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USING VIDEO AI TO REDUCE RISK AND LIABILITY

How fleets can leverage AI-powered cameras and video analytics to improve driver behavior and minimize driving risks.

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EXECUTIVE SUMMARY

Increasing crash rates, driver management, and insurance costs continue to place significant operational and financial strain on fleets. Traditional safety programs that rely on reactive, periodic coaching and post-incident reviews are proving insufficient in addressing modern risk dynamics and addressing issues of driver staffing complexities. Artificial Intelligence (AI)-powered video solutions offer a range of compelling solutions—enabling real-time risk detection, more streamlined post-event reviews, personalized coaching, and incident exoneration. By combining intelligent in-cab alerts with post-event tagging, extended view cameras for a complete view, and safety scoring, fleets can take a proactive approach to improve driver behavior, minimize liability exposure, and build a culture of accountability.

This can be seen in terms of how the U.S. fleet market has been perceived and AI video is being adopted. It is becoming a critical enabler to both safety performance and business resilience, and acting as a major growth driver. Chart 1 shows the market penetration of video-enabled Driver Monitoring Systems (DMS) in the United States. ABI Research expects its market penetration to grow from 7.3% in
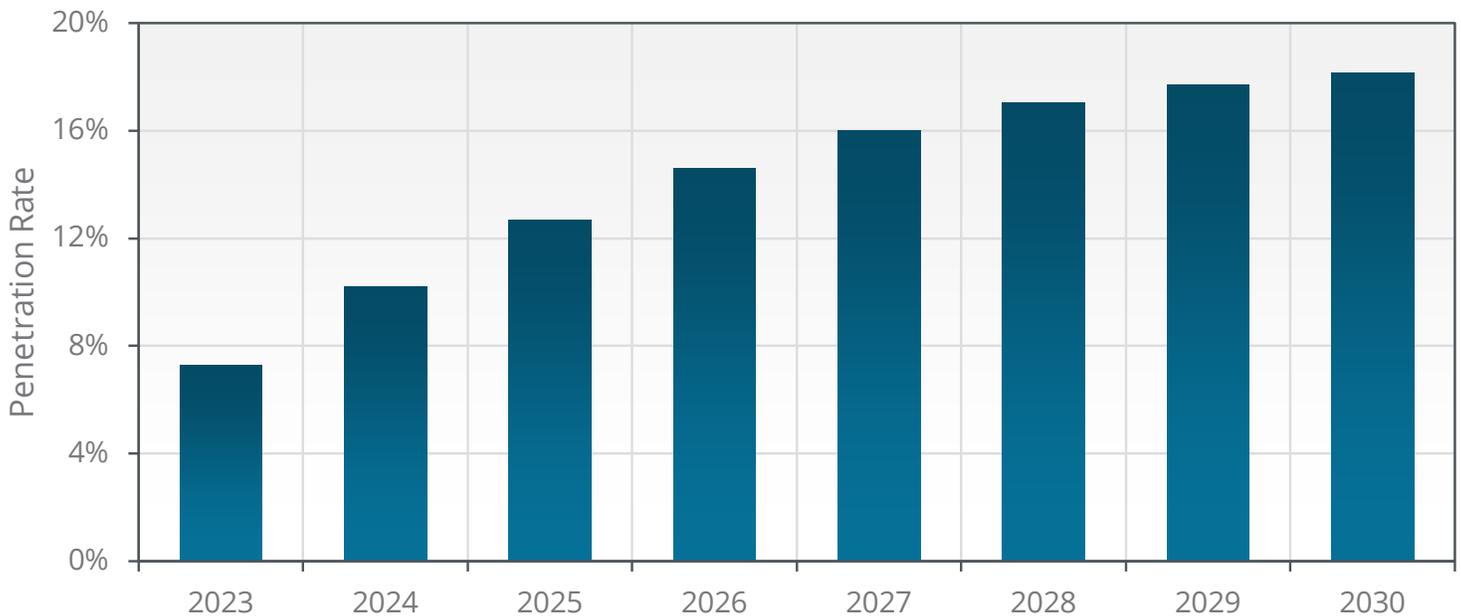
2023 to over 18% by 2030, indicating a double-digit Compounded Annual Growth Rate (CAGR) for the remainder of the decade.

Chart 1:   *Driver Monitoring Systems Market Penetration,*
United States: 2023 to 2030

(Source: ABI Research Video Telematics Market Data Report – 2025)


MARKET TRENDS & PAIN POINTS

GROWING TREND OF ROAD SAFETY INCIDENTS

Fatal crashes involving large trucks continue to increase. In 2023, there were an estimated 5,375 fatal crashes related to large trucks—accounting for nearly 11% of all U.S. motor vehicle accidents. Meanwhile, non-fatal injury crashes involving large trucks totaled about 114,000. Chart 2 shows annual fatal crashes involving large trucks and buses as well as the annual fatal crash rates. In 2020, during the COVID-19 pandemic, we saw fewer fatal crashes due to less traffic. However, the crash numbers quickly went back up and increased to more than pre-pandemic levels at a record high of 5,873 crashes in 2022. Although the numbers decreased slightly in 2023, a continued increase in fatal crashes persists. This indicates that risky driving behavior is still a growing issue.

There has been a growing emphasis on the trucking sector being an integral part of the U.S. supply chain due to reshoring, and supply chain localization efforts. As a result, there have been more vehicles on the road. In addition, truck driver shortages have forced some fleets to rely on newer and less experienced drivers, which increases incident risk. Turnover and retirements of experienced drivers have left gaps in skills and familiarity with equipment, contributing to incidents like improper turns or collisions with overhead structures. Long-standing behaviors like speeding and distracted driving remain top causes for fleet collisions.

(Source: National Safety Council)
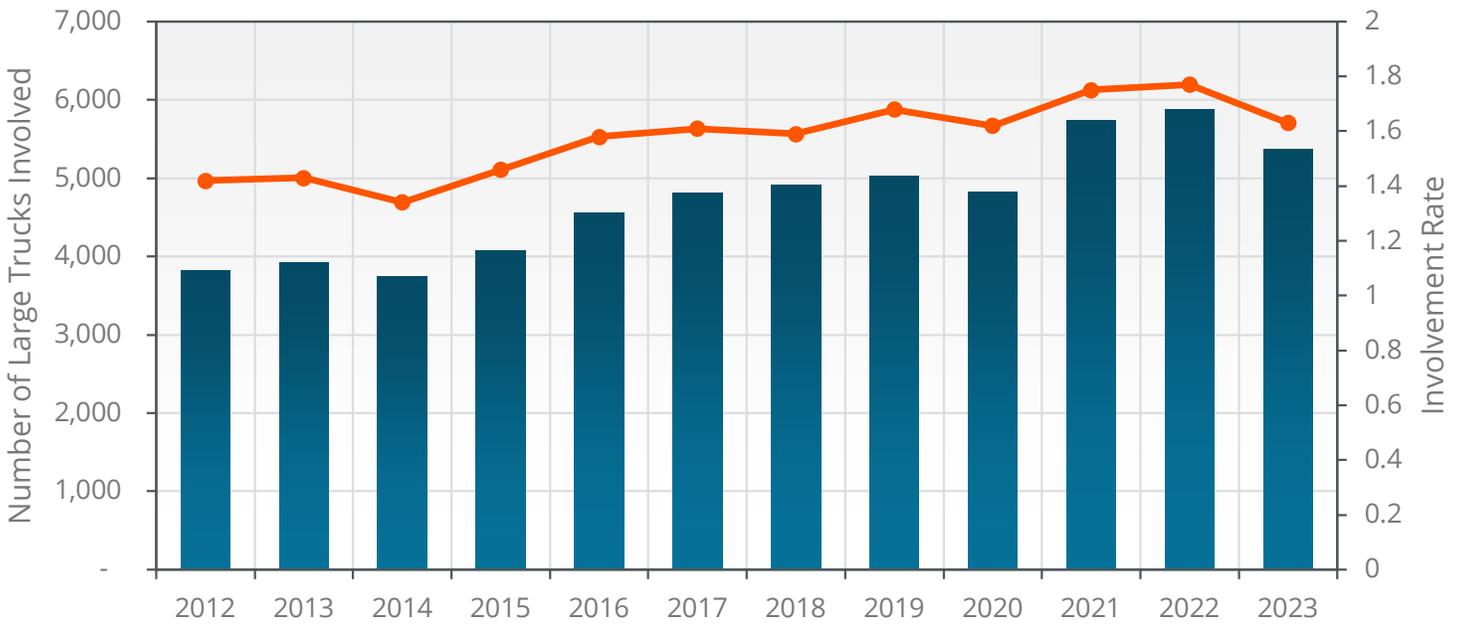
DISTRACTED AND FATIGUED DRIVING

Distracted and drowsy driving are two leading contributors to commercial vehicle crashes. A Federal Motor Carrier Safety Administration (FMCSA) study found that about 13% of serious large-truck crashes involve a fatigued driver. This study indicates that the problem of fatigued driving may be even more widespread—an estimated 65% of truck drivers report occasionally driving while drowsy, and nearly 50% of drivers claim to have fallen asleep at the wheel at least once. These conditions greatly impair reaction times and decision-making, which makes accidents far more likely.

Distracted driving is an equally pressing issue. Instances like mobile phone use, in-cab technologies, or other incidents that take the driver's eyes and attention off the road are a leading cause of fleet incidents. In 2023, per the National Highway Traffic Safety Administration (NHTSA), there were over 3,200 fatalities and 324,000 injuries in the United States involving a distracted driver, which underscores the pervasiveness of the issue. Among commercial fleets specifically, video telematics data have shown that using a handheld device while driving is consistently among the top two riskiest driving behaviors, second only to following too closely. The danger is magnified by the size of some commercial vehicles—a momentary lapse in concentration by an 80,000-pound tractor-trailer can have devastating consequences. Taken together, the high prevalence of fatigue and distraction in recent years' crash statistics highlights an urgent need for more effective monitoring and intervention to keep drivers focused and alert.

More than 34% of organizations stated, "improved driver safety and compliance," as the primary benefit they hope to gain from implementing fleet IoT solutions.

More than 36% of organizations stated interest in upgrading their existing telematics solutions to video-based systems.
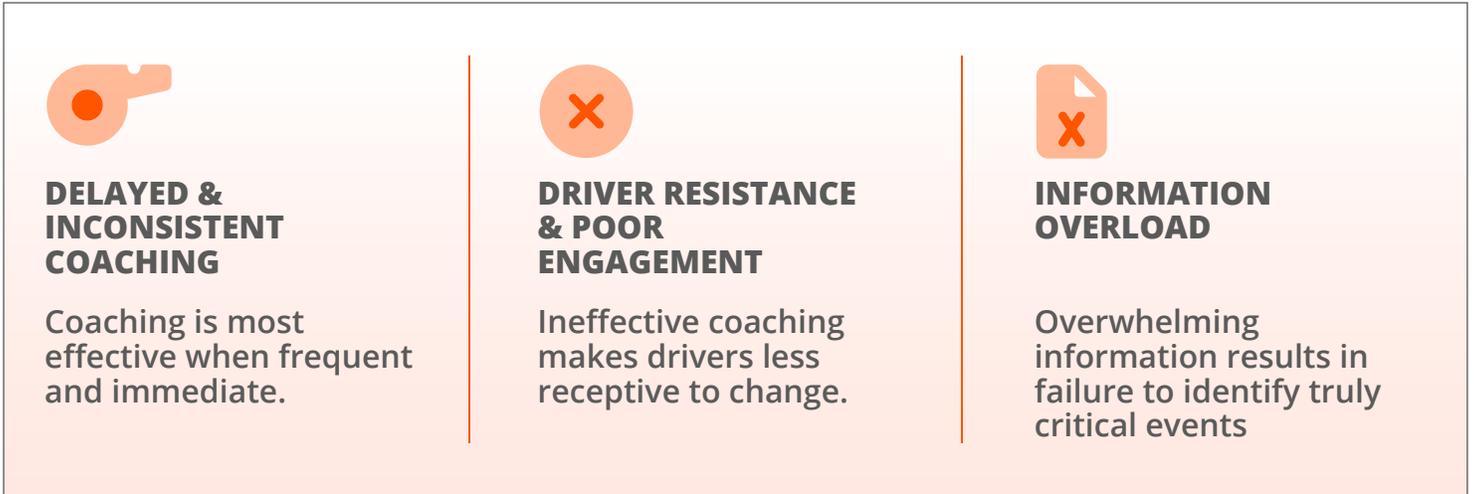
(Source: ABI Research's Supply Chain Management & Logistics Survey – 2025)

LIMITED COACHING TOOLS AND REACTIVE SAFETY PROGRAMS

Historically, fleet safety efforts often focused on lagging indicators such as accident reports, insurance claims, or periodic driving scorecards. Traditionally, safety coaching is frequently done in hindsight—reviewing harsh braking events weekly or taking appropriate actions after a crash. Addressing problems only after an incident or violation has occurred has proven insufficient. The increase in video monitoring solutions has given fleet managers access to more data, but translating that into prevention and operational workflows remains a challenge. Due to this, more opportunities to correct risky behavior in real time are missed.

Figure 1:   *Common Pitfalls in Current Fleet Safety Programs:*

(Source: ABI Research)

DELAYED & INCONSISTENT COACHING

Coaching is most effective when frequent and immediate.

DRIVER RESISTANCE & POOR ENGAGEMENT

Ineffective coaching makes drivers less receptive to change.

INFORMATION OVERLOAD

Overwhelming information results in failure to identify truly critical events

FINANCIAL IMPACTS: HIGH ACCIDENT-RELATED COSTS AND INSURANCE PREMIUMS

Increasing commercial vehicle accidents and fleet issues also contribute to significant financial fallout. Even minor collisions entail substantial costs for companies. Key cost drivers include direct accident expenses, legal liabilities, and surging insurance premiums. The FMCSA estimates that a single truck crash with injuries costs an average of US$148,000. These figures balloon if there are fatalities involved or if multiple people are hurt. In addition, the average cost of a trucking liability claim has nearly tripled from about US$13,000 to US$38,000 in a span of 2 years. The liability exposure for a fleet is far higher than it was before.

Figure 2:   *Average Financial Impacts on Fleets*

(Source: ABI Research)

$148,000

Average costs of a crash with injuries.

$38,000

Average cost of liability.

$3,000–$20,000

Vehicle & cargo premium coverage. Double-digit growth since last year.

When accidents occur more frequently, companies not only incur direct losses and vehicle repair bills, but also secondary costs such as lost cargo, downtime, higher workers' compensation claims, and reputational damage. A single severe crash can send a motor carrier's insurance premiums soaring or make coverage hard to obtain at any price. Insurance claims are climbing at double-digit rates. Industry reports show that truck insurance has grown by double digits in the past few years, regardless of fleet size. The ability to access footage on-demand can help strengthen legal defenses, reduce reliance on witness testimony, and protect the organization from reputational and financial harm.

APPLICATIONS AND BENEFITS

APPLICATION	BENEFIT
Real-Time Risk Detection	Integrated AI-powered dashcams/road-facing cams along with behavioral analytics can issue real-time in-cab alerts to drivers when behaviors such as **tailgating, phone usage, fatigue, seatbelt violations, or lane departures occur.**
Fatigue Detection	**Detecting Signs of Fatigue:** Video AI analyzes visual cues such as eyelid closure rate, head position, and yawning. When signs of drowsiness are detected, the system delivers instant in-cab alerts to prompt the driver to refocus or take a break. **Proactive Decision-Making:** By proactively identifying early signs of tiredness, fleets can help reduce crash risk, improve the driver's well-being, and ensure compliance with Hours-of-Service (HoS) regulations.
Driver Coaching and Scoring	**Timely and Personalized Coaching:** Behavioral data captured by video analytics can inform driver safety scores, which quantify individual risk based on frequency, severity, and context of driving events. These scores allow fleet managers and organizations to identify drivers in need of coaching and target them for timely, personalized coaching. **Dashboards** with video-based data integrated can show trend lines over time and link improvements or regressions directly to coaching efforts. **Power Change Management:** Fleet managers can not only evaluate performance, but also the effectiveness of safety training. This also enables fleet managers to focus on the most critical aspect of driver coaching—reinforcing why better driving behavior is important and why certain risky behaviors are occurring. The driver can proactively learn about their environment and the organization's operations, rather than feeling blamed for certain situations. This system creates a feedback loop that encourages continuous improvement, while reinforcing a culture of accountability and recognition across the organization.
Incident Exoneration	**Manage Litigation and Costs:** In the aftermath of road incidents, multi-angle video footage, including in-cab and exterior views, can provide clear, near 360-degree, and time-stamped evidence of what occurred. This aids in quickly determining fault and helping exonerate drivers who were operating vehicles responsibly. Fleets and organizations have successfully avoided litigation or insurance premium hikes by presenting objective video evidence that refuted false claims. **Boost Driver Morale:** Empirically, knowing that an objective recording exists has been proven to boost driver motivation as well, because it helps prevent being wrongfully blamed for accidents, reinforcing trust between drivers and management.
Reduction in Disputed Claims	**Video validation** is increasingly becoming critical for addressing false claims and settling liability disputes. Using AI-tagged footage, events such as collision classification, traffic light violations, or near-miss situations can be verified by insurers, legal teams, and internal compliance departments. In addition to accelerating claims processes, this also helps deter false claims.

50% of respondents said in-cab video helped them reduce insurance costs. Majority of them reported saving between 5%-24% on insurance costs.

42% of respondents said in-cab video helped them reduce accident costs. Majority of them reported a 15%-24% decrease.

(Source: Verizon Fleet Trends Report – 2025)

IMPLEMENTATION RECOMMENDATIONS

START WITH PILOT DEPLOYMENTS

Before scaling video solutions across the fleet, organizations are encouraged to initiate a targeted pilot program with a representative subset of the fleet. This subset should ideally incorporate a mix of inexperienced and experienced drivers. This allows fleet managers and safety teams to benchmark incident frequency, coaching outcomes, and driver reactions before committing to a full rollout. Priorities can differ by business unit or job function. Fleet managers should be focusing on operational impact and identifying metrics that clearly show improvements. Meanwhile, digital transformation leads should treat pilots as change management exercises. This can be done by validating technical integrations (with Electronic Logging Devices (ELDs), back-end systems, or Enterprise Resource Planning (ERP) systems) to ensure seamless data flow, and building the business case for scaling deployments up using Key Performance Indicator (KPI) improvements. Early success from pilot deployments can help drive cross-functional buy-in.

Nearly 60% of organizations stated that drivers and staff unwilling to change driving habits is the biggest challenge to deploying new technologies.

(Source: ABI Research's Supply Chain Management & Logistics Survey – 2025)

INTEGRATE VIDEO INTO TRAINING AND SAFETY COACHING PROGRAMS

Enterprises should leverage video footage not just reactively, but as a core part of driver development. Footage from the organization's own fleet is more impactful than generic training videos, offering relatable examples of good and bad behavior to drivers. Managers should look to align coaching with recurring safety trends (such as harsh braking or distracted driving) and personalize sessions using video safety scores. Meanwhile, leadership should evaluate how video analytics can provide constant feedback to sustain long-term behavior change.

75% of respondents said in-cab video helped them meet their goal of improving driver safety.

60% of respondents said in-cab video is extremely or very beneficial for improving driver coaching sessions.

(Source: Verizon Connect's 2025 Fleet Technology Trends Report)

DEVELOP CLEAR POLICIES ON DRIVER PRIVACY AND FOOTAGE USE

Often, the biggest barrier to implementing video solutions is pushback from drivers regarding privacy and video use. Transparent policies governing how footage is collected, reviewed, and

used should be communicated clearly to all stakeholders. There is a need to build trust by transparently defining specifics such as what triggers recording, how long footage is retained, who has access, and how it factors into performance evaluation. Executives leading change management should ensure that policies comply with applicable guidelines. They could also explore consent workflows and audit trails within the platform to bolster accountability. Meanwhile, fleet managers must communicate specifics clearly to drivers, emphasizing that the system is designed to protect and not penalize them. There is a need to reinforce that exoneration and positive behavior recognition are the primary goals.

> **More than 44% organizations stated "concerns about data security and privacy" as the biggest barrier to improving workflows.**
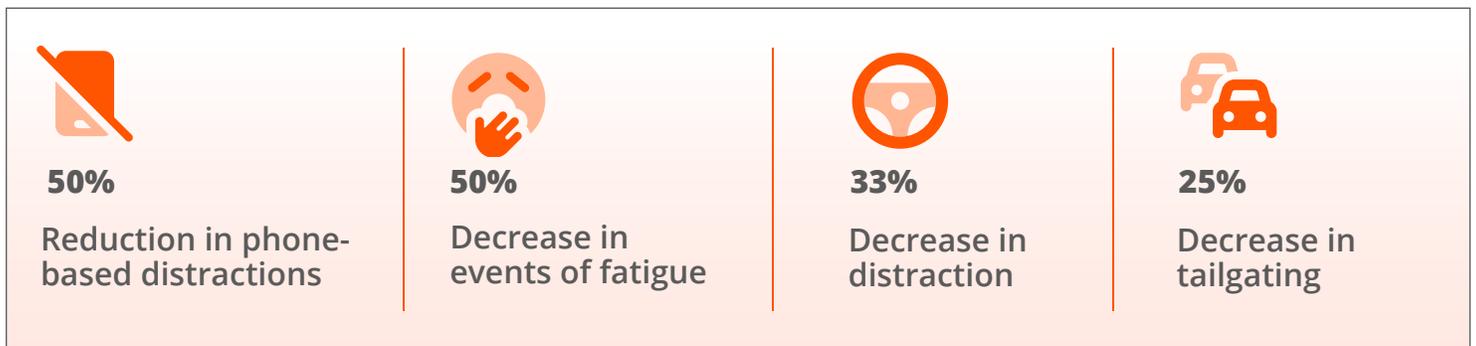
(Source: ABI Research's Supply Chain Management & Logistics Survey – 2025)

ABOUT THE SPONSOR: VERIZON CONNECT

Verizon Connect combines integrated driver-facing dash cameras, road-facing cameras, and extended view cameras to provide crucial insights into driving behavior and incidents. This visual evidence helps in coaching drivers, reducing risk, and supporting insurance claims. The following are its key solutions:

- **Post-Event Tags:** Verizon Connect's video analytics engine automatically tags events after they occur, identifying critical behaviors such as traffic light violations, near misses, collisions, etc. These post-event classifications streamline incident review by surfacing high-risk behavior and contextualizing what led to them. This can help fleet managers enable targeted coaching and risk analysis.

- **In-Cab Alerts:** AI-powered dashcams issue real-time in-cab alerts for behaviors like unfastened seatbelts, lane departures, distracted driving, phone use, fatigue, and tailgating. These alerts serve as live corrective feedback to drivers and have been shown to significantly improve driving performance and lower accident risk.

- **Driver Safety Score:** Driver Safety Score quantifies driver performance by analyzing unsafe behaviors, event frequency, and risk patterns. Managers can use this to track progress over time with weekly trendlines and bridge coaching sessions directly to score improvements. This data-driven approach supports more objective evaluations and encourages drivers to engage with safety programs through measurable feedback.

- **Extended View Camera:** The Extended View Camera provides near 360-degree visibility using rear, side, and cargo camera angles. This combination enhances situational awareness, reduces blind spots, and offers richer context around driving events. Drivers report improved confidence in difficult conditions, while fleet managers benefit from a more comprehensive picture of incident dynamics.

Figure 4: ***With Verizon Connect's solutions, customers experienced:***

50%
Reduction in phone-based distractions

50%
Decrease in events of fatigue

33%
Decrease in distraction

25%
Decrease in tailgating

(Source: Verizon Connect Data Science Research, North America, June 2024)

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