

Coffee and Conversation Speaker Series

Proceedings from “What Do We Mean by Distracted Driving?”
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Both the general public and traffic safety professionals widely agree that distracted driving is a major problem on our roadways. The problem becomes more complex, however, when we begin to ask what we really mean by distraction. Justin Owens, Research Scientist at the Center for Vulnerable User Safety at the Virginia Tech Transportation Institute (VTTI), delivered a talk and led a discussion to grapple with times of distraction, durations of distractions, the ubiquity of technology, and just how distracted we all really are while on the road.

The talk is part of the Coffee and Conversation III theme “Building Resilience into a Transportation System for All.”

“Distracted driving is not new,” said Owens. Technological advancements throughout the decades-- from vinyl record players in the 1950s, though tape decks (60s and 70s), CD players (‘80s and ‘90s) and now cell phones—have offered distraction options for a long time.

“There have always been things that took our attention off the road,” he said. Even with Tesla, the highly modern electric car, the interface is currently a touchscreen tablet. This can still be a distraction. This is in addition to non-tech distractions such as eating, shaving, reading a map, and children.

Owens points to Gibson and Crooks (1938) as one of the first studies examining distracted driving. The authors defined the driver’s “field of vision” illustrated by contours around the car that change at different points of travel and opportunities for turning. Other studies continued that work. In the 1960s, the subject of automobile safety becomes popular. Ralph Nader’s *Dangerous at Any Speed* brought the issue to the forefront. Other studies have been done since. However, research in this field exploded once again in 2012-2013, and this timing dovetails with the time when smartphones really took off, said Owens.

“We know that eyes off the road is the biggest problem,” said Owens. The “field of vision” research confirmed this decades ago. Regulation, in an attempt to solve the problem, can make things worse. Current laws in some states on cell phone use have lured drivers into placing phones on the passenger seat to avoid being openly observed as using their devices. This action takes the driver’s eyes completely off the road. Are there outcomes from states that have laws against distracted driving? There is not a definitive answer yet.

Another consideration within the study of distracted driving concerns automation, said Owens. When people formerly known as drivers trust their cars to do more driver activity, will they lose track of the environment they are in?

Other distractions include sleepiness, children in the backseat, notifications from mobile devices even when one does not answer them. All of these take mental attention--and sometimes physical attention--from the road.

“With all these distractions, there still is not a definition of baseline normal driving,” said Owens. “It’s not as if we want people to face forward eyes on the road and never looking or doing anything. That is not normal human behavior, and it would lead to fatigue pretty quickly.”

To that end, it may be that drivers are getting better at using smartphones while driving, just as they did with cassette players, CDs and other technologies. Studies in the field of distracted driving have taken off since the early 2000s and they take many forms.

- **Driving simulators** allow for a tight experimental control but lack realism.
- **Test tracks** like the one at VTTI have little or no traffic, and are more realistic, but less risk than public roads.
- **On-road experiments** allow drivers to experience real road conditions but with some control and oversight.
- **Naturalistic driving studies** allow exploration of behaviors not otherwise available.
- **Epidemiological studies** are complete real-world but there is no control, nor detailed information.

As connected and autonomous vehicles (C/AVs) begin to develop more capabilities, some may argue that distracted driving will not be an issue. The truth is we do not actually know all of the ways that C/AVs will be implemented on the roads with other road users, said Owens. In the meantime, we need to continue to research the topic and develop policies that implement safe driving.

RESOURCES

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