

# Proactively Spotting Distracted Driving with Advanced Technology

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## KEY TAKEAWAYS

- The most dangerous distractions are visually demanding tasks that take drivers' eyes off the road.
- American Central Transport uses safety technology and communication campaigns to reduce distracted driving.
- Dupré Logistics' comprehensive approach to improve driver safety is based on investments in endpoint technologies.
- Best-in-class driver safety solutions deliver manageable, intelligent, and actionable information to fleet operators.

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# Proactively Spotting Distracted Driving with Advanced Technology

## OVERVIEW

Drivers face a multitude of distractions, from texting or talking to eating and daydreaming. Unfortunately, the consequences of even momentary diversions can be devastating.

Successful fleet owners know they can't be everywhere at once. Many are turning to advanced technologies like machine vision and artificial intelligence to detect risky driver behaviors and issue alerts to drivers and fleet managers alike. Many technology vendors claim they can capture risk, but then fail to meet expectations. As fleet owners evaluate driver safety solutions, they must seek vendors that provide information that is manageable, intelligent, and actionable.

## CONTEXT

Jeffrey Hickman shared insights gained from extensive research into distracted driving. Brandon Leininger of American Central Transport and of Bob Verret of Dupré Logistics discussed how they use technology to reduce risk in real time and improve fleet safety. Lisa Gonzalez described how the Lytx distraction detection technology works, and what to look for when selecting a driver safety solution.

## KEY TAKEAWAYS

**The most dangerous distractions are visually demanding tasks that take drivers' eyes off the road.**

Driving distractions are often defined as any activities that take attention away from the road. Research has found, however, that some activities pose minimal danger to driving while others can be more risky. In reality, 100% vigilance at the wheel is impossible. Humans can only maintain undivided attention for 15 to 20 minutes at a time.

A better definition of a driving distraction is:

An event that creates a mismatch between the driver's current attentional resources and those required to safely operate the vehicle.

This characterization takes both the context and driver demands into consideration.

People can successfully multitask when they engage in two habitual tasks, such as chewing gum and walking at the same time, or driving and monitoring one's speed. But multitasking creates problems when a person engages in two demanding cognitive tasks.

Performing two demanding cognitive tasks at the same time requires drivers to switch their attention. This can lead to inattention blindness, delays in information processing, and performance impairments. Hallmarks of distracted driving include trouble maintaining speed and following distance, as well as trouble staying in one's lane.

The Virginia Tech Transportation Institute (VTTI) has studied truck and bus driver distraction based on two data sources: information gathered from real-world driver behavior and existing naturalistic data collected from Lytx over a 90-day period. This research revealed three insights:

1. **Secondary tasks are common among drivers and these tasks aren't limited to phones.** Studies suggest that activities like talking or listening on a phone or CB radio, smoking, or drinking are safe while driving.
2. **High-risk tasks are associated with high "eyes off road" time.** Visually demanding tasks include texting, dialing a phone, and reaching for something on an adjacent seat.
3. **Fleet cell phone policies are more likely to impact driver behavior than state and federal laws.** In addition, drivers are more likely to follow a hands-free policy than a no cell phone policy.

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**State laws about cell phone usage have no impact on driver behavior. When fleets have a policy, however, drivers are 17% less likely to use electronic devices. You need a fleet policy—they're very important.**

*Jeffrey Hickman, Virginia Tech Transportation Institute*

## **American Central Transport uses safety technology and communication campaigns to reduce distracted driving.**

American Central Transport (ACT) is a dry van freight carrier with just over 300 drivers in its fleet. ACT is committed to continuous improvement and to coaching drivers. The firm began using Lytx technology in 2014 and on day one, it adopted the inward and outward facing event recorder view.

ACT's approach to reducing distracted driving includes:

- **At ACT, driver safety is a family affair.** The company deploys quarterly safety campaigns with themes based on insights from Lytx data. ACT communicates key safety messages through letters to family members, flyers, short online videos, and messaging in the office. These campaigns have shifted the issue of distracted driving beyond regulatory requirements and have made it a **personal concern**. Family members know to ask two questions when they call a driver: *Are you safe to talk? Are you hands-free?*
- **Technology provides a real-time impact on risk management.** ACT recently integrated collision mitigation systems with Lytx technology. Drivers receive in-cab audible alerts for concerns related to lane departure and following distance. Active braking self-corrects the issues. These systems give ACT

better insight into distracted driving behaviors. In addition, drivers receive positive recognition for preventing accidents and incidents.

Lytx's video and data capture technology has advanced significantly in recent years. ACT's original event recorders only triggered events based on physical forces. Today, artificial intelligence (AI) and machine vision (MV) capabilities have enhanced the company's safety program. MV and AI can read and interpret real-time risks, such as following distance, lane departures, and rolling through stop signs.

- **New technology advancements will enable ACT to proactively capture risky driving habits and deliver them more quickly.** ACT is interested in technologies Lytx is developing to detect distracted behaviors that take drivers' eyes off the road and hands off the wheel. Identifying fatigue will also be important.

## **Dupré Logistics' comprehensive approach to improve driver safety is based on investments in endpoint technologies.**

Distracted and drowsy driving often results in dangerous accidents that cause significant human and monetary damage. To reduce the impact of these risky behaviors, Dupré Logistics has a four-step approach:

1. **Plan.** Dupré Logistics evaluates drivers' schedules and how those will affect their sleep times. After analyzing data and predictive analytics from electronic logging devices (ELDs) and vehicle electronic control modules (ECMs), the team found that drivers' circadian rhythms were disrupted when their schedules flipped from day to night or vice versa. This affected which drivers were most likely to have an incident.

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In response, Dupré Logistics implemented a system that manages schedule changes and communicates them electronically. Dispatchers receive critical event data and hours of service information. The system only suggests routes that drivers can run safely. Video and data enable coaching and assignment changes which ensure that drivers are fit for service.

2. **Execute.** Drivers receive dispatch decisions electronically. In-cab alerts prevent collisions and law enforcement fines. When AI technology detects head bobs and eye movements, in-cab audible alerts arouse drowsy drivers. Dispatchers receive information in near-real time from accelerometers and outside video. This data links events like swerving with cell phone usage or food and beverage consumption. Drivers can activate a panic button to easily call for help or record an event. Video, AI, and mobile technologies are essential for detecting and eliminating false positive events related to distracted and drowsy driving.
3. **Measure.** Dupré Logistics analyzes events associated with drowsy and distracted driving. Based on this information, the Lytx system routes coaching opportunities to the appropriate manager. Fact-based, compassionate coaching helps drivers improve. This approach is consistent with Dupré Logistics' culture and approach to safety. The system measures coaching effectiveness and generates Dupré-specific scorecards to pinpoint improvement areas and recognition opportunities. Camera data enables the team to coach distracted and drowsy behaviors the next day, rather than waiting weeks for data analytics.
4. **Improve.** Dupré Logistics uses key performance indicators (KPIs) to identify changes to its safety program that will have the largest impact. Cameras and the Lytx program provide more accurate information about incidents which results in faster issue resolution and driver protection. Fewer collisions mean greater safety for the public and drivers, as well as lower equipment repair expenses, lower litigation costs, and lower insurance fees.




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**We believe our premier safety programs have improved our brand reputation and our ability to attract and retain safe drivers. Investment in endpoint tools like cameras has provided Dupré Logistics with strong financial returns. It has also enabled us to differentiate our customer offerings.**

*Bob Verret, Dupré Logistics*

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## **Best-in-class driver safety solutions deliver manageable, intelligent, and actionable information to fleet operators.**

Distracted driving is a pervasive issue and the challenge is unlikely to go away. Safety policies are a great first step. Many fleet owners are also turning to technology.

Leading driver safety solutions leverage MV and AI technologies. Machine vision recognizes driver issues, such as cellphone usage or nodding head movements. AI interprets the information, decides whether the behavior is risky, and then takes action such as issuing an alert.

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Many companies claim they capture driver risk, but often fail to meet expectations and deliver false positives. As fleet owners evaluate technology vendors, they must look for driver safety solutions that offer three benefits:

1. **Manageable.** The best driver safety systems provide 95% or better accuracy. The key is to deliver the moments you need to know about, while filtering out moments that don't matter. You don't want to review hours of irrelevant video footage.
2. **Intelligent.** A best-in-class driver safety solution distinguishes between specific behaviors, shows you where to focus your attention, and generates reports that highlight prevalent behaviors.
3. **Actionable.** Technology alone won't solve problems; it must provide a step-by-step way to drive accountability. Good solutions offer driver follow-up, reports, and dashboards that show progress over time.

A best practice is to let the technology do the hard work. [Lytix](#) has been working on industry-leading driver safety technologies for more than 20 years and is ready to help fleet owners eliminate risk.

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**The most successful fleet managers rely on best-in-class technologies that protect their employees, assets, and ultimately their reputations.**

*Lisa Gonzalez, Lytx*

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## BIOGRAPHIES

### Lisa Gonzalez

Senior Product Marketing Manager, Lytx

Lisa has been a senior product marketing manager at Lytx for over five years and was instrumental in introducing Lytx's first machine vision and artificial intelligence technology designed to detect distracted driving. Over the course of her career she has helped launch and explain new technologies for some of the biggest industry leaders like Sony, Hewlett-Packard and Qualcomm. She loves making complex technology easy to understand to help people just like you make informed decisions. And an interesting fact about her is that she recently rode over three thousand miles on a nine day round-trip motorcycle tour from San Diego to Seattle which made her truly appreciate safe, attentive drivers on the road even more.

### Dr. Jeffrey Hickman

Group Leader, Virginia Tech Transportation Institute

Dr. Jeffrey Hickman is a Group Leader at the Virginia Tech Transportation Institute. His primary areas of research include community-wide applications of behavior-based safety, self-management and organizational culture change techniques, assessing driver behavior, fatigue, work/rest cycles, and driver distraction in commercial motor operations. He has produced over 60 presentations, as well as 30 scientific publications, technical reports and scientific reviews.

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## **Brandon Leininger**

Director of Risk Management, American Central Transport

Brandon Leininger is director of risk management at American Central Transport. He has worked with ACT since July 2015 and has spent more than a dozen years in risk management and occupational health safety. Leininger is a Certified Safety Professional through the Board of Certified Safety Professionals. He holds his Bachelors' of Science degree in Safety Management from the University of Central Missouri. He is currently working towards his Associate in Risk Management certification designation.

## **Bob Verret**

Chief Information Officer, Dupré Logistics

Bob Verret is the chief information officer for Dupré Logistics. He is an accomplished executive with leadership experience in the transportation, logistics, supply chain, IT and consulting industries. In his career, spanning over 35 years, Verret has led companies' technical solutions with United Vision Logistics, Greatwide Logistics and CEVA Logistics. He is a skilled leader, building high-performance teams, enhancing systems and developing business solutions. He holds a Bachelors' of Business Administration Degree in Management Information Systems from the University of Wisconsin – Milwaukee.