



**Manage worksite
safety and liability
with telematics**

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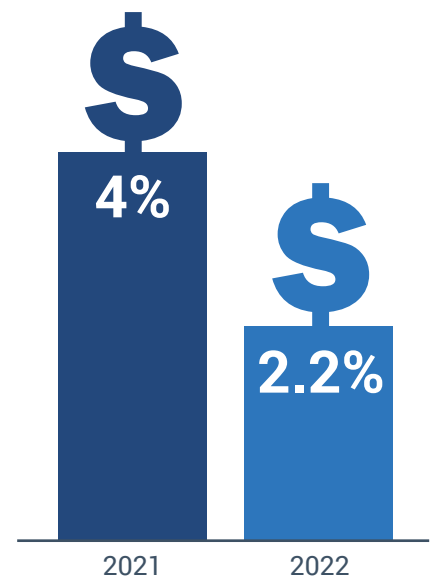
Introduction

The success of the construction industry relies, in part, on the general economic health of a country. The good news is the overall U.S. economy recently marked its eighth consecutive month of growth and economists believe it is poised for strong growth in the second half of 2021. In fact, some economists are predicting **economic growth of 4% for 2021** with a return to more normal growth levels of 2.2% in 2022.

In the early part of 2021 and looking out 12 months, experts are **optimistic** about the construction market. They expect it will continue to grow back to normal levels as restrictions on the economy are eased as more people get vaccinated against COVID-19 and local governments relax restrictions. This does not mean the industry will not be without its challenges, especially those related to material shortages, the increased cost of material and the need to increase efficiency and productivity.

Technology can be a great enabler of efficiency and productivity, but there is a lot more the construction industry can do with data technology for its assets and workers or worksites. Leveraging data technology can give construction managers real-time insight into what is occurring on the worksite, including how their equipment is being utilised. Additionally, as worker safety continues to be a priority, data technology can be helpful in reducing risks, controlling insurance costs and can be used in collision reconstruction.

Economic Growth



Strategies for improving worksite safety

According to the [Bureau of Labor Statistics](#) (BLS), the construction industry has the highest number and rate of fatal worksite injuries. BLS says there are approximately



150,000 construction site accident injuries each year.

Many of those accidents involve equipment. The industry is looking for ways to reduce the number and severity of accidents both on the worksite and when getting equipment to and from that site.

A good first step is to invest in some basic technology, including telematics devices, especially ones that can integrate with other add-on devices to give businesses a fuller picture of what is going on at the worksite and with the equipment itself. Once a fleet has access to worksite and fleet data various strategies can be deployed to improve safety.



Assessing worksite safety risks

Let's start with the worksites themselves. There are a variety of ways to prevent collisions on the worksite, but first there needs to be an understanding of which job sites are the most dangerous. That starts with keeping track of how many safety incidents (near misses, harsh braking, speeding etc) are occurring at each geofenced worksite. From there, managers can dig deeper to identify specific areas on a worksite where incidents seem to be occurring more frequently.

Specialized worksite safety solutions can integrate with telematics devices to deliver collision warning alerts. Once fleet operators have a full understanding of job site risk, they can begin to assess why they are experiencing collisions and near-collisions in a given area. Is the road too small? Are there too many workers in the area? Whatever the case may be, having the right information allows fleet operators to take the appropriate measures to correct the problems and increase safety for employees on the job, while keeping equipment safe as well.





Preventing equipment damage

In addition to making sure the worksites themselves are free from hazards, businesses also want to keep equipment safe from damage or theft. A telematics device with a gyroscope and accelerometer can help prevent a vehicle from overturning if it is on too steep a grade. The device will shut down a piece of equipment if it thinks the back hoe, excavator, etc. is going to roll over. It will also trigger the device to start recording data at a more granular level if it anticipates a collision and the need for more detailed data.

For on-road construction equipment, **Advanced Driver Assistance Systems** (ADAS) provide drivers with real-time feedback to help them avoid collisions. ADAS monitors the area around the vehicle through a combination of cameras, radar, infra-red, ultrasonic or LiDAR sensors to detect potential threats or danger and then activate a warning or action. Some telematics devices integrate directly with some ADAS solutions.



Mitigating theft and unauthorized use

Theft or unlawful use of assets can also cause significant disruption on a job site. One way to prevent that from occurring is with machine access control. A business can control access to its equipment by using near-field communication (NFC) reader that connects to a telematics device.

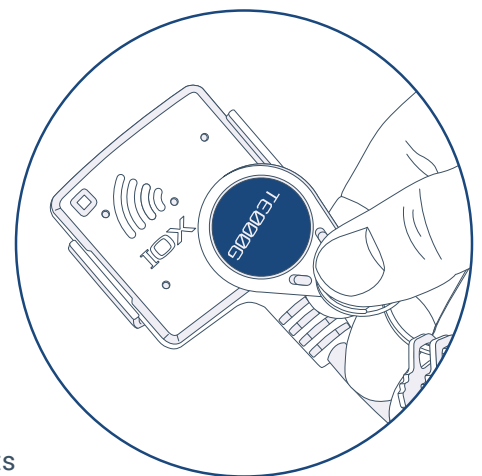
With NFC, drivers are assigned an NFC tag and must swipe into and out of a vehicle that they are authorized to operate. This can be used on both on-road and off-highway vehicles. Access can be determined by employee skill and proficiency levels. For example, one employee may be authorized to operate a scissor lift but not an excavator.

If the operator is not authorized to operate the vehicle, the vehicle will not start because the starter relay will inhibit the start. This can be especially useful on a construction worksite as many pieces of construction equipment use the same key.

For equipment that operates on-highway, drivers can scan QR codes on their handheld devices and enter their credentials. If everything is correct, access to the vehicle can be unlocked via the cloud.

Machine access control not only prevents operators on a company's payroll from using equipment they are not qualified to use, but also prevents employees from other contractors who might be on the site from using equipment that does not belong to them. It also prevents theft of equipment from the site.

Construction site managers also can set up a virtual fence around the job site. If a machine ever leaves the job site, an alert would be sent to the appropriate people and the vehicle or piece of equipment can be tracked using onboard telematics devices and eventually recovered. Given the cost of a piece of construction equipment, which can be \$100,000 or more, knowing where your assets are at any time makes smart business sense.





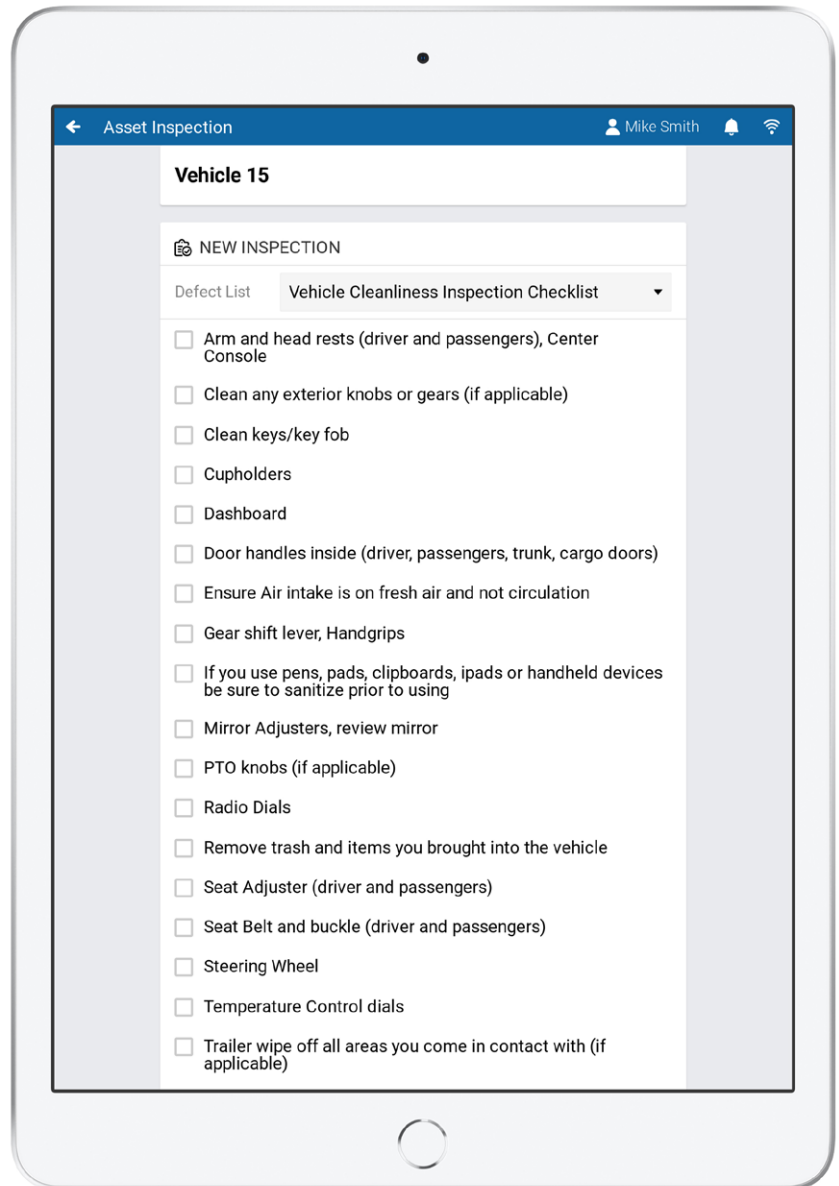
COVID-19 safety

The COVID-19 pandemic has taught everyone about the importance of social distancing and contact tracing.

The Centers for Disease Control and Prevention provided tips on how construction workers can protect themselves from the spread of viruses like COVID-19 in its article, "[What Construction Workers Need to Know about COVID-19.](#)" Key actions cited include wearing cloth face coverings, limiting close contact by maintaining a distance of at least six feet, and cleaning and disinfecting frequently touched surfaces.

Given the nature of the worksites, it may be difficult to achieve the suggested six feet of separation between employees. Some construction businesses are equipping their workers with wearables that identify and track which employees get close to each other throughout the day. This can help with contact tracing in the event someone on the worksite tests positive for the virus. Some telematics devices are capable of reading the Bluetooth® beacons these wearables emit.

Technology can assist in a fleet's effort to keep equipment and worksites safe. For example, [Driver Inspection Vehicle Reports](#) help by maintaining records of when assets have last been sanitized. Asset utilization numbers can help businesses stagger work schedules where possible and a designated safety and health officer can receive alerts from staff on worksites about COVID-19 concerns. Finally, in-vehicle messaging can remind drivers and vehicle operators about proper COVID-19 safety practices and prevention techniques.





Optimizing liability for mixed fleets

The more data that a business can provide the insurance company about its own operations, the better. Insurance companies use this information to assess risk and determine the amount of the premium payment. However, this risk assessment does not happen in a vacuum. When assessing risk, insurance companies look at other businesses similar as well as those in other industries to do what is called risk segmentation – determining where to place a business in terms of risk level. They evaluate factors including, the way a company uses its equipment, the number of collisions, number of violations for speeding and more.



Utilizing contextual risk

Usage-based insurance started in the consumer automobile insurance market, but is now migrating into the commercial vehicle and construction equipment markets as well. In the past, it was thought that there were certain behaviors that could predict risk – in essence acting as risk proxies – which included things like fast acceleration, hard braking and speeding. But more recently, factors like weather, driving environment (urban versus rural), terrain, road conditions, time of day and traffic congestion have been found to play a role in better identifying a company's risk for a collision. This contextual data when taken in total gives a much more accurate picture of a business's operation and vehicle use.

Having this real-world data allows the insurance company to get a more realistic view of risk and can result in premium discounts. It also benefits businesses to have the data because it allows them to take proactive steps to provide drivers or equipment operators with additional training if managers notice patterns of unsafe behavior.

While many larger fleets are investing in the technology and information to improve their safety insights and lower their risk, smaller fleets not initially inclined to make the safety investment may consider sharing their data with insurance companies in exchange for financial subsidies for the devices and subscription service.



Lowering risk with authorized access

While access control to equipment ensures that the correct person is using a given piece of equipment, it also may be viewed by an insurance carrier as a risk mitigation effort. Demonstrating to your insurance carrier that you are using technology to ensure that only people who have the proper training and credentials to operate a piece of equipment signifies the importance an organization places on risk mitigation and are taking responsibility for worksite safety.



Better insights into incidents

Although everyone wishes there were no collisions, and despite companies' best efforts to prevent them, they do occur. And when they do, it is important to know what happened and why. Detailed information on the collision can help insurance companies, but also can help in the event a lawsuit is filed against a company involved. The data also can help the business determine any additional training needs in order to reduce the chance of future incidents.

Telematics can assist with collision reconstruction by helping the fleet to understand the events that occurred before, during and after a collision. Important data to collect includes trip history, collision and log data, speed profile and accelerometer and RPM graphs.

Telematics data is completely objective and is an accurate scientific record of events. Fleets with telematics devices on their vehicles and equipment do not have to rely on word-of-mouth accounts of how an accident occurred. Factual information is always your best evidence in court.



Speed up the claims process

Technology also allows for connected claim services in which the business, insurance provider and other outside vendors become an end-to-end connected ecosystem. A telematics device serves as the base for the connection and can be coupled with other applications to complete the connection from when the collision occurs through to the equipment/vehicle repair and claims resolution.

When an accident occurs, data can be quickly retrieved from the telematics device and a first notice of loss can be created. In vehicle documentation also can be secured from the scene of a collision. If needed, roadside assistance and towing services can be contacted to remove the vehicle from the scene once doing so has been approved by law enforcement. In addition, since everyone is connected, the tow truck operator can take the vehicle to the repair garage the insurance company designates.

The facts, along with photos, videos and any other data associated with the collision can be shared with all necessary parties with a couple of clicks. This allows for collision reconstruction and an analysis of liability and provides everyone access to the same information.



Preventing litigation

Many in the construction industry are aware of the large verdicts that have been handed down to trucking companies in recent months. In some cases, these verdicts have reached levels of well over \$10 million.

The American Transportation Research Institute issued a report, [**Understanding the Impact of Nuclear Verdicts on the Trucking Industry**](#), and while it focuses on trucks, it is not a stretch to think verdicts of this type could migrate to the construction industry.

Ultimately, the only way to prevent a verdict or the payment of any type of damages is to avoid collisions in the first place. The construction industry can leverage technology to reduce as many risks as possible and avoid these big judgements at all costs. And having the solid data to back up what happened before, during and after a collision can help demonstrate to a jury that you took every precaution available to make sure you were operating safely.

Building the foundation for fleet safety with data

Construction companies know that safety is critically important both on and off the worksite. A reliable telematics platform is a strong foundation to build a safety program upon. A reliable, modular and flexible telematics platform becomes an even more powerful tool when it allows for the integration with other add-ons that increase worksite or asset visibility.

Construction companies that put safety first understand that having a solution that integrates data into one platform gives a more complete picture of what is happening with assets on and off the worksite.

For more information or to request a demo, visit us online at [geotab.com/offroad](https://www.geotab.com/offroad).



About Geotab

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 assets. As an IoT hub, the in-vehicle device provides additional functionality through IOX Add-Ons. Processing billions of data points a day, Geotab leverages data analytics and machine learning to help customers improve productivity, optimize fleets through the reduction of 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](https://twitter.com/GEOTAB) and on [LinkedIn](https://www.linkedin.com/company/geotab).

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