



OHIO
ASSOCIATION for
JUSTICE
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Ohio Association for Justice

September 7th, 2018

Education for the Less Common Trucking Cases

**Distracted Driving – Even When Compliant with
DOT Policy**

Dr. Nancy Grugle

Distracted Driving in Trucking Cases

Nancy Grugle, Ph.D., CHFP

Ohio Association for Justice

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HUMAN FACTORS

- "Human Factors" is the scientific study of human physical and mental capabilities and limitations and the application of that knowledge to:
 - the investigation of human interaction with technology and their environment
 - the design of human-centered systems and technology

DISTRACTED DRIVING STATISTICS

- 10% of fatal crashes and 17% of injury crashes in 2011 were reported as distraction-related crashes (NHTSA, 2013).
- In 2014, 3,179 people were killed and 431,000 were injured in motor vehicle crashes involving distracted drivers (NHTSA, 2016).
- At any given daylight moment across America, approximately 660,000 drivers are using cell phones or manipulating electronic devices while driving (Distraction.gov)

WHAT IS DISTRACTED DRIVING?

- "A diversion of attention away from activities critical for safe driving toward a competing activity"
- Types of distractions
 - Visual (eyes off the road)
 - Manual (hands off the wheel)
 - Cognitive (mind off the road)
 - Visual / Manual / Cognitive

ARE ALL DISTRACTIONS EQUAL?

- All distractions increase crash risk
- Distractions that require a combination of visual, manual, and cognitive resources are the most risky

VTTI study showed that texting (which requires all three types of resources) has a crash risk **23 times** higher than normal driving. Sending or receiving a text takes a driver's eyes from the road for an average of 4.6 seconds which at 55 mph, is the equivalent- of driving the length of an entire football field, blind.

- Reaching for a moving object 8.8
 - Looking at external object 3.7
 - Reading 3.4
 - Applying makeup 3.1
 - Dialing a handheld device 2.8
-
- Hands-free vs. Handheld cell phone use
 - Texting
 - GPS
 - Other

HOW DOES DISTRACTION CAUSE CRASHES?

- Visual Distractions
- Manual Distractions
- Cognitive Distractions
 - Perceptual narrowing
 - Inattention blindness

EFFECTS OF DISTRACTED DRIVING ON DRIVER PERFORMANCE

- Increased time that eyes are off road
- Increased reaction time to hazards
- Greater speed variability and slower mean speed
- Increased lane deviations and lane departures
- Impaired decision making and response selection

DISTRACTED DRIVING LAWS VS. THE SCIENCE

- Laws for the Driving Public

- 46 states and the District of Columbia have banned text messaging for all drivers
- 14 states have additional handheld cell phone bans
- Laws or Regulations for Employees
 - Federal Employee ban on texting
 - Commercial Driver ban on texting and hand-held cell phone use while driving
 - Rail Employees ban on cell phone and electronic device use while on the job
- Public Awareness Campaigns

THE ROLE OF AN HF EXPERT IN DISTRACTED DRIVING CASES

- Human factors expert vs. accident reconstructionist
 - Human factors with a retained AR
 - Human factors without a retained AR
- Human factors expert vs. trucking expert
 - Human factors with a retained trucking expert
 - Human factors without a retained trucking expert

HUMAN FACTORS INVESTIGATIONS OF DISTRACTED DRIVING CASES

- Would a reasonably attentive driver have been able to avoid the collision?
- Was the driver engaged in a distracting activity?
- Were the actions of the driver consistent with the known effects of distracted driving?

CRITICAL INFORMATION FOR AN HF EXPERT

- Evidence of device use during or immediately prior to collision
 - Testimony
 - Device reports
- Accident reconstruction reports
- Device-specific research on distraction



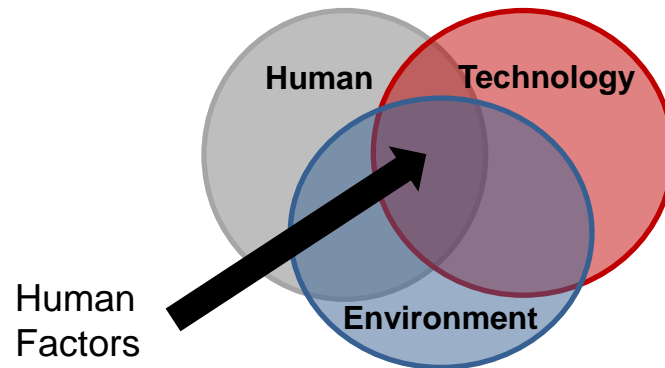
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ROBSON FORENSIC EXPERTS

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(aaa.org)

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(Strayer, Watson & Drews, 2011)



(National Safety Council)

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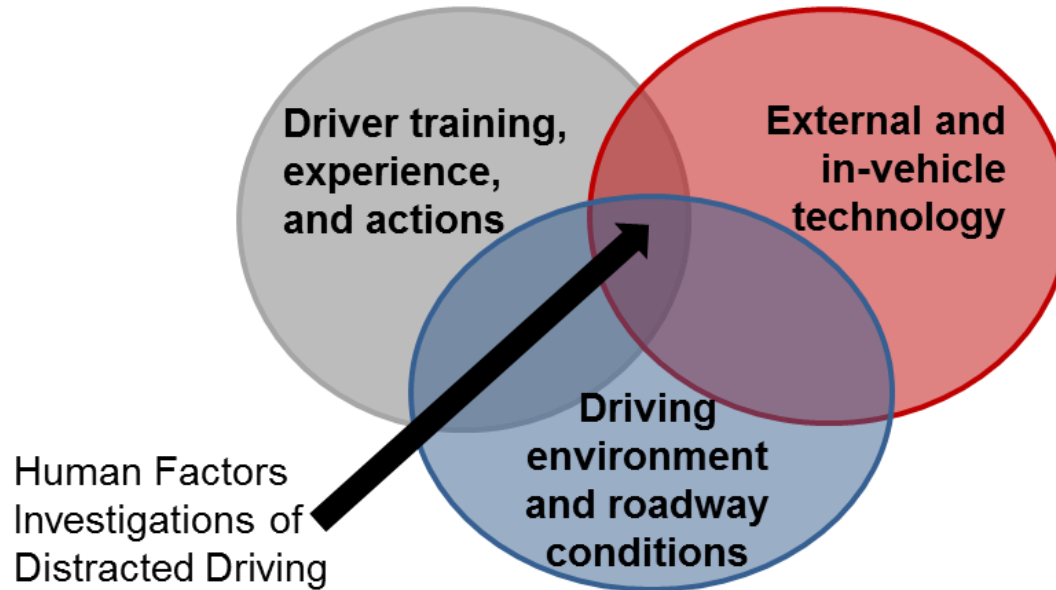
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- Device-specific research on distraction*

CASE EXAMPLES

- Hands-free cell phone
- Qualcomm

QUESTIONS?

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