



Video Intelligence



Protection, Prevention & Safer Roads for All Drivers

This white paper provides an overview of Video Intelligence for fleets, including potential return on investment, safety benefits and increased visibility for drivers, as well as considerations for successful implementation of a video solution.

Video Intelligence

In an inter-connected world that's moving faster every day, more eyes are on the transportation industry to make deliveries quickly and cost-effectively, while sharing the road with millions of other vehicles of all sizes, drivers of all behaviors and driving conditions of all varieties. Today, there are more than 6.5 million Class 8 vehicles on the road, carrying a weight of 40,000 pounds or more. In the event of a truck-car collision, a car will always appear to be the more vulnerable vehicle, giving society a reason to consistently point blame at the heavy truck.

According to the Large Truck Crash Causation Statistics, in 2013, the average cost for trucking companies per accident was more than \$11 million for those that involved fatalities, close to \$500,000 for those with injuries and nearly \$75,000 for ones that caused property damage. Accident settlements cost fleets an average of nearly \$280,000, based on data from a Georgia-based law firm. In an ever more litigious culture, collision costs are growing significantly each year. Besides monetary costs, these accidents also take a toll on public perception and employee morale, and they can even cost drivers their job or license.

Without a neutral eyewitness on the scene, it's often impossible to prove that accidents were not the fault of the truck driver.

Video Intelligence is a proven technological solution that many fleets are implementing for both protection and prevention that has immense benefits to their bottom lines, their drivers and those with whom they share the road.



PREVENTS
25,000
COLLISIONS

SAVES
800
LIVES

PREVENTS
40,000
INJURIES



THE RISKS OF OPERATING WITHOUT VIDEO INTELLIGENCE

With Video Intelligence tools, transportation companies can have an objective pair of eyes at the scene, to see what the driver saw and what the driver may have been reacting to. In combination with telematics data, fleets with Video Intelligence capabilities now have access to the whole story. The captured footage and accompanying data could be the evidence a driver needs to keep his or her job, save employers significant money, and help companies take preventative measures by improving driver performance and adopting safer company standards.

Historically, transportation companies have been hesitant to adopt any technology, particularly video systems, because they worried that having too much data could potentially be used against them in court. Research shows, however, that in the case of car-truck fatality collisions, more than 75 percent of the time, the accident is the fault of the car driver. As additional research has been conducted, more transportation and logistics companies are realizing the significant benefits of implementing systems that gather as much data as possible. Fleets can save millions of dollars by using video to prove a truck driver was not at fault in the case of an accident, and even more costs can be avoided when companies leverage Video Intelligence data to improve driver behavior.

Furthermore, Video Intelligence can provide context around risky driving behaviors such as hard braking, collisions and more, which drivers previously may have been let go for, without an objective view of the situation that caused the behavior. In an industry where it can be challenging for fleets to recruit and retain safe drivers,

having comprehensive, objective information that shows a driver did everything possible to avoid a collision or other event can help a driver stay on the road, saving time and money.

The availability of video also provides an invaluable safety coaching tool to help drivers see and learn from behaviors that need improvement. In fact, fleets have reported to Trimble that drivers who are shown video of their own risky driving behaviors tend to take responsibility and make greater strides toward improvements.

Fleets utilize Trimble video intelligence data in many ways, including:

- + To provide evidence in the case of an accident
- + As material for driver coaching
- + To live-stream a trailer camera for improved backup visibility



CONSIDERATIONS FOR SELECTING A SOLUTION

Many companies have chosen to repurpose video triggering software that was originally designed for taxicabs or transit buses. While the fundamentals of the applications are similar, the triggers and scenarios within the trucking industry are vastly different. Ultimately these companies usually end up with an excess of triggered footage to sift through, which is typically outsourced to someone outside of the United States with little contextual understanding of appropriate driving behaviors.

Trimble's systems are designed specifically for the trucking industry, offering only the relevant data needed based on a company's defined goals. Local safety managers who know their roads and drivers are able to quickly evaluate the information using appropriate context for the case. In fact, Trimble clients have been able to cut down their video review time by 60 to 70 percent in some cases, saving time and money.

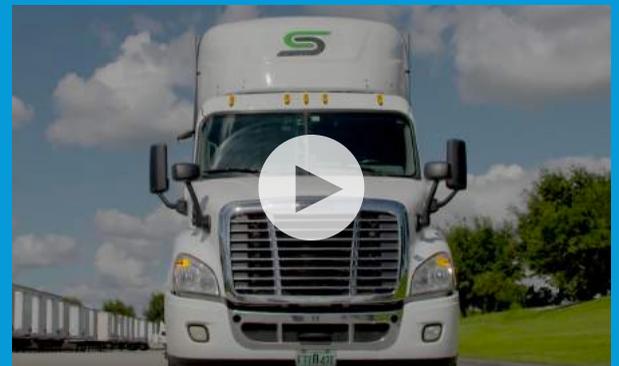
One of the most important considerations fleets should keep in mind when selecting a video solution is finding an end-to-end solution that integrates with a telematics solution that plugs directly into the truck's electronic control module (ECM). Telematics solutions that track violations using GPS and G-force data tend to be fraught with lag times and inaccuracies. However, data that comes directly from the rig's ECM is much more precise and can provide context around triggering events that may not previously have been available or were flat-out wrong. Paired with a Video Intelligence solution, this data provides a much more comprehensive look at a driver's behaviors and risk.

Another consideration is how many frames per second are recorded by the video solution. Lower resolution cameras that only record four frames per second, for example, will produce video with "hops" in the image, potentially missing the event that triggered the recording in the first place. Trimble's Video Intelligence solution provides a clear view of the event at 12 seconds per frame.

Saddle Creek Transportation in Lakeland, Florida, is one of the many fleets utilizing the Trimble Video Intelligence solution.

Learn more about how the solution has improved the fleet's bottom line and safety coaching.

[CLICK TO WATCH VIDEO](#)





COMMUNICATION IS KEY

After choosing a video solution, fleet managers have a final hurdle to overcome: communicating with drivers about when the video will be triggered, and how the recorded video will be utilized. Although drivers' use of forward-facing dash cameras to record incidents happening on the road is becoming increasingly common, with some drivers even setting up their own personal dash cameras, many drivers are still wary of video being used to "watch" them while they work.

The most important thing for fleet managers to do as video is being rolled out to a fleet is to communicate as much as possible about why it is being implemented, including benefits to drivers and the fleet as a whole. While fleet executives may understand that one of the primary uses of video is to provide an objective view of an event, helping drivers see the value in video is equally important.

Trimble's Video Intelligence solution's forward-facing camera faces the road instead of the driver, making it clear that the fleet's number one priority is protecting its drivers and keeping them on the road in the case of a collision or other event. Integration with a telematics solution also provides context around triggering events, such as hard braking events, as well as important data for use in safety coaching meetings.

Gorski Bulk Transport in Ontario, Canada, has been using Trimble Video Intelligence since 2015. "There are a lot of vehicles on the road that get in the way of good, safe operations," said president Ted Gorski.



Having a resource like video puts a carrier in a position to support its drivers and customers and ultimately to improve the safety and efficiency of its business.

—Ted Gorski



PROTECTION AND PREVENTION

Today, still fewer than 10 percent of all trucking companies are utilizing a video solution and consequently are facing steep costs related to accidents. Trimble customers realize their ROI through protection and prevention. For many companies, the cost of Video Intelligence is less than 10 percent of what they paid in claims the previous year. Most Trimble clients reach break even on their investment within the first three months of use.

Beyond cost savings, companies can develop positive company cultures of accountability and ongoing development, where drivers feel a sense of ownership and pride in their trade that can now be measured in a sophisticated way – and know that their fleet managers have their backs because the proof is in the video. Perhaps

most importantly, they can promote conscientious driving behaviors to serve their communities responsibly and keep fellow drivers safe.

Video data and storytelling can promote change like no other medium ever has, by offering the type of accountability and self-awareness that many drivers need to improve driving behaviors.

The applications for this technology will only continue to grow, both in the transportation industry and within our society at large. Video Intelligence provides a competitive advantage that transportation companies can leverage to improve safety, save money and be the best in their industry.

EXAMPLES OF TRIMBLE VIDEO INTELLIGENCE HELPING FLEETS IMPROVE SAFETY AND PROVIDE EXONERATION EVIDENCE



FLEET 1



FLEET 2

✓ Exonerated several **innocent** drivers

↓ Decreased driver **stress**

↑ Increased driver **peace of mind**

💰 Saved **\$195,000**

CSA scores
16%
through driver coaching sessions



INDUSTRY-LEADING, AWARD-WINNING VIDEO SOLUTION

Trimble's Video Intelligence solution offers tomorrow's technology when it comes to fleet safety and security – all in one simple, fully integrated solution. The system provides a near 360-degree view around a truck, including left and right view cameras built into a truck's spot mirrors and a trailer backup camera that wirelessly pairs with the tractor to livestream in-cab video. In November 2017, Trimble's Video Intelligence solution also received the Minnesota High Tech Association's prestigious Tekne Award for innovation and practical application to help improve safety for fleets and the roads we all share.

The trailer backup camera uses a transmitter to automatically pair it to any tractor equipped with a Trimble Video Intelligence receiver. This pairing also allows for wireless streaming of live video on an in-cab display when the vehicle is in reverse, reducing blind spots for the driver. Because the system is not battery-powered, it never needs to be charged. Additionally, the position of the OEM-style side-view cameras offers more product durability, a field of view across two to three lanes of traffic and a steep angle to the ground eliminating blind spots, which are the second-most frequent cause of accidents.

Trimble's Video Intelligence was the first solution on the market that can be fully integrated with a fleet management system. Trimble's Onboard Event Recording® (OER) allows video to be triggered by company-controlled settings, including sudden acceleration or hard braking. An in-cab digital video recorder (DVR) wirelessly transmits videos from the connected cameras.

These videos are then displayed in the Trimble Fleet Manager, a secure online web portal for back-office communications and carrier fleet management functions. The Video Intelligence solution also integrates with the Trimble Safety Analytics dashboard to monitor driver behavior, posted speeding events and hours of service (HOS) violations. The dashboard captures Compliance, Safety, Accountability (CSA) points and violations data provided by Vigillo, LLC, an industry leader in CSA reporting systems.

If an incident does occur, the safety manager can, for example, pull video and analytics to see exactly how fast the truck was going relative to the posted speed limit, if the driver engaged the clutch, if cruise control was on, when and how the driver engaged the brake and what the RPM was. With robust data like this, managers can not only determine fault, but also identify specific coaching opportunities based on the driver's history to reduce future risk and improve performance. Often, 10 to 20 percent of a fleet's drivers represent 50 to 65 percent of the entire fleet's risk.

Trimble's solutions aggregate driver data from whole fleets in one place and breaks data down into intuitive and usable information. Managers can also collect positive driver behaviors to incent and award their drivers who are responding well to unexpected events on the road.

With Trimble Video Intelligence, you get a complete story of driver behavior to provide a complete picture of the challenges they face on the road.

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Key Product Features

- + Trimble's Onboard Event Recording® (OER) allows video to be triggered by company-controlled settings, including sudden acceleration or hard braking as well as Advanced Driver Assistance Systems like collision mitigation and roll stability if the tractor trailer is equipped. These videos are then displayed in the Trimble Fleet Manager, a secure online web portal for back-office communications and carrier fleet management functions.
- + Trimble's Video Intelligence trailer backup camera uses a transmitter to automatically pair it to any tractor equipped with a Trimble Video Intelligence receiver. This pairing also allows for wireless streaming of live video on an in-cab display when the vehicle is in reverse, reducing blind spots for the driver. Because the system is not battery-powered, it never needs to be charged.
- + The OEM-style, easy-to-install left and right view cameras aesthetically integrate into a truck's hood-mounted spot mirrors and are not mounted to existing mirror brackets. The position of these side-view cameras offers more product durability, a field of view across two to three lanes of traffic and a steep angle to the ground eliminating blind spots, which are the secondmost frequent cause of accidents.

Top Takeaways

- + Fleets can save millions of dollars in court fees and settlements by using video to prove a truckdriver was not at fault in the case of an accident
- + Trimble's Video Intelligence solution provides a 360-degree view around a truck, including left and right view cameras built into a truck's spot mirrors and a trailer backup camera that livestreams in-cab video
- + Trimble's award-winning Video Intelligence was the first solution on the market that can be fully integrated with a fleet management system

ABOUT TRIMBLE TRANSPORTATION

Trimble Transportation is multi-modal and provides solutions for the long-haul trucking, field service management, rail and construction logistics industries to create a fully integrated supply chain. In trucking, Trimble provides enterprise and mobility solutions focused on business intelligence and data analytics; safety and regulatory compliance; navigation and routing; freight and supply chain visibility; transportation management and fleet maintenance. With an intelligent ecosystem of products and services, Trimble Transportation enables customers to embrace the rapid technological evolution of the industry and connect all aspects of transportation and logistics — trucks, drivers, back office, freight and assets. Through the combined legacy of PeopleNet and TMW Systems, Trimble Transportation delivers an open, scalable platform to help customers make more informed decisions and maximize performance, visibility and safety.

ABOUT TRIMBLE

Trimble is transforming the way the world works by delivering products and services that connect the physical and digital worlds. Core technologies in positioning, modeling, connectivity and data analytics enable customers to improve productivity, quality, safety and sustainability. From purpose built products to enterprise lifecycle solutions, Trimble software, hardware and services are transforming industries such as agriculture, construction, geospatial and transportation and logistics. For more information about Trimble (NASDAQ:TRMB), visit www.trimble.com.