



# Cell Phone Use & Driving

*To drive safely we need more than our eyes and hands – our brain must also be focused on the drive.*



# Our Mission

The National Safety Council saves lives by preventing injuries and deaths at work, in homes and communities, and on the roads through leadership, research, education and advocacy.



# Motor vehicle crashes

- 1 million people have died in motor vehicle crashes in the last 25 years
- 35,000 deaths each year in the U.S.
- Leading cause of on and off-the-job unintentional deaths in the U.S.
- #1 or #2 cause of death for people 5- to 35-years-old
- Cost to society = \$100 billion per year
- Society appears to have grown complacent, accepting these deaths and injuries
- Safety engineering has made significant advances



# Motor vehicle crashes

## Vehicle maintenance factors

- Definite cause 10% of the time
- Probable cause 13% of the time

## Environmental factors

- Definite cause 20% of the time
- Probable cause 33% of the time

## Human error

- Definite cause 70% of the time
- Probable cause 93% of the time

Source: Auto Alliance



# Driving distractions

## The Science of Distraction

**Visual:** eyes on road

**Mechanical:** hands on wheel

**Cognitive:** mind on driving

- Visual and mechanical distractions are short lived - cognitive distractions last much longer
- Much more than “eyes on the road, hands on the wheel”

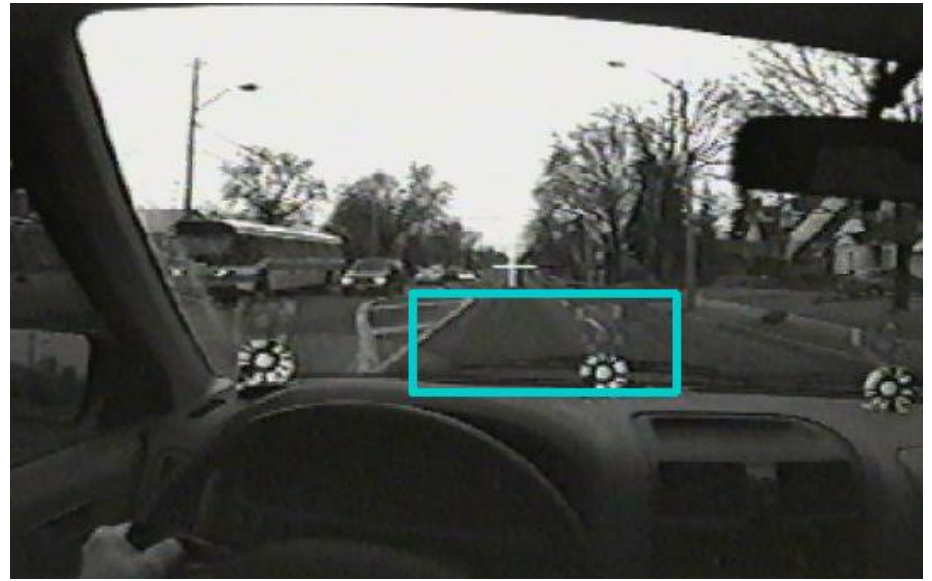


# Selective attention / switching

1. No such thing as “multi-tasking” When brains are overloaded by two cognitive tasks, people switch attention (without recognizing it)
2. Make one task “primary” and the other “secondary”  
Cognitive attention to driving becomes secondary to a phone conversation
3. When driving is a secondary task for the brain, driving becomes impaired  
Impairment takes several forms, including inattention blindness and tunnel vision



# “Tunnel Vision”





Thursday (2-2-2012) evening I was in my car, stopped at a traffic light. After the light turned green, but before the car in front of me had time to start through the intersection, I was hit from behind. In talking with the woman who hit me, I found out that she was on her phone – but she assured me that she was driving safely because she was using her built-in, hands-free system in her Lincoln SUV. She said that she saw the light was green, but guessed that she didn't notice that the cars weren't moving yet. Fortunately, nobody was hurt seriously.

When the police got there, she showed them all the “safety features” of her in-dash phone system, and they seemed impressed - she didn't get a ticket!

Debby Young, NSC Staff





# Crashes and cell phones

## Risk – how risky is the distraction

|                              |      |
|------------------------------|------|
| Reading                      | 3.4x |
| Reaching for a moving object | 8.8x |
| Turning around in a seat     | 8.8x |
| Talking on a cell phone      | 4x   |
| Texting                      | 8x   |

## Prevalence – how often is it happening

|                                |      |
|--------------------------------|------|
| Manipulating a wireless device | 1.5% |
| Talking on a cell phone        | 9%   |



# Crashes and cell phones (2012)

- Minimum of 281,000 crashes
  - 5% of all crashes, involve texting
- 1.2 million crashes per year
  - 21% of all crashes, involve cell phone conversations

**26%** of all crashes  
involve cell phone use



# What we know about cell phone use and driving

## ***Role of Mobile Phones in Motor Vehicle Crashes Resulting in Hospital Attendance***

*Suzanne P McEvoy, Mark R Stevenson, Anne T McCartt, et al - 2004*

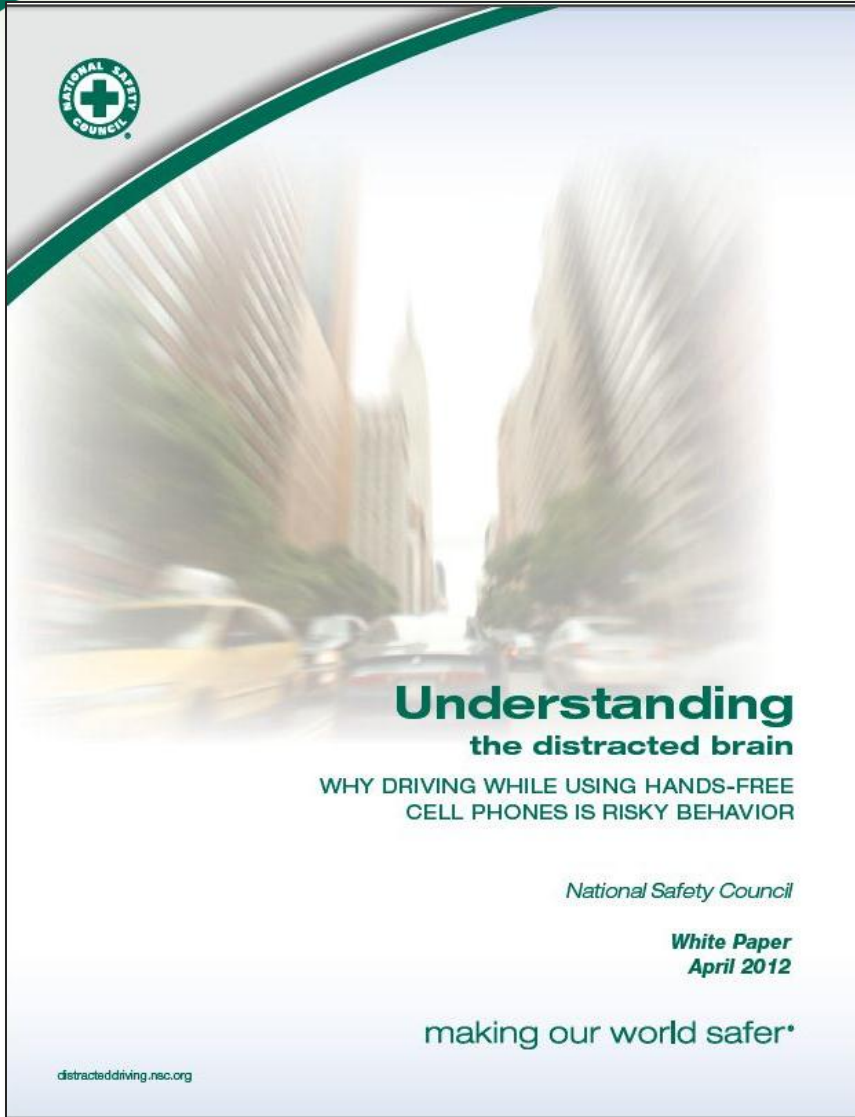
- Likelihood of crashing increases by 4x
- Risk was raised irrespective of whether or not a hands-free device was used



# Hands-free and crash risk

Hands free devices do not reduce crash risk:

- National Safety Council
  - National Transportation Safety Board
  - World Health Organization
  - Insurance Institute for Highway Safety
  - Governors Highway Safety Association
- 
- 30+ studies reported substantial negative effects of cell phone use on driving for hands-free and handheld phones
  - Similar effects in reaction time, speed, headway and lateral lane position, for hands-free and handheld phones



Free download at:  
[thebrain.nsc.org](http://thebrain.nsc.org)



# What we know about cell phone use while driving

## ***Comparison of the Cell Driver and Drunk Driver***

*Strayer, Drews, et al, University of Utah - 2004*

- No difference between handheld and hands-free
- Cell phone distracted drivers have slower reaction times and were more likely to crash than drivers with a .08 BAC



# What we know about cell phone distraction

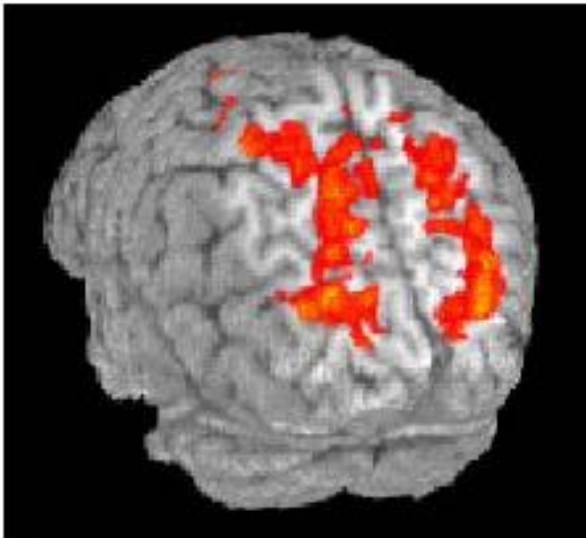
## A Decrease in Brain Activation Associated With Driving

*Carnegie Mellon University, Center for Cognitive Brain Imaging - 2008*

# Result

The parietal activation associated with driving decreases substantially (by 37%) with sentence listening.

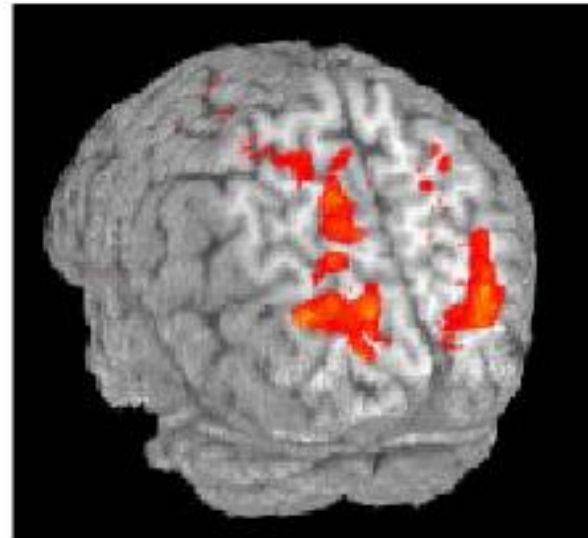
**Driving Alone**



L

R

**Driving with  
Sentence Listening**







# Putting it all together

## Motor vehicle crashes are the leading cause of death for people 5 to 24 years old

- Human error causes the vast majority of crashes
- Cell phone drivers four times more likely to be involved in a personal injury crash
- Reaction times slower than .08 BAC
- Hands-free as dangerous as handheld
- Inattention blindness
- 37% reduction in spatial processing in the part of the brain used for the task of driving
- Cell phone use involved in 26% of all crashes

**Voluntary compliance is difficult**



# NSC Leading the Way



National Safety Council

## NEWS

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Contact: Meredith Morris  
(630) 775-2307

*Editors' note: scientific references are available from NSC media relations, 630/775-2307 or [media@nsc.org](mailto:media@nsc.org).*

**National Safety Council Calls for  
Nationwide Ban on Cell Phone Use While Driving**  
*Bold Plan Seeks to Involve Law Makers, Businesses and Public*

Itasca, Ill. – The National Safety Council today is calling on motorists to stop using cell phones and messaging devices while driving, and is urging businesses to enact policies prohibiting it and governors and legislators in all 50 states and the District of Columbia to pass laws banning the behavior.



# Sample cell phone 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.



# Companies with policies

- Exxon/Mobil
- DuPont
- Halliburton
- Shell
- Chevron
- BP
- Enbridge
- AstraZeneca
- Spectra Energy
- CA Office of Traffic Safety
- Abbott
- EnCana
- Cargill
- CSX Intermodal
- Schneider National
- Sysco Corporation
- Time Warner Cable
- Potash
- Owens Corning
- NTSB

Just a sample - no national database of companies with policies



# CEO Selling Proposition

1. Employee cell phone use while driving is a significant and growing safety threat to our employees and the driving public.
2. It has also become a significant financial risk and liability.
3. If a total ban policy is properly implemented and supported, there will not be a negative effect on productivity, customer service or employee morale.



# Public support

## Quinnipiac University

- 2424 US Voters
- November 2010, +/- .02
- **By a 63% – 34% margin, American voters support a federal ban on cell phone use while driving, even while using a "hands-free" device**

## Nationwide Insurance “On Your Side Survey”

- 1008 US drivers
- August 2009, +/- .03
- **80% support ban on texting or emailing**
- **57% support a ban on all cell phone use while driving**



**Thank you**