual Meeting. Washington, DC.
[61] Strayer, D. L., Drew, F. A., & Johnston, W. A. (2003). Cell-phone induced failures of visual attention during simulated driving. *Journal of Experimental Psychology: Applied, 9,* (1) 23-32.
[62] Mohebbi, R., Gray, R., & Tan, H. Z. (2009). Driver reaction time to tactile and auditory rear-end collision warnings while talking on a cell phone. *Human Factors, 51* (1), 102-110.
[63] Young, K., Regan, M., & Hammer, M. (2003). *Driver Distraction: A Review of the Literature.* Monash University Accident Research Centre. Report No. 206.
[64] Horrey, W. J., & Wickens, C.D. (2006). Examining the impact of cell phone conversations on driving using meta-analytic techniques. *Human Factors, 48* (1), 196-205.
[65] Redelmeier, D.,A., & Tibshirani, R. J. (1997). Association between cellular-telephone calls and motor vehicle collisions, *New England Journal of Medicine, 336* (7), 453-458.
[66] McEvoy, S. P., Stevenson, M. R., McCartt, A. T., Woodward, M., Haworth, C., Palamara, P., & Cercarelli, R. Role of mobile phones in motor vehicle crashes resulting in hospital attendance: a case-crossover study (2005). *BMJ, 331* (7514), 428.
[67] Dingus, T. A., Klauer, S.G., Neale, V. L., Petersen, A., Lee, S. E., Sudweeks, J., et al.. The 100-Car Naturalistic Driving Study Phase II – Results of the 100-Car Field Study. (2006). Retrieved from http://www.nhtsa.dot.gov/staticfiles/DOT/NHTSA/NRD/Multimedia/PDFs/Crash Avoidance/Driver Distraction/100CarMain.pdf
[68] Olson, R. L., Hanowski, R. J., Hickman, J. S., & Bocanegra, J. Driver distraction in commercial vehicle operations. (2009) Retrieved from http://www.fmcsa.dot.gov/facts-research/research-technology/report/FMCSA-RRR-09-042.pdf
[69] AAA Foundation for Traffic Safety. (2008). Cell Phones and Driving: Research Update.
[70] Horrey, W. J., Lesch, M. F., & Garabet, A. J. (2009). Dissociation between driving performance and drivers' subjective estimates of performance and workload in dual-task conditions. *Safety Research 40* (1), 7-12.
[71] Horrey, W.,J., Lesch, M.,F., & Garabet, A. (2008). Assessing the awareness of performance decrements in distracted drivers. *Accident Analysis and Prevention, 40* (2), 675-682.
[72] Lesch, M. F. (2004). Driving performance during concurrent cell-phone use: are drivers aware of their performance decrements? *Accident Analysis and Prevention, 36* (3), 471-80.
[73] Rosenbloom, T. (2006). Driving performance while using cell phones: an observational study. *Journal of Safety Research, 37* (2), 207-212.
[74] Muttart, J. W., Fisher, D. L., Knodler, M., & Pollatsek, A. (2007). *Driving simulator evaluation of driver performance during hands-free cell phone operation in a work zone: Driving without a clue.* Transportation Research Board 2007 Annual Meeting. Washington, DC.
[75] Garabet, A., Horrey, W. J., & Lesch, M. F. (2007). Does exposure to distraction in an experimental setting impact driver perceptions of cell phone ease of use and safety? *Proceedings of the Fourth International Driving Symposium on Human Factors in Driver Assessment, Training, and Vehicle Design,* 387-393.
[76] Muttart, J. W., Fisher, D. L., Knodler, M., & Pollatsek, A. (2007). *Driving simulator evaluation of driver performance during hands-free cell phone operation in a work zone: Driving without a clue.* Transportation Research Board 2007 Annual Meeting. Washington, DC.

0412 000082045

Employer Liability
and the Case for Comprehensive Cell Phone Policies

FROM THE NATIONAL SAFETY COUNCIL
MAY, 2015

making our world safer®

Executive Summary

Cell phones first gained popularity as a business tool in the 1980s when they were called 'car phones.' Early adopters saw the potential in using their time on the road to communicate with anyone, anywhere. Now, research shows that cell phones can significantly impair driving skills. This impairment, combined with the large numbers of drivers using cell phones, significantly increases the risk of crashes.

Companies with strong safety cultures take action by reducing risk in areas that protect their employees and the communities in which they operate. CEOs of leading companies committed to best practices in safety understand that safety is good business.

Banning the use of cell phones while driving is a risk reduction effort. Employers have an obligation to protect their employees and others with whom they share the roads. The best action for employers is to implement a total ban policy that includes handheld and hands-free devices and prohibits all employees from using cell phones while driving. This policy should be reinforced throughout the year with education.

With the cell phone's origin as a corporate productivity tool, the concern that prohibiting its use while driving could affect productivity is understandable. However most employers with total ban cell phone policies report that the policies do not adversely impact productivity. Some even report that productivity improves.

Implementing enforced total ban policies can help protect employees from crashes and injury, and help protect employers from liability. An employer may be held legally accountable for negligent employee actions if the employee was acting within the scope of his or her employment at the time of a crash. The key phrase "acting within the scope of his or her employment" can and has been defined broadly in cases of crashes involving cell phones.

To assist companies with implementing cell phone policies, NSC has a free Cell Phone Policy Kit, available for download at nsc.org/policykit.

Employers can also identify safety loopholes in their policies by using the free NSC Cell Phone Policy Assessment Tool at **nsc.org/policytool**.

A Total Employer Cell Phone Ban Covers:

- ✓ Handheld and hands-free devices
- ✓ All employees
- ✓ All company vehicles
- ✓ All company cell phone devices
- ✓ All work-related communications – even in a personal vehicle or on a personal cell phone

When **tragedy strikes**

. . . Mindy and Peggye should have been safe

The morning of Jan. 25, 2010, was a clear, sunny Texas day. Mindy Ragsdale, a 31-year-old stay-at-home mother of two, and her 82-year-old grandmother, Peggye Woodson, were on their way to Mindy's mother's home. Their sedan was stopped, waiting to make a left turn onto a heavily traveled two-lane rural highway. For 14 seconds prior to the crash, their vehicle should have been in full view of the driver of a cable TV utility pickup truck as it crested a hill and headed toward them with the cruise control set at approximately 70 mph.

But even though the truck's driver had a one-quarter mile visibility, the truck slammed into the rear of Mindy and Peggye's vehicle at full speed with the cruise control still engaged. Mindy and Peggye were killed on impact.

The crash's aftermath and its ripple effect were felt by many people. Mindy and her husband, Jeremy, had known each other a long time, since high school. Mindy's young children, ages 3 and 9, were left without a mother.

In addition to her children, Mindy cared for both sets of grandparents. Peggye's husband of 62 years lost the attention and care of his lifelong partner and had no choice but to leave their family home and live out his remaining days in a nursing home.

All day, every day, millions of vehicles on our roads stop at red lights or make left-hand turns and aren't struck. Mindy and Peggye should have been safe as they waited for traffic to clear. They should have arrived home safely as they had countless times before. So why did this tragedy occur? In the immediate aftermath of the collision, the truck's driver told an emergency medical technician that he had been texting prior to the crash. The driver was employed by a cable company, and the truck was owned by that corporation. For the driver and the cable company, this was only the beginning of the story.

Mindy Ragsdale
31, mom of 2

Mindy and her husband, Jeremy, had known each other a long time, since high school. Mindy's young children, ages 3 and 9, were left without a mother. In addition to her children, Mindy cared for both sets of grandparents.

Peggye Woodson
82, wife and grandmother

Peggye's husband of 62 years lost the attention and care of his lifelong partner and had no choice but to leave their family home and live out his remaining days in a nursing home.

Cell phones and crash risk

In 2010, the year of Mindy and Peggye's crash, motor vehicle crashes killed nearly 33,000 people in the United States.[1] Motor vehicle crashes are the No. 1 cause of work-related deaths and account for 24% of all fatal occupational injuries.[2] On-the-job crashes are costly to employers, incurring costs of more than $24,500 per property damage crash and $150,000 per injury crash.[3]

Driver distraction is a significant factor in crashes, and cell phones have played an increasing role as cell phone use has grown rapidly in the past 15 years, from a small percentage of the population using cell phones to virtually everyone. Today there are more U.S. cell phone subscriptions than there are people living in the United States.[4]

The National Safety Council estimates that at least 27% of crashes in 2013 involved drivers using cell phones, including 1.2 million crashes where drivers were talking on cell phones and a minimum of 341,000 crashes where drivers were texting.[5] These estimates include property damage, injury and fatal crashes.

Several research studies found that the risk of a crash is four times as likely when a person is using a cell phone – handheld or hands-free.[6] [7] Cell phone distraction involves all types of driver distractions: visual, manual and cognitive. More than 30 research studies have found that hands-free devices offer no safety benefit, because hands-free devices do not eliminate the cognitive distraction of conversation.[8]

What does this mean for employers?

Employees who use their cell phones while driving expose themselves to a significant safety risk that they are seemingly willing to accept. This risk applies to all employees, not just commercial drivers or other employees whose work involves driving, such as field salespeople or service technicians. A recent National Highway Traffic Safety Administration survey found that drivers cite work-related communications as a reason to use phones while driving.

Employers who expect employees to use cell phones while driving as part of their business must recognize that doing so exposes their employees to preventable crash risk. Consider a situation in which an employer knew a behavior in some area of its operations exposed employees to a four times greater risk of injury. Would employers still expect or even encourage that behavior? That is precisely what happens when an employer permits or even encourages employee cell phone use while driving.

With the intense publicity surrounding cell phone distracted driving in recent years, it would be difficult for employers and employees to argue that they're not aware of the dangers. Beyond the safety issues, employers are now being held to legal responsibility.

Rules, regulations and laws

Following the law isn't enough

Employers are responsible for ensuring their employees adhere to applicable federal agency regulations and federal, state and municipal laws. However, what is often not understood is that these regulations and laws are a minimum requirement and may not be enough to keep people safe. (See Appendix A for a list of federal agency rules, state laws and municipal ordinances with which drivers and their employers must comply regarding cell phones and operation of vehicles.)

The NTSB recommendation

In addition to the list of regulations and laws in Appendix A requiring compliance, the National Transportation Safety Board recently issued the following recommendation:

In December 2011, NTSB recommended that all 50 states and the District of Columbia enact complete bans of all portable electronic devices for all drivers – including banning use of hands-free devices.[9]

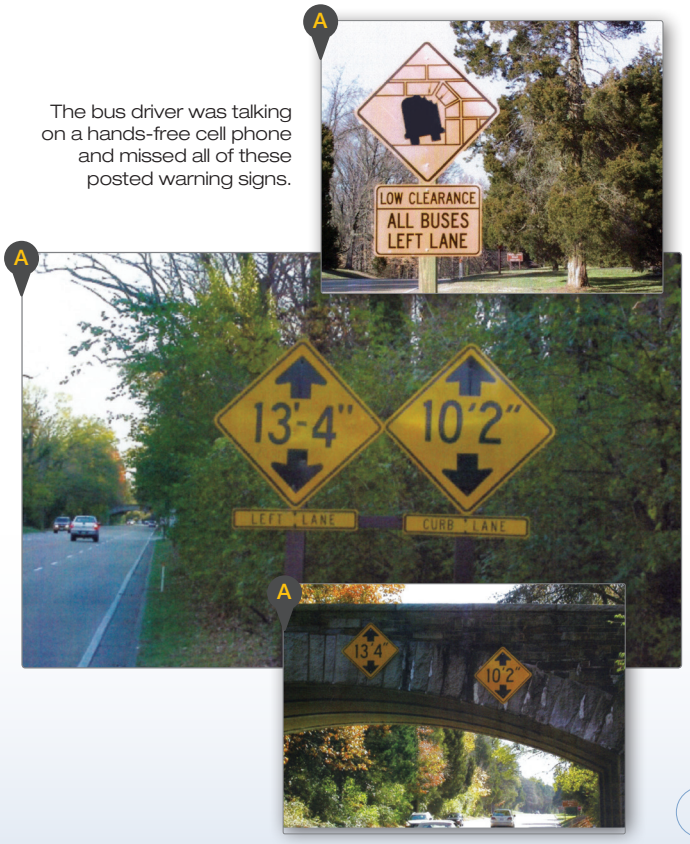
This recommendation follows their total ban recommendation for commercial drivers in October, 2011. These recommendations are based on NTSB investigations of serious and fatal crashes that found driver or operator cell phone use was a factor in the crashes. Here are a few incidents:

A On Nov. 14, 2004, a private tour bus struck a bridge on the George Washington Memorial Parkway in Alexandria, VA. The crash destroyed the motorcoach's roof and injured 11 students, one seriously. The bus driver was talking on a hands-free cell phone at the time of the crash. The driver had passed warning signs indicating that the right lane was nearly two feet too low for the height of the bus to pass under the bridge. The driver, who had traveled this same route only about a week earlier, said he did not see the warning signs or the bridge itself before impact. NTSB concluded that the bus driver's cognitive distraction resulting from a hands-free cell phone conversation was the probable cause* of the crash.[10]

** Often, numerous driver, vehicle, roadway and other factors contribute to a crash. NTSB identifies probable causes and contributing factors of crashes.*

A

A



The bus driver was talking on a hands-free cell phone and missed all of these posted warning signs.

Photos courtesy of NTSB and used with permission.

B In March 26, 2010, a semitrailer traveling southbound on I-65 near Munfordville, KY, crossed the grass median and entered the northbound lanes where it was struck by a 15-passenger van. The crash killed 11 people. NTSB determined the probable cause of the crash was the truck driver's failure to maintain control of his vehicle because he was distracted by the use of his cell phone.[11]

C On July 7, 2010, a barge being towed by a tugboat ran over a tour boat in the Delaware River in Philadelphia. The NTSB investigation revealed that the mate operating the tugboat was inattentive to his navigation duties because he was distracted by repeated cell phone use and a laptop computer as he dealt with a family emergency. Two people in the tour boat were killed and 27 suffered minor injuries.[12]

D On Aug. 5, 2010, traffic slowed before a work zone on I-44 in Gray Summit, MO as vehicles merged from the left lane to the right lane. A truck-tractor with no trailer slowed behind the traffic when it was rear-ended by a pickup truck. This set off a chain of fatal collisions. A school bus carrying 23 passengers struck the pickup truck and came to rest on top of the pickup and the truck-tractor. Moments later, a second school bus in the convoy that was carrying 31 passengers rear-ended the first school bus. Two people were killed and 38 people were injured. NTSB determined that the probable cause of the first collision was distraction due to a text messaging conversation conducted by the pickup driver that resulted in his failing to notice and react to the truck-tractor in front of him.[13]

B

Photos courtesy of NTSB and used with permission.

C

Photo courtesy of NTSB and used with permission.

D

Photo courtesy of NTSB and used with permission.

Employers should set policies that exceed existing rules, regulations and laws

Safety policies and systems in many companies are designed to reduce significant risks and protect employees. Companies whose leaders are committed to safety excellence know that their safety systems and policies often exceed OSHA requirements or state laws, because regulations and laws often prescribe minimum standards, not best-in-class safety. Designing safety policies that only comply with federal rules, regulations or state laws often leave employees vulnerable to injury and companies exposed to liability and financial costs. Cell phone use while driving is, in this way, no different than many other occupational safety issues. Employers can and have been held liable for actions that are actually allowed by federal regulation and individual state laws.

CELL PHONE POLICIES:

Employers can and should design cell phone policies to follow best safety practice, reduce significant risks and minimize liability. Employers should implement cell phone policies which include:*

- ✓ **Handheld and hands-free devices**
- ✓ **All employees**
- ✓ **All company vehicles**
- ✓ **All company cell phone devices**
- ✓ **All work-related communications – even in a personal vehicle or on a personal cell phone**

EMPLOYERS NEED TO:

- ✓ **Educate employees**
- ✓ **Monitor compliance**
- ✓ **Enforce the policy**
- ✓ **Address violations**

** Policies can be extended further to cover volunteers, contractors and vendors; any vehicles driven on corporate property; etc. For example, the National Safety Council extended its total ban policy beyond employees to include the vendors that provide transportation at its conferences. Policies can also be extended to cover additional electronic devices such as computers.*

Employer role to protect employees and reduce liability

As a first step, employers must realize the full extent of their exposure to liability. The legal theory of respondeat superior, or vicarious responsibility, means that an employer may be held legally accountable for negligent employee actions if the employee was acting within the scope of his or her employment at the time of a crash. The key phrase "acting within the scope of his or her employment" can and has been defined broadly in cases of crashes involving cell phones.

To highlight a few:

- A jury found that a driver and the corporation that owned the vehicle were liable for $21.6 million because testimony revealed that the driver may have been talking with her husband on a cell phone at the time of the fatal crash.
- An off-duty police officer was texting moments before a fatal crash and because he was driving a police cruiser, his employer was held liable for $4 million.
- An employee was involved in a fatal crash while making "cold calls" as he drove to a non-business-related event on a Saturday night. The firm did not own the phone or the vehicle, but the plaintiff claimed that the company was liable because it encouraged employees to use their "car phones" and lacked a policy governing safe cell phone use. His firm settled the lawsuit for $500,000.

The lines that we may think exist between employment-related and personal or private life get blurred in some of these cases which involved:

- Cell phones owned by employees as well as employer-provided equipment
- Vehicles that were employee-owned as well as employer-owned or -leased
- Situations where employees were driving during non-working hours or were engaged in personal phone calls

See Appendix B for a list of crashes for which employers were found liable and resulted in large awards or settlements.

Understand what can happen if you are sued

Employers should understand what they may face in today's courtroom climate. We might expect an employer to be held liable for a crash involving a commercial driver's license (CDL) holder who was talking on a cell phone with dispatch about a work-related run at the time of an incident – especially if the employer had processes or a workplace culture that made drivers feel compelled to use cell phones while driving.

Attorney Todd Clement, based in Dallas, specializes in trucking and commercial vehicle cases involving catastrophic injuries and death, including cases where employees were involved in crashes while using cell phones. According to Clement, juries are generally motivated to award large verdicts not by sympathy or outrage; rather, large verdicts are returned when the jurors believe that such verdicts make themselves and their children safer. Crashes involving cell phone use appeal to a juror's sense of self-preservation. Public opinion polls show that the majority of people believe it is very dangerous for other drivers to use cell phones while driving. See the results of these polls in Appendix C.

Many people – including those on juries – do not want other drivers to use cell phones, and they most certainly do not want drivers to text. Because much of the public is now well aware of the risks, drivers engaging in distracting behavior are perceived as grossly negligent,* not just ignorant. Juries likewise expect employers to be aware of the risk so that their failure to prevent this dangerous behavior can be seen as grossly negligent. It follows that employers should now be aware of the risks; and thus for them to allow employees to engage in the distracting behavior of texting or talking on a cell phone while driving is also seen as negligent and willful, not just ignorant.

So what happens when an employee driver acts with negligence and the result is serious injury or death? What happens when a driver runs a red light or a stop sign, or crosses the wide median of a freeway, or rear-ends a vehicle at high speed without ever hitting the brakes? Skilled victim's attorneys will investigate the underlying cause of these negligent acts, particularly cell phone use, since these are the circumstances of numerous crashes involving texting or talking on cell phones. The victim's attorneys will then seek large jury verdicts, including punitive damages (where permitted), as a way to send the message to society that people shouldn't take actions that are perceived as threatening to life and limb.

Understand what you may face during legal discovery

A victim's attorney's job is to demonstrate the factors that led to negligence. In cases involving an employee in which any aspect of the crash scenario was workplace-related, a smart lawyer will follow the trail of evidence. This trail will lead not only to the employee, but to the employer as well. This is the legal discovery process. Discovery can uncover:

- Driver cell phone records revealing the amount of time during the workday when the employee is using the phone
- Cell tower records where the calls begin in one location and end in another, thereby proving cell phone use while driving
- Texting records which may even include the actual texts
- Telemetric records which correlate with the phone records to provide an accurate picture of this risky behavior
- Details about the employer's cell phone policy, and the extent of its policy implementation and enforcement

An employer must demonstrate that a policy has been enforced. The policy must be more than words on paper. Further, an employer should not in any way develop a culture where employees feel that they need to use cell phones while driving.

* *Someone is negligent when he or she proceeds with an action despite knowing the risks of the action on the safety of others. This standard can apply not just to individuals and their actions, but also to corporations that know the risks and whether the corporation banned employees from engaging in the risky action.*

Implement and enforce a total ban policy

Employers can never be 100% protected in the event of a lawsuit. However, if employers can show that they implemented a total ban policy, educated employees, monitored compliance and enforced the policy, they will be in a more defensible position than if they had not followed these practices. As Todd Clement describes it, an employer should have an "enforced cell phone policy."

The best practice is to prohibit all employees from using any cell phone device while driving in any vehicle during work hours or for work-related purposes. Regarding off-the-job hours, precedent has been set by lawsuits (see Appendix B). Thus employers may want to extend their policies to cover off-the-job use of company-provided wireless devices, use of personally-owned devices that are reimbursed by the company, and use of devices in company-provided vehicles. All work-related cell phone use while driving should be banned 24/7.

U.S. Department of Transportation regulations include interstate commercial fleets (see Appendix A) but most vehicles – including intrastate operations and passenger vehicles – are not included in these federal rules. Non-commercial drivers such as field sales people and other employees who drive to service calls, meetings, events and job-related errands are exposed to crash risk just as the commercial drivers are. Despite this, some employers exempt operations such as their field sales teams from policies due to productivity concerns. However it may be argued that because of the large number of work-related miles traveled by mobile sales operations compared to other employees, their exposure is higher and thus their crash risk is likely higher. Indeed, several lawsuits described in Appendix B involved serious injury and fatal crashes in which the salesperson's use of a cell phone was a factor.

Cell phone bans are *not* likely to decrease productivity

Productivity concerns are often cited as a common barrier to total ban policies. Companies sometimes want to allow their employees to use hands-free devices so that they can continue communicating with customers and colleagues while driving. This, however, is not a best practice in safety.

Among companies with policies prohibiting both handheld and hands-free devices, productivity decreases are rare:

- In a 2009 survey of 469 National Safety Council members that had implemented total cell phone bans, only 1% reported that productivity decreased.
- In a 2010 survey of Fortune 500 companies that had implemented total cell phone bans, only 7% of respondents said productivity decreased, while 19% thought productivity had actually increased.[14]
- Before AMEC, an international engineering firm with a large professional field force, implemented its total cell phone ban, more than half of employees expected productivity to decrease. But in reality, after employees adjusted to the ban, 96% reported productivity stayed the same or increased.15

As with other policy expectations of employees, they eventually figure out how to eliminate inefficiencies and maintain their productivity and service levels.

Epilogue

In the case of the cable company truck involved in the fatal crash that was described in the Introduction, many recommended corporate cell phone policy practices were not implemented. The field technician driver's phone records showed habitual cell phone use and texting while on the job. Had he been paying full attention to driving, experts testified that there was plenty of time for him to stop safely without hitting the vehicle occupied by Mindy Ragsdale and Peggye Woodson.

Todd Clement was the plaintiff's attorney who investigated the company's safety practices. Part of his strategy was to expose the lack of a strong, enforced cell phone policy as a factor that could have helped prevent the crash. During videotaped depositions, a company executive testified that the company didn't "think that's respectful to our associates or reasonable in this day and age to ban communications," and that the company trusted employees to "have really great judgment" regarding cell phone use while driving. The collision and resulting tragedy showed just how wrong they were.

After a year-long investigation, and two weeks before trial where the victims' families were bringing a wrongful-death lawsuit, the company settled for a confidential amount. The case attracted the type of wide-spread national media attention that is not beneficial to corporate reputations.

We now know from public opinion polls and behavior surveys that despite the public's awareness of the dangers of cell phone distracted driving, for many people this is a difficult behavior to change without the incentive of policies or laws that they know will be enforced. Cell phone use while driving is a significant safety risk.

Companies with strong safety cultures take action by reducing risk in areas that protect their employees and the communities in which they operate. CEOs of leading companies committed to best practices in safety understand that safety is good business.

Banning the use of cell phones while driving clearly is a risk reduction effort. Employers have an obligation to protect their employees and others with whom they share the roads. The time for company leaders to act is now.

The NSC Cell Phone Policy Kit has materials to assist employers with every step of policy implementation:

- ✓ **Building management support to implement a total ban**
- ✓ **Getting employee buy-in to improve compliance**
- ✓ **Educating employees with ready-made promotional pieces**

The kit includes a sample total ban cell phone policy and materials to educate management and employees about the risks of hands-free and handheld phones. The kit is **FREE** and can be downloaded at **nsc.org/policykit.**

Appendix A

Federal rules

FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION AND PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION – These agencies passed a joint rule that prohibits commercial drivers from using handheld mobile phones while operating commercial trucks or buses.[16] The ban includes texting and handheld device dialing and conversation. Federal civil penalties include:

- $2,750 for each offense
- Disqualification from operating commercial vehicles for multiple offenses
- A maximum penalty of $11,000 for commercial truck and bus companies that allow their drivers to use handheld cell phones while driving.

Plus, states can suspend a commercial driver's license after two or more serious traffic violations. This rule applies to about 4 million commercial drivers.

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION – Employers should prohibit any work policy or practice that requires or encourages workers to text while driving, or the employers risk being in violation of the Occupational Safety and Health Act of 1970.[17] Employers violate the OSH Act if they require their employees to text while driving or organize work so that texting is a practical necessity even if not a formal requirement. Workers may file a confidential complaint with OSHA.

PRESIDENTIAL EXECUTIVE ORDER – President Obama issued an Executive Order banning all civilian Federal Government employees from texting while driving on Government business or using Government-supplied devices. The order applies to about 3 million employees. Federal contractors, subcontractors, grant recipients and subrecipients are encouraged to develop similar policies.[18] Texting includes SMS, email, obtaining navigation information, and other electronic data retrieval and communication.

FEDERAL RAILROAD ADMINISTRATION – The FRA restricts railroad operating employees' use of personal and railroad-supplied mobile phones and other distracting electronic devices[19] in trains and on the ground around trains. Personal electronic devices must be turned off with any earpiece removed from the ear during specified times. FRA sanctions for violations may include civil penalties, removal from safety-sensitive service, and disqualification from safety-sensitive service on any railroad. The FRA rule sets minimum standards requiring compliance, and railroads may adopt more stringent requirements.

FEDERAL AVIATION ADMINISTRATION – The FAA called on air carrier operators to create and enforce policies that will limit distractions in the cockpit.[20] The Information for Operators (InFO) guidance reminds crewmembers and air carriers that any cockpit distraction that diverts attention from required duties can "constitute a safety risk." This includes use of personal electronic devices for activities unrelated to flight. The FAA's Sterile Cockpit Rule prohibits pilots from engaging in any type of distracting behavior during critical phases of flight, including take-off and landing. The InFO asks air carriers to address distraction through crew training programs and to also create safety cultures to control cockpit distractions.

Appendix A

State laws

State legislatures have also responded by passing laws at a rapid pace. As of April 2015:

- Forty-five states and the District of Columbia ban all drivers from texting.[21]
- Fouteen states and the District of Columbia ban all drivers from talking on handheld phones.[22]
- Thirty-seven states and the District of Columbia ban novice drivers from any cell phone use.[23]

Visit the Insurance Institute for Highway Safety at **iihs.org/iihs/topics/laws/cellphonelaws** for current details about all U.S. state laws.

Municipal ordinances

Municipalities in many states have passed ordinances governing driver cell phone use within their jurisdictions. All local ordinances currently ban texting or handheld phone use and some ban phone use in specific areas such as school zones. Unfortunately, there is no single list of all municipal ordinances.

Canadian Provinces and Territories

Most Canadian provinces and territories have passed laws governing cell phone use behind the wheel. For an updated description of laws, visit the government websites of the provinces and territories: **canada.ca/en/gov/policy**

Appendix B

Lawsuits involving employers

Numerous lawsuits have resulted in large awards or settlements payable by employers and their insurers when employees were involved in motor vehicle crashes while using cell phones.

Crash scenarios have included a mix of business-related and personal scenarios:

- Driving during work hours and outside of typical work hours
- Driving to or from work appointments and driving for personal reasons
- Employer-provided and employee-owned vehicles
- Employer-provided and employee-owned phones
- Hands-free and handheld devices
- Business and personal conversations

$24.7 MILLION – COMMERCIAL TRANSPORTATION COMPANY, 2008 CRASH IN MISSOURI

A federal judge awarded $18 million, a district court awarded $6 million, and a jury awarded $700,000 in three cases involving a crash that killed three people and injured 15 others, some seriously. The driver of the tractor-trailer was checking his phone for text messages when his truck ran into 10 vehicles that had stopped in backed-up traffic on a freeway. The driver had reached for his phone and flipped it open, missed seeing the stopped traffic and hit the vehicles without braking first. In this instance, $18 million was awarded to a plaintiff who sustained serious brain injuries, leaving him paralyzed and unable to walk or talk until his death in 2011; $6 million was awarded to the family of one of the deceased; and $700,000 was awarded to a victim who suffered broken bones. In addition to these awards there were several smaller ones.

$21.6 MILLION – TECHNOLOGY COMPANY, 2007 CRASH IN FLORIDA

A jury found the driver and the corporation that owned the company car liable when the driver rear-ended another vehicle on the freeway, causing the vehicle that was struck to cross the median into oncoming traffic lanes. The crash resulted in a fatality at the scene. Cell phone records show that the employee driver who rear-ended the vehicle was using a cell phone at the time of the crash. According to testimony, she may have been talking with her husband.

$21 MILLION – SOFT DRINK BEVERAGE COMPANY, 2010 CRASH IN TEXAS

A company driver was talking on a hands-free headset, in compliance with her company's policy which allowed hands-free use while driving, when she struck another vehicle broadside and seriously injured the driver. A jury held the company liable to pay $21 million in compensatory and punitive damages to the injured driver.

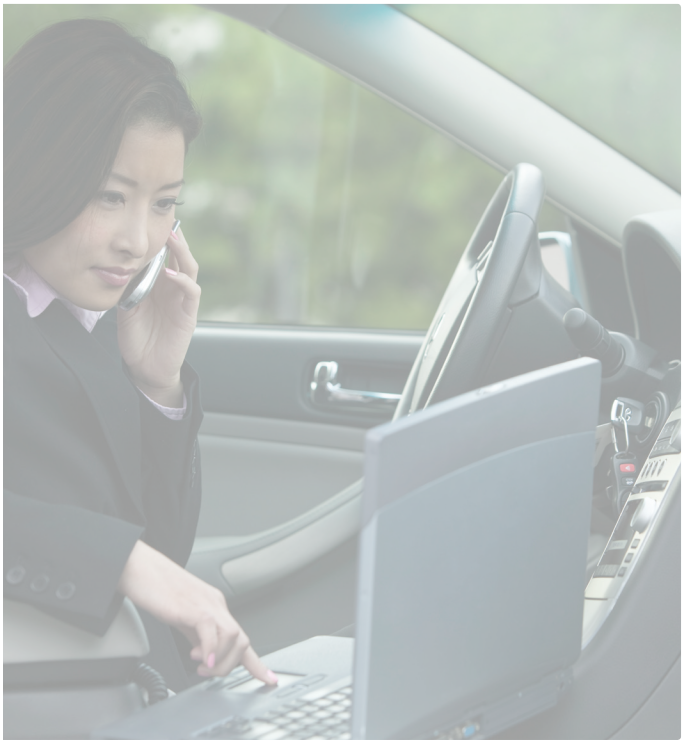
$16.1 MILLION – LUMBER DISTRIBUTOR, 2001 CRASH IN ARKANSAS

A salesman was involved in a crash while talking on his cell phone as he drove to a sales appointment. He rear-ended a vehicle with no attempt to stop. The crash severely and permanently disabled a 78-year-old woman, who has since died. The jury originally awarded nearly $21 million, but eventually the case settled for $16.1 million, the combined limits of the employer's and the employee's insurance policies.

Appendix B

$8.7 MILLION – STATE OF ILLINOIS, 2007 CRASH IN ILLINOIS

While responding to a crash, a state trooper was speeding at more than 120 mph on an interstate freeway, talking on a cell phone to his girlfriend and using email before he lost control of his squad car and crossed over the median. The crash instantly killed two teenage sisters in the first vehicle, which was hit head-on, and injured a couple in another vehicle. The family of the sisters was awarded $8 million, and the other family was awarded $700,000 by the State Court of Claims.



$5.2 MILLION – PAPER COMPANY, 2007 CRASH IN GEORGIA

An employee was driving on an interstate freeway and allegedly talking on her company-supplied cell phone. The employee's car was set on cruise control and she did not notice that traffic ahead had slowed. She braked too late and rear-ended the vehicle in front of her, which was being driven by a widow and mother of four. The impact caused the victim's car to go into a ditch and roll over, catching the driver's arm between the car and the ground. Her arm later had to be amputated. Even though it wasn't certain whether the employee had been using the cell phone at the exact time of the crash, the employer settled the lawsuit before going to trial.

$5 MILLION – CONSTRUCTION COMPANY, 2002 CRASH IN GEORGIA

A construction company employee reached over to a mounted, hands-free cell phone provided by his employer to retrieve a message and crashed into a stationary sedan that had stopped to turn left, severely injuring a passenger in the sedan. Evidence showed that the employee may have been returning a work-related call. In court the company claimed that the driver was commuting to his job, and thus was off-the-clock at the time of the crash, but the cell phone was provided by the company. The employer's fine was $4.75 million of the settlement.

$4.1 MILLION – ELECTRICAL CONTRACTING COMPANY, 2006 CRASH IN ILLINOIS

An employee was lost and using a global positioning system on a cell phone while driving a company van. The employee allegedly ran through a red light, broadsiding another vehicle and seriously injuring a 70-year-old woman. The driver and his employer were sued, the defendants admitted liability at the beginning of a trial and the parties settled.

$4 MILLION – PRINCE GEORGE'S COUNTY, 2009 CRASH IN MARYLAND

An off-duty police officer sent or received a text message in the moments before a crash that struck another vehicle and killed a college student. Although the officer was off-duty at the time, he was driving his police cruiser and the county was held liable.

$2 MILLION+ – LAW FIRM, 2004 CRASH IN VIRGINIA

An attorney was talking on her cell phone when she struck and killed a 15-year-old girl in a hit-and-run. The attorney did not see the pedestrian; allegedly she claimed that she thought she had hit a deer. Her firm settled for an undisclosed amount. A jury ordered the attorney to pay about $2 million in damages and she was charged with a felony and served one year in jail on work release. One factor in the suit was the billable hours that the attorney typically charged to clients while talking on her cell phone.

$1.75 MILLION – CAR DEALERSHIP, 2007 CRASH IN FLORIDA

A mom was on her way to a Christmas party with her three kids when their minivan crashed with a car that turned in front of her. The car's driver was a salesman on a cell phone. The mom was left with permanently disabling orthopedic and neurological injuries. The settlement was intended to help pay her medical bills and therapy. The car dealership sued has since closed and its assets sold to other dealerships.

$1.5 MILLION – STATE OF HAWAII, 2001 CRASH IN HAWAII

A State Appeals Court ordered the State of Hawaii to pay damages to the family of a pedestrian who was struck by a car being driven to work by a public school teacher employed by the state. The driver had just completed a cell phone call.

$1.45 MILLION – CITY OF PALO ALTO, 2006 CRASH IN CALIFORNIA

The city agreed to pay a $1.45 million settlement to a crash victim left with permanent, debilitating spinal injuries after being struck by a city worker who was reaching for his cell phone while driving. The injured man's vehicle was rear-ended at a red light.

$1 MILLION – TRANSPORTATION COMPANY, 2013 CRASH IN OHIO

A pedestrian was struck and killed by a semi-truck driver who was talking with his employer on a hands-free device. The company had materials showing they were aware of the cell phone distracted driving problem, but safety communications said the federal government allowed hands-free use and the driver testified he was allowed to use the phone hands-free while driving. The company settled the lawsuit.

$750,000 – CONSTRUCTION COMPANY, 2003 CRASH IN GEORGIA

A construction shift supervisor was involved in a crash while on his way to work. The crash resulted in injuries to the driver of another vehicle. A Georgia appeals court ruled that a commuting exception to respondeat superior did not apply because there was evidence that the supervisor was involved in a cell phone conversation regarding company business around the time of the crash. While the jury was deliberating, the company settled rather than risk a jury verdict.

Appendix B (cont.)

$500,000 – BROKERAGE FIRM, 1999 CRASH IN PENNSYLVANIA

A brokerage firm employee ran a red light and struck and killed a motorcyclist while making "cold calls" as he drove to a non-business-related event on a Saturday night. His firm settled the lawsuit. The firm did not own the phone or the vehicle operated by the employee, but the plaintiff claimed that the company was liable because it encouraged employees to use their car phones and had not established an adequate policy for safe use of cell phones.

PARTIAL SUMMARY JUDGMENT

CONSTRUCTION EQUIPMENT RENTAL COMPANY, 2005 CRASH IN LOUISIANA

An employee was involved in a car crash while talking with a co-worker on a cell phone. The employer was issued a partial summary judgment based in part on this scenario: While the company didn't authorize its employees to conduct business on cell phones while driving, it also didn't take action to prohibit employees from doing so. In fact, the company paid the cell phone bill, and the employee regularly called customers on the cell phone while driving.

CONFIDENTIAL SETTLEMENT

COMPUTER NETWORK SUPPORT COMPANY, 2011 CRASH IN FLORIDA

An 18-year-old female was killed when a driver reaching for a cell phone crossed over a median into oncoming traffic, and the vehicles hit head-on. The driver was driving his boss' pickup truck and was on a personal cell phone call when he dropped the phone and bent to pick it up. The employer's truck was loaned to the employee and the crash occurred during Saturday non-working hours. The company was found vicariously liable.

CONFIDENTIAL SETTLEMENT

CABLE COMMUNICATIONS COMPANY, 2010 CRASH IN TEXAS

A field technician for a cable company rear-ended another vehicle with his company truck as he approached an intersection at approximately 70 mph with cruise control on. He never hit his brakes. The other vehicle was stopped at the intersection's red light. Two women were killed in the crash. The technician was believed to be texting at the time of the crash. The company settled two weeks before trial rather than risk going to trial.

CONFIDENTIAL SETTLEMENT

PHARMACEUTICAL COMPANY, 2008 CRASH IN FLORIDA

A 62-year-old man was killed while pedaling his three-wheel recumbent racing bike in his Florida neighborhood. He was hit by a sales representative who was allegedly texting, according to phone records, as he drove to work in a company car. The salesman failed to yield at a stop sign. Although the case ended with an out-of-court settlement, the judge ruled that the prosecution could seek punitive damages as well as compensatory damages. Compensatory damages are intended to compensate the plaintiff for losses including financial loss, pain and suffering. But punitive damages are intended to punish the defendant and/or set an example for society and thereby deter others from the behavior. Punitive damages are awarded in cases displaying reckless indifference or intentional wrongdoing, and have been awarded in DUI cases. Punitive damages generally are not covered by insurance. Thus defendants with more financial resources may face punitive damages.

Appendix C

Public opinion polls

National Safety Council

A March 2014 national phone survey found the following public opinions about hands-free phones and dashboard infotainment systems:

- 80% of drivers mistakenly believe hands-free devices are safer than handheld
- Of those who use hands-free, 70% said they do so for safety reasons
- 53% of drivers think hands-free features must be safe to use while driving if they're built into vehicles

It's understandable that the public holds these beliefs, despite research that shows the distraction and crash risks of hands-free cell phone use while driving. Hands-free is marketed as a safe alternative.

For employers and safety professionals, these results mean that policies must be accompanied by education for employees about the risks of using hands-free devices while driving. NSC has many materials to help you at **http://www.nsc.org/cellfree.**

AAA Foundation for Traffic Safety

Each year the AAAFTS conducts the Traffic Safety Culture Index, a nationally-representative telephone survey of drivers age 16 and up, to assess how the public values and pursues safe driving. The 2014 survey found these beliefs about cell phones and driving:

- Attitudes about dangers of cell phone distracted driving seem to apply to other drivers around us but not as much to ourselves. Almost 2 out of 3 drivers strongly disapprove of other drivers using a handheld cell phone while driving. However more than 2 in 3 of the same survey respondents report talking on their cell phone while driving in the past month, and nearly 1 in 3 say they do this fairly often or regularly.
- Most drivers view texting or emailing while driving as a very serious threat to their own personal safety, or they think it's completely unacceptable. Yet, more than 1 in 4 of the same people admit they typed or sent a text message or email while driving in the past month. More than 1 in 3 reported reading a text message or email while driving in the past month.

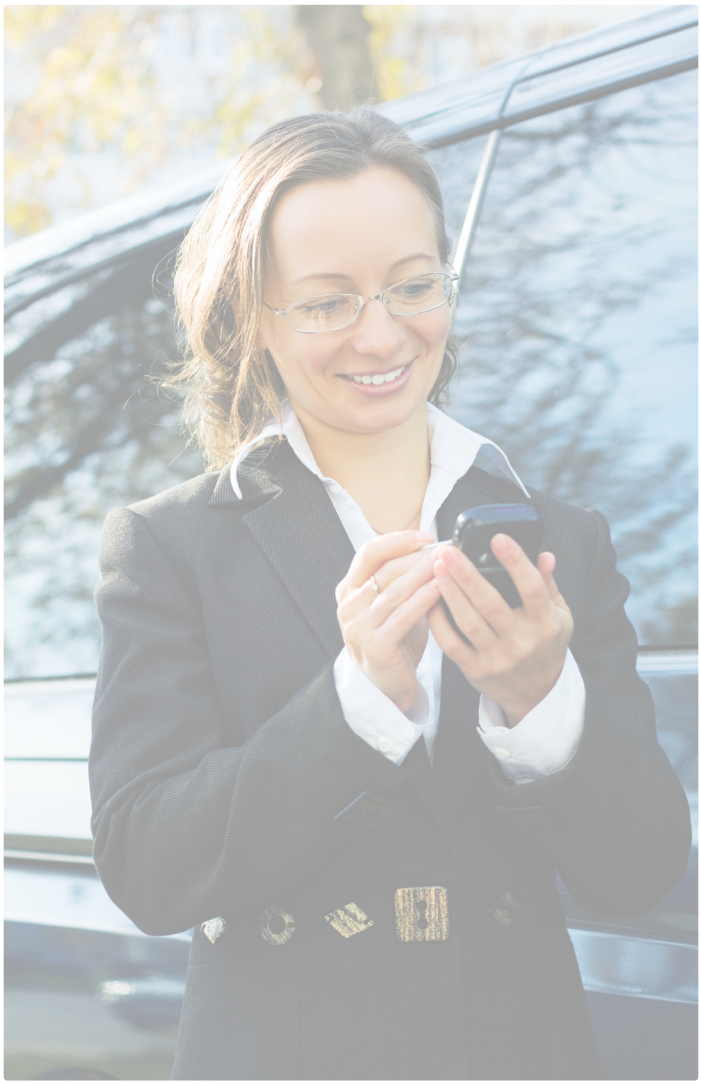
Appendix C

These survey results show that despite knowing the risks of using cell phones while driving, it's not easy to change behavior. A combination of policies, education, enforcement and even technology innovations are needed to reduce cell phone distracted driving, more than just education alone.

Changing safety culture and social norms is one way to influence behavior change. If something is seen as socially unacceptable, people are less likely to do it. Smoking in public is a good example of how culture and a change in society can change what people do. We see far less smoking in public today than a generation ago. The AAAFTS asked drivers about their perceptions of social approval of using phones while driving:

- About half of survey respondents incorrectly believed that most people approve of cell phone use while driving. But actually, about 2 out of 3 people strongly disapprove of using handheld cell phones while driving.
- More than 2 in 3 drivers support laws that ban the use of handheld cell phones while driving, including conversation, texting and emailing. And 40% support laws banning all cell phone use while driving including banning hands-free use.

It's important to communicate that most people support not using phones while driving.



Resources

1 U.S. Department of Transportation, National Highway Safety Administration, National Center for Statistics and Analysis. (2012, February). ***2010 motor vehicle crashes: Overview*** (Publication No. DOT HS 811 552). Retrieved from http://www-nrd.nhtsa.dot.gov/Pubs/811552.pdf

2 CDC. (2011, April 29). **Occupational highway transportation deaths**—United States, 2003–2008. MMWR, 60(16), 497–502.

3 U.S. Department of Transportation, National Highway Traffic Safety Administration. (2005, August). ***The Economic Burden of Traffic Crashes on Employers-Costs by State and Industry and by Alcohol and Restraint Use*** (Publication No. DOT HS 809 682).

4 CTIA. (2011, June). ***Wireless quick facts.*** Retrieved from http://www.ctia.org/advocacy/research/index.cfm/aid/10323

5 National Safety Council. (2014). ***Summary of Estimate Model.*** Retrieved from http://www.nsc.org/DistractedDrivingDocuments/Attributable-Risk-Estimate.pdf.

6 Redelmeier, D., A., & Tibshirani, R. J. (1997). **Association between cellular-telephone calls and motor vehicle collisions.** *New England Journal of Medicine,* 336(7), 453–458.

7 McEvoy, S. P., Stevenson, M. R., McCartt, A. T., Woodward, M., Haworth, C., Palamara, P., & Cercarelli, R. (2005). **Role of mobile phones in motor vehicle crashes resulting in hospital attendance: a case-crossover study.** *BMJ,* 331(7514), 428.

8 National Safety Council. (2010, March 26). ***White paper: Understanding the distracted brain: Why driving while using hands-free cell phones is risky behavior.*** Retrieved from http://thebrain.nsc.org/

9 National Transportation Safety Board. (2011, December 13). ***No call, no text, no update behind the wheel: NTSB calls for nationwide ban on PEDs while driving.*** Retrieved from http://www.ntsb.gov/news/2011/111213.html

10 National Transportation Safety Board. (2011, October 4). ***Safety recommendation.*** Retrieved from http://www.ntsb.gov/doclib/recletters/2011/H-11-029.pdf and National Transportation Safety Board. (2006, November 21). ***Highway accident report: Motorcoach collision with the Alexandria Avenue Bridge overpass, George Washington Memorial Parkway.*** Retrieved from http://www.ntsb.gov/doclib/reports/2006/HAR0604.pdf and National Transportation Safety Board. (2006, November 21). ***Highway accident report: Executive summary: Motorcoach collision with the Alexandria Avenue Bridge overpass, George Washington Memorial Parkway.*** Retrieved from http://www.ntsb.gov/investigations/summary/HAR0604.htm

11 National Transportation Safety Board. (2011, October 4). ***Safety recommendation.*** Retrieved from http://www.ntsb.gov/doclib/recletters/2011/H-11-029.pdf

12 National Transportation Safety Board. (2011, June 21). NTSB press release: Mate's distraction lead *[sic]* to fatal 2010 "duck boat" accident. Retrieved from http://www.ntsb.gov/news/2011/110621.html and National Transportation Safety Board. (2011, June 21). ***Marine accident report: Collision of tugboat/barge Caribbean Sea/The Resource with amphibious passenger vehicle*** DUKW 34. Retrieved from http://www.ntsb.gov/doclib/reports/2011/MAR1102.pdf

13 National Transportation Safety Board. (2011, December 13). ***Highway accident report: Gray Summit, MO: Collision involving two school buses, a Bobtail and a passenger vehicle, August 5, 2010.*** Retrieved from http://www.ntsb.gov/news/events/2011/gray_summit_mo/index.html

14 National Safety Council. (2011). Research insights: Employer policies, employee perspectives on distracted driving at Fortune 500 companies. ***Membership Advantage, 15***(1). Retrieved from http://www.nsc.org/safety_road/Distracted_Driving/Documents/Fortune%20500%20Cell%20Phone%20Policies%20-%20Membership%20Advantage.pdf

15 http://downloads.nsc.org/ppt/tdd/Distracted_Driving_Symposium_Oct_08.ppt

16 U.S. Department of Transportation, Federal Motor Carrier Safety Administration, Office of Public Affairs. (2011, November 23). ***News release: U.S Transportation Secretary LaHood announces final rule that bans hand-held cell phone use by drivers of buses and large trucks*** (Publication No. FMCSA 35-11). Retrieved from http://www.fmcsa.dot.gov/about/news/news-releases/2011/Secretary-LaHood-Announces-Step-towards-Safer-Highways.aspx and U.S. Department of Transportation, Federal Motor Carrier Safety Administration and Pipeline and Hazardous Materials Safety Administration. (2011, November 22). ***Drivers of CMVs: Restricting the use of cellular phones.*** Retrieved from http://www.fmcsa.dot.gov/rules-regulations/administration/rulemakings/final/Mobile_phone_NFRM.pdf

17 U.S. Department of Labor, Occupational Safety & Health Administration. (2009, October 1). ***OSHA's distracted driving initiative.*** Retrieved from http://www.osha.gov/distracted-driving/initiative.html

Resources

18 Executive order: Federal leadership reducing text messaging while driving. (2009, October 1). ***Federal Register, 74*** (192). Retrieved from http://www.nsc.org/safety_road/Distracted_Driving/Documents/Obama%20Executive%20Order%20on%20Text%20Messaging%20in%20Fed%20Register%2010%2006%2009.pdf

19 U.S. Department of Transportation, Federal Railroad Administration. (2010, May 18). ***Restrictions on railroad operating employees' use of cellular telephones and other electronic devices.*** Retrieved from http://www.distraction.gov/download/dot-pdf/FRA-Distracted-Operator-Final-Rule.pdf

20 U.S. Department of Transportation, Federal Aviation Administration. (2010, April 26). ***Subject: Cockpit distractions.*** Retrieved from http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/info/all_infos/media/2010/InFO10003.pdf and U.S. Department of Transportation, Federal Aviation Administration. (2010, April 26). ***Press release–FAA calls on airlines to limit cockpit distractions.*** Retrieved from http://www.faa.gov/news/press_releases/news_story.cfm?newsId=11338

21 Insurance Institute for Highway Safety. (2012, March). **Map of texting bans** [Demographic map]. Retrieved from http://www.iihs.org/laws/maptextingbans.aspx

22 Insurance Institute for Highway Safety. (2012, March). **Map of hand-held cellphone bans (all driver)** [Demographic map]. Retrieved from http://www.iihs.org/laws/maphandheldcellbans.aspx

23 Insurance Institute for Highway Safety. (2012, March). **Map of bans specific to young drivers and all cellphones** [Demographic map]. Retrieved from http://www.iihs.org/laws/mapyoungcellbans.aspx

The National Safety Council would like to thank Todd Clement with the Clement Law Firm in Dallas, Texas for his valuable contributions in the preparation of this document.

About the Council

Founded in 1913 and chartered by Congress, the National Safety Council (nsc.org) is a nonprofit organization whose mission is to save lives by preventing injuries and deaths at work, in homes and communities, and on the road through leadership, research, education and advocacy. NSC advances this mission by partnering with businesses, government agencies, elected officials and the public in areas where we can make the most impact – distracted driving, teen driving, workplace safety, prescription drug overdoses and Safe Communities.

National Safety Council
1121 Spring Lake Drive, Itasca, IL 60143
(800) 621-7615 • nsc.org

0615 900007297

Crashes Involving Cell Phones

Challenges of Collecting and Reporting Reliable Crash Data

FROM THE NATIONAL SAFETY COUNCIL

Nationwide® Insurance

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.[i] The agency is taking steps to improve reporting,[ii] [iii] 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.

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."[iv]

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

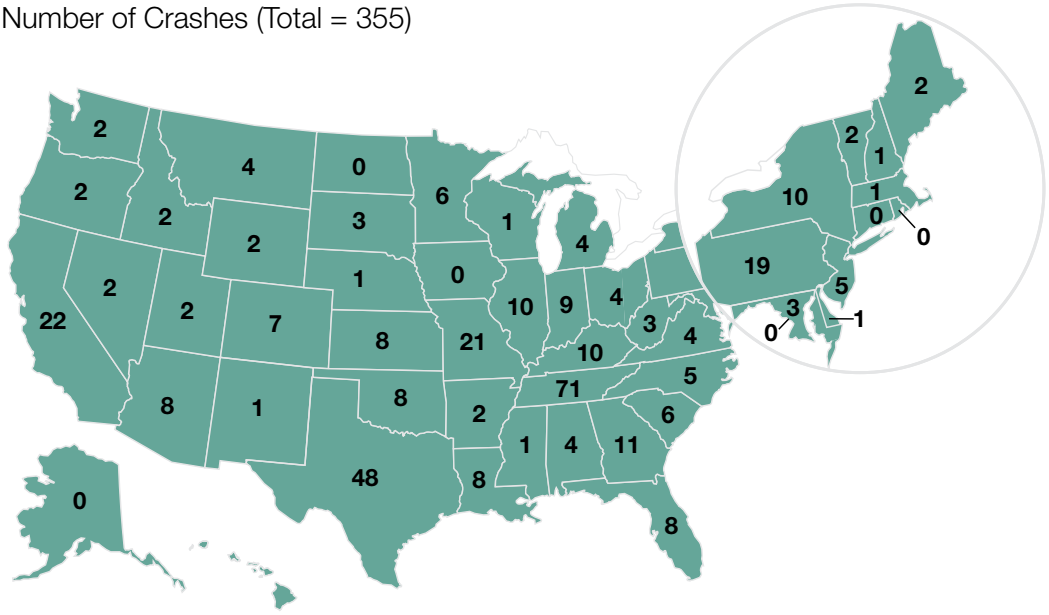
Large variances in reporting across states were observed when reviewing crashes in FARS that were coded as cell phone-affected in 2010 and 2011.

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.

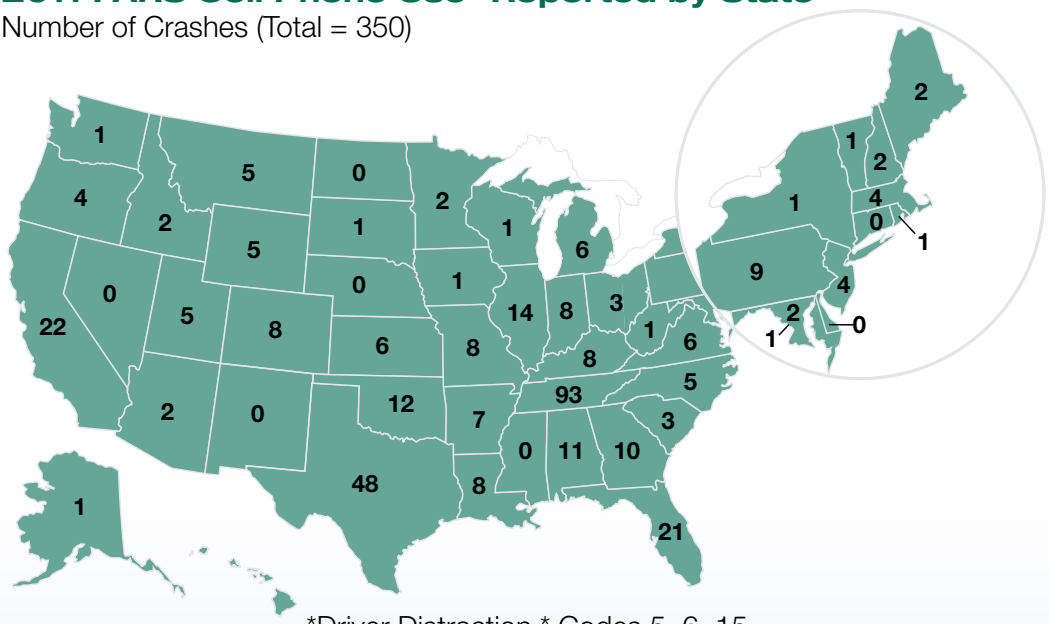
2010 FARS Cell Phone Use* Reported by State

Number of Crashes (Total = 355)



2011 FARS Cell Phone Use* Reported by State

Number of Crashes (Total = 350)



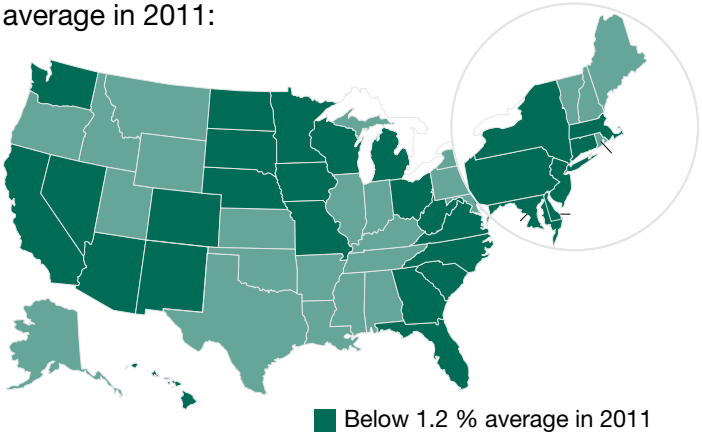
*Driver Distraction * Codes 5, 6, 15

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?

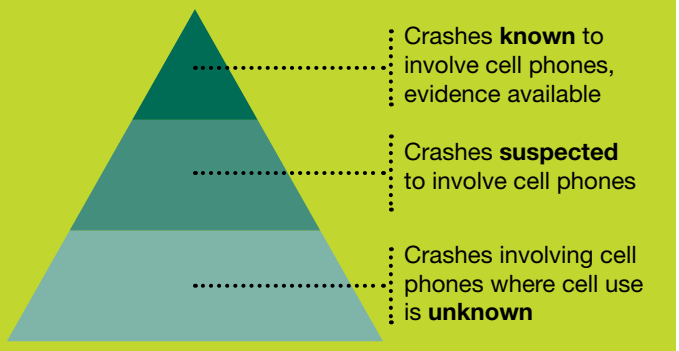
Discussions and recommendations

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

ii U.S. Department of Transportation. ***Fast Lane. "Better crash data a big step in the fight against distracted driving.*** July 5, 2012. Retrieved from http://fastlane.dot.gov/2012/07/collecting-better-crash-data-to-improve-safety.html

iii Governors Highway Safety Administration. ***"New Guideline Helps States Better Collect Crash Data. Broader Distracted Driving Definition Included."*** July 2, 2012. Retrieved from http://www.ghsa.org/html/media/pressreleases/2012/20120702_mmucc.html

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

The National Safety Council study on Crashes Involving Cell Phones: Challenges of Collecting Reporting Reliable Crash Data was funded in part by Nationwide Mutual Insurance Company.

About Nationwide

Nationwide Mutual Insurance Company, based in Columbus, Ohio, is one of the largest and strongest diversified insurance and financial services organizations in the U.S. and is rated A+ by both A.M. Best and Standard & Poor's. The company provides customers a full range of insurance and financial services, including auto insurance, motorcycle, boat, homeowners, pet, life insurance, farm, commercial insurance, annuities, mortgages, mutual funds, pensions, long-term savings plans and specialty health services. For more information, visit **nationwide.com.**

Nationwide® Insurance

National Safety Council
1121 Spring Lake Drive, Itasca, IL 60143
(800) 621-7615 • nsc.org

NSC Media Inquiries
(630) 775-2307
media@nsc.org

Visit distracteddriving.nsc.org for more information.

0413 900001967

Distracted Driving

Leading safety into the future

OVERVIEW OF THE ISSUE

In January 2009, NSC became the first national organization to call for a ban on all cell phone use — handheld and hands-free — while driving. This historic policy and call to action was adopted by a vote of NSC volunteer leaders, representing NSC member organizations. Most NSC members are private sector companies, encompassing most sectors of American business and industry.

NSC took this action after consulting with many of its 20,000 corporate members, along with an exhaustive review of the research. This action was taken based on more than 50 published and peer reviewed studies, some from the early days of cell phone use in the 1990s, which identified the risk of cell phone distracted driving. Researchers have used a variety of methods to compare driver performance while using hands-free and handheld phones. More than 30 studies have concluded that drivers experience substantial negative effects on their driving proficiency when using a cell phone, regardless of whether it is handheld or hands-free.

The National Highway Traffic Safety Administration (NHTSA) has reported that based on police crash reports and state reports, 3,331 people were killed in crashes in 2011 involving a distracted driver. NHTSA also reported that an additional 387,000 people were injured in distraction-related crashes. NSC believes these distraction-related crashes are significantly under-reported, owing to the difficulty of law enforcement to effectively identify the role of cell phones and other electronic devices in contributing to crashes. An NSC review of fatal crashes involving cell phones in 2011 found that only about half of them were recorded as involving cell phones on the crash reports and in national fatal crash data.

We do not have, and will not have for the foreseeable future, complete data that accurately defines the role of mobile communications distractions in crashes. Determining the scope of the cell phone distracted driving problem is a challenge. NHTSA and NSC believe the actual number of crashes involving cell phone distracted driving is higher than reported figures. Numerous limitations affect the accurate recording of cell phone use in crashes, including:

- Driver reluctance to admit behavior — there is no "blood alcohol test" for distracted driving
- Inability for police to record cell phone use activity on police crash reports
- Lack of witnesses
- Death of distracted drivers in crashes, leaving no evidence of the distraction
- Time and resource limitations of law enforcement
- Difficulty obtaining cell phone records or knowing the precise time of the crash

Even when cell phone use may be known, the data may not always be captured on police crash reports. Some states have yet to upgrade crash reports with an easy mechanism to record cell phone and other mobile device distraction.

Lacking accurate data, NSC has developed statistical estimates that 25% of all crashes — or 1.3 million crashes per year — can be attributed to drivers talking or texting on phones. NSC estimates that 1.1 million of these crashes involve talking on mobile devices and 200,000 crashes involve texting.

SIGNIFICANT CURRENT & FUTURE RISKS

The safe operation of a motor vehicle requires visual, manual and cognitive resources. Cell phone use involves all three, and is also a common behavior among drivers.

Drivers may be aware they are distracted when they have one hand off the wheel or their eyes off the road. However, drivers are often not consciously aware of the cognitive demand of driving. In addition, conversation — the give-and-take of listening and responding — is a cognitively-demanding task. Engaging in the two demanding activities simultaneously — driving and conversing on a communications device — leads to a greater level of cognitive demand than the human brain can accommodate to pay full attention to both tasks.

In many cases, the degree to which a distraction causes a crash is related to the risk of the action and the prevalence and duration of the distraction. For example, eating or drinking with one hand off the wheel has been shown to have small levels of risk, but these actions have very high prevalence — meaning millions of people engage in these low-risk activities quite often. However, the duration of the distraction is generally intermittent for a few seconds each. This combination generally results in few crashes attributed to eating and drinking.

On the other hand, some distractions have very high levels of risk, such as turning around in the seat to reach for an object. These high-risk actions are generally engaged in very rarely by drivers (low prevalence) and for short periods of time (short duration). Thus, these very high-risk activities lead to few crashes because of low prevalence and duration. The risks of cell phones are unique from other distractions drivers may engage in because they combine high risk, high prevalence and long duration.

The main evidence about the risks of cell phone use while driving is from epidemiological simulator and naturalistic studies. Epidemiological studies conducted in Australia and Canada found that driving while using handheld and hands-free phones increased by fourfold the risk of property damage and injury resulting in hospital attendance. Simulator studies have identified two major decrements in driver abilities when talking on cell phones: 1) inattention blindness — looking at but not truly seeing objects in and around the roadway, and 2) slower response and reaction times. Naturalistic studies have defined risks of various distracting activities and also have found increased crash risk from texting of eight to 23 times. While these studies show a higher risk from texting, the prevalence of talking and the length of time that drivers talk on phones can be far greater than texting, leading to far fewer crashes from texting than from other cell phone use.

Observation and self-report surveys give us an indication of prevalence. NHTSA observes driver cell phone use along with its annual seat belt observation surveys. According to NHTSA, in 2011, about 9% of drivers were using mobile devices while driving — either talking or manually manipulating handheld and hands-free devices. The percentage manually manipulating phones — behaviors like dialing or texting — was 1.3% in 2011, a significant increase for the second year in a row.

While there is more limited research into the risk and crash involvement of technologies such as GPS navigation, voice controls and voice-to-text, including telematics built into vehicles, some significant research was released during early 2012. One study found that using voice-to-text technology on mobile phones is not safer than manually texting while driving. Another study evaluated the level of cognitive distraction of drivers engaging in distracting tasks such as talking on handheld phones or sending emails or texts using an in-vehicle voice-to-text feature. Voice-to-text features were found to be even more cognitively distracting than handheld and hands-free phone conversation.

WHAT CAN & SHOULD BE DONE

There are several strategies NSC believes could be used to address the expanded use of mobile technology while driving, including research, education, legislation, regulations and enforcement, engineering and technology. It is important to gain a deeper understanding of each of these strategies and how they work together.

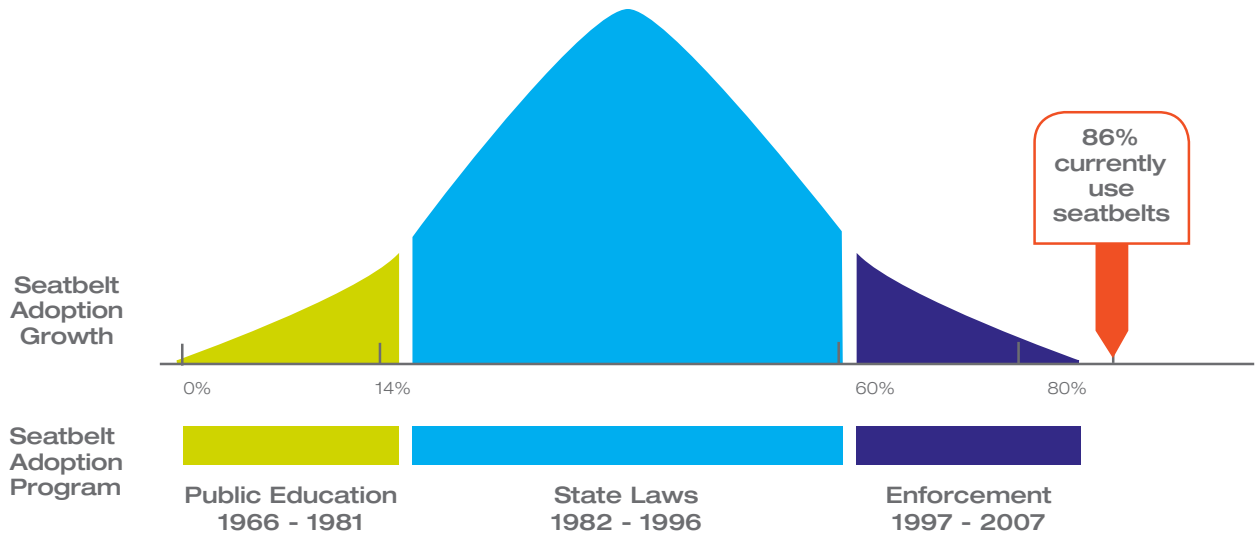
One of the first needs is research. Research is needed to better understand cognitive distraction and how it affects drivers. In 2013, the American public and policymakers have an incomplete understanding of cognitive distraction, why eliminating it while behind the wheel is necessary and why it is necessary for people to stop using cell phones and other electronic devices while driving. Getting people to change their behavior is especially challenging when there is no perceived immediate danger.

We know that education alone won't change behaviors. However, other traffic safety issues have successfully shown how education, combined with legislation and high-visibility enforcement, does work.

Laws and enforcement are linchpins in effectively changing driver behavior and reducing crashes. People will often engage in dangerous behavior, or behavior they don't know or accept to be dangerous, when there are no laws or effective enforcement to prevent their actions. We know that traffic laws work to curb behaviors for a good segment of the driving population. When laws are enacted, they must be reinforced with highly-visible public education that explains the dangers and warns of active enforcement of laws. This strategy also should focus on successful enforcement practices. Increased police presence paired with public education campaigns can help to reduce distracted driving. For example, a 2011 NHTSA report examined two pilot programs in Syracuse, N.Y., and Hartford, Conn., that combined police enforcement, news media coverage and paid advertising to address distracted driving. In Syracuse, both handheld cell phone use and texting declined by one-third, while Hartford saw a 57% drop in handheld use and an almost 75% decrease in texting while driving.

It is time for Federal and State agencies to lead by example and implement distracted driving policies that prohibit all employee use of cell phones while driving. The NTSB and a few state agencies have implemented such a policy, but it is still acceptable for most Federal and State employees to talk on the phone while driving. This is inconsistent with best practices in safety.

Seatbelt adoption included public education, legislation and enforcement



Although the Federal and State government response thus far has been inconsistent, many employers in the private sector have not waited for laws to guide their actions. Corporations have adopted their own "regulations" in the form of cell phone bans for employees while driving. By 2013, thousands of companies employing about six million people have implemented policies prohibiting both handheld and hands-free cell phone use among all employees while driving. The years ahead will likely see more widespread adoption of employer cell phone policies. In this regard, American business is leading the adoption of new driving safety behaviors well ahead of Federal, State and local lawmakers.

Just as technology has created this safety risk, technology also holds the potential to eliminate it. Technologies that hold incoming calls and texts and prevent outgoing communications until a driver is safely parked offer a potential method to prevent crashes and injuries due to cell phone distracted driving.

While some technologies help mitigate the cell phone distraction, others allow hands-free calling, which can encourage distracted driving. Many auto manufacturers equip vehicles with on-board systems that sync cell phones with the vehicle's computer system to offer a hands-free alternative. NSC encourages automakers to provide customers with the option to disable these hands-free features. Many parents of young drivers and corporations with "no cell phone driving" policies appreciate and are asking for this option.

NSC STRATEGIES

NSC has been a national leader in distracted driving since its announcement in 2009 of its desire for total elimination of cell phone use while driving in the U.S. Consistent with its mission, NSC has engaged in leadership, research, education and advocacy.

Leadership

NSC followed its 2009 announcement by continuing to keep the issue near top of mind in the public and media consciousness. NSC leaders have delivered dozens of keynote addresses at major conferences and testified before U.S. Senate, House and State committees. The Council has become a "go-to" source on the issue for the national news media.

Research

NSC developed an Attributable Risk Estimate of Cell Phone Use which documents, using statistical methods, that cell phone use is involved in an estimated 25% of traffic crashes. Research also has included a study of corporate cell phone policies, evaluation of studies of hands-free cell phone use, corporate liability of employee cell phone crashes and analysis of under-reporting of cell phone crashes in law enforcement crash reports and Federal and State data. NSC is closely monitoring research being carried out by several researchers, especially research into cognitive distraction.

Education

NSC staff have spoken to hundreds of companies and thousands of employees, explaining the issues and helping companies adopt total cell phone ban policies. Employers are years ahead of legislators in adopting total bans. This is similar to the 1970s and 1980s when employers adopted impaired driving and seat belt laws years before legislators enacted similar laws.

NSC will also continue to educate the American public on the issue, especially on the issue of cognitive distraction. The Council's white paper, "Understanding the Distracted Brain," documents 30+ studies that report cognitive distraction and inattention blindness, and also show delayed response, reaction times and braking times when drivers are talking on hands-free and handheld cell phones. NSC will be using this research to develop a national campaign to educate the American public about cognitive distraction.

Advocacy

From 2009-2012, NSC advocated for Federal incentives to states to enact cell phone bans, and for state laws banning texting and cell phone use by teen drivers. Those incentives were enacted into law in 2012, but represent just the first step with the U.S. Congress. In future years, NSC will advocate for incentives for total cell phone bans and for Federal support of research, enforcement and public education.

NSC also will continue to advocate with Federal agencies for a total cell phone ban, encouraging the nation's largest employers to adopt the same best safety practices already adopted by some of the nation's largest private sector companies.

Since 2009, when NSC issued its call for a total ban, 29 states have enacted bans on texting while driving, and an additional 15 states have enacted total cell phone bans for young drivers. NSC will continue to work in states seeking to enact total teen bans, texting bans and total bans. Because the research from more than 30 studies is conclusive that hands-free devices offer no safety benefit, NSC does not support enactment of laws allowing use of hands-free devices.

WHAT CAN YOU DO?

More than 90% of traffic crashes are caused, at least in part, by some inappropriate behavior on the part of one or more drivers. The most important thing any person can do to save lives on our roads is to always drive safely. While that is an easy thing to say, it can mean vastly different things to different people.

Many people who engage in risk-taking behaviors while driving (speeding, driving after or while drinking, texting and talking on cell phones, etc.) do so with the firm belief that they are safe and that they do not expect to be in a crash. Nobody "expects" to be in a crash, but many people take risks that make their odds of a crash much more likely. People engage in these activities many times without any bad outcome. So they erroneously assume that they are being safe drivers.

The problem is they are over-confident about their own driving abilities. They might not think their driving is impaired, but people around them see otherwise. Their desire to take senseless risks behind the wheel puts everyone around them at a higher risk of serious injury or a violent death. Thousands of families have experienced the tragedy of loved ones dying in crashes involving unsafe acts. Unfortunately, when people are allowed by law to engage in reckless behavior, or when laws are not visibly or vigorously enforced, many will do so.

All one has to do is look at the five leading causes of injuries and fatalities on our roads — not wearing safety belts, speeding, impaired driving, distracted driving and teen driving. Each of these issues involves some degree of choice to do something that is (knowingly or unknowingly) unsafe. Examine your own behaviors related to these five issues. Educate yourself on what the best practices are for you as a driver, passenger or parent. Consider taking a defensive driving class to brush up on your skills, and then work on fixing your own behavior as a driver, passenger or parent. Once you've done that, you can move on to influencing your families, friends and even local and state legislators.

Many legislators believe that we have too many laws, and this philosophy is often expressed in opposition to traffic laws. Legislators with this viewpoint generally prefer that we all do the right thing voluntarily. Expecting personal responsibility is a laudable goal for society. However, when it comes to protecting ourselves — whether it be from terrorism, violent crime or reckless acts on our roadways — relying on everyone to be responsible is not nearly enough.

There are situations in which we need more and better laws to address the most significant risks and the most egregious behaviors. Any individual who would like to advocate for improved traffic safety is invited to connect with the National Safety Council, its local Chapters, coalitions and advocates to take action in their community and state.

DISTRACTED DRIVING

On Dec. 13, 2011, the National Transportation Safety Board recommended that all 50 states and the District of Columbia enact complete bans of all portable electronic devices, including hands-free devices, while driving. This

was the first time a government organization had called for a complete ban. In announcing the Board's actions, NTSB Chairwoman Deborah Hersman said:

> *Cell phone distracted driving doesn't place just the driver engaging in the behavior in harm's way — it places everyone on our roadways in danger. To make our roadways safer, we all need to support efforts to pass cell phone legislation, deploy high-visibility enforcement campaigns, embrace cell phone blocking technology and implement corporate policies. These activities, along with the stories of those who have lost loved ones to this deadly epidemic, will help change what society currently considers acceptable behavior.*
>
> *As a nation, we cannot accept that 100 people die every day on our roadways. Driving is a privilege that comes with enormous responsibility. The safety of drivers, passengers, other motorists, pedestrians and bicyclists is paramount to all else — and it should remain every driver's top priority. When on the road, we all need to get off the phone.*

So, the first thing that every individual can and must do is not use a phone while driving. Then, each individual is encouraged to extend that practice to their family members, friends and employers. Anyone can be an advocate in their own circle of influence.

The second thing is for individuals to speak up and ask that the driver of any vehicle in which they are riding not use a phone while driving. Just as most people take the keys away from an impaired driver, they can also take the phone away from any driver. This includes family, friends and professional drivers, including drivers of taxis, buses, car rental vans and other vehicles.

Third, individuals can join with other advocates in their communities and states to increase awareness and understanding of the risks involved in driving a vehicle and the importance of attention in safely operating a vehicle. Individuals are encouraged to join with others actively involved in the issue to educate the public and other key audiences about how technology that engages drivers' attention is a threat to public safety.

Individuals also can contact their local and state legislators to advocate for stronger laws and effective enforcement. NSC also encourages the public to write local law enforcement agencies (city, county or state) and cite the NHTSA campaign that proved high-visibility enforcement is an effective strategy for enforcing cell phone laws.

Employers play an important role in changing the culture of cell phone use while driving. While legislators have thus far not implemented a total cell phone ban for all drivers in any state, thousands of employers have done so. Every employed person or business leader is encouraged to advocate for total cell phone bans in their organizations. The Council stands ready to assist with extensive educational resources, research, model policies and employee communications materials.

The risks of cell phone use while driving are substantial, but phones in vehicles can bring some safety benefits. The ability to immediately call 911 can reduce emergency response times, improving crash survival or preventing the escalation of injuries to lifelong impact. GPS navigation can help people avoid dangerous situations of getting lost or making rash unsafe driving decisions when they miss exits and signage. However, these benefits can be obtained by a driver pulling off the roadway and stopping in a safe place to make a call or check GPS.

The challenge of stopping cell phone use while driving in the U.S. is nothing short of a monumental cultural change. Getting 200 million licensed drivers to change their behaviors — behaviors they enjoy, believe are necessary and in some cases are addicted to — may be one of the most significant behavior change challenges of our time. However, over the last 50 years, millions of Americans have adopted significant changes in their behavior regarding the use of tobacco products and driving after consuming alcohol.

So while the challenge is enormous, NSC leaders and staff share an abiding belief that it can and will be done. We encourage everyone to join us.

National Safety Council
1121 SPRING LAKE DRIVE
ITASCA, IL 60143-3201
(800) 621-7619
nsc.org

0813 900003723

<insert Company Name or logo>

Corporate Cell Phone Policy

At <insert company name>, we deeply value the safety and well-being of all employees. Due to the increasing number of crashes resulting from the use of cell phones while driving, we are instituting a new policy. Company employees may not use cellular telephones or mobile electronic devices while operating a motor vehicle under any of the following situations, regardless of whether a hands-free device is used:

- When employee is operating a vehicle owned, leased or rented by the Company.
- When the employee is operating a personal motor vehicle in connection with Company business.
- When the motor vehicle is on Company property.
- When the cellular telephone or mobile electronic device is company owned or leased.
- When the employee is using the cellular telephone or mobile electronic device to conduct Company business.

Employees will be given two warnings. The third time an employee is found to be in violation of this policy, it is grounds for immediate dismissal.

Your signature below certifies your agreement to comply with this policy.

_____ _____

Employee Signature Date

Building Employee Buy-In

Tips

Employers will be more successful in reducing cell phone distracted driving crashes if employees actively support a cell phone policy – not simply understand and accept it.

NSC members who responded to a 2009 survey about cell phone policies recognize this importance of employee buy-in. Companies currently without policies reported that “lack of employee support” was the #1 barrier. “Competing job priorities” and “lack of management commitment” were the #2 and #3 barriers.

Evidence of Public Support

Numerous public opinion polls show the public recognizes the dangers of distracted driving and supports bans:

- AAA Foundation for Traffic Safety in 2011 found 3 in 5 drivers consider a driver talking on his or her cell phone to be a serious threat to personal safety.
- A 2010 survey by Nationwide Insurance Co. found that 79 percent of responders reported a decrease in cell phone use while driving because of increased awareness.
- A Harris Poll found 98 percent of people believe using cell phones while driving is somewhat to very dangerous.
- A New York Times/CBS News poll found 97 percent support banning texting while driving, and 80 percent support banning handheld cell phones while driving.

Tips to Build Employee Support

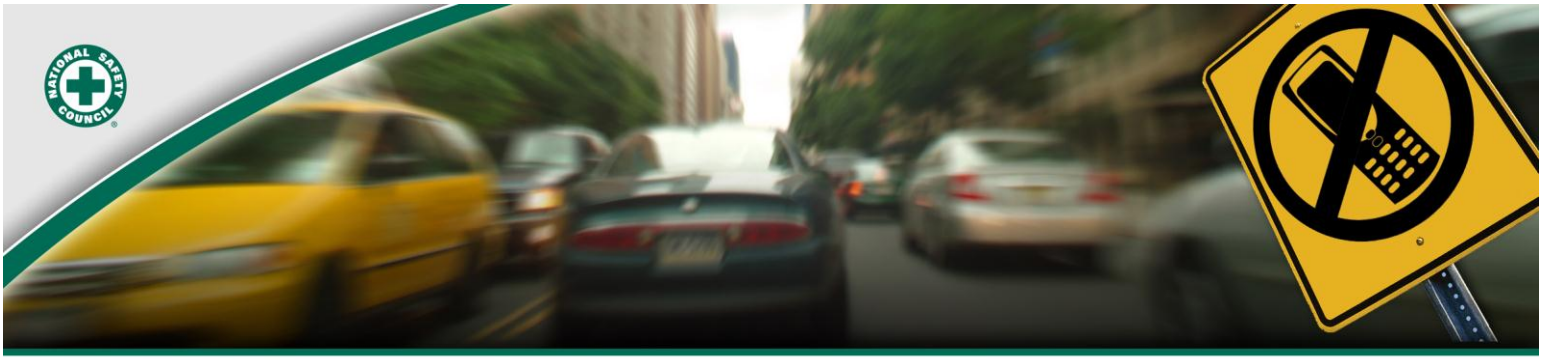
- Before policy implementation, hold open meetings to discuss the need for a policy with employees. Many materials in this Kit will help you communicate. Request feedback from employees, anonymously if that’s helpful. Don't spring a policy on employees as a surprise. This could result in long-term negativity and lack of respect for the policy. When unions are involved, the union steward is a key stakeholder. Hold a pre-meeting with union reps to get them on board.

- Recognize that for some employees, this policy will change deeply ingrained habits. Any change can bring initial stress. Give employees the opportunity to discuss potential barriers, conflicts with their beliefs and their doubts. These are “objections,” which in the sales profession, are good to hear because there's now a chance to address and overcome them.

- Ask employees to offer solutions to these objections. This makes employees part of the decision-making and the solutions become things they choose to do.

- Employees must see and hear that top management supports the policy. Employees will sense the level of commitment. If you don’t have leadership commitment, consider delaying employee rollout until you do have management buy-in. After all, management is part of the employee population.

The NSC Cell Phone Policy Kit is made possible through generous donations from NSC employees.



- Employees may be concerned about job productivity — especially staff who frequently drive on the job and the supervisors responsible for their performance. Invite discussion about these concerns. Be clear about management's priority for employee and public safety, and challenge employees to find solutions to productivity issues.
- Ask employees to share ideas to maintain productivity. Employees will then have a plan to meet job goals without temptation to use the phone while driving.
- Invite cross-department employee teams to solve barriers to implementation. Have teams share the solutions with all employees. While working together, they build and reinforce the social support for a policy.
- Have a mix of senior management, front-line supervisors, union representatives, and other employees serve as spokespeople for the new policy process.
- Tell compelling, vivid stories and testimonials about the risk of crashes. Use video and public education resources at http://distracteddriving.nsc.org. If someone in your company has a personal story, invite him/her to share it. Then ask employees to help prevent this from happening to other people.
- Because many people still incorrectly believe that hands-free phones are safer, it's useful to share stories about hands-free phone crashes.
- Involve employee stakeholders in deciding how to monitor compliance, and consequences of non-compliance.
- After policy implementation, communicate positive results to employees. Consider surveying impact on productivity and share the results. The results are likely to be more positive than people expect. In a 2009 membership survey, 99% of NSC member respondents with cell phone policies did not find a decrease in productivity.

The NSC Cell Phone Policy Kit is made possible through generous donations from NSC employees.

Congratulations!

The National Safety Council Cell Phone Policy Kit can help you take a major step toward reducing crash risks associated with using cell phones while driving. NSC realizes a policy prohibiting cell phone use while driving may be met with resistance. We developed this kit to provide you with ready-made communications for the variety of audiences you will need to address in order to gain support and successfully implement your company cell phone ban.

How the Cell Phone Policy Kit Can Help

Implementing an effective policy to reduce distracted driving risks involves more than publishing the policy in a handbook. It requires changing behaviors and people's opinions about the behavior.

This kit includes resources to help you:

- Build buy-in from senior management and others to implement a policy
- Create a policy based on what research identifies as unsafe driving behaviors that increase crash risk
- Inform and educate employees about the risks of using cell phones while driving, including dispelling common myths and misunderstandings
- Implement your policy and gain acceptance from your employees
- Enforce the policy for long-term success

You have the kit. Now what?

Materials for executives

The kit includes a section titled "Materials for Executives." These are the documents that we feel your executives need to read, review and discuss prior to making the decision to implement a policy. If during this discussion there are questions or if you would like to engage an NSC executive, please notify roadsafety@nsc.org with a description of what is needed.

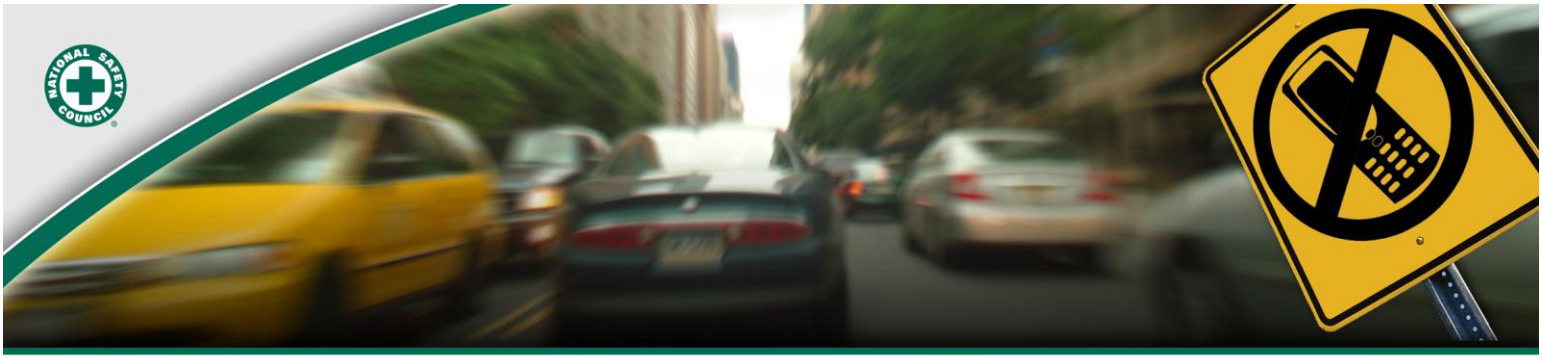
It's important to understand NSC recommends a total cell phone ban. By this we mean that the company policy bans **handheld and hands-free** devices by **all** employees. Research is clear that hands-free devices are not safer than handheld because the cognitive distraction still exists.

Included in the kit is a sample policy that NSC recommends businesses implement.

When you are ready to roll out your policy

Providing ongoing education to staff doesn't have to be a huge undertaking. NSC recommends creating an Implementation Team. You should include someone from Marketing/Communications, HR, your safety team and others interested in this issue. This team will be responsible for

The NSC Cell Phone Policy Kit is made possible through generous donations from NSC employees.



executing the **One-Year Roll Out Plan** that is included in the kit. Have this team review the documents in the 'Start Here' section.

We have developed a variety of educational materials to help you. Share these with employees and ask them to share what they learn with their friends and families. You may also use this content to make your own materials for your employees.

People learn in different ways, so it's important to mix up how information is presented. For example don't just provide written content.

In our effort to make this resource easy to download, there were limitations to what we could include. There are some items such as victim impact videos and short educational videos that we couldn't include due to file size. We felt these items would be of great value to you and your implementation team so we've made the available for download. You can find links to these resources and more on the Additional Resources document.

Check back

Be sure to check distracteddriving.nsc.org for new materials. Because you downloaded this kit you will automatically receive our quarterly Focus on the Drive e-Newsletter.

In addition to this kit, many resources are available from NSC to support the successful implementation of your policy and reduce the potential for crashes:

- Fact sheets, data and research about cell phone use while driving are on our Website at **http://distracteddriving.nsc.org**.

Who We Are

Founded in 1913 and chartered by Congress, the National Safety Council (nsc.org) is a nonprofit organization whose mission is to save lives by preventing injuries and deaths at work, in homes and communities, and on the road through leadership, research, education and advocacy. NSC advances this mission by partnering with businesses, government agencies, elected officials and the public in areas where we can make the most impact – distracted driving, teen driving, workplace safety and safety beyond the workplace.

The NSC Cell Phone Policy Kit is made possible through generous donations from NSC employees.

Enforcing a cell phone policy

If a company assures employee “buy in” by clearly communicating the science and the risks of using a cell phone while driving, then it appears enforcement is not much of a challenge. Employees, supervisors and even customers will hold each other accountable assuming all understand the significant risk of this activity.

NSC has discovered different methods are being employed by organizations with existing policies. A 2009 survey of NSC members found the following methods are being used to manage compliance:

- Honor system
- Reports by others (colleagues, passengers, etc.)
- Parking lot observations
- Drivers’ records/traffic citations
- In-vehicle monitoring with cameras and other technologies
- Technologies that prohibit cell phone use while driving

Managers should stress the importance of trip planning and avoid scheduling conference calls during travel times for sales staff. Managers also should help employees with time and journey management. Planning the workday ahead will help employees avoid the need for communications while driving.

When on the road, employees should have a voicemail greeting that informs callers that they are unavailable during specified travel times. If employees need to make or take an important call, they should plan ahead and schedule a break during the trip where they can pull over and park in a safe location.

It is important for all organizations with policies in place to enforce the policy. Year-round education and enforcement of the corporate cell phone policy is necessary.

The NSC Cell Phone Policy Kit is made possible through generous donations from NSC employees.

Employer Ban
Cell Phone Policy
A Case Study

Company: Owens Corning

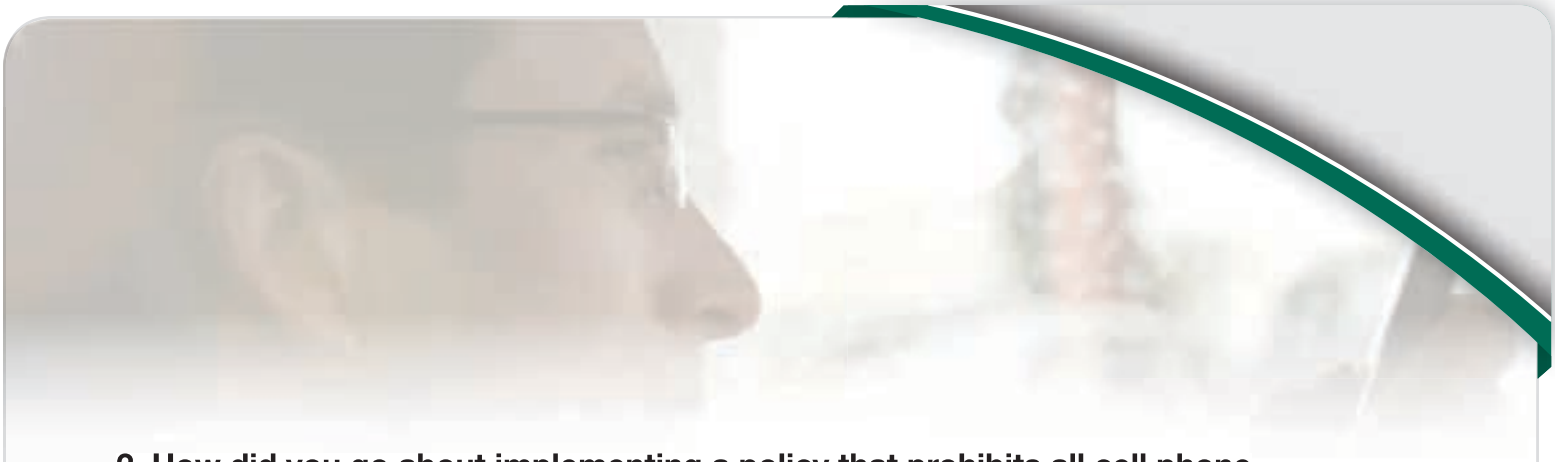
Number of Employees: More than 15,000 in 27 countries

Interviewee: Matt Schroder, Internal Communications and Corporate Media Relations Leader

1. What prompted Owens Corning to implement a cell phone distracted driving policy?

Matt:
It came down to expanding our efforts to eliminate risk even further. Our company's performance in safety had reached a point where our injuries had significantly decreased, so we continued to focus our efforts toward eliminating risk before an injury happens. Broadening these efforts took us to a place where we knew every employee would be affected. Just as we would expect in our plants, when this risk was fully recognized, we decided to take action to eliminate it.

Our safety team reviewed the National Safety Council data and other widely distributed information from public sources associated with cell phone use while driving, and the risk was clear. We knew it was time for us to act. Due to the culture of safety we've been able to create in our company, a policy concerning this issue had to a part of it.



2. How did you go about implementing a policy that prohibits all cell phone use – hands-free and handheld?

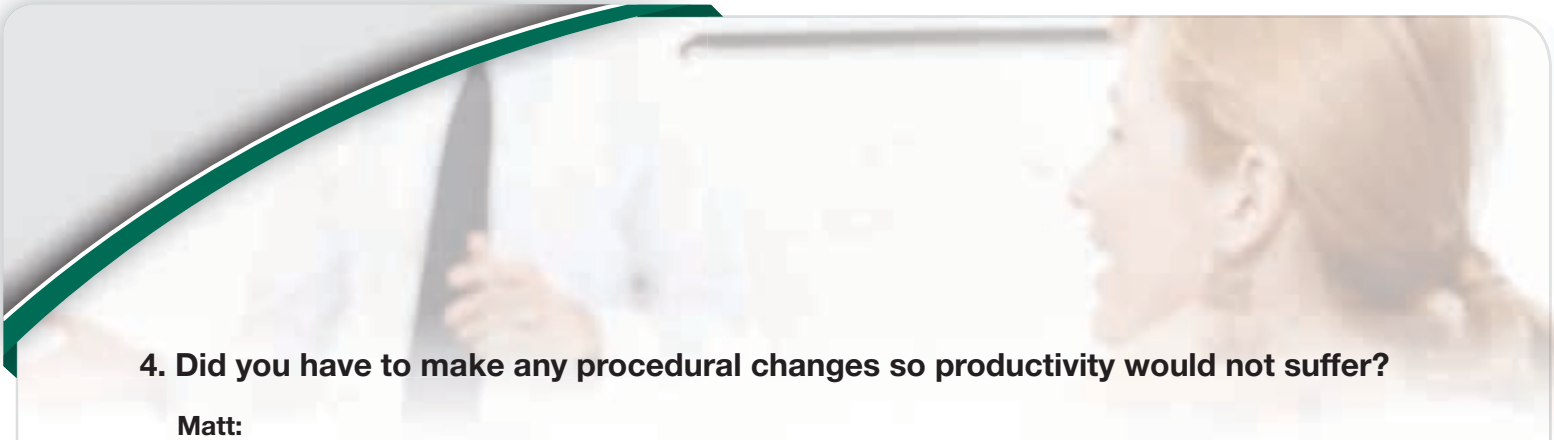
Matt:
A lot happened behind the scenes to prepare for the rollout of the implementation plan. Our CEO actually went for 90 days adhering to what would become our policy for all employees – no cell phone use, handheld or hands-free. That he could do that without it affecting his productivity became a key factor in the messaging to employees during the implementation.

We used the NSC Cell Phone Policy Kit and videos from NSC as a base for our plan. Our safety team worked with our corporate communications team on how to roll it out to the organization. We treated this as we would any major change in our company and used a traditional change management model. We determined key stakeholders across the organization, identified their potential issues with our policy, and tried to address those issues in advance. We recruited some "champions" from that group of stakeholders, including our chairman's club which is a group of our top sales leaders. These champions helped us implement the program with our sales teams, since we knew this policy would have the most impact within that group.

Then we created our campaign. We summarized the data that we had collected from the NSC and numerous studies from universities and insurance companies and made it available to all employees. Doug Pontsler (VP of EH&S and Corporate Sustainability) laid out the plan in a global town hall, and we implemented it over a 60-day period. To have the CEO get up in the town hall (after Doug) and say that he spent the last 90 days without using his cell phone while driving without it impacting his job was a very powerful statement and demonstrated to all employees that it was possible.

3. What is included in the policy and who exactly does the policy apply to?

Matt:
We have a few key words in our policy: "drivers," "handheld or hands-free" and "company business." Our policy covers all drivers, prohibits handheld and hands-free use and applies to any situation where an employee is conducting company business.

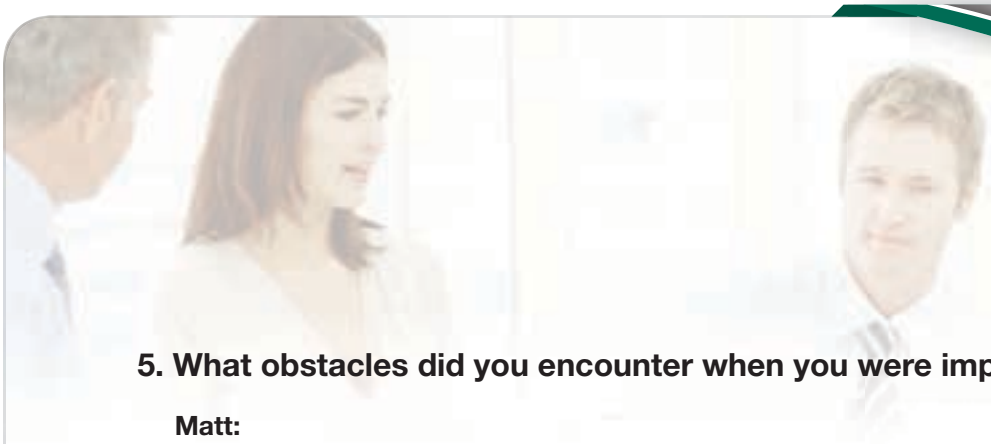


4. Did you have to make any procedural changes so productivity would not suffer?

Matt:
We had a discussion with the teams so they would be keenly aware of how this could impact them. Since they knew they couldn't use their phones anymore, the different teams developed their own "best practices" to assist compliance and maintain productivity within the policy.

Some of the practices include:

1. Be clear to your callers on your voice mail that you are a cell phone-free driver and not available to make calls while driving. Tell them you will return their call when you can safely do so.
2. Start all teleconferences by asking if anyone is driving. If so, request that they hang-up and call back in when they are in a safe location.
3. Proactively communicate your new commitment to those who may have expectations concerning your immediate availability, and commit to respond within a responsible time period.
4. Place the cell phone out of your reach while driving – even in the trunk, until you can avoid the temptation.
5. Do not attempt to make calls or check/send emails while stopped at a traffic light as a majority of crashes occur at intersections. We need to stay alert so we can respond to the actions of other drivers.
6. Establish regular times when callers can contact you and when you will return calls.
7. Plan "rest" periods into your trips every two to three hours to check emails and return calls.
8. Let someone else drive (when possible) so you can freely send/receive calls.
9. When driving, forward calls to central location where someone else can field your calls. That person decides if immediate attention is needed and has an "emergency hotline number" that has a distinct ringtone to alert the driver to park and return the call ASAP.
10. Conference calls are required to be set-up at least a week in advance and only allowed during "windows" of time. This allows employees who drive a lot to plan their driving route so they're available to park during these windows of time.
11. Install an application on the phone that automatically disables it when the GPS detects movement above a certain speed (i.e. 10 mph).
12. Have an open dialogue with supervisor and co-workers; this may lead to a need to re-evaluate workload to factor in the reduction in allowable time for call-backs (while driving). What is reasonable considering travel time?
13. For those with teen drivers, make a commitment with them that no one will use their cell phone while driving – hold each other accountable.
14. Turn off your cell phone while driving.



5. What obstacles did you encounter when you were implementing the policy?

Matt:
When the initial buzz around the policy wears off, it might be an obstacle. The question is how to keep it fresh. At the two-year mark, our safety team will renew the campaign. We've also made it part of our new employee presentations.

We continue to look for ways to maintain productivity within the policy. As time goes on, the policy is just a part of who we are. My impression is that our employees really liked that we were pioneers, and they were proud to be a part of it.

The global nature of the policy implementation is a challenge because of differing laws and points of view regarding cell phone use. One of our obstacles is global implementation, and the solution is to just continue to do so with the same resolve we have shown in North America.

6. Do you have any advice for other employers looking to pass ban policies?

Matt:
Go straight to the top, to the CEO, and get alignment in the organization. Do it before anyone even knows you're considering it. It's so impactful. Leader-led practices are huge. When the leaders are modeling the behavior, the results have a much greater chance of being positive. When a top leader on a phone call asks people if they are driving, or asks if they are in a safe place to participate on a call, that is how you move toward full compliance.

Use a change management process. Identify your major stakeholders and what their major issues are going to be and try to address these issues in advance. Get a small group of champions behind it. The teams that you think might have the most concerns with the policy are the ones you need to get on board as champions.

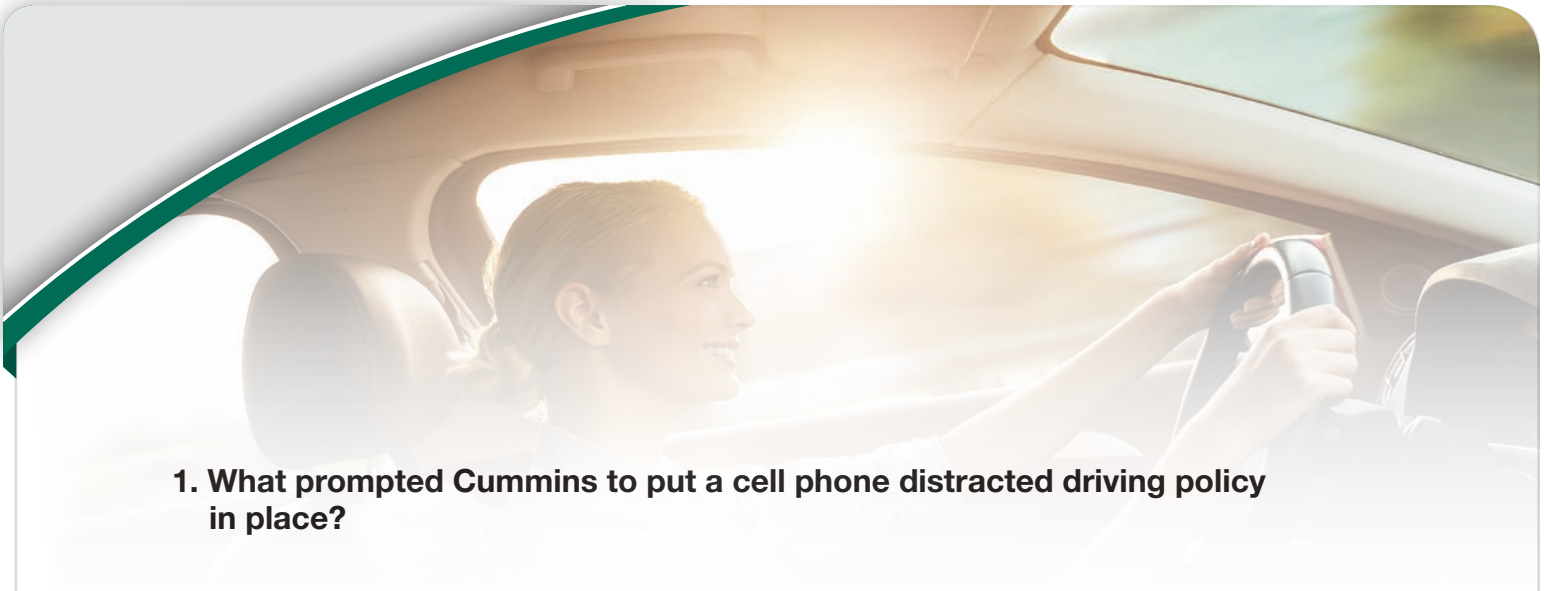
Employer Ban
Cell Phone Policy
A Case Study

Company: Cummins, Inc

Number of Employees: 48,000+

Interviewee: **Clint Wernimont**, Internal Communications and Global Road Safety and Special Projects Leader

Cummins – headquartered in Columbus, Indiana – is a global power leader that designs, manufactures, sells and services diesel engines and related technology around the world.



1. What prompted Cummins to put a cell phone distracted driving policy in place?

Clint:
When Cummins was developing and implementing the Driver Safety program, Webster's dictionary named "distracted driving" as its word of the year. As we conducted more research into distracted driving, it became clear that any distraction was a significant risk to our employees, but cell phone use also was a risk to our business.

2. How did you go about putting a policy in place that prohibits all cell phone use? Why did you include hands-free devices?

Clint:
Cummins followed the same system of introducing a policy that we always follow: getting buy-in across the business, starting at the top, was part of the process to define and eliminate risks. When it came to making a decision about cell phones, we researched the available data – including NSC – to understand the increase in risk and liability if we allowed the use of hands-free technology. Many people were surprised to learn that the risk between hands-free and handheld cell phones were essentially the same. The issue wasn't the phone itself; rather, in the cognitive distraction created by having a conversation. Cummins is a very data-driven company; given the data in this case, the choice to include hands-free in the ban was justified.

3. What parts of the organization were involved in the process of putting the policy together?

Clint:
A proposal for a Driver Safety Policy was developed by a cross-functional team, including representatives from Health and Safety, Human Resources, Legal, and Operations. Initially, there was concern about productivity losses if employees were forced to disconnect completely while driving. Those concerns, however, could never outweigh the concern for the wellbeing of Cummins employees and the drivers and pedestrians that share the roadways with them.

4. What is included in your company policy and who exactly does the policy apply to?

Clint:
The policy focuses on those employees who drive for company business. This definition includes everyone: from professional drivers who spend a significant portion of their workday behind the wheel, to employees who may only drive once a year to participate in a community service project. If you are representing the company and behind the wheel, the policy is for you. To ensure that all drivers are aware of – and in agreement with – the policy, all employees review and sign the Cummins Safe Driver Pledge. Only after the pledge is signed are they allowed to declare themselves as a driver or non-driver. All drivers are required to complete additional training on safe driving best practices.

5. Did you have to make any procedural changes so productivity would not suffer?

Clint:
Within our distribution business there was a significant impact to the way our sales force would utilize their time. Prior to the cell phone ban, it was routine to use that time to make calls between customer visits. Our sales team shifted their work patterns to schedule calls during stops. Additionally, changes to dispatch protocols were made to prevent mobile service technicians from having to use their phones while driving.

6. Has the policy had any effect, positive or negative, on productivity or customer service?

Clint:
Cummins did not change their expectations around productivity or customer service in response to the cell phone ban. Our employees and their leaders continue to meet demands; the method is simply different now, which calls for improved organization and time management.

7. Has the policy had any effect on crash rates?

Clint:
Crash rates have declined, which we believe is a direct result of the Driver Safety program.

8. What obstacles did you encounter when you were implementing the policy?

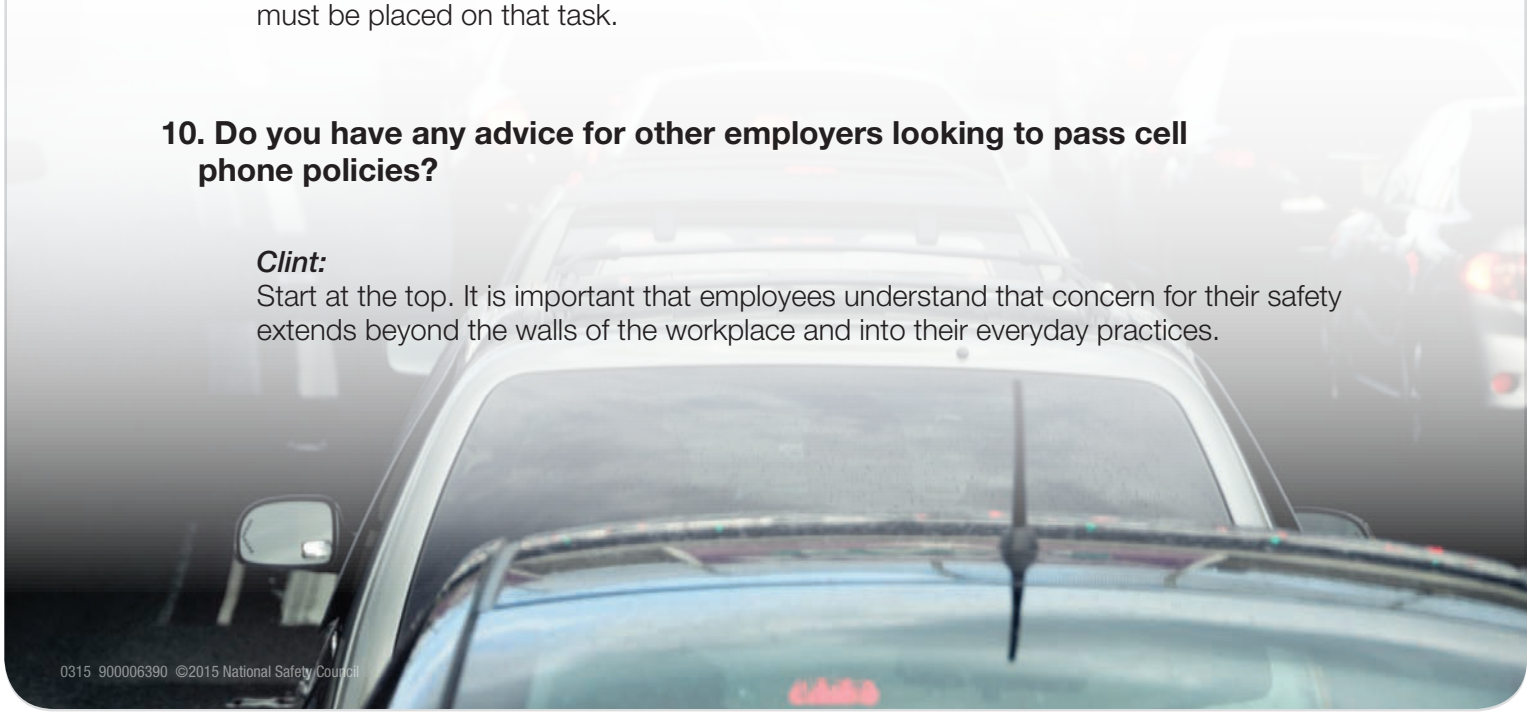
Clint:
Among the obstacles we encountered, the largest was certainly the scale of the project. We introduced a Driver Safety program to more than 48,000 employee located in over 50 countries, translated into local languages. As we grow our business, the program will continue to grow. Driver Safety is one of the first safety trainings that all employees are asked to participate in.

9. How did your employees react to the roll out of the policy?

Clint:
The reaction to the policy was split between those who felt they would not be as productive if unable to conference while driving, and those who were relieved that conferencing and driving would no longer be acceptable or expected. The mobile telephone culture was deeply embedded in our everyday routine. Routine communication about distracted driving and other road safety best practices has increased the overall subject matter knowledge of our employees. Recognizing that driving is the most dangerous activity that most people participate in daily reinforces the idea that our full attention must be placed on that task.

10. Do you have any advice for other employers looking to pass cell phone policies?

Clint:
Start at the top. It is important that employees understand that concern for their safety extends beyond the walls of the workplace and into their everyday practices.



DRIVING DOWN DISTRACTION

Reducing the Risk of the #1 Cause of Workplace Deaths

Cell phone distracted driving policies help employers keep employees safe and also protect their bottom lines.

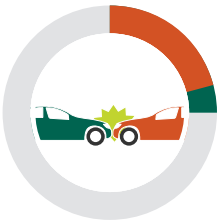
HIGHWAY HAZARD

Drivers using handheld or hands-free cell phones are

4x

as likely to crash.

The National Safety Council estimates *25%* of crashes involve cell phones.



21% Phone Conversations

4% Text Messaging

WORKPLACE DANGER

#1 Cause of Workplace Death: Car Crashes

Motor vehicle crashes

Assaults

Incidents involving objects or equipment

Falls

INCREASING EMPLOYER LIABILITY

Companies have paid big for cell phone-related crashes.
Go to nsc.org/liability to learn more.

$16.1 MILLION

For a salesperson who was talking on his cell phone en route to a sales appointment and crashed, injuring another driver

$21 MILLION

For a driver talking on a hands-free headset—in accordance with her company's policy—who struck another vehicle, seriously injuring the other driver

$24.7 MILLION

For a tractor-trailer driver who, while checking text messages, ran into 10 vehicles stopped in traffic on the freeway, killing 3 people and injuring 15 others

NATIONAL SAFETY COUNCIL®

IMPROVING COMPANY POLICIES

Thousands of employers prohibit employees from using cell phones while driving.

Federal and state laws fall short of best practice safety standards. It's up to employers to keep their employees safe with cell phone distracted driving policies.

The best cell phone policies cover:

- All employees
- All handheld and hands-free devices
- All company vehicles
- All company mobile phone devices
- All work-related communications, even in personal vehicles or on personal cell phones

COMPANIES WITH TOTAL BANS ARE NO LESS PRODUCTIVE

1%

An NSC survey of companies of all sizes found a mere **1%** of employers with cell phone distracted driving policies saw a productivity decrease.

Employers can find everything they need to start a cell phone distracted driving policy in our free Cell Phone Policy Kit at cellphonekit.nsc.org

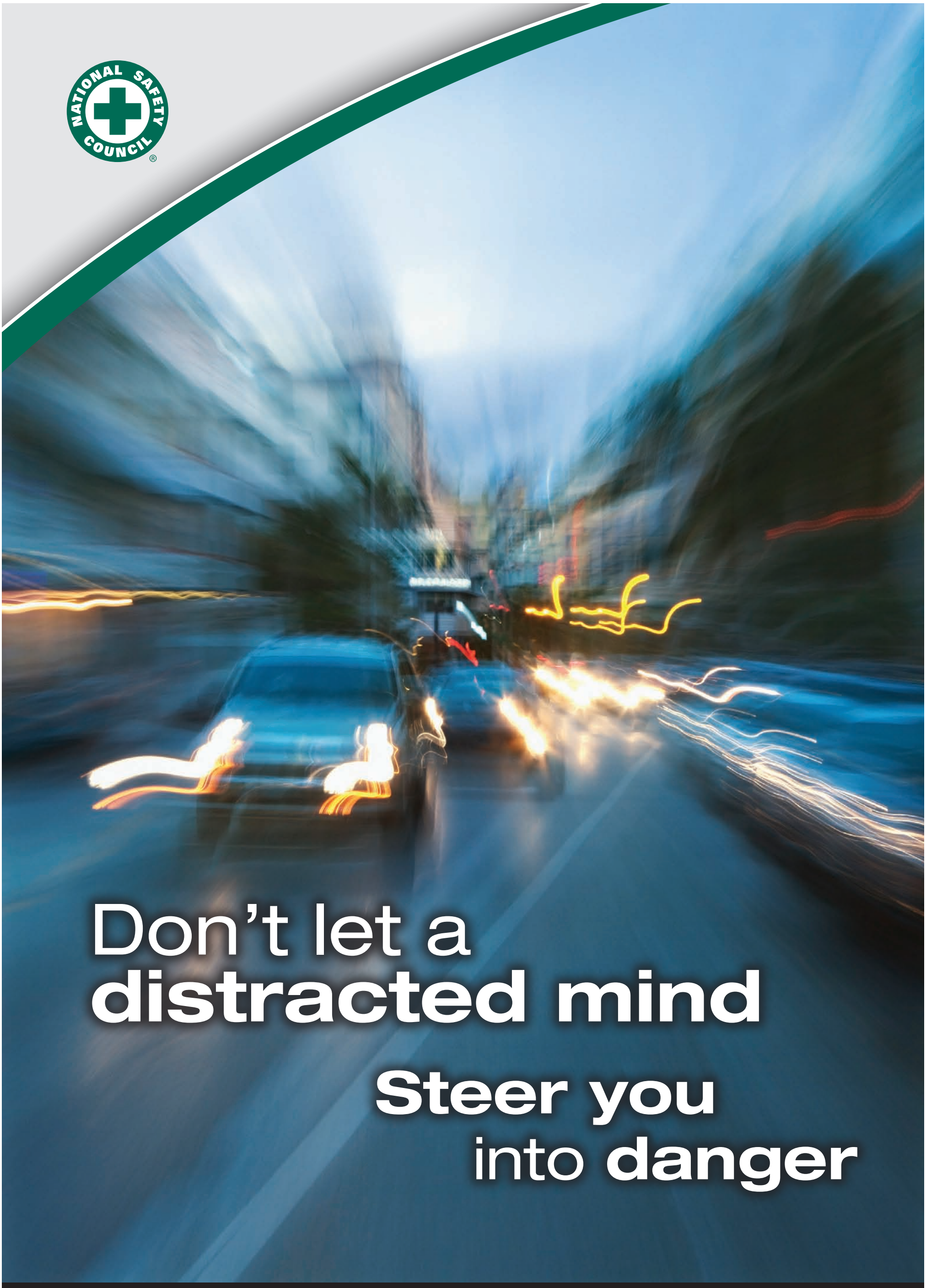
National Safety Council
1121 SPRING LAKE DRIVE
ITASCA, IL 60143-3201
(800) 621-7619
NSC.ORG

COMPANIES WITH TOTAL BANS ARE NO LESS PRODUCTIVE

1%

An NSC survey of companies of all sizes found a mere **1%** of employers with cell phone distracted driving policies saw a productivity decrease.

Employers can find everything they need to start a cell phone distracted driving policy in our free Cell Phone Policy Kit at cellphonekit.nsc.org



On the road, **off** the phone.

distracteddriving.nsc.org

Hands-free or Handheld

Your brain doesn't know the difference

On the road, **off** the phone.

distracteddriving.nsc.org

OUR DRIVING CONCERN

EMPLOYER TRAFFIC SAFETY PROGRAM

A PROGRAM OF THE NATIONAL SAFETY COUNCIL

COGNITIVE IMPAIRMENT

IT'S ALL IN YOUR HEAD

About 1 out of every 4 motor vehicle crashes involves cell phone use.* Cell phone use while driving isn't only a visual and manual distraction, but a cognitive distraction—taking your mind off driving—as well. Many drivers mistakenly believe hands-free cell phones are safer than handheld. However, hands-free cell phones do not eliminate cognitive distraction.

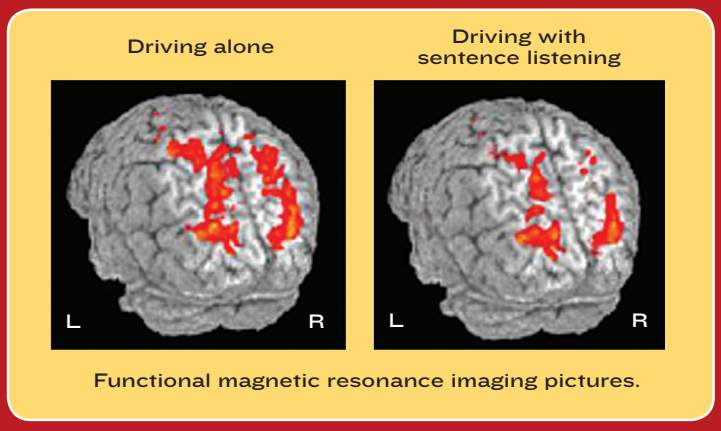
DRIVERS TALKING ON HANDS-FREE AND HANDHELD CELL PHONES ACCOUNTED FOR 1.1 MILLION CRASHES IN 2010.

SOURCE: National Safety Council

Hands-free devices offer **NO SAFETY BENEFITS.**

UNDERSTANDING THE DISTRACTED BRAIN

Human brains are unable to effectively perform two cognitively complex tasks at the same time, such as driving and talking on a cell phone. A Carnegie Mellon University study produced fMRI pictures of the brain while study participants drove using a simulator and listened to spoken sentences they were asked to judge as true or false. The pictures below show listening to sentences on cell phones decreased activity in the brain's parietal lobe by 37%. Drivers use this area of the brain for navigation and visual tracking of movement.



Functional magnetic resonance imaging pictures.

SOURCE: Carnegie Mellon University

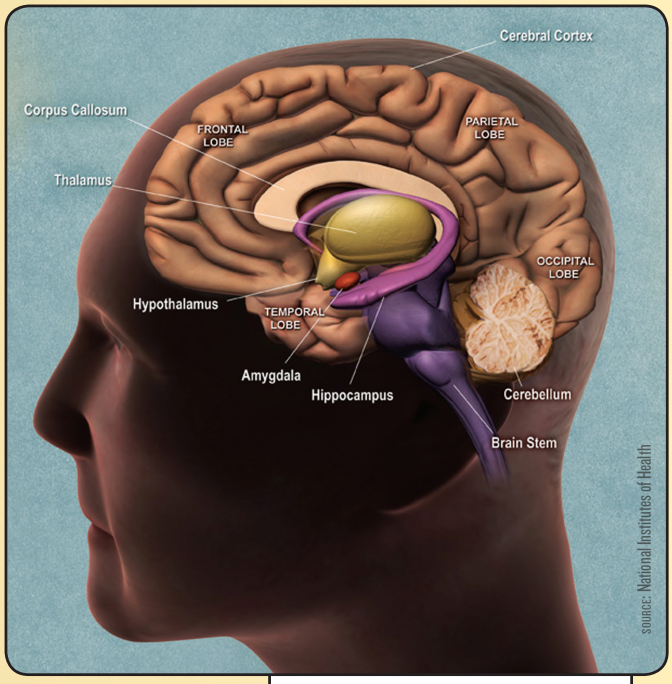
Drivers talking on cell phones can **fail to see** up to **50% of** the information in **their driving environment.**

SOURCE: Dr. David Strayer, Director of the Center for the Prevention of Distracted Driving

MULTITASKING IMPAIRS PERFORMANCE

Drivers distracted by cell phone conversations not only have slower reaction times, but also are less likely to see:

- Exits, red lights and stop signs
- Navigational signs
- Other drivers' actions
- Pedestrians and cyclists



The four lobes of the brain.

Drivers talking on cell phones are more likely to make driving errors than drivers talking with passengers. **Why?** Adult passengers often actively help drivers by monitoring and discussing traffic, whereas a person on the phone cannot see the roadway and adjust the conversation as needed.

READ THE NATIONAL SAFETY COUNCIL WHITE PAPER, "**UNDERSTANDING THE DISTRACTED BRAIN: WHY DRIVING WHILE USING HANDS-FREE CELL PHONES IS RISKY BEHAVIOR**," AT **thebrain.nsc.org**.

ELIMINATING DRIVER DISTRACTIONS

Lack of awareness about the risks of hands-free devices, conversations and cognitive distraction could prolong change to safer driving. Widespread education about the dangers of talking on a cell phone while driving is critical. Get involved today by implementing and supporting:

- Corporate cell phone bans
- Public education
- Distracted driving legislation
- High-visibility law enforcement
- Safe driving technology

Danger: Drivers often believe their own crash risk is lower than other drivers.

Although 87% of AAA Foundation for Traffic Safety survey respondents said **drivers talking on cell phones are a somewhat or very serious threat to their personal safety**, nearly 70% admitted talking on a cell phone in the last 30 days.

Kidosh, K. Summary of Estimate Model. (2009). National Safety Council.
SOURCES: Carnegie Mellon University Center of the Prevention of Distracted Driving, National Safety Council and Transport Canada, National Highway Traffic Safety Administration, Traffic Safety Facts 2008 data.

The National Safety Council recommends businesses ban cell phone use while driving among employees.

Visit us at **ourdrivingconcern.nsc.org** for more FREE resources and information on what you can do to encourage your employees to drive safely.

DEVELOPED WITH FUNDING FROM THE TEXAS DEPARTMENT OF TRANSPORTATION.

NATIONAL SAFETY COUNCIL

Save a Life
Texas Department of Transportation

OUR DRIVING CONCERN

EMPLOYER TRAFFIC SAFETY PROGRAM

A PROGRAM OF THE NATIONAL SAFETY COUNCIL

NO TEXT MESSAGE IS **WORTH A LIFE**

Texting has become the way many people communicate. One in three texting teens ages 16-17 say they have texted while driving. That translates to 26% of all American teens. 48% of all teens ages 12-17 say that they have been in a car when the driver was texting. Sending text or email messages while driving is extremely dangerous, as it draws a driver's eyes, mind and hands away from the road. If a driver looks away for about 5 seconds to text, he or she could travel the length of an entire football field without looking at the road. Drivers who type or read text messages contribute to a minimum of 160,000 crashes each year.*

Drivers texting are **8 to 23 times** as **likely to** be involved in a **crash.**

SOURCE: National Safety Council

Driver distractions cost the U.S. economy **$3.58 billion every month.**

SOURCE: Harvard Center for Risk Analysis

THE CULTURAL **PHENOMENON**

The number of text messages sent per minute continues to increase dramatically, according to CTIA-The Wireless Association:

YEAR	TEXT MESSAGES PER MINUTE
2000	319
2005	223,595
2007	1,095,163
2008	2,509,705
2009	3,483,994

As the annual number of text messages sent increases, the percentage of drivers texting on the road may rise as well.

American teens send and receive an average of over 3,300 text messages per month—more than **6 texts every hour they are awake**.

SOURCE: The Nielsen Co.

A MESSAGE FOR CHANGE

Support for primary texting laws is as high as 97%. Primary texting laws are proven to save more lives and have greater compliance, as seen with safety belt laws. Primary enforcement laws allow police to pull over and ticket a motorist solely for texting, compared with secondary enforcement, where police must witness another traffic offense before they can pull over a driver. To check your state's current texting laws, visit **iihs.org**.

REMEMBER THESE TEXTING CRASHES?

- A San Antonio bus driver crashed into a car in June 2008. Security video from inside the public transportation bus shows the bus driver texting and taking his eyes, hands and attention off the road for up to six minutes before the crash occured.
- Only three months later, a California commuter train ran a red light and slammed into a freight train. It was reported the conductor never applied his breaks because he was texting. Twenty-five passengers were killed and an additional 130 were injured.
- In May 2009, a Boston trolley crashed into another trolley. The Massachusetts Bay Transportation Authority conductor was texting his girlfriend. Forty-nine passengers were taken to the hospital.

All three of these crashes occurred while drivers were on the job. National Safety Council recommends organizations ban employees from texting while driving, as well as from talking on handheld or hands-free devices while on the road.

In October 2009, President Barack Obama signed an Executive Order banning federal government employees from texting while on the job. The Federal Motor Carrier Safety Administration also recently banned interstate commercial motor vehicle drivers from texting while driving. The Occupational Safety & Health Administration will now investigate employers who require texting while driving.

KNOW THE PREVENTION STEPS

As a driver, you can make the lifesaving decision to stop all cell phone use behind the wheel, including texting. As a phone user, you also have the power to stop a conversation if someone calls you while he or she is driving. As a passenger, you have the right to speak up and ask a driver not to use their cell phone on the road.

The National Safety Council asks businesses to educate employees on the increased risk of texting or talking on a cell phone while driving. Employees should know the dangers and refrain from checking e-mail or conducting business behind the wheel.

NSC has developed a comprehensive Cell Phone Policy Kit to help employers build leadership support and communicate to employees the risks and need for a cell phone policy. To download the kit for FREE, visit **distracteddriving.nsc.org**.

*2009 NSC Attributable Risk Estimates.
SOURCES: CTIA-The Wireless Association, National Safety Council, Nationwide Insurance and the Nielsen Co.

The National Safety Council® recommends businesses to ban cell phone use while driving among employees.

Visit us at **ourdrivingconcern.nsc.org** for more FREE resources and information on what you can do to encourage your employees to drive safely.

DEVELOPED WITH FUNDING FROM THE TEXAS DEPARTMENT OF TRANSPORTATION.

Save a Life
Texas Department of Transportation

OUR DRIVING CONCERN

EMPLOYER TRAFFIC SAFETY PROGRAM

A PROGRAM OF THE NATIONAL SAFETY COUNCIL

The National Safety Council recommends recording a voicemail greeting telling callers it is not safe to make or receive calls while driving.

NO TEXT MESSAGE IS WORTH A LIFE.

ON THE ROAD, OFF THE PHONE.

Distractions now join alcohol and speeding as **leading factors in** fatal and serious **injury crashes.**

SOURCE: National Safety Council

VISIT US AT
ourdrivingconcern.nsc.org
distracteddriving.nsc.org

Save a Life™
Texas Department of Transportation

Cell Phone Distracted Driving Top 10

1. Multitasking is a myth. Our brains cannot process two cognitively demanding tasks at once.

2. The parietal lobe activation, associated with processing moving visual images while driving, decreases by as much as 37% with sentence listening

3. Cell phone users are four times as likely to be involved in crashes resulting in injury

4. Drivers talking on cell phones fail to see half of the information in their driving environment. They “look” but they don't “see”

5. There is **no difference** in risk between hands-free and handheld cell phone use

6. Cell phone use is more distracting than listening to the radio or talking to passengers

7. Car crashes are the #1 cause of worker fatalities

8. No cell phone call or text is worth a life

9. Hands-free devices **do not** offer safety benefits

10. **Safety is our #1 priority**

The NSC Cell Phone Policy Kit is made possible through generous donations from NSC employees.

It's still **risky**

More than 30 studies show hands-free devices are **no safer** than handheld.

HANDS-FREE IS NOT RISK-FREE

Find out why
nsc.org/handsfree

GET SOCIAL! #DDAM ▶

When technology is a problem - **not a solution**

Voice-activated texting
is **more distracting**
than typing a text.

AAA Foundation for Traffic Safety and Texas A&M Transportation Institute

HANDS-FREE IS NOT RISK-FREE

Find out why
nsc.org/handsfree

GET SOCIAL! #DDAM ▶

You CAN'T do either of these well...

...if you're doing them at the same time

HANDS-FREE IS NOT RISK-FREE

Find out why

nsc.org/handsfree

GET SOCIAL! #DDAM ▶

Don’t assume the driver sees you.

Drivers talking on cell phones, handheld or hands-free, can miss seeing 50% of what’s around them.

Calls kill

Hands-free is not risk-free

Find out why at **nsc.org/cellfree**

#CallsKill

Take the **Focused Driver** Challenge

An estimated 1 in 4 crashes involve cell phone distraction, handheld or hands-free. Choose to drive cell free.

Calls kill

Hands-free is not risk-free

Find out why at **nsc.org/cellfree**

#CallsKill

It's just not worth it.

Lives are needlessly lost because drivers *choose* to use a phone.

Calls kill

Hands-free is not risk-free

Find out why at **nsc.org/cellfree**

#CallsKill

You can’t watch TV while talking on the phone.
So why use a phone and drive?
The consequences can be deadly.

Calls kill

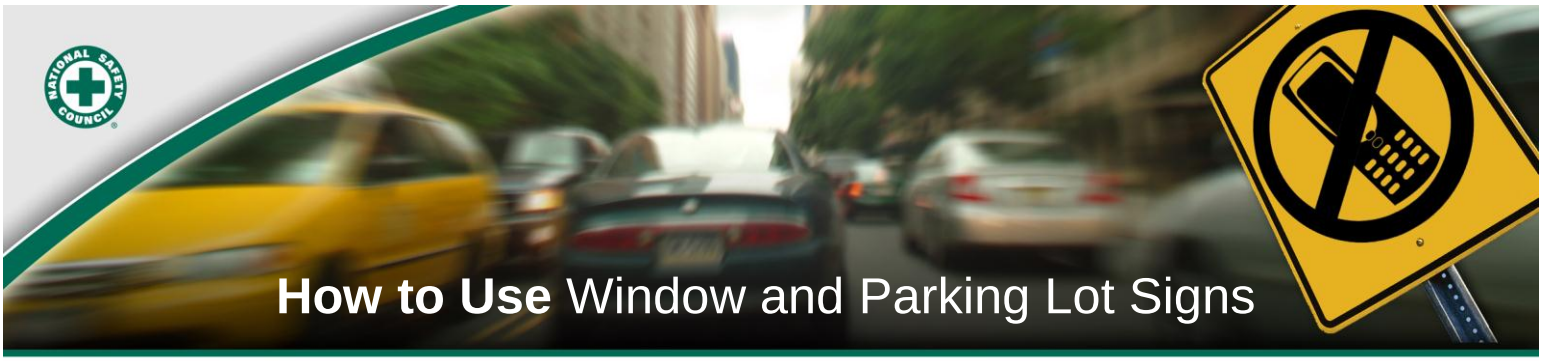
Hands-free is not risk-free

Find out why at **nsc.org/cellfree**

#CallsKill

PLEASE

finish your call or text
before leaving the building.



How to Use Window and Parking Lot Signs

Posting signs around the building is a great way to remind employees of the policy. Signs also inform visitors not to use their cell phones while driving, and they should end calls and finish sending text messages before leaving the building and walking to their vehicles.

NSC has enclosed samples of window and parking lot signs to help you get started. The signs should be ordered shortly after announcing your policy to employees.

Here are some things to consider when ordering signs:

- Check with your city's police department to make sure you follow necessary formalities when installing your signs in the company parking lot. You may need to receive permission from the police department, obtain a permit or file a formal request.
- Order rust-resistant metal signs for the parking lot. Do not order them in a color that is difficult to read.
- Make sure the signs are large and difficult to miss. Signs in the parking lot should be mounted on high steel posts, not placed close to the ground where drivers may not see them.
- Place parking lot signs at every entrance, exit and near the building entryway so employees are reminded of the policy on their way to their vehicles.
- Place window signs at all entrances and exits – not just at main entryways. Do not forget to order signs for remote locations.
- Make sure the font on window signs are large and easy to read.
- Print the window signs on strong paper. Regular printer paper will not hold.

The NSC Cell Phone Policy Kit is made possible through generous donations from NSC employees.

Park
to talk or text

John Sligting

Died at the age of 56,
June 13, 2007 in Libertyville, IL

John

John was a husband, father, grandfather, firefighter, retired Army officer and avid motorcycle enthusiast who believed in helping others.

A month before John was killed, he helped raise more than $35,000 for the Pediatric Brain Tumor Foundation.

Cause of Death:

A teen driver, distracted by her cell phone conversation, ran a stop sign.* John couldn't stop his motorcycle in time and slammed into her vehicle. He died at the scene of the crash.

* Story based on information from victim's family.

Ban cell phone use while driving.

distracteddriving.nsc.org

.5C0711 000082932

Morgan Lee Pena

Died at the age of 2,
November 1, 1999 in Hilltown, PA

Morgan Lee

Loved reading stories, playing in her backyard, taking walks in the wagon and lying on the couch with her daddy.

Cause of Death:

A 27-year-old driver distracted by his cell phone ran a stop sign at 45 mph and t-boned the Pena vehicle. Morgan recieved a severe head injury – the worst the Children's Hospital of Pennsylvania had ever seen in a child of her age. Morgan didn't survive.

On March 15, 2010, the man who killed Morgan struck again. Sleep deprived, he was listening to an iPod and talking on his cell phone while transporting kids to school.* The onboard video camera shows he ran 10 stop signs. The last stop sign he ran caused a fatal collision – taking the life of Richard Taylor.

* Story based on information from victim's family.

Ban cell phone use while driving **and stop repeat offenders.**

distracteddriving.nsc.org

.5C0711 000082932

Katie Mathews

Injured at the age of 16
May 6, 2006 in Venice, FL

Katie

Katie played basketball and volleyball in high school and loved to go camping. She thoroughly enjoyed time spent with her friends. Others define Katie as determined, competitive and strong.

Cause of crash:

Katie and her friend needed directions to a party and called another friend while driving. Distracted by the conversation, the driver lost control of the vehicle. It rolled four times before landing in the median. Katie sustained brain injuries and was left a quadriplegic. She travels around the country sharing her story and warning teens about the dangers of cell phone distracted driving.

(Story based on information from the victim.)

Pledge to drive cell free.

nsc.org/pledge

Justin Martinez

Died at the age of 19
July 20, 2011 in Harris County, TX

Justin

Justin was a standout soccer and football player, and loved being outdoors. He excelled in school and was very social and outgoing. Justin was described as responsible, fun-loving and talented.

Cause of death:

Justin answered his cell phone while driving and was so distracted by the conversation that he failed to see the vehicle in front of him slow to make a right turn. To avoid a collision, Justin swerved into oncoming traffic and was T-boned by another vehicle. He died at the scene, a little less than 200 yards from his home.

(Story based on information from the victim's family.)

Pledge to drive cell free.

nsc.org/pledge

Kelsey Raffaele

Died at the age of 17
Jan. 24, 2010 in Sault Ste. Marie, MI

Kelsey

Kelsey's zest for life set her apart from her peers. Popular and smart, Kelsey was preparing to graduate from Sault Area High School with her twin sister, Courtney. Her mother, Bonnie, said Kelsey had a huge heart and always put others first.

Cause of death:

Kelsey was talking to a friend on her cell phone when she decided to pass the vehicle in front of her. She misjudged the amount of time she had to safely pass and collided with an oncoming vehicle. The impact killed Kelsey instantly.

(Story based on information from the victim's family.)

Pledge to drive cell free.

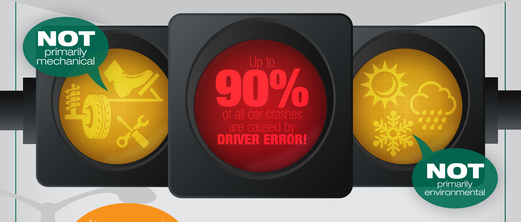
nsc.org/pledge

HANDS-FREE IS NOT RISK-FREE

#1 cause of unintentional deaths in U.S. are car crashes.

About **100 PEOPLE** die every day in car crashes.

A DEADLY DISTRACTION



At any moment, **9% OF DRIVERS** are talking on cell phones.

About **26% OF ALL CAR CRASHES** involve cell phone use – **including hands-free!**

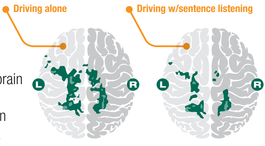
HANDS-FREE IS NOT RISK-FREE

WHAT'S HANDS-FREE? earpiece | dashboard system | speakerphone

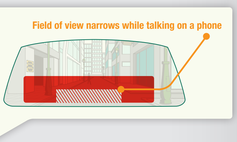
MULTI-TASKING: THE BIG FAT MYTH

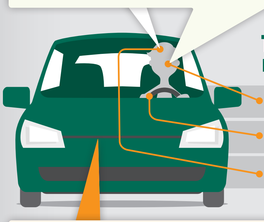
The brain quickly toggles between tasks – but can't do two things at the same time.

The activity in the area of the brain that processes moving images **decreases by up to 1/3** when listening to talking on a phone.



Drivers looking out the windshield can **miss seeing up to 50%** of what's around them when talking on any kind of a cell phone.

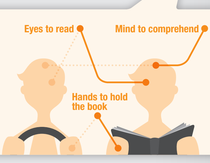




THE ESSENTIAL TRIO: requirements for driving

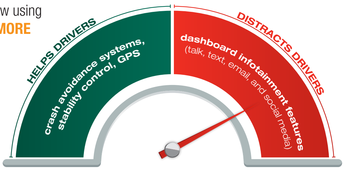
- Eyes on the road
- Hands on the wheel
- **MIND ON DRIVING**

Other activities **take thought** and **are hard to do while on a call**, like reading a book. You can't do either well if you're doing them at the same time, and the consequences with driving are much greater than needing to reread a page.



TECHNOLOGY: GOOD OR BAD?

New studies show using voice-to-text is **MORE** distracting than typing texts by hand.



HANDS-FREE IS NOT RISK-FREE

BACK-SEAT DRIVER: the paradox of the passenger

A passenger is another set of eyes.

A passenger is able to recognize when traffic is challenging and stop talking.

Isn't it just as distracting to talk to passengers?

For adult drivers, **no!**

A passenger is able to spot and point out driving hazards.

HANDS-FREE IS NOT RISK-FREE

TAKE THE PLEDGE TODAY!

Now that you have the facts about cell phone use while driving (hands-free or handheld!), take the pledge to keep our roadways safe by driving cell free at **nsc.org/pledge**

SOURCES: The AAA Foundation for Traffic Safety, Carnegie Mellon University, *Injury Facts*® 2013 edition, National Highway Traffic Safety Administration, National Safety Council, University of Utah

The Great Multitasking Lie

DEBUNKING THE MYTHS OF CELL PHONE DISTRACTED DRIVING

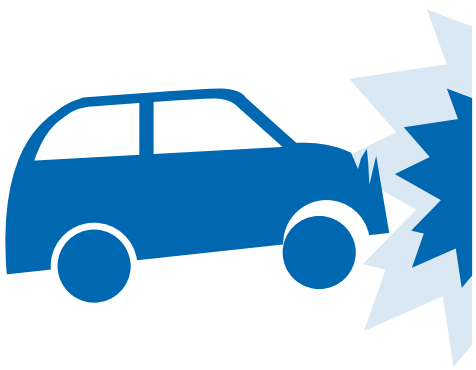
Most people may know that texting while driving is a dangerous behavior, but many don't fully grasp the idea that having cell phone conversations in the car is also risky. Below, the National Safety Council helps dispel the illusion of multitasking and the myths that blind the public into believing it is safe to use your cell phone while driving.

Consider This

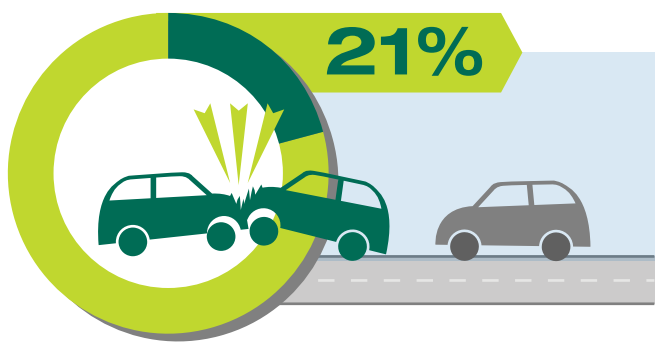
It's no mystery: Americans today have an unhealthy obsession with their cell phones.

A 2012 survey conducted by the AAA Foundation for Traffic Safety found that **more than two in three** drivers report talking on their cell phone while driving at least once in the past 30 days.

Nearly **one in three** say they did this "fairly often" or "regularly."



Drivers talking on handheld or hands-free cell phones are **4X** as likely to be involved in a car crash.



In addition, the National Safety Council currently estimates that people talking on cell phones while driving are involved in **21%*** of all traffic crashes in the United States.

The average cost of a property damage crash in 2011: **$9,100**

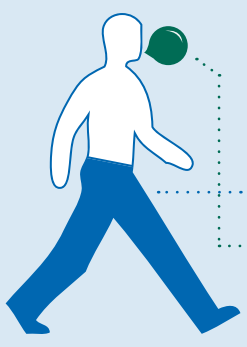
*According to a 2010 annual estimate.

Myth vs. Reality

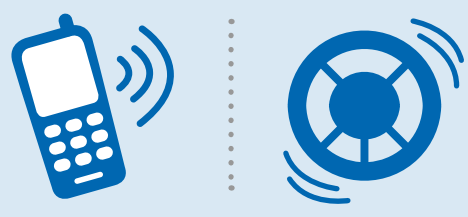
Myth #1 Drivers can multitask.

Reality Contrary to popular belief, the human brain cannot multitask. Driving and talking on a cell phone are two thinking tasks that involve many areas of the brain. Instead of processing both simultaneously, the brain rapidly switches between two cognitive activities.

Take the classic example of the act of walking and chewing gum. There is a common misconception that because people appear to simultaneously do both that they can just as easily talk on their cell phones and drive safely at the same time.



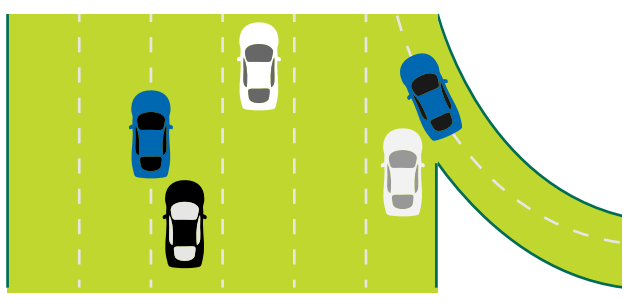
The truth is that walking and chewing gum involve a **thinking** task and a **non-thinking** task.



Conversation and driving are **both thinking** tasks.

Myth #2 Talking to someone on a cell phone is no different than talking to someone in the car.

Reality A 2008 study cited by the University of Utah found that drivers distracted by cell phones are **more oblivious** to changing traffic conditions because they are the only ones in the conversation who are aware of the road.

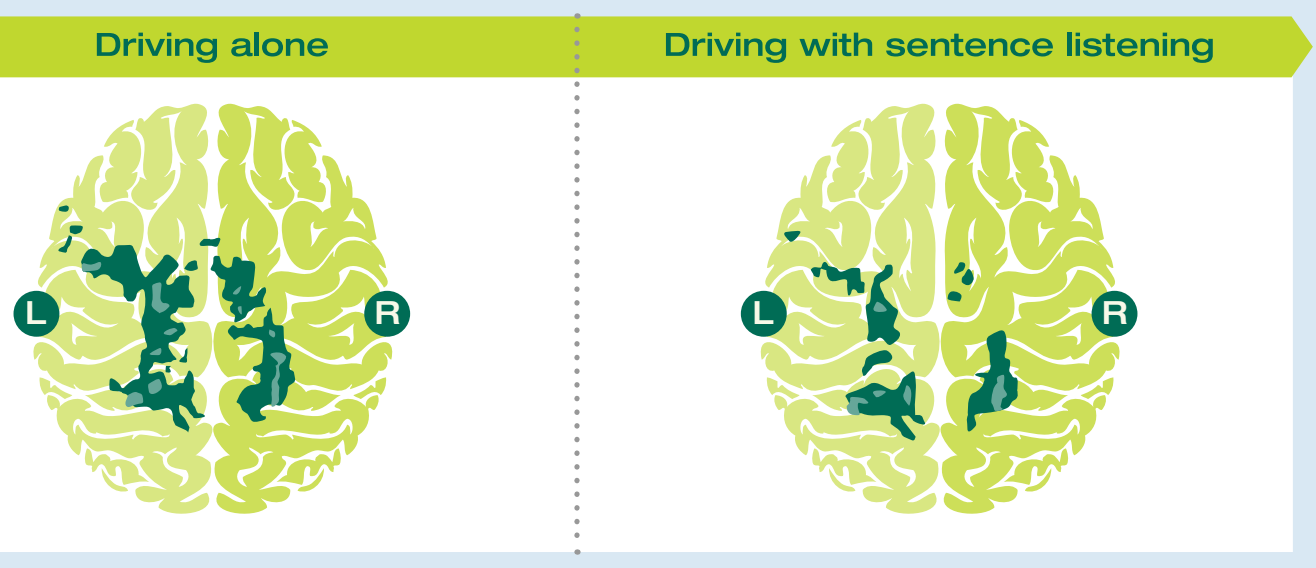


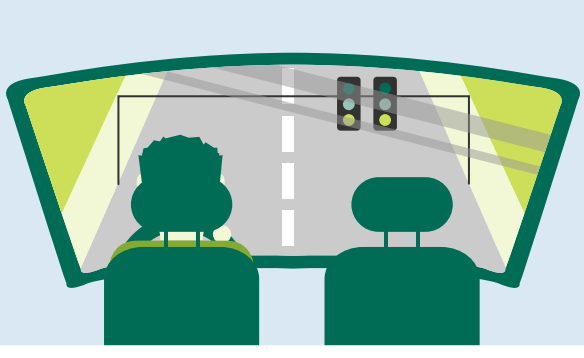
In contrast, drivers with adult passengers in their cars have an **extra set of eyes and ears** to help keep the drivers alert of oncoming traffic problems. Adult passengers also tend to adjust their talking when traffic is challenging. People on the other end of a driver's cell phone cannot do that.

Myth #3 Hands-free devices eliminate the danger of cell phone use during driving.

Reality Whether handheld or hands-free, cell phone conversations while driving are risky because the distraction to the brain remains.

Activity in the parietal lobe, the area of the brain that processes movement of visual images and is important for safe driving, decreases by as much as **37%** when listening to language, according to a study by Carnegie Mellon University.

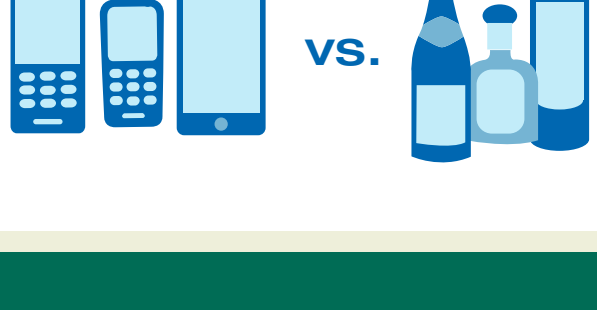




Drivers talking on cell phones can miss seeing up to 50% of their driving environments, including pedestrians and red lights. They look but they don't see. This phenomenon is also known as **"inattention blindness."**

Myth #4 Drivers talking on cell phones still have a quicker reaction time than those who are driving under the influence.

Reality A controlled driving simulator study conducted by the University of Utah found that drivers using cell phones had **slower reaction times** than drivers with a .08 blood alcohol content, the legal intoxication limit.

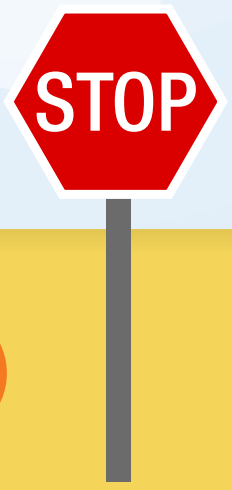


There is a simple solution – drivers talking on cell phones can immediately eliminate their risk by **hanging up the phone**, while drunk drivers remain at risk until they sober up.

Sources: National Highway Traffic Safety Administration | University Of Utah | The AAA Foundation for Traffic Safety | National Safety Council

Avoid the Dash to the Dashboard

Dashboard infotainment systems allow drivers to stay connected. But just because we can do something, **DOESN'T MEAN WE SHOULD**.



IT'S MORE DISTRACTING THAN YOU THINK

Drivers talking on handheld or hands-free devices can **FAIL TO SEE 50% OF THEIR SURROUNDINGS**

80%
OF DRIVERS MISTAKENLY BELIEVE hands-free devices are safer than handheld

MORE THAN 30 STUDIES show hands-free devices don't make drivers any safer – the brain remains distracted by the conversation

53% OF U.S. DRIVERS believe hands-free devices must be safe if built into vehicles

Hands-free features in dashboards can **increase mental distraction**

INFOTAINMENT IS ABOUT CONVENIENCE – NOT SAFETY

The following actions don't make us safer drivers:

- Talking on the phone
- Checking email
- Posting a social status
- Ordering take-out

Vehicle techologies should prevent crashes, not increase their likelihood.

CONVERSATIONS WITH OUR CARS

Studies show using voice to text is **MORE DISTRACTING THAN TEXTING** by hand.

You: "Text Mike."

Car: "Begin Speaking."

You: "Thanks Mike, your order arrived yesterday."

Car: "Thanks Nike, Yoder arrived yesterday."

You: "Cancel! Text Mike."

Sources: National Safety Council, Texas Transportation Institute, AAA Foundation for Traffic Safety

Learn more at: **distracteddriving.nsc.org**

Cognitive distraction is dangerous for drivers because they do not recognize the distraction while it is happening. That's why misconceptions persist about cell phone use while driving being safe.

The following exercises can help employees understand cognitive distraction and realize why it is nearly impossible to drive while having a cell phone conversation.

Activity #1: Watch TV and talk

Try to watch your favorite TV show for 15 minutes while talking on your cell phone. If you have DVR, record the program while you are on the phone. If not, ask someone to sit in the room with you during the exercise.

When you are finished with the conversation, describe the plot of the TV show to the other person watching and tell them about your cell phone call. You will realize you weren't able to pay attention to everything in both activities.

Activity #2: Think of an elephant and read

Try to think of an elephant and read at the same time. You can't do it. This is another example of how our brains can only focus on one cognitively demanding task at a time.

Activity #3: Talk while writing

This activity is great within a department or at staff meetings. Ask for a volunteer. The volunteer will be asked to have a cell phone conversation with another employee. During that conversation, a third employee will read from a prepared script and ask the volunteer to transcribe what is being read while talking on the cell phone. The volunteer **CANNOT** ask either person to repeat what was said.

The person having the phone conversation with the volunteer should craft some basic but cognitively engaging questions to ask (i.e., where did you grow up? What is your pet's name?). Print the questions for employees to take home and do with their families. The employee dictating what the volunteer is supposed to write should read from a prepared script.

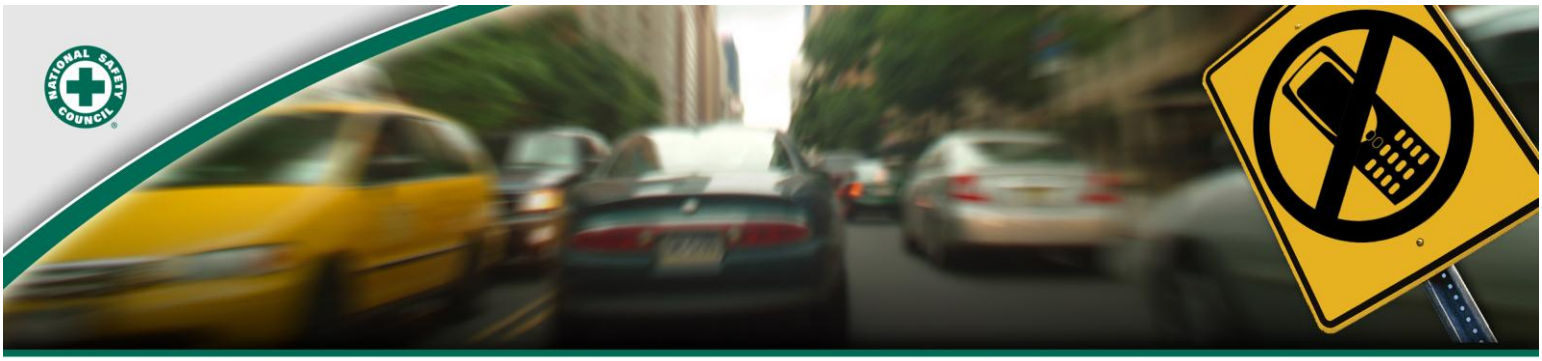
Afterward, ask the volunteer what the cell phone conversation was about and compare their answer to the other cell phone user's. Compare what was written to what was read. The volunteer will not be able to show he or she accurately captured the cell phone conversation or the dictated directions.

Activity #4: Talk through disruptions

Ask for a volunteer from the audience. You and that individual will have a conversation about the dangers of cell phone use. You could ask questions such as:

- Do you think using a cell phone while driving is a safe behavior?
- What do you think when you see people using their cell phones while driving?
- Share your thoughts on texting while driving with us

The NSC Cell Phone Policy Kit is made possible through generous donations from NSC employees.



The goal is to ask questions that are not yes/no questions and that will stimulate thought by the person you are speaking with. Try your hardest to maintain eye contact with the volunteer who is answering the questions.

Shortly after that conversation starts, have two interrupters of the same gender who are dressed similarly. This scenario will be staged so that one interrupter will approach the people having a conversation and say ‘excuse me’ and walk through the group. That person goes out of sight. From that same direction the other interrupter will walk back through the group without saying anything, but walk through the group the exact same way – not making eye contact with anyone and then going out of sight. The goal is to see if the volunteer who is answering the questions realized it was someone else who cut back through. Another interrupter in the room will cause other distractions – a cough, a ringing cell phone, have a few people get up to use the washroom, etc. The goal is to keep changing the environment.

After a few minutes of conversing with the volunteer, and after the ‘interrupters’ are done, ask the volunteer the following:

- How many times did someone interrupt us by walking through?
- Who interrupted us while we were talking?
- Were there any other interruptions that happened?
- Explain what the interruptions were?
- How many interruptions were there in all?

Check the volunteer’s answers against what was staged.

The NSC Cell Phone Policy Kit is made possible through generous donations from NSC employees.

Public Support

Public support for total cell phone bans has increased significantly. A 2011 AAA Foundation for Traffic Safety study found:

- 94 percent consider texting a very serious safety threat
- 87 percent feel cell phone use while driving causes distraction
- 88 percent feel drivers do not know how distracted they really are when using a cell phone
- 88 percent feel distracted driving can quickly lead to a crash

Sadly, while most drivers realize the dangers of cell phone distracted driving, many still engage in the behavior regardless of the perceived danger. Many drivers continue to operate under the assumption that “I can drive safely while using my phone, but other people cannot.” This type of thinking can be deadly.

You can help

Everyone plays a role in making our roadways safer. Make a personal commitment to drive cell free, and if you have trouble doing so, use the technologies that are available to prevent cell use.

- Change your cell phone voicemail greeting to: “Hi, this is (name). I’m either away from my phone or driving. Please leave a message.”
- Tell people who call you while they are driving that you value their safety and to call back when they are no longer driving
- Talk to family and friends about the dangers and encourage them to drive cell free
- Speak up when in the car with a driver who uses a cell phone while driving
- Let people who transport children know that they should not use their cell phones while driving. If they are not willing to drive without using a cell phone, arrange alternate transportation

The time has come for everyone to take personal responsibility for his or her safety and for the safety of others on our roadways.

The NSC Cell Phone Policy Kit is made possible through generous donations from NSC employees.

Cognitive Distraction Myth Buster

Misconceptions persist about the dangers of talking on a hands-free cell phones while driving. Here are some of the most common myths:

Myth: A hands-free device eliminates the dangers of cell phone use while driving

FACT: Hands-free devices offer no safety benefits because they do not eliminate cognitive distraction. The brain cannot process two cognitively complex tasks at once and, as it switches from a cell phone conversation to driving and back again, the brain becomes so overloaded that drivers can miss seeing up to 50% of their driving environment.

Myth: If a driver's eyes are on the road at all times then he/she is safe

FACT: A driver may be looking at his or her driving environment while they are talking on a cell phone device. The problem is the driver looks but does not "see." Distracted drivers experience what researchers call inattention blindness – similar to tunnel vision. Drivers look out the window, but their brains do not process everything necessary to safely monitor their surroundings. It is because a driver talking on a cell phone is focused first on the cell phone conversation; the brain prioritizes the cognitive task of driving second.

Myth: Even if hands-free devices are dangerous, talking on a cell phone still is not the worst thing drivers can do behind the wheel

FACT: There are other activities that are more dangerous for drivers such as turning around to reach for an object in the back seat or rummaging through a purse. However, these distractions typically last just a few seconds because drivers realize the risk and the actions are short lived. Cell phone conversations often are longer because drivers do not realize they are cognitively distracted. The longer a call, the longer the exposure to risk. That is why cell phone use causes more crashes than more dangerous activities – because of the number of people engaged in the behavior at any given time.

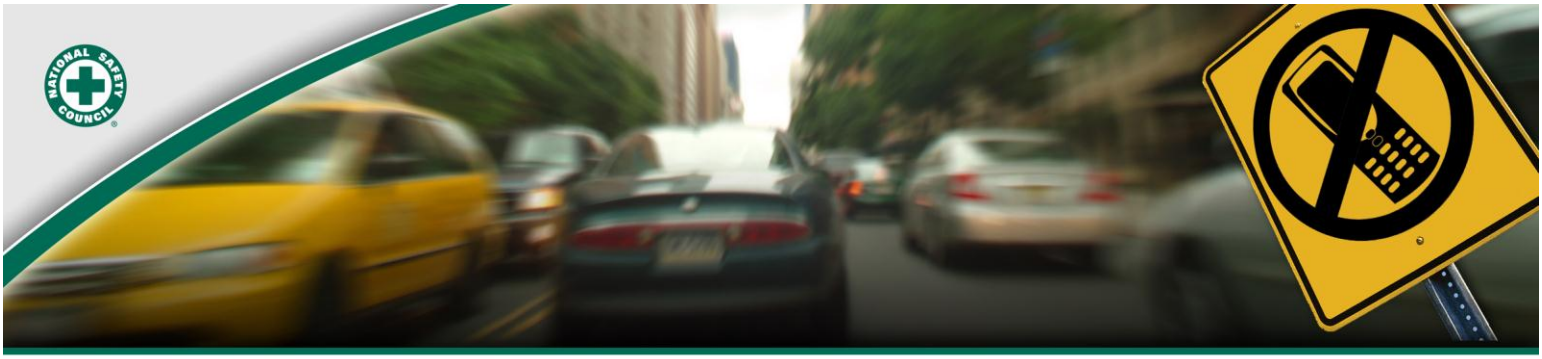
Myth: If cell phone use while driving is cognitively distracting, then drivers also should not talk to other passengers

FACT: Some passenger conversations can be distracting to drivers such as intense conversations or arguments. But adult passengers often actively help drivers by monitoring and discussing traffic, and they tend to suppress conversation when the driving environment becomes demanding. Passengers can see the roadway; callers cannot.

Myth: Other drivers have problems talking on cell phones and driving, but I can handle it

FACT: According to a study done by the University of Utah, 98% of the public is incapable of performing two cognitively demanding tasks at once without incurring substantial costs in performance. Only 2% of people have the ability to multitask without performance problems, and they perform at an "extraordinary" level. These are the kinds of people you want as "Top Gun" pilots.

The NSC Cell Phone Policy Kit is made possible through generous donations from NSC employees.



Myth: Listening to the radio is as cognitively distracting as talking on a cell phone

FACT: Listening to music is not as cognitively demanding because it is not a two-way conversation in which the brain needs to formulate a response. Listening to music does not require as much thinking.

The NSC Cell Phone Policy Kit is made possible through generous donations from NSC employees.

*This letter can be sent by your company president to employees. It is intended to be used on **your** company letterhead or in an email from your company president.*

Dear staff,

Ensuring our employees return home safely to their families has and will always be a top priority for <insert company name>. Many of you have heard the ongoing dialog about the dangers of cell phone use while driving. After careful review of the latest research, it is our opinion that cell phones and driving can be a deadly combination. For that reason, <insert company name> will be implementing a total cell phone ban for all employees in the coming weeks.

We are sure there are concerns about drops in productivity; however, we've reviewed surveys from other organizations that implemented policies and those organizations didn't report decreases in productivity.

Cell phones have quickly become a way of life for many of us. We feel compelled to stay connected. I share that feeling. However, the truth of the matter is that our brains simply cannot handle two tasks at the same time that require thinking. As part of the implementation process, we will be sharing with you what we learned and let me tell you, it's frightening. I would not want to explain that my call or text caused the death of someone's loved one. And the truth is, just that is happening because of drivers distracted by their cell phones. For your safety, and the safety of those around you while driving, we don't want you using your cell phones while driving.

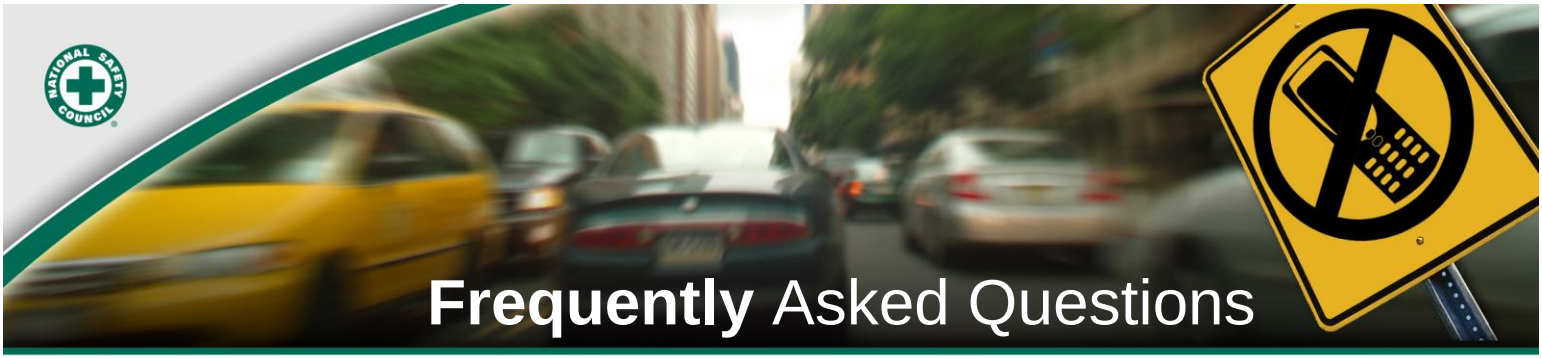
This risk just isn't worth it. I'm sure you would all agree that safety is more important than a phone call or text message. We are implementing a total cell phone ban that covers all handheld and hands-free devices and it applies to all of our employees. We've learned that hands-free devices provide nothing more than a false sense of security. All they do is allow the driver to put one more hand back on the wheel. The distraction in the brain still exists. We simply cannot perform two tasks at the same time that require significant cognitive resources.

Safety is paramount – at work, at home and on the roads. We want to ensure you return to your families safely.

We appreciate your cooperation. If you have any questions, please feel free to notify <insert contact name> at <extension> or <email>.

Sincerely,

<insert name>



Frequently Asked Questions

Q: You want us to be more productive, but now you're holding us back from doing so while driving. Why?

A: There's no question productivity is a priority for the health of any organization. However, we certainly don't want increased productivity at the expense of our employees' safety and well-being. No cell phone call is worth a life, or even a fender bender.

Employers that have already passed cell phone policies have found their employees find ways to maintain productivity and accessibility once ceasing cell phone use while driving. Even sales forces, heavily dependent on communication, have used time management and new habits to maintain their productivity.

It may also be the law in your state. Check these websites for the most current laws:

Governors Highway Safety Association:
www.ghsa.org/html/stateinfo/laws/cellphone_laws.html

Insurance Institute for Highway Safety:
http://www.iihs.org/laws/cellphonelaws.aspx

Q: What's wrong with using hands-free technology? It lets you keep your hands on the wheel.

A: Both hands-free and handheld phones affect safe driving because the distraction stems from the conversation, which is a cognitive distraction of the mind. We become focused on the phone call and lose the situational awareness necessary for safe driving. Drivers tend to "look" but not "see" when talking on both hands-free and handheld phones. Drivers see and remember only half of the driving environment around them. They tend to miss seeing important navigation signs and traffic signals, even when traveling in familiar areas. Their reaction time is much slower. According to the Insurance Institute for Highway Safety, these problems cause driving errors that make a driver four times as likely to crash. So the issue isn't where your eyes and hands are - it's where your mind is.

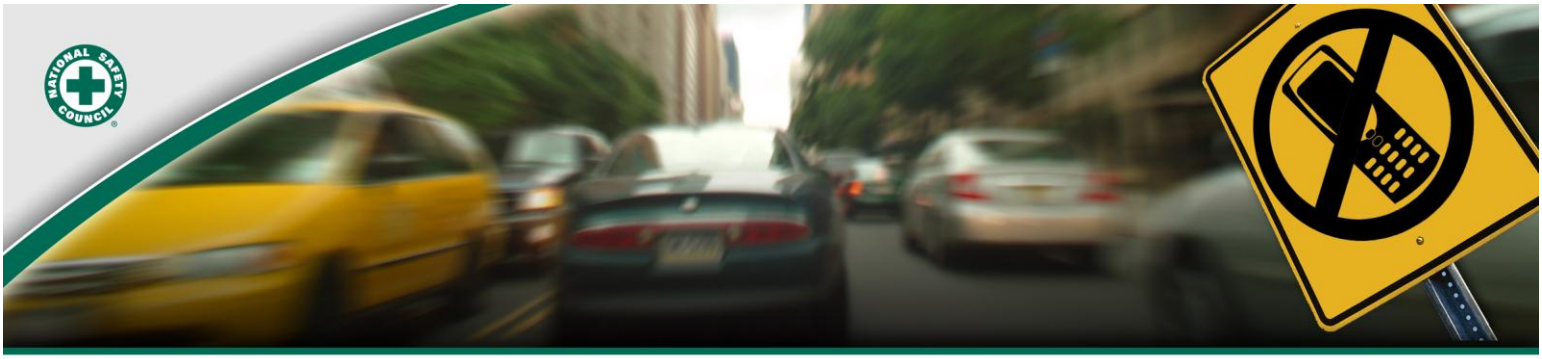
Q: Why is talking on a cell phone more dangerous than talking to a passenger?

A: During a conversation with a passenger, you rely on many non-verbal cues to understand the other person. While talking on a cell phone, you cannot see these cues so, you focus more attention on the conversation than usual. This distracts your mind from focusing on driving.

Also, passengers can see your driving environment. They are aware of the situation around you and will tend to adjust the conversation. A passenger can even serve as an additional lookout for hazards.

As a result, passengers actually reduce crash risk for adult drivers. Please note that this is not true for novice teen drivers – both passengers and cell phones dramatically increase crash risk for teen drivers.

The NSC Cell Phone Policy Kit is made possible through generous donations of NSC employees.



Q: What if I want to make a personal call using my own cell phone?

A: Increased crash risk makes no distinction between personal and business use. Thus, our policy makes no distinction between use of a personal cell phone or a business cell phone, or a personal or business conversation, text or email. It addresses the use of any cell phone while operating a vehicle.

Q: Aren't cell phones important devices for reporting emergencies?

A: Cell phones are important for immediately reporting emergencies. However, emergency calls should be made when vehicles are parked in a safe spot.

Q: There are a lot of distractions while driving, such as eating, drinking, smoking and even pets. Why are you focusing on the use of cell phones?

A: Any distraction is dangerous, and we encourage employees to avoid other hazardous driving distractions including eating, smoking and reading a map. These distractions, however, do not approach the risk levels associated with cell phones. This is because cell phone use occurs more frequently and for much longer durations than other distracting behaviors. In addition, cell phones are a unique distraction because they involve all three types of driver distraction: they can take your eyes off the road, hands off the wheel and mind off driving.

Q: Isn't banning the use of cell phones while driving an infringement of my personal freedom?

A: State government does not guarantee its citizens driving privileges, let alone the right to engage in risky behaviors that endanger others on the roadways.

Cell phone users face no compelling loss of freedom; rather, they must change a habit. The small inconvenience of not using a cell phone is far outweighed by the overall benefit to the safety of you and others, including your family and friends.

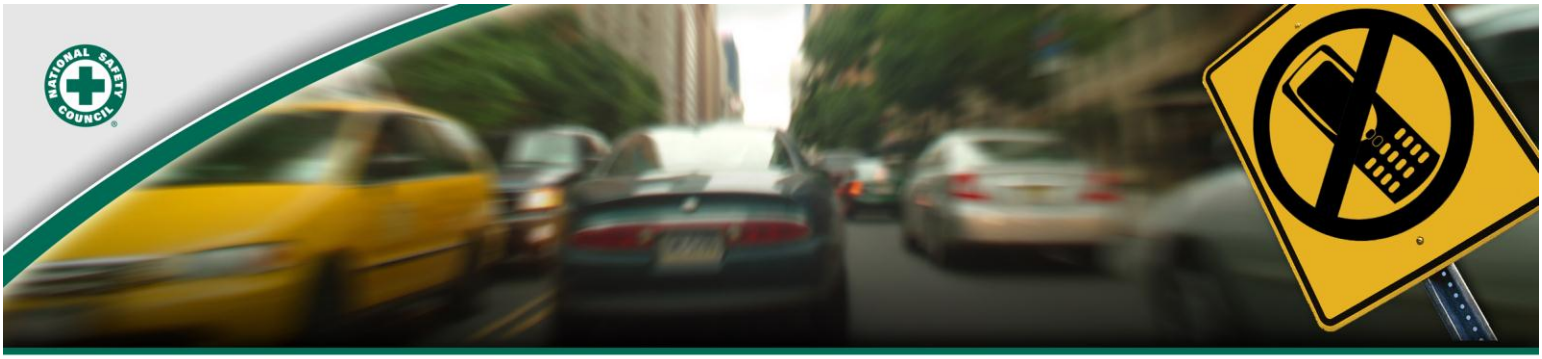
Q: Aren't you just concerned somebody is going to sue the organization?

A: Some organizations have been held financially responsible for cell phone-related crashes, but it's not the only thing we're concerned about. The fact is, driving while using a cell phone is dangerous. Our responsibility to you is to provide a safe environment for you to work in, so you can return safely home to your family and friends each day. We have policies and practices to help keep you safe from other work-related hazards where an increased risk of injury is known. Why wouldn't we also have a policy to help reduce your risk of injury due to cell phone use while driving?

Q: What should I do if my colleagues or clients are concerned when I don't answer my phone?

A: Let them know in advance that, for safety reasons, you do not answer your phone while driving. You can also mention this on your voicemail greeting. If appropriate, leave an estimated arrival time on your voicemail greeting so callers will know when to expect you. When traveling in poor weather, heavy traffic or for long periods of time, set up a plan to regularly pull off the road and park somewhere safe, to check in with callers.

The NSC Cell Phone Policy Kit is made possible through generous donations of NSC employees.



When you need to travel for a long period of time, ask a colleague if you can leave their name and number on your voicemail as an alternate contact to help callers while you are driving.

Q: What do I do if I am expecting an important phone call while I am driving?

A: The safest action is to pull off the road and park your vehicle in a safe place, such as a parking lot, before you answer the call. If possible, let important callers know in advance that you will not answer your phone while driving. Assure them you will call them back as soon as you can safely stop your vehicle.

Q: What do I do if I am going to be late for a meeting due to weather or bad traffic?

A: If you are going to be late for a meeting, pull off the road in a safe location, park your vehicle and place a call.

The NSC Cell Phone Policy Kit is made possible through generous donations of NSC employees.

The following pocket policy card is a useful reminder of your policy. It can be copied and laminated for distribution to employees. If your organization maintains a fleet of vehicles for employee use, you may want to post this in the vehicles.

The card below has sample language coordinating with the sample policies in this kit. If your company's policy differs from our samples, make sure your pocket card reflects the language in your company's policy.

Front

Cell Phone and Driving Policy

Employees may not use cell phones or PDAs while operating a motor vehicle. This includes, but is not limited to:

- Answering or making phone calls
- Engaging in phone conversations
- Reading or responding to emails and text messages
- Accessing the Internet

In an emergency, drive to a safe location, pull over, and put the vehicle in Park before calling to report an emergency.

Back

Safe Driving Suggestions

- Put cell phones/PDAs on vibrate or silent mode, or turn the device off, before starting the car.
- Pull over to a safe place and put the vehicle in Park if a call must be made or received, or to make adjustments to a Global Positioning System (GPS).
- Modify your voicemail greeting to indicate you are unavailable to answer calls or return messages while driving.
- Inform clients, associates and business partners of company policy to explain why calls may not be returned immediately.

The NSC Cell Phone Policy Kit is made possible through generous donations from NSC employees.

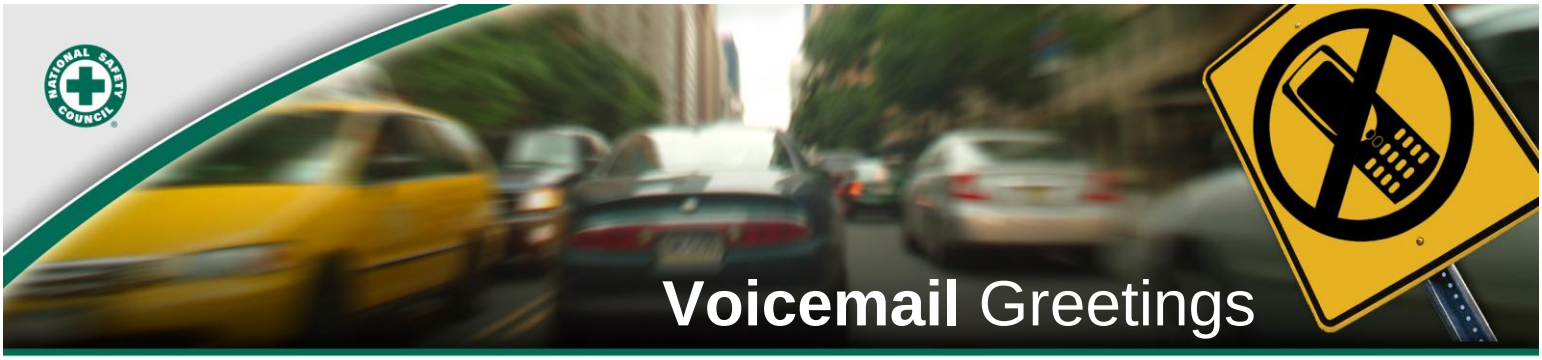
Before you drive

- Develop a habit of turning off your cell phone when you get in your vehicle, and turning it back on when you are done driving. If you can't turn your phone off, put it on vibrate or silent mode.
- Put your cell phone in your trunk to avoid temptation.
- Record a voicemail greeting telling callers it is not safe to make calls while driving, and you will return their call as soon as you are able.
- If you spend a lot of time on the road, organize your route and schedule to allow time to make and return phone calls from the parking lot of one location before leaving to drive to the next one. This strategy has helped employees who drive frequently to maintain productivity and accessibility.

While you drive

- Do not make or answer cell phone calls, even with hands-free devices. If you must make an emergency call, leave the road and park in a safe area.
- Do not send or read text messages or email.
- If you are driving with a passenger, allow them to operate the phone.
- Let someone else drive so that you can freely make or receive calls.
- Enjoy cell-free driving; focus on the road. Protect your life and those around you.

The NSC Cell Phone Policy Kit is made possible through generous donations from NSC employees.



Script 1– Cell Phone Greeting

"Hello, this is _____ *(name, title, company).*

I am either away from my phone or I am driving, and, for safety reasons, I don't use my phone while driving.

Please leave your name, number and a brief message. I will return your call as soon as I am able. *(Optional addition if you are recording a greeting to communicate with callers while you are driving: "I should be at my destination within _____ and will return your call then.")*

Thanks so much."

Script 2 – Cell Phone or Work Phone Greeting

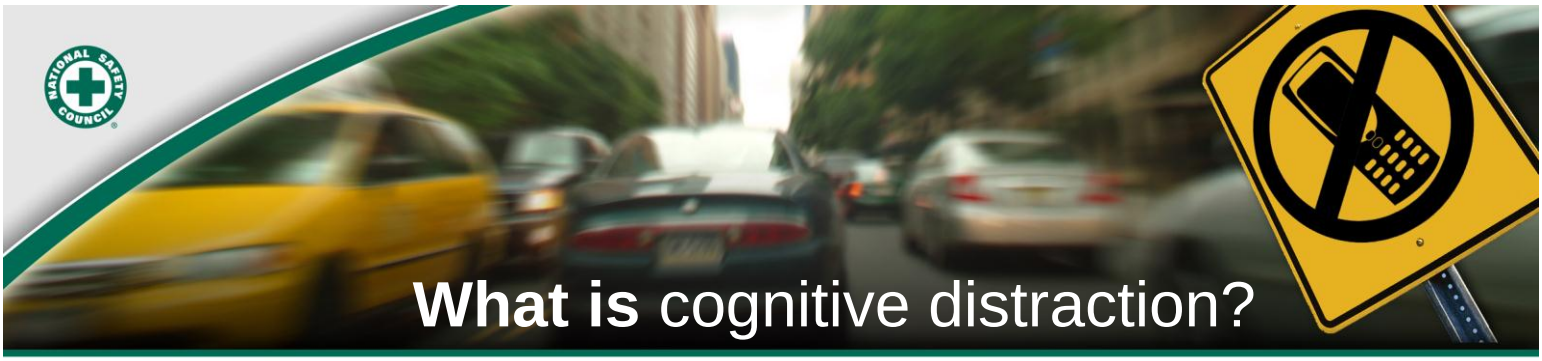
"Hello, this is _____ *(name, title, company).*

I am either on the phone or out of the office.

If you are calling on a cell phone while driving, please hang up and call me back when you are no longer driving.

Otherwise, at the sound of the tone, leave your name, number and a message. I will get back to you as soon as possible. Thank you."

The NSC Cell Phone Policy Kit is made possible through generous donations from NSC employees.



What is cognitive distraction?

Cognitive distraction is the trickiest of the three distractions drivers face behind the wheel. This is because drivers do not know when they are cognitively distracted and, therefore, do not remedy the situation the way most would if they took their hands off the wheel or eyes of the road.

Multitasking is a myth

Driving and engaging in a cell phone conversation are two tasks that require significant brain power. Contrary to popular belief, **the human brain cannot multitask**. The brain switches, often rapidly, between two cognitive activities making us erroneously believe we can perform two complex tasks at once. What happens instead is the brain prioritizes complex cognitive activities. To demonstrate this, try thinking of an elephant while reading this entry. You can't do it. Your brain shifts from one to the other. If a driver is talking on a cell phone while driving – whether hands-free handheld – **the brain automatically prioritizes the cell phone conversation first and the task of driving second.**

Passenger conversations are different

A common myth is talking on a cell phone while driving is not different than talking to a passenger, but paying attention to a conversation with a disembodied voice contributes to numerous driving impairments. This is in part because **an adult passenger actually can make an adult driver safer** because adult passengers can see the driving environment and often point out things the driver may not see. Think about it: when a driver is talking to a passenger and the driving environment becomes challenging, the conversation will slow or stop. This is because the brain starts focusing solely on driving and not on holding a conversation. Cell phone conversations are unique, too, in that we must think about the other person's reaction because we cannot see him/her. This also makes conversations with passengers easier to hold.

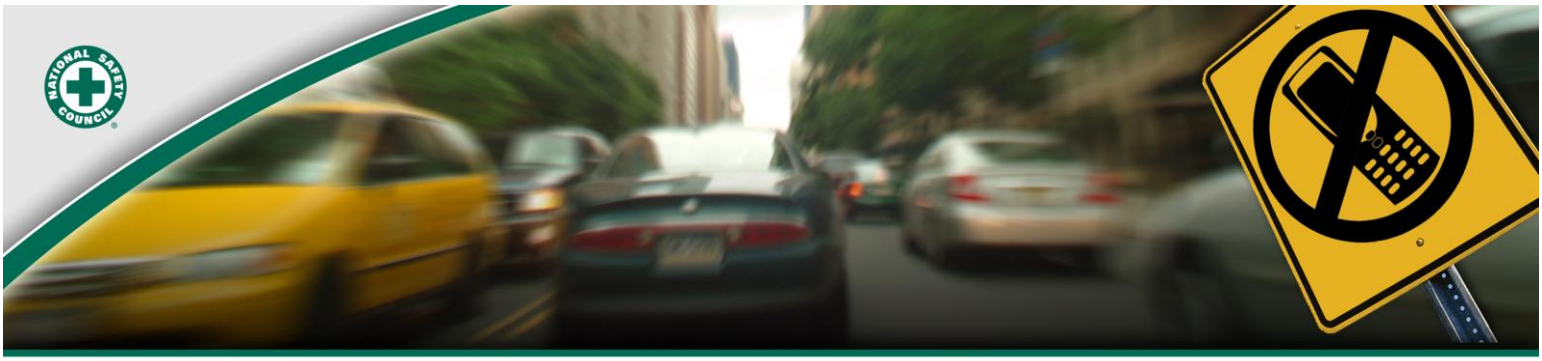
The need to be available

Cell phones have a certain obligation of immediacy. We are expected to answer a phone call, text message or email right away. Drivers sometimes will answer their phones because they do not want to appear rude.

Delayed reaction

Cell phone use substantially decreases a driver's reaction time. One driving simulator study conducted by the University of Utah found that **drivers using cell phones had slower reaction times than drivers with a .08 blood alcohol content,** the legal intoxication limit. Braking time also was delayed for drivers talking on cell phones – hands-free or handheld. The difference, of course, is a driver talking on a cell phone can eliminate his risk immediately by hanging up the phone whereas an impaired driver is impaired for the duration of the drive.

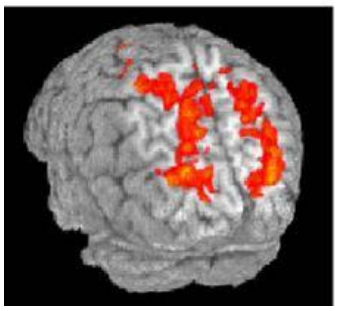
The NSC Cell Phone Policy Kit is made possible through generous donations from NSC employees.



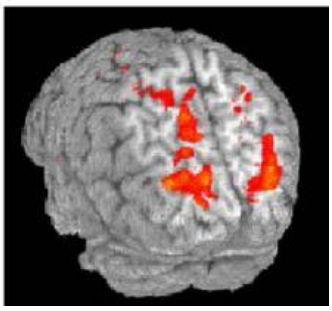
Decreased brain activity

A study done by Carnegie Mellon University showed a decrease in brain activity while drivers use a cell phone while driving. **The parietal lobe activation, which is associated with processing moving visual images while driving, decreases by as much as 37 percent with sentence listening**.

Driving Alone



Driving with Sentence Listening



NSC encourages all drivers to put safety first by eliminating cell phone use while driving. We simply aren't able to safely operate a vehicle while using handheld or hands-free devices.

The NSC Cell Phone Policy Kit is made possible through generous donations from NSC employees.

Hands-Free **Myth Buster**

MYTH: My car came with an infotainment system. Since it's built into my car, it must be safe.

FACT: Advancements in automotive technology can be broadly separated into two categories:

- Technologies related to vehicle performance and driving, such as vehicle-to-vehicle (V2V) communication, crash avoidance systems, adaptive headlights and stability control systems.
- Technologies unrelated to vehicle performance or the task of driving, such as hands-free phoning, speech-to-text and the ability to use social media while driving.

There are many safety benefits to technologies related to vehicle performance and driving. Technology also can be a solution to the distracted driving problem with features such as call blocking. But not all technology is created equal. Anything that distracts a driver from performing an essential driving task can be dangerous and doesn't belong in a dashboard infotainment system.

MYTH: I have an infotainment system in my dashboard, so it's safe for me to speak my texts and drive.

FACT: Despite auto makers equipping vehicles with dashboard infotainment systems at an increasing rate, these systems can bring some driver distractions. In fact, voice texting features have been found by research to be even more distracting than typing. Why? Even if drivers don't need to use their hands to type texts and emails, voice-to-text features require drivers to look at the translated messages to be sure they are correct.

Drivers also are mentally distracted because they're focused on talking and fixing the message errors. Slower reaction times occur, no matter whether drivers are typing a text or using voice-to-text technology.

MYTH: Most car crashes are caused by car malfunctions such as faulty brakes, blown tires or engine problems.

FACT: Vehicle problems represent a very small portion of crashes. Most vehicle problems have to do with improperly inflated or maintained tires. As much as 90 percent of all crashes are caused by driver error and can be prevented.

Cell phone use behind the wheel can lead to driver error, and it's a very prevalent behavior on our roads today – 9 percent of drivers at any given daylight moment are talking on phones while driving. Drivers using cell phones are four times as likely to be in a crash, in part because their ability to respond to hazards is significantly affected. Drivers talking on cell phones can miss seeing up to 50 percent of the roadway environment , including traffic signs, pedestrians and cyclists. All of these risk factors could be lessened if drivers would hang up their phones and simply drive.

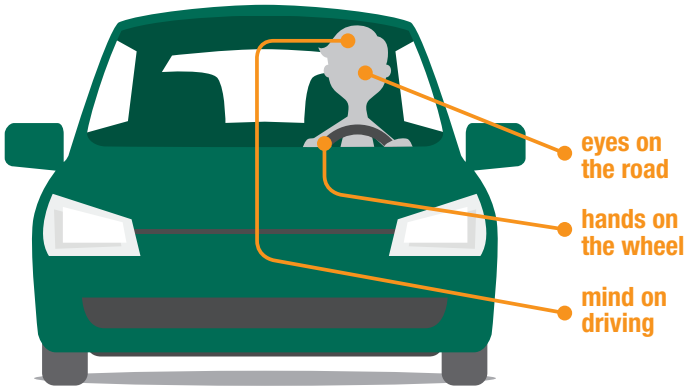
Pledge to drive cell free at
nsc.org/handsfree.

The Hands-Free **Myth**

Do you think using a hands-free device – whether it's an earpiece or a dashboard infotainment system – is the safe way to drive and talk on the phone?

If so, you're not alone. A recent National Safety Council poll shows that 80% of U.S. drivers believe hands-free cell phones are safer than using handheld.

However, it's just not true. More than 30 studies show that using hands-free systems provide drivers no safety benefit. Even with both hands on the wheel and your eyes on the road, your mind is distracted from the task of driving. Think about it, people have been driving stick shift for decades – the issue is not about keeping two hands on the wheel.



The NSC poll also found that 53 percent of respondents believe hands-free devices must be safe to use if they are built into vehicles. Add to that many state laws requiring people to use hands-free, and it's no wonder there's confusion.

The results are in:

1. Hands-free features in dashboards actually increase mental distraction*
2. Using voice-to-text is more distracting than typing texts while driving**
3. Drivers who text with their hands or voice (using speech-to-text systems) keep their eyes on the road less often and have reaction times twice as slow**

Learn why at **nsc.org/cellfree**

#CallsKill

**AAA Foundation for Traffic Safety*
***Texas A&M Transportation Institute*

Calls kill

Hands-free is not risk-free

A habit **worth breaking**

The ringing of a phone or pinging of a text creates irresistible urges for many people to answer the call, read the message or respond.

To avoid these temptations:

- ❍ Turn off your cell phone, or put it on silent, before driving
- ❍ Toss your cell phone in the trunk or glove box to avoid temptation
- ❍ Pre-set your navigation system and music playlists before driving
- ❍ Schedule stops to check voicemails, emails and texts
- ❍ Set special ring tones for important incoming calls, and pull off to a safe place to take them
- ❍ Tell coworkers, family and friends not to call or text you when they know you're driving
- ❍ Start all conference calls by asking if anyone is driving, and have them call back when they are in a safe location
- ❍ Install an app on your phone that disables it while your vehicle is in motion
- ❍ Ask a passenger to answer incoming calls and say "You'll call back when not driving"
- ❍ Change your voicemail greeting to tell people that you may be driving and you'll call them back when you can safely do so

Positive side effects of not using a phone while driving:

- ✓ More likely to arrive safely at your destination
- ✓ Feeling more relaxed; some of our best ideas and solutions come when we are at ease
- ✓ Not letting your phone control you
- ✓ Being able to have a conversation with your passengers
- ✓ Avoiding crashes and their associated costs – doctor visits, auto repairs, court fees

It feels good to take back control.

Check out the story of Debbie Z. on breaking the habit:

I had a long commute. To keep from being bored, I often used my drive to call friends and catch up.

I was then educated by my employer on the risks of distracted driving, and it began to make sense. I realized when talking on the phone I could get home and not remember seeing any of my usual roadside milestones. My mind wasn't focused on driving – kinda scary.

I also realized I wasn't a quality participant in the phone conversations I was having. I never talked about anything so important that it was worth putting someone's life – including my own – at risk.

Armed with this knowledge, I decided to quit cold turkey. Before each drive, I put my phone on silent in my purse. I put my purse in the back seat and out of reach to avoid temptation.

Sure, this caused me a little anxiety the first few days, but pretty soon it just became my new routine. Now my phone doesn't control me, and I'm a safer driver for it.

Take the "Focused Driver" Challenge today. You can find more information on the risks of using cell phones while driving at **nsc.org/cellfree.**

#CallsKill

Calls kill

Hands-free is not risk-free