Strengthening construction safety with telematics

A guide to protect workers and increase operational efficiency



GEOTAB

Intro

Let’s say you found a way to substantially reduce a construction project’s costs. Then you learned this solution would help eliminate delays, prevent cost overruns and equipment damage and keep your staff safe and productive. With all these benefits, you would adopt this solution without hesitation.

What is this solution? Bolstering safety and operational efficiency with Geotab telematics.

It’s no secret that safety is crucial in construction, with nearly **20 percent of fatal work injuries in the U.S.** occurring in the construction industry. At the same time, to improve safety on the job site is to improve your bottom line. Better safety policies help keep construction projects on schedule, reduce losses from vehicle breakdowns and wasted fuel, and most importantly, protect your personnel.

With **human error causing an estimated 88 percent of all accidents**, it’s within our power to improve construction safety. As construction project managers and safety leaders look for new ways to maximize safety at sites and in transit, telematics offer numerous benefits, such as:

- Identifying risks around vehicle operations, equipment usage, and workforce behavior before they lead to safety incidents.
- Uncovering useful insights and actionable data to enhance safety protocols.
- Simplifying compliance with safety regulations across states and countries.

By applying a data-driven approach to safety through telematics, construction managers can foster a culture of safety across their projects. This culture both protects workers and improves your bottom line. In this guide, you will learn seven specific ways that Geotab telematics delivers cost-saving safety benefits for construction projects.



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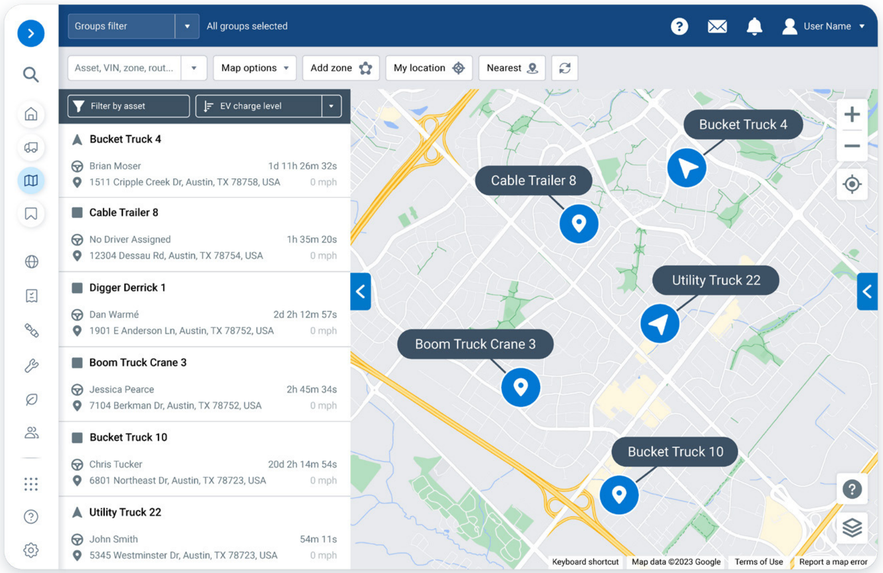
BENEFIT 1

Reduce risk with real-time location tracking

One of the first steps to improving construction safety is knowing where your vehicles are at all times. On larger construction projects that span multiple sites, it can be difficult to keep track of equipment locations. This can increase risk of improper usage, collisions and theft.

Geotab addresses this with real-time location tracking for all vehicles. Using the Geotab suite of products with your vehicles and other assets, telematics can provide real-time data to show you where each equipment and vehicles are while in transit or parked at a site. This makes it easy to visualize vehicle locations on a tablet or mobile device so you can act quickly if a vehicle is headed somewhere unsafe.

You can also use telematics to set up geofencing alerts. Geofencing sets up virtual boundaries around construction sites that instantly notifies managers if machinery leaves or enters these specific zones. By defining these geofence boundaries, you know right away if a vehicle or asset is going somewhere it shouldn't, preventing theft and unauthorized usage of your equipment.



Did you know?

According to **research from the NSC**, geofencing offers key benefits like risk mitigation, enhanced worksite visibility, and improved efficiency.

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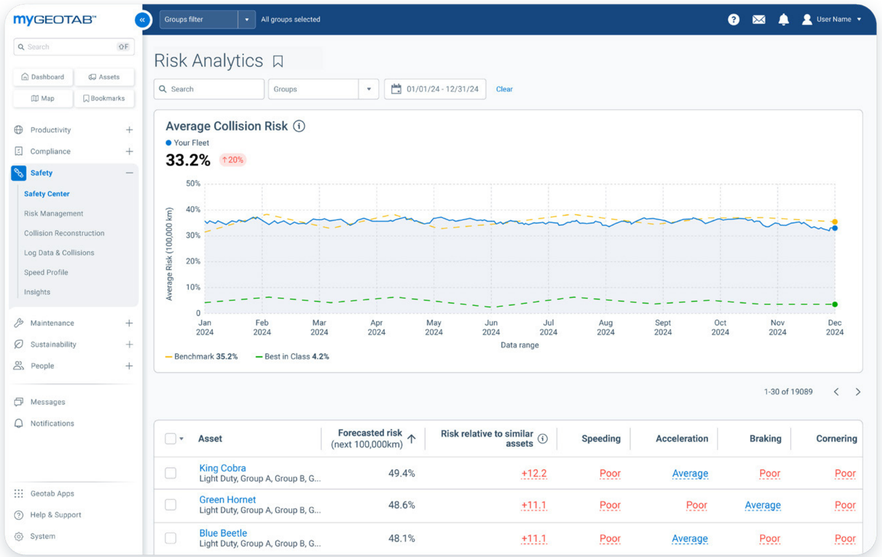
BENEFIT 2

Prevent breakdowns with vehicle and equipment maintenance alerts

Keeping your construction vehicles running properly is key to maintaining a safe — and profitable — site. However, breakdowns and equipment issues are a normal part of construction operations and they never happen at a convenient time. The more you can predict when equipment needs maintenance or repair, the more you can prevent malfunctions that create safety risk and costly delays.

To help keep your construction vehicles in optimal condition, Geotab telematics systems enable predictive maintenance. This helps you forecast when each vehicle is due for servicing or maintenance, helping you prevent breakdowns in the middle of a workday. Such breakdowns can not only lead to safety hazards on a job site, but also increase costs from work delays or more expensive repairs.

You can also rely on telematics solutions for condition monitoring for your vehicle fleet. Using sensors inside your equipment, you can track engine health, temperature and other vehicle status indicators. If a vehicle's condition is at risk, your telematics solution can send maintenance alerts when you need to act. This prevents expensive and risky breakdowns and shows you potential issues before they lead to mechanical failure.



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BENEFIT 3

Identify risky driver behavior using detailed monitoring

Safety is everyone's responsibility — but everyone can make mistakes. To minimize safety risks, it's vital that construction managers are able to identify problematic behaviors before they turn into dangerous incidents. When you're overseeing a large team working across multiple sites, it's not easy to recognize unsafe operator behavior at scale.

Geotab telematics addresses this challenge with driver behavior monitoring. By tracking driving patterns and operator behavior across vehicles, telematics helps you identify unsafe practices like speeding, harsh braking or erratic driving. Advanced telematics solutions can interface with dash cameras, analyzing their footage in real time and alert construction managers of risk. If any of your drivers repeatedly engage in unsafe behavior, telematics helps you address it proactively to reduce the risk of expensive mistakes and protect your staff. If these problems are happening across your crew, you can also pinpoint new training opportunities to help your team improve safety practices with specific vehicles or tasks.



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BENEFIT 4

Respond to and understand safety incidents using real-time alerts

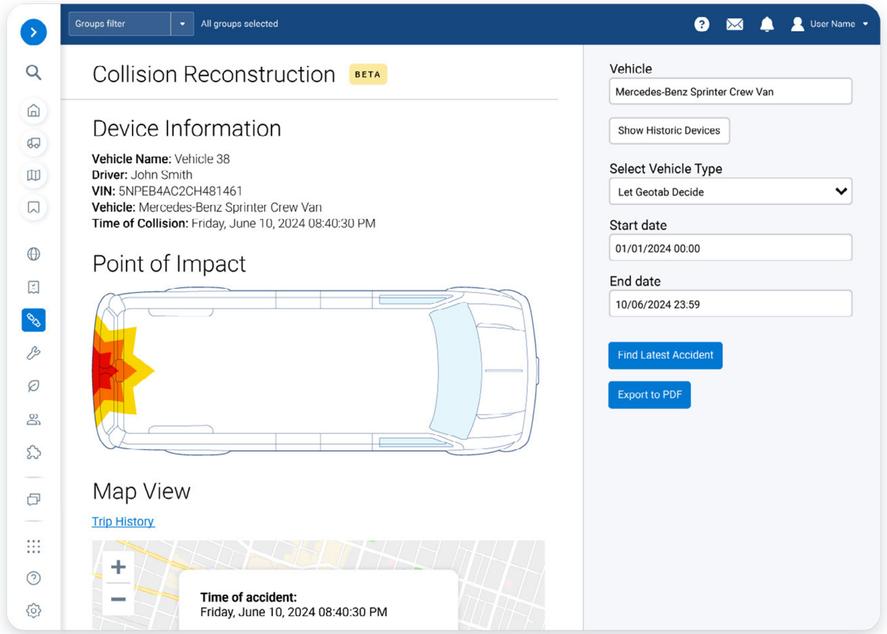
If there's a major safety incident at your site, a quick response can save lives. But if your construction project involves a dozen vehicles across multiple locations, it can be difficult to rapidly locate and respond to an incident. Then, once a safety incident has been resolved, you will want to understand the causes and circumstances surrounding the event. If you rely only on eyewitness accounts, you may not get the full picture.

Geotab solutions can expedite your response to safety incidents with emergency alerts. Many telematics devices include emergency buttons that, when pressed, alert managers to a potential safety issue or a need for assistance. You can also implement automated safety incident reporting to immediately notify you about collisions or near-misses involving your construction fleet.



Our software advantage

Telematics data also makes it much easier to reconstruct what happened after a collision. You can examine telematics data to understand the circumstances and events leading up to a collision, such as vehicle speed, driver behavior and other factors. This is valuable for learning from mistakes and preventing future safety incidents.



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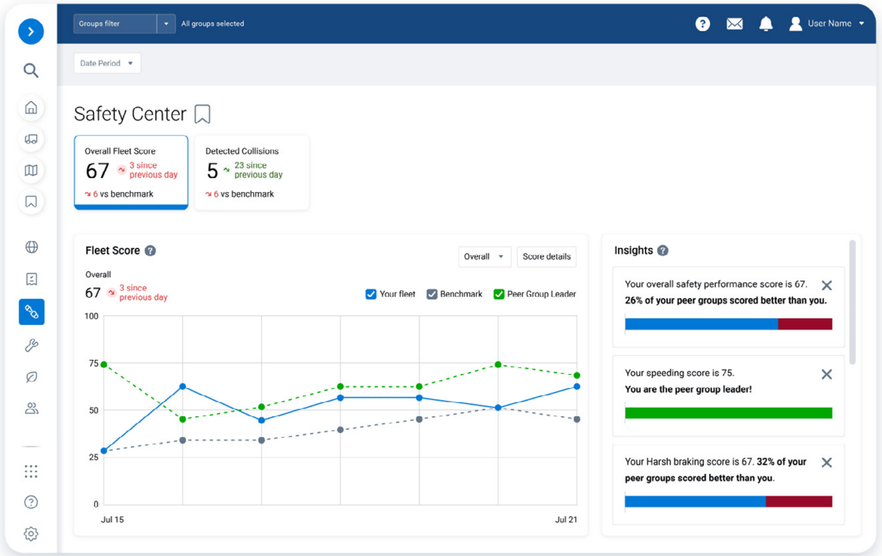
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BENEFIT 5

Simplify regulatory adherence and retain digital safety trails with compliance management

Compliance with safety regulations is an essential part of any construction project. With compliance requirements and procedures differing across regions and states, following the rules can become complex. If your construction operation faces legal review by regulatory authorities, you need to be able to easily prove that all regulations were followed.

Telematics solutions can simplify regulatory compliance and documentation, easily proving that all rules were obeyed. Using built-in alerts that can be tailored to the geographic region of your project, telematics devices can notify drivers and construction managers when rules like speed limits are not being followed. Telematics also provides digital safety trails to verify compliance with safety practices and proper reporting of incidents. These digital records are much easier to search and show to regulatory authorities compared to paper files. It's also possible to use this digital evidence of good safety behavior to proactively acquire insurance discounts, improving your bottom line.



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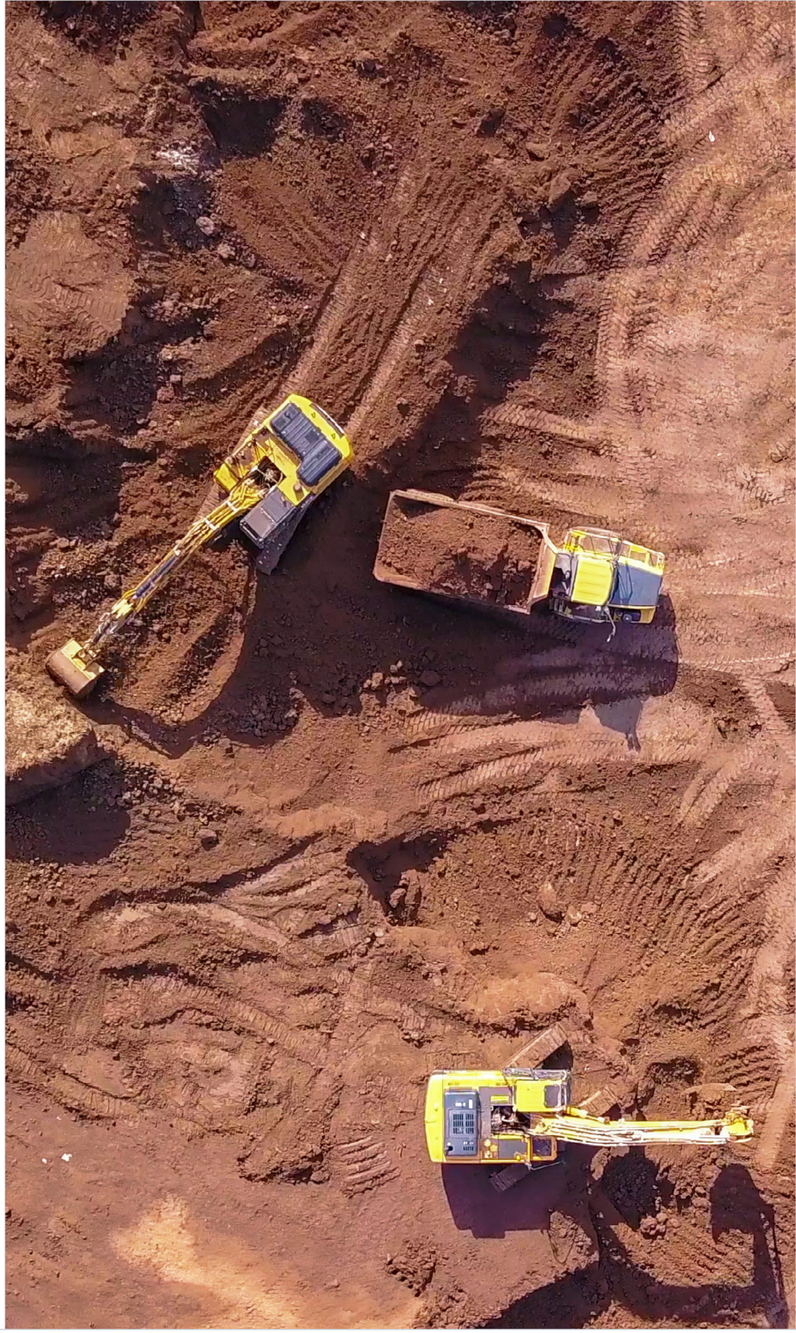
BENEFIT 6

Protect worker health and safety using environmental monitoring tools

Threats to construction worker safety include more than vehicle collisions. If job sites contain hazardous conditions or toxic materials, your team needs to take special precautions to protect their health. Even in normal construction conditions, it is still important to keep track of your staff's health to make sure they don't suffer from heat stroke, excessive fatigue or other ailments that could lead to safety incidents.

Additional safety info

This is why telematics solutions offer environmental monitoring to protect your team's health. Using sensors, telematics devices can detect hazardous conditions such as high dust levels, toxic gasses or excessive noise. If these conditions appear, then your telematics devices can automatically alert site managers so they can act to keep their staff safe.



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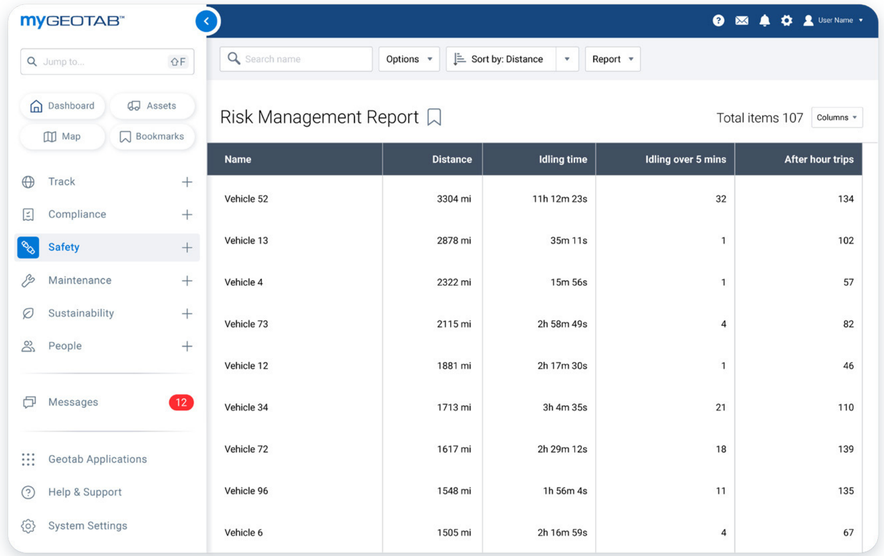
BENEFIT 7

Enhance communication through shared data around the job site

The more effectively your team communicates, the safer they will be. Enhanced communication can help your team quickly report vehicle issues, avoid environmental contaminants, rapidly respond to incidents and countless other safety advantages.

The data visibility enabled by Geotab telematics helps your team coordinate and communicate in numerous ways. For example, your telematics solution can automatically alert workers about real-time risks and changing conditions on the job site, which enables better team coordination and safety. In an emergency, this immediate access to safety alerts can save lives by enabling a quicker and more informed response across your team.

In addition to worker safety, the improved communication from telematics can also drive significant savings. Because yellow iron equipment is valued based on off hours the equipment is running, excessive idling can cost you ROI when you resell them. With idle time alerts, you can automatically notify managers when equipment has been left to idle too long.



Name	Distance	Idling time	Idling over 5 mins	After hour trips
Vehicle 52	3304 mi	11h 12m 23s	32	134
Vehicle 13	2878 mi	35m 11s	1	102
Vehicle 4	2322 mi	15m 56s	1	57
Vehicle 73	2115 mi	2h 58m 49s	4	82
Vehicle 12	1881 mi	2h 17m 30s	1	46
Vehicle 34	1713 mi	3h 4m 35s	21	110
Vehicle 72	1617 mi	2h 29m 12s	18	139
Vehicle 96	1548 mi	1h 56m 4s	11	135
Vehicle 6	1505 mi	2h 16m 59s	4	67

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As a global fleet telematics provider, Geotab can help your construction operation leverage all of these safety and cost-saving advantages from telematics. We are proud to give our clients peace of mind through monitoring seatbelt usage, alerting speeding events, driver coaching opportunities and more. Our data-driven approach to construction safety can lead to a significant reduction in collisions, bolster compliance with safety regulations and foster a culture of safety across your projects.

With next-generation tracking devices and an easy-to-use software platform, Geotab's telematics solution can support the needs of your construction fleet now and into the future. To learn more about how Geotab can empower your construction company to implement more effective and cost-reducing safety policies, **visit us online**.



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Geotab is advancing security, connecting commercial vehicles to the internet and providing web-based analytics to help customers better manage their fleets. Geotab's open platform and Marketplace, offering hundreds of third-party solution options, allows both small and large businesses to automate operations by integrating vehicle data with their other data.

The in-vehicle device provides additional functionality through IOX Add-ons as an IoT hub. Processing billions of data points a day, Geotab leverages data analytics and machine learning to help customers improve productivity, focus on sustainability, optimize fleets by reducing fuel consumption, enhance driver safety and achieve strong compliance to regulatory changes. Geotab's products are represented and sold worldwide through Authorized Geotab Resellers.

To learn more, please visit **www.geotab.com** and follow us **@GEOTAB** and on **LinkedIn**.



This ebook is intended to provide information and encourage discussion on topics of interest to the telematics community. Geotab is not providing technical, professional or legal advice through this white paper. While every effort has been made to ensure that the information in this white paper is timely and accurate, errors and omissions may occur, and the information presented here may become out-of-date with the passage of time.

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