Rosco Vision Systems
National Transportation Safety Board
Attentive Driving Forum Panel Discussions
March 27, 2012

Rosco Vision Systems applauds the efforts of the NTSB to increase awareness of distracted driving. Rosco is a New York based manufacturer of bus/truck mirror systems and camera systems. With over one hundred years of experience in the automotive field, Rosco is recognized as a leader in the design, manufacturing, and marketing of driver safety products. Rosco has long been an advocate for driver vision safety and in particular, the use of monitoring aids to enhance driver performance and safety. With this document, Rosco intends to directly address the discussions of Panel 1, Panel 3 and Panel 4:

PANEL 1: Attention to Non-Driving Tasks
The Risk of Distracted Driving
Jeff Caird, PhD, University of Calgary
Categories of Distraction
Donald Fisher, PhD, University of Massachusetts

PANEL 3: Attentive Driving: Changing Attitudes and Behaviors
Corporate Safety Management Systems
David Teater, National Safety Council

PANEL 4: Technology and Design Countermeasures
Integrated In-Vehicle Safety Systems
James Sayer, PhD, University of Michigan Transportation Research Institute

The NTSB has been on the record advocating use of event-based recorders since the publication of its report, Truck-Tractor Semitrailer Rear-End Collision Into Passenger Vehicles on Interstate 44 Near Miami, Oklahoma which was adopted on September 28, 2010. Recently the NTSB reiterated its position in its report, Multivehicle Collision Interstate 44 Eastbound Gray Summit, Missouri adopted on December 13, 2011. Rosco supports this position regarding **V**ideo **E**vent **R**ecorders but we would like to add additional information to clarify certain parts of the recommendations.

Video event recorders have become commonplace in commercial fleets due to the obvious benefits associated with the capture of video during significant vehicle events. In addition, when event thresholds are set properly, video event recorders can be used as partially effective training aids for drivers whose erratic behavior may trigger event capture. However Rosco wishes to clarify an important distinction between **V**ideo **E**vent **R**ecorders (VER's) and **C**ontinuous **V**ideo **R**ecorders (CVR's). CVR's have the ability to capture hundreds of hours of continuous video while at the same time capturing event based video. This distinction is important to help clarify an erroneous assumption made by the FMCSA in its response to NTSB regarding VER's. On

page 54 of the Gray Summit Report the NTSB refers to correspondence dated September 1, 2011,

> "*…the FMCSA acknowledged the NTSB interest in improving motor carrier safety through the installation of VERs in all commercial motor vehicles. However, the FMCSA asserts that it is important to recognize that such recorders capture only a brief period of time prior to a safety-critical event (such as a crash, near crash, or unintended lane departure) and would be reviewed only by enforcement personnel or the motor carrier during an enforcement intervention. Additionally, VERs would not record unsafe driving behaviors that occur without a safety-critical event as a trigger. For these reasons, the FMCSA maintains that its CSA program, launched in December 2010, offers better monitoring of a carrier's safety performance. Although the NTSB acknowledges that the CSA program will offer improved monitoring of drivers and carriers, there is enough evidence from this and past accident investigations that VERs can provide a level of oversight beyond that available through CSA. In addition, VERs can help drivers and carriers identify unsafe driver behaviors and situations before they result in an accident.*"

It is important to note that CVR's provide all the benefits of event based recording with the added benefit of continuous recording of driver behavior. This enables fleets to review video of driver behavior and identify risky behavior before an event occurs. This sort of "*Prevent the Event*" solution can reduce the risk that a catastrophic event will happen instead of reacting to one after its occurrence. Random review of continuous video is a powerful tool and should be part of every corporate safety program. It enables companies to establish driver profiles and behavior history. This data can be used for effective driver training and risky behavior modification and elimination.

In 2010, Rosco joined NHTSA and the Department of Transportation at the "Put It Down" Distracted Driving Summit in Washington DC. The Distracted Driving Summit was convened to raise awareness of the consequences of distracted driving as well as finding countermeasures to decrease and eliminate these behaviors. Secretary Ray LaHood has been leading these efforts since 2009 and has been fighting for states to adopt the proper laws to end distracted behavior.

As mentioned earlier, CVR's are most effective when combined with a corporate safety and training program. Rosco holds workshops and training sessions with dealers and users on implementation of these vision systems. Without proper training on best practices for random review and driver coaching, users cannot reap the full benefits of these visual safety systems. As stated in the Gray Summit report,

> "*As useful as VER data are for analyzing accidents, their biggest benefit may be the potential to **prevent** accidents. VERs have been shown to reduce the occurrence of accidents involving emergency vehicles, novice drivers, and commercial driver when used in combination with a driver management program. In an FMCSA study, 64 commercial vehicles were equipped with VERs, and baseline performance was measured over 4 weeks for the drivers of those*

vehicles. Over the next 13 weeks, the drivers were coached on their driving, based on the driving errors captured by the VERs… the NTSB concludes that the use of VER data for managing driver behavior could assist school bus operators in identifying driver performance issues before they lead to accidents."

Rosco has done research by analyzing videos of driver behavior where the majority of risky behavior is not captured as events. The types of distracted behavior can include cell phone usage, eating, and, particularly in passenger carrier situations, excessive interaction with passengers and others. These types of distractions, when not taken to the extreme, ie: significant removal of the drivers eyes from the road, still reduce the driver's ability to focus on the task of driving. Continuous video recorders (CVR's) will capture this type of behavior while simple event recorders (VER's) will not. Our research has shown that drivers who behave in this risky fashion do so repeatedly as opposed to infrequently. Random review of continuous video typically reveals these behaviors among habitual offenders. The screen shot below shows an example of a driver texting on a cell phone without triggering an event. As the image shows, the vehicle is traveling at 62MPH, 64MPH and 71MPH respectively as the driver repeatedly reverts his eyes to his cell phone. (Speed limit in this case was 75MPH) These offenses can only be identified with CVR's.
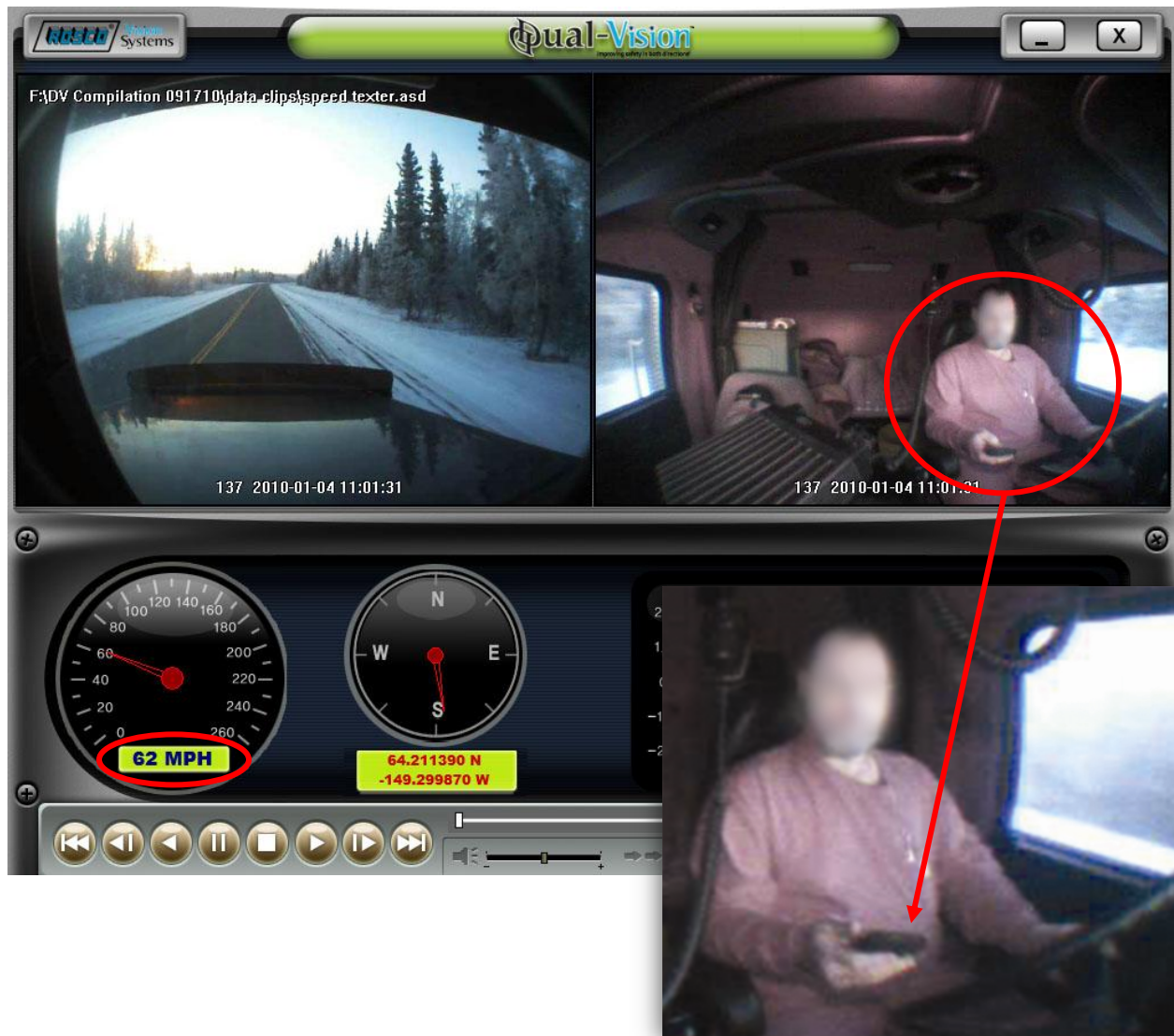
The driver picks up his cell phone above driving at 62 MPH without setting off an event.

A few seconds later, the driver with cell phone still in hand increases his speed to 64 MPH.

Now, at 71 MPH, the driver has increased his speed by 9 MPH within a few seconds unbeknownst to him because his attention was on his cell phone and not his driving.

Through surveys conducted by Rosco with current users of CVR's, results have shown that more than 90% of those surveyed found continuous video review just as important, if not more important, than event review. The surveyed users used the CVR's for driver training, accident reduction, routing and labor efficiency, as well as fuel and maintenance savings. The users surveyed reported that the continuous data captured by CVR's coupled with random video review has allowed them to identify other unsafe driver behavior such as lane changing without signaling, no seat belt usage and failure to maintain safe distances. These are all activities that would not be caught on event-based recorders.

CVR's are also great tools for video and data review after an event has occurred. CVR managers can review significant video leading up to the event to reconstruct what took place and the factors that led to the event.

CVR's are not only useful for identifying distracted driver behavior. They can also be used to verify customer complaints. When it comes to drivers that interact with passengers, owners and managers may get complaints from passengers about rude or unsafe drivers. One of the surveyed users said that as much as 75% of the complaints that were reported about his drivers were debunked when he referred back to the CVR data. This fleet's drivers now want the CVR's in their vehicles and view the CVR's as a driver's ally.

Many CVR systems offer the potential for self-management by the fleet owner/manager, as opposed to subscription/based services. With the access to self managed data, the CVR user has the ability to review any and all of the data they would like to see. The review of historical data helps the fleet owner/manager build a more accurate driver profile.

Our surveys yielded important comments that illustrate the benefits of continuous video recording and monitoring:

"We liked the idea that we could review the data at our leisure simply by pulling an SD card and that there were no additional monthly costs. We have been able to make sure that our drivers are following our company policy of no phone usage while driving and we have also been able to review the camera footage after an accident to see if it could have been avoided."

- *CVR User*
- *York, PA*

"There's no way of telling what the camera was worth on that day but I'm glad we'll never know."

- *CVR User*
- *Danvers, MA*

"They thought we would become "Big Brother" in the bus industry but after planning and deployment meetings, they were receptive to working with our company. It wasn't until we actually had to use the camera footage for proof of innocence that our entire staff fell in love with the system."

- *CVR User*
- *Apple Valley, CA*

"You can't manage what you can't see."

- *CVR User*
- *New York, NY*

In conclusion, elimination of distracted driving is a critical goal in enhancing safety on America's roads. Efforts to eliminate distracted driving by improved electronics designs, banning of embedded electronics, stricter enforcement, and awareness campaigns will continue. However, without methods in place to ensure that drivers are adhering to best practices, distractions will continue to be a problem regardless of other initiatives. Continuous recording and frequent monitoring represent reliable solutions for verifying compliance with these initiatives.

Respectfully Submitted,

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Rosco, Inc.