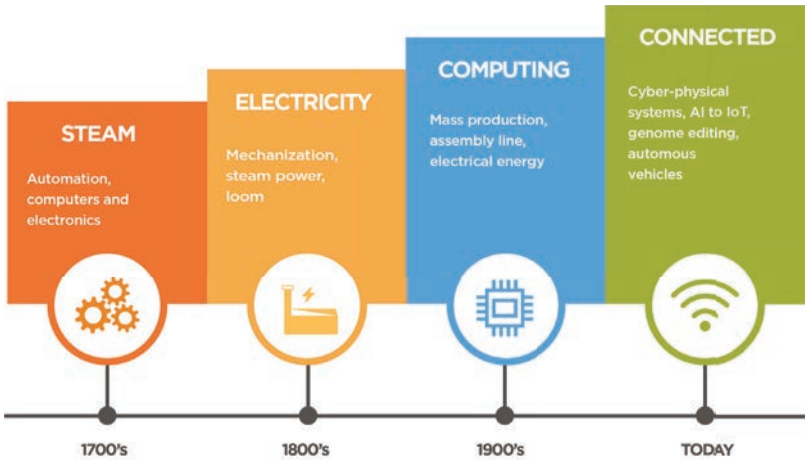
MORE THAN MILES

BRINGING TRIP DATA INTO VIEW WITH FLEET CONNECTIVITY

wheels

Telematics is transforming

Telematics is not new to fleet. Yet the technology that describes using GPS and onboard diagnostics to gather vehicle performance insights is being turned on its head due to the Fourth Industrial Revolution (4IR). This describes the economic transformation causing an exponential rate of growth and market disruption that's spurred by connected technologies, such as the Internet of Things (IoT), blockchain, 3D printing and artificial intelligence. These innovations continue to impart new business models, products and relationships with the items we encounter each day.



IoT, in particular, is revolutionizing fleet data management. The same technology fueling your WIFI-enabled light bulbs, smart fridge and sound system is applied to vehicles and providing game-changing applications. On the technology adoption lifecycle, fleet connectivity is relatively young. Fleet managers are, rightly so, weighing the financial investment of a connected vehicle program against their total cost of ownership goals. However, fleet connectivity will eventually become the new normal, as outlined in **Why Vehicle Connectivity is Inevitable.** This transformation applies to every level of your business, as is explored in **Staggering Fleet Connectivity Implications**. **Fleet Connectivity in Action** examines a segment of industries and the real findings of their connected vehicle programs. We close the loop by helping fleet managers recognize their requirements for building their ideal program, in the **Connectivity Readiness Assessment.**

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Why Vehicle Connectivity is Inevitable

Governments are on board

Governments are going all-in on vehicle connectivity. You've probably heard the U.S. statistic that more than 40,000 vehicle-related deaths occur each year. For North America, that figure grows to 66,900 and on a global level, it's 1.25 million. This makes governmental agencies' point of entry quite clear—safety.

The U.S. Department of Transportation (USDOT) has partnered with other agencies such as the Federal Highway Administration, the Federal Motor Carrier Safety Administration, Federal Railroad Administration and a variety of state and local governments in researching vehicle connectivity technology. These organizations are also investing in development, testing and deployment of its related applications.

USDOT's 2014 Connected Vehicle Safety Pilot unearthed many safety-related needs such as in-road pedestrian warnings, collision warnings and transit-vehicle alerts.

In 2015, USDOT launched the Connected Vehicle Pilot Deployment Program to put these learnings into effect. Three cities in Wyoming, New York and Florida were selected to test technologies to improve trucking movements, pedestrian safety and mobility applications, respectively. USDOT's Smart City Challenge also awarded $40 million to Columbus, Ohio to become a fully integrated municipality. Smaller grants were given to Pittsburgh and Denver.

An international view shows a harmonization of efforts between key global partners to ease entry into markets. Connectivity collaboration agreements have been in place with the U.S. and European Union since 2009—Japan since 2011. Australia is also partnering with USDOT, while Canada and South Korea are helping in observational roles.

Compliance guidelines are shifting

Connected vehicle technology is already mandated in many service fleets. The 2012 Commercial Motor Vehicle Safety Enhancement Act required the Secretary of Transportation to enact certain rules around electronic logging devices (ELD) in commercial motor vehicles. The purpose was clear: Ensure drivers get the necessary rest and don't drive longer hours than stipulated by U.S. law. Now, vehicles required to maintain hours-of-service records of duty status must have an ELD recording device. A 2018 Telematics Benchmark Report by Teletrac Navman, reported 74% compliance with the mandate.

In February 2019, Transport Canada released a safety framework that addresses the need for advanced regulation in both connected and autonomous vehicles. The department stated that it will rely on international forums and other resources to assist with research and development and for future regulatory recommendations.

"The field of automated and connected vehicle technology is rapidly evolving, so much so that traditional regulatory mechanisms are no longer appropriate – necessitating greater collaboration between industry and governments to ensure that Canadians remain both safe and informed about the technologies rapidly being deployed in new vehicles," David C. Adams, president and CEO of Global Automakers of Canada, said of the framework.

In June 2019, Canada announced its final rule requiring commercial trucks to move from paper logs to electronic logging devices by June 2021.

The European Union's vehicle compliance requirements expand beyond corporate fleets. Its eCall system, required for all new vehicles made after March 2018, mandates a form of e-assistance for all accidents. According to McKinsey & Company, the system can speed up emergency response time by 40% in urban areas and 50% in rural areas. The compounded effect could result in a 4% death reduction.

74%

of drivers complied with the ELD mandate by 2018.

Why Vehicle Connectivity is Inevitable

Vehicle connectivity's impact reaches further than its safety implications. The byproduct of this innovation and access to data is new and emergent industries.

A whopping $750 billion by 2030.

That's the vehicle data value pool forecasted by McKinsey & Company's 2016 report, *Monetizing Car Data: New Service Business Opportunities to Create New Customer Benefits.* This figure represents the value if the full potential is actualized across markets.

$450-750B

VEHICLE-GENERATED DATA MARKET, FORECASTED BY MCKINSEY & COMPANY

Where there's money to be made, industry will sprout. McKinsey & Company identified more than 30 use cases related to monetization value for various industries.

Next, a sampling:

Usage-based tolling and taxation

- Gamified experiences
- Fleet management solutions

Field data gathering for research and development

- Warranty cost reduction
- Data-and-feedback-based
- Traffic data based retail footprint and stock level optimization

Usage pattern assessment for maintenance

- Usage-based insurance
- Peer-to-peer car sharing
- E-hailing trucks platooning

In-vehicle safety warnings

- Driver condition monitoring service
- Aggregated car databased closed-circuit television service
- Road laws monitoring and enforcement

Staggering Fleet Connectivity Implications

Is your data incomplete?

Even with the most robust data retrieval and management system, the absence of a vehicle connectivity program means you're only viewing part of the picture.

Major fleet management companies (FMC) are focused on providing an abundance of data on fuel consumption, predictive maintenance, motor vehicle reports, manufacturer incentives and more to generate the biggest savings for your fleet. That focus and attention to data production is crucial to delivering insightful fleet recommendations, however, technological advancements have increased the number of metrics and data points available.

Begging the question—what insights are you leaving on the table?

Connectivity advantages exist at each level of business.

Previously, it was noted that many governmental institutions are investing in connected vehicle programs because of the safety benefits. Yet, enterprise organizations will likely find motivation in a variety of factors.

Next, we explore a sampling of use cases detailing how fleet connectivity's potential for bringing strategic implications at each business level. Every company is unique, so the business goals and thus use cases for your fleet will likely differ. As you read, make note of how your business and industry segment stands to benefit from fleet connectivity at these levels.

Staggering Fleet Connectivity Implications

At the industry level: Boundless benchmarking data

A fleet joins a connected vehicle program and gains access to aggregated fleet data. Since then, the data provider collects billions of metrics each day, to funnel the anonymized information into the ultimate data resource. Now, when the fleet manager needs to make a pivotal decision, able to pull supporting benchmarks to back up or dispute the determination.

Many providers have open-source platforms that allow users to view data on visual dashboards or export the raw metrics for uploading into other data management systems.

Going much further than studies and annual forecasts, this allows managers to move away from the hypothetical and use actual metrics to fuel their decision-making processes. So in addition to discovering metrics for similar fleets, managers can gather metrics at the industry level.

At the organizational level: A foundation for corporate sustainability

At an annual business planning meeting, a CEO of a multinational enterprise announces an initiative to transform operations into a net-zero carbon emissions output by 2030. From reducing paper waste in payroll to sourcing alternative power methods for the factory, each department is looking for ways to contribute to the corporate mission. The eco-friendly adjustment within the fleet is clear—move to plug-in and eventually battery electric vehicles.

The end goal is obvious, yet the path is a bit muddled for the fleet manager. They oversee a national fleet of sales reps that travel both in urban and rural environments to meet with prospective clients. What type of electric vehicle will satisfy the range needs of the rural vehicle? Do those regions have a public charging infrastructure?

With several years to hit the first sustainability milestone, they get to work gathering data. Leveraging their connected vehicle program, they gained key insight into where their drivers are traveling and when. They learn what time of the day they're fueling up and at which stations. This data is serving as a backdrop for their electric vehicle conversations with their FMC.

With this research, they're able to plan to build charging stations at their headquarters and utilize the public infrastructure for their urban drivers. For the rural travelers, they'll stick to plug-in hybrids for now as the public infrastructure matures and may work up to a home charging model in the future.

At the operational level: Fewer employee accidents

Senior leadership wants to reduce operational staff injuries by 30% this year. The factory floor is rising to the call with the addition of safety-certified machinery and an elimination of overtime to combat employee fatigue. With the executive team playing close attention, it's time for the fleet manager to reduce the high rate of rear-end collisions involving their service vehicles.

Drivers commute between project sites often as the nature of the work dictates. The manager suspects rushing between locations, and perhaps driver distractions, are causing the rise in collisions.

After the connected vehicle program is in place, the manager has data shedding light on the drivers' behavior. With the harsh braking and accelerating, jackrabbit starts and driver sightline habits being tracked, they can now match risky behaviors to actual accidents.

Staggering Fleet Connectivity Implications

At the manager level: Proper fleet allocation

For some service fleets, knowing when to deploy an asset is half the battle.

Before instating a connected vehicle program, the manager of an on-call service fleet typically called around to find the driver who most recently finished a job. Sometimes, this allowed the manager to route a nearby driver to the next call, and sometimes they were unsure who was nearest and inadvertently assigned a distant driver, making the customer wait longer for service.

Now, the manager can track vehicles throughout the day and see where the drivers are located. Additionally, they know how long drivers are at each job, allowing them to gauge who's likely to finish first. This has eliminated the lag time between when the driver has completed a service call and when they're assigned to a new job. Bottom line: The customer doesn't have to wait any longer than necessary.

At the driver level: Increased driver productivity

A route delivery service fleet implements gamification to increase driver productivity. Drivers are now measured on an in-app leaderboard to see who completes the most deliveries in a set period without committing any safe driving infractions. This involves choosing the least congested routes, avoiding road construction and obeying other pre-emptive alerts activated by road conditions.

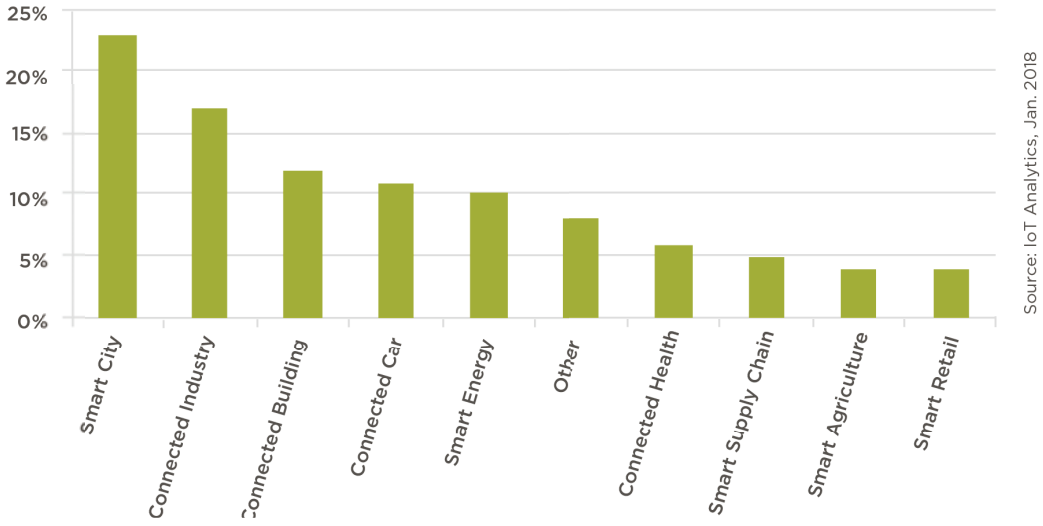
As fleet connectivity evolves this and other innovative features will be available to meet the changing needs of fleets. On a whole, fleet driving behavior will improve as the data is normalized and the team is measured on a truly equal footing.

Fleet Connectivity in Action

Fleet connectivity is on the rise, according to a 2018 assessment by IoT Analytics. Since its 2016 projects list report, fleet management solutions rose 56%.

As shown in the graph, the global share of IoT Analytics reports a solid investment in city infrastructure with the energy sector leading the pack among industries.

Global Share of IoT Projects



Source: IoT Analytics, Jan. 2018

Fleet Activity in Action

Here's a snapshot of a few real-life fleet connectivity programs.

In Energy

Seat belt, mileage and harsh braking tracking reduces accident and traffic violations

Without a safety culture in place, this energy firm experienced an increase in minor vehicle incidents. Additionally, its policy and training program was outdated and had high specialty vehicle exposure due to underutilization.

Solution: The organization used its fleet connectivity program to track seat belt usage, speeding, jackrabbit starts, harsh braking, mileage and more. Additionally, they updated their safety policy and positively reinforced good behavior to empower drivers.

↓ 15%
Accident Rate

↓ 75%
Traffic Violations

0
Seat Belt Infractions

↓ 24%
Accident Costs

↓ 5%
F530 Trucks

In Manufacturing

Trip tracking and data normalization generates $200K in savings

This manufacturing company was unable to prove the optimal use of inventory. It needed metrics to support theories about utilization. Additionally, they needed data to determine if vehicle redeployment or disposal was the best course of action.

The organization's fleet connectivity program tracked trip distance, duration, start and end points, and routes for its drivers. Also, it compared vehicle usage within a given location and across locations.

Fleet Activity in Action

In Oil & Gas

Custom connectivity program and driver scorecards improve safety and reduce costs

Dissatisfaction with a previous, ineffective telematics solution left this fuel refiner in need of an advanced connectivity program that addressed a multiple-driver-per-vehicle setup.

Key fobs were installed in each vehicle and drivers were assigned a personal unit. Additionally, driver scorecards were implemented, and the organization monitored seat belt usage, speeding, acceleration, cornering and braking. Once data was collected, awards were provided to exemplary drivers and teams.

↓21%
crashes by million miles

↓59%
total losses by million miles

95%
drivers with excellent risk scorecard rating

Connectivity Readiness Assessment

1. Is the coming mobility movement going to impact the future of fleet?

Trick question. The answer is a resounding yes. The only constant is change. To set your fleet up for a prosperous future, you'll need to forecast your needs, while considering the changing requirements of your role. Be sure to plan ahead by establishing a solid and informed foundation.

2. Do you believe it's important to minimize risk and take advantage of strategic opportunities for your organization?

Change is difficult. Some may perceive enacting a new program as a risk. Face those potential objections head-on with preparation. Because the cost of ignoring innovation is a possible detriment to your organization's bottom line.

3. Is reducing costs important to your fleet?

Your FMC has delivered opportunities for reduced costs but what new ways are there to institute new savings. Fleet connectivity data points provide nearly boundless areas of insight.

4. Is increasing driver safety a priority for your fleet and organization?

In addition to avoiding accident costs and vehicle downtime, these safety measures can drastically reduce the number of fatalities and accidents on the road. It's time to make collisions an occurrence of the past.

5. Do you believe it's possible to improve productivity?

There's always room for productivity improvement among your drivers. Whether they can be at a service call sooner, you need to route pooled drivers faster or better in-vehicle experiences can encourage sales agents to make more prospect visits, there are benefits to be had.

Next Steps

If you've answered "yes" to any of these questions, you're ready to take the first steps toward fleet connectivity.

It's the perfect time to identify the requirements you'll need for your connected fleet program. Chat with stakeholders of your organization, especially ones that have invested in IoT technologies to ramp up their operations. They could provide valuable insights into the questions they posed to themselves and those provided by your leadership team for a solid footing moving forward.

Research where your competition lies on the connectivity front. Do they have a connected fleet program? Where is the trend moving in your industry? Can you get ahead of the curve and gain an edge on operational costs and allow your organization to invest in other areas of your business? Once you discover the answers to these questions, you'll have a good foundation for your future fleet connectivity program.

Need some help? Share your fleet connectivity aspirations with Wheels. Our connectivity experts are available to assist.

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