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THE DRIVE CAM FLEET MANAGEMENT PERSPECTIVE V. DRIVER PERSPECTIVE

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THE DRIVER CAM
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You’ve heard the statistics. Globally, hundreds of thousands of lives are lost each year because of motor vehicle accidents. Many more are injured. In the United States alone, a motor vehicle accident occurs every 5 seconds. Every 12 minutes, a fatality occurs as a result of a motor vehicle accident. These statistics are largely made up of accidents that were not the result of isolated driving errors or mistakes. Frankly, we all get away with isolated mistakes caused by risky behavior. Instead, the statistics, by and large, represent the ultimate consequence of repeated risky driving habits that occur over and over.

Accidents cause down time, worker’s compensation losses, litigation expenses, and liability exposures – costs that exceed $1 trillion worldwide. In order to succeed financially and as corporate citizens, motor carriers must continually look for ways to reduce risk.

How can motor carriers predict and correct risky driving behavior before the risk is realized in a loss? Today, motor carriers can enlist video event recorder technology to assist them with this task.

A. A BRIEF OVERVIEW OF VIDEO EVENT RECORDER TECHNOLOGY

Video event recorders are small devices that are mounted in the cab of a tractor and record the activities inside and outside of the cab. Typically utilizing a cellular upload process, video event recorders provide motor carriers and their employees feedback concerning critical occurrences (e.g., hard braking, air bag deployment, swerving) as well as the general driving habits of the driver.

While there are products on the market that allow for video event recorders to collect hours of data, most systems marketed to motor carriers capture and store video for seconds before and after a recordable event. Although video event recorders are continuously collecting
data, the audio and video from the video event recorder is only automatically stored when the vehicle exceeds a preset g-force threshold or when it recognizes a fault code (e.g., airbag deployment, brake failure, etc.) Most vehicle event recorders also contain a manual button that can be used by the driver to activate the recorder in case of an event that warrants its use.

The audio and video captured by the vehicle event recorder cannot be viewed in real-time by the employer. However, devices with GPS can transmit real-time location as well as immediate notice to the employer of critical occurrences. In addition to audio and video, event recorders also show the time of the accident, the speed prior to the accident, and are a useful tool to observe driver distractions other than those solely related to electronic devices, including eating and drinking while driving, failing to wear a seatbelt, cell phone use, etc.

B. THE BENEFITS OF VIDEO EVENT RECORDER TECHNOLOGY


Video event recorders have many benefits. At their simplest, video event recorders protect motor carriers from fraudulent claims and provide information which can exonerate the driver of a commercial motor vehicle where their behavior was not the sole cause of a loss. In the past, crash investigation, no matter how thorough and in-depth, was limited by its very nature. The reconstruction occurred “after-the-fact” and relied on eye witness evidence provided by the drivers or by third-party witnesses who may be less than truthful about what they were doing prior to the crash or who may have limited recall due to the time that had passed since the accident or the injuries he or she received in the accident. Even drivers with accurate recollections of events were often left to exonerate themselves and their employer while law enforcement and/or opposing counsel attempted to discredit the driver’s statement or his version
of the occurrence facts. Video event recorder technology provides direct observation of the occurrence, proving to be the ultimate concrete and unbiased witness to the occurrence.

Due to the power of this evidence to exonerate or implicate, companies utilizing video event recorder technology should work with the manufacturer of that technology to establish a specific protocol or company policy related to video retention and storage to avoid spoliation claims. In addition, companies should consider when to produce video event recorder technology following an accident. One key consideration is that information provided to local law enforcement following an accident absent a subpoena and protective order could be provided by that law enforcement agency to the media, to other counsel, or to any other person who seeks this information pursuant to a Freedom of Information Act (“FOIA”) request.


The benefits of video event recorder technology go well beyond accident investigations and preventability analysis. In fact, empirical studies have concluded that the use of video event recorder technology can actually prevent accidents by effectively reducing risk to the public and to motor carriers posed by unsafe drivers. How so? First, according to the FMCSA, there are five key driver-related factors in large truck fatal crashes:

- Speed Related
- Failure to keep in proper lane
- Failure to yield right-of-way
- Distraction/inattention
- Operating the vehicle in an erratic manner

Video event recorder technology provides continuous monitoring of these driving behaviors which can then be studied to identify potential unsafe drivers. This includes, but is not limited to drivers who are in violation of policies related to the use of electronic devices while driving, drivers who exhibit behaviors consistent with fatigue, drivers who fail to obey traffic controls,
and drivers who are failing to appropriately maintain their logbooks. Motor carriers who observe these behaviors can coach drivers to avoid driving behavior that increases the risk of accidents or terminate the driver if they feel the behavior cannot be corrected.

Similar to nearly every other profession – from job hiring to professional sports – motor carriers can also use the data obtained from vehicle event recorders to analytically study its risk and develop ways to address it. Nationally, the push for analytic analysis of crash data began in earnest in 2006. At that time, the Federal Motor Carrier Safety Administration (FMCSA) and the National Highway Traffic Safety Administration (NHTSA) collaborated on conducting the Large Truck Crash Causation Study (LTCCS) to investigate large truck crash genesis. The LTCCS was based on a national sample of almost 1,000 injury and fatal crashes involving large trucks that occurred between April 2001 and December 2003. For each crash, detailed information was collected on nearly 1,000 factors related to the vehicles involved in the accident (vehicle type, weight, brake condition, air bag status), the drivers (driving history, fatigue, seatbelt use), the environment (weather, road conditions, lighting conditions), as well as information about passengers and non-motorists involved in the large truck crashes. The LTCCS was the first national database that contained information detailing the contributing factors for large truck crashes.

Since the LTCCS, studies have confirmed that while the relationship between crashes and near-crashes is complex and dependent on not a single set of circumstances, the causal mechanisms for crashes and near-crashes are similar. Because there is a strong frequency relationship between crash and near-crash data, motor carriers can effectively use near-crash data

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1 U.S. Department of Transportation. *Report to Congress on the Large truck Crash Causation Study (2006).*
to significantly improve their ability to predict future behavior by helping motor carriers identify those factors that have a significant impact on traffic factors and accidents.\(^2\)

A smaller study from the University of Iowa also found that combining video event recorder technology with a weekly review of safety-relevant incidents resulted in a significant decrease in safety-relevant events.\(^3\) Some of the results from this study are below:

![Graph 1](image1.png)

**Average number of safety-relevant events and incidents (including near-crashes and crashes) per 1000 miles for all drivers during the baseline and intervention phases.**

![Graph 2](image2.png)

**Average number of safety-relevant events per 1000 miles for the ‘high’ and ‘low frequency’ driver groups.**


The Virginia Tech Transportation Institute recently modeled the potential reduction in fatal and injury crashes in large trucks and buses in the United States had these fleets been participating in a vehicle recording technology program. The final data set included a total of 10,648 fatal truck and bus crashes (resulting in 11,993 fatalities) and 213,000 injurious truck and bus crashes (resulting in 330,000 injuries). The study found that the beneficial effects of a program based on vehicle video event recorder technology had the potential to eliminate an average of 727 fatal truck and bus crashes – a 20.5% reduction of the total fatal crashes – and save 801 lives each year. Similarly, the predicted driver improvement related to the institution of a video recorder technology program had the potential to reduce an average of 25,007 truck and bus injury crashes – a 35.2% reduction – and save 39,066 injuries each year.

Stated differently, providing a platform for a motor carrier’s safety professionals to provide both real-time and periodic feedback to the driver regarding the driver’s habits behind the wheel – even without a critical occurrence – can lead to a significant reduction in a motor carrier’s risk. For example, a 2009 study of 203 drivers over 3 million miles identified the following non-driving tasks/behaviors that drivers engaged in immediately prior to critical occurrences:

<table>
<thead>
<tr>
<th>Task</th>
<th>Odds Ratio</th>
<th>Safety-Critical Events (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text message on cell phone</td>
<td>23.24</td>
<td>31</td>
</tr>
<tr>
<td>Interact with/look at dispatching device</td>
<td>9.93</td>
<td>155</td>
</tr>
<tr>
<td>Write on pad, notebook, etc.</td>
<td>8.98</td>
<td>28</td>
</tr>
<tr>
<td>Use calculator</td>
<td>8.21</td>
<td>11</td>
</tr>
<tr>
<td>Task</td>
<td>Time (s)</td>
<td>Distance (m)</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>----------</td>
<td>--------------</td>
</tr>
<tr>
<td>Look at map</td>
<td>7.02</td>
<td>56</td>
</tr>
<tr>
<td>Dial cell phone</td>
<td>5.93</td>
<td>132</td>
</tr>
<tr>
<td>Talk or listen to hand-held phone</td>
<td>1.04</td>
<td>195</td>
</tr>
<tr>
<td>Talk or listen to hands-free phone</td>
<td>0.44</td>
<td>91</td>
</tr>
<tr>
<td>Talk or listen to CB radio</td>
<td>0.55</td>
<td>50</td>
</tr>
</tbody>
</table>

In total, 60% of the safety-critical events had some type of non-driving task being performed just prior to the occurrence. Through coaching, drivers are engaged before an accident and instructed on potentially dangerous driving behavior so that they can immediately self-correct the behavior. This real-time feedback can build driver confidence by letting drivers know how they are performing against required policies and standards. Conversely, video event recorders can be used to identify drivers for positive recognition based on their performance and reinforce safe driving techniques.

3. **Increasing Fleet Efficiency**

Finally, motor carriers installing video event recorder technology can also reap a net savings related to increased fuel efficiency. One such program boasts that it can improve fuel efficiency by up to 12%. In addition to reducing motor carriers’ largest expense, improved fuel efficiency lowers vehicle emissions. To achieve this result, the aforementioned program focuses on three driving behaviors that have the greatest impact on fuel efficiency: efficient or “smooth” driving, idling, and speeding. The program provides drivers with in-cab feedback on efficient driving and measures the driving behaviors to arrive at a fuel score ranking.
C. VIDEO EVENT RECORDER TECHNOLOGY IS NOT PERFECT

While there are tangible benefits to video event recorder technology, there is a risk that video of your driver could be used in the courtroom or be the leading story for the nightly news. In addition, the video event recorder technology comes at a real cost. Above and beyond the cost to purchase the recorders and for the vendor to manage the program, motor carriers have to overcome internal resistance within their organizations and the “get that camera out of my face” response from drivers. This is particularly concerning in an industry struggling to find enough drivers to fill its tractors.

In addressing this issue, driver education is an important component. The primary concern expressed by drivers is that the recorder could be misused. This includes fear that the recorders will be used to “spy” on off-duty drivers or that the recorders could be hacked to invade the driver’s privacy. As such, motor carriers need to be prepared to convince their drivers that the video event recorders are there to protect them, not spy on them. Most systems do not allow a “live” look-in on drivers or real-time monitoring. This is generally because the video event recorder cannot be triggered remotely. Rather, the recorder is only activated by critical occurrences and other abrupt movements. Regardless, motor carriers should be completely frank with their drivers with respect to what the video event recorders will and will not record.

Drivers are also wary that the technology will be used for punishment, rather than education. To minimize this concern, motor carriers should institute specific policies setting forth how it will use video event recorders to coach the driver to correct unwanted behavior. Rather than discipline, motor carriers should use onboard cameras in training, and talk in terms of coaching to correct driver problems, as opposed to firing drivers.
D. CONCLUDING THOUGHTS

In 2000, the very first camera phone was introduced to the public. Ten years later, the number of camera phones worldwide totaled more than one billion. The proliferation of cameras and video recorder technology – in conjunction with smart phones, apps, social media, etc. – has fostered a culture in which events are captured and broadcast to the public not just by law enforcement and news agencies, but by persons of all walks of life. High risk professions – including the transportation industry – have been exposed as a result of the pervasiveness of video recorder technology, but they have also been exonerated. While questions regarding the capabilities of this technology and the authorized use of this technology are to be expected and must be addressed in order to maximize the benefit of this technology for those implementing it, there is no doubt the use of this technology can result in better behavior on both sides.