

Special Edition!
TRAILER TECH 101



Premier[®]
TRAILER LEASING

Special Edition!

TRAILER TECH 101
MAINTENANCE, MANAGEMENT, AND TECHNOLOGY

Introduction.....	3
Part 1: Tracking the Trailer (and Some Mistakes to Avoid).....	4-7
Part 2: Tracking the Cargo.....	8-9
Part 3: Managing the Data.....	10
Four Simple Steps to Get Started.....	11
Looking Into the Future: New Trailer Tech on the Horizon	12-13
Glossary of Terms	14
Tech at Premier Trailer Leasing	15

Disclaimer:

FOR INFORMATIONAL PURPOSES ONLY. The materials and information contained in this guide are for informational purposes only. They are intended to provide general information to users only and not intended to provide a professional opinion or replace business or professional advice in any form.



INTRODUCTION

If trucks and trailers were to stop moving, the world would likely stop as well.

Trucks and trailers haul everything from coils of cable, to cement pipe to pallets of food - and they have done so for a long time. The part of trucking that is rapidly changing is the use of technology as a way to increase efficiency and accuracy.

Whether you manage a private fleet, operate a trucking company, or sit behind the wheel of a semi-trailer most of the day, this guide is for you. Like our original Trailers 101 Guide, in this special edition, we will give an overview of the most prominent tools available today and a glimpse into the developments of the future.

We hope you enjoy this complement to our Trailers 101 Guide as a tool for your teams and as a handy resource for your desk.





PART 1: TRACKING THE TRAILER (AND SOME MISTAKES TO AVOID)

One of the greatest challenges fleet professionals face is knowing where trailers are at any given time. This information is crucial to managing trailer fleet utilization.

The most unprofitable trailer is an empty one, sitting still in an unknown location. You're still paying for registration, permits, and insurance on it. Do you have any of those empty trailers currently in your fleet? How do you know?

On the flip side, the best trailer is one that is loaded, moving, and generating revenue day after day. Why can't all of your trailers be like that?

All businesses want to maximize the utilization of their assets. In an ideal world, 100 percent of your trailer fleet would be utilized at any given time. In reality, numerous observers cite that the industry average is closer to only 50 percent! This figure includes trucks as well as trailers, but nevertheless, there is a lot of room for improvement.

How to Use Trailer Tracking to Overcome Common Challenges

Here's how you can use trailer tracking to navigate common challenges that might be plaguing your fleet:

1. Your fleet is the wrong size.

Rightsizing your fleet for the peaks and valleys each year is not an easy task. Unfortunately, if your fleet is bloated, it can be pulling money out of your company's bottom line. If it's undersized, you'll be missing out on new revenue.

Technology can help by showing you where trailers are needed most, which trailers are sitting idle, and where to focus your attention for the highest return on investment. Trailer tracking lets you spot underused trailers so you can redirect them to high-demand areas. It also identifies exact location, and availability of all of your equipment, allowing you to get the most efficiency possible out of your drivers.

Behind the Cab

Load up on trailer insights, innovations and trends.

We wrote a whole article on how to leverage lease and rent options to quickly supplement your fleet as needed.

Find it on **Behind the Cab**.



2. Part of your fleet is lost.

Always strive to keep tabs on what assets are where, and which ones are available to generate revenue.

A shipper unloads your trailer and forgets about it. A trailer never gets picked up after a delivery. A physical inventory has inaccuracies, so trailers in the yard are gathering cobwebs. According to some industry reports, as much as 10 percent of the typical fleet's inventory may be unaccounted for. For example, before the Coca-Cola Bottling Company solved its logistics problems at its Charlotte plant, they found that at any given time, "up to 10 percent of the trailer fleet was unaccounted for. With each unit valued at \$15,000-\$20,000, the cost of those missing assets quickly added up."

You may know that a trailer is sitting on a shipper's lot but not whether it has been unloaded and is ready for pickup. According to the Owner-Operator Independent Drivers Association (OOIDA) Foundation, time spent detained at shipper or receiver facilities costs the industry approximately \$1.6 billion annually in lost carrier income and truck driver pay. Excess detention time, with a driver waiting, has also been shown to adversely affect industry safety and driver retention.

To truly maximize trailer utilization, you can use technology to put all your trailers to work as effectively as possible. Fleet tracking and cargo-sensing technology can keep track of all your trailers and their load status.

Additionally, with robust trailer-tracking technology, you can access reports to identify inactive trailers and get them back on the road to increase loads and turns per unit. Plus, with geofencing capability, you can eliminate route deviation to increase efficiency.



3. You cut back on your maintenance budget—and it shows.

Cutting back on your maintenance budget can have negative consequences, but sometimes it feels necessary.

No one likes to pull a money-making asset off the road, especially for something that can wait, such as routine maintenance. Plus, maintenance costs are hard to predict, fluctuating due to external factors like the price of oil, tightness in the labor market, fuel cost, and so on—but these costs are consistently rising. There is a temptation to reduce overall costs by extending service intervals. As with any piece of equipment, deferred service and maintenance decrease the lifespan of equipment and increase the chance of an expensive, time-consuming breakdown.

However, in many instances, you can use technology to manage money more strategically rather than slashing spending altogether.

Trailer tracking can paint a clearer picture about your fleet's costs and maintenance statuses, so you can maximize your budget rather than cutting it blindly. For instance, trailer tracking technology monitors mileage data via GPS and creates cost-per-mile reports. Additionally, trailer tracking dashboards help you see what purchases will pay off the most in the long run. These tools display your operational, administrative, financial, and management data in a single dashboard, making it easier to see where to focus your money for the biggest returns.

Premier offers a maintenance option that includes scheduled maintenance performed quickly and conveniently at any of our nationwide locations. If you prefer, we can send a maintenance team to your location. Plus, Premier's late-model fleet is always kept in excellent condition, minimizing the chance of a need for roadside repair. If repair is ever needed, we provide 24-hour roadside assistance for all our trailers. Premier takes the hassle out of fleet maintenance for a fixed fee that makes budgeting simple and predictable.



PART 2: TRACKING THE CARGO

Knowing where your cargo is at any given time is paramount in supply chain management. Technology helps provide precise cargo vigilance.

Incomplete information or errors in trailer assignments result in non-billable miles for a driver to transit to alternate trailer locations. Understandably, this causes driver frustration which can also lead to increased turnover.

Cargo-sensing technology leads to more efficient trailer assignments, more billable hours, and more satisfied drivers. It also reduces the cost of fuel and other resources required by driver misses and reassignment.

Sensors are everywhere nowadays, and for semi-trailers, they're located in multiple locations and performing multiple functions. Here's a deeper look at how sensor technology is now being used.





Cargo-Sensing Technology

Cargo-sensing technology can tell you if a trailer is empty or loaded, as well as floor space and volume load percentages. An empty trailer sitting idle isn't generating revenue, so it's important to know if it's available.

Carriers of all sizes are looking for opportunities to optimize their trailer utilization. Cargo sensors help speed the cycle of delivery, unloading, and getting back on the road. In a use case, it was noted that a fleet's trailer averaged 10-11 days idle per month. Following the addition of cargo sensors, the average dropped to 8-9 days, a 20 percent improvement in utilization. This is because fleet managers, with timely and accurate location and cargo status, can make quicker and more efficient trailer reassignments and improve their pool management.

Cargo-sensing technology also improves turn time at destinations. Instead of waiting for the freight receiver to call the hauler and inform them that the trailer is unloaded and ready to pick up, the fleet manager can tell immediately if the trailer is full, being unloaded, or empty, and then they can get the trailer back on the road.

Even better, trailers with cargo sensors often get moved to the front of the list for unloading because shippers know they will be billed for detention time if a trailer is held unnecessarily.



PART 3: MANAGING THE DATA

Thanks to an onslaught of data being captured, there's a new revolution in transportation intelligence. Trucking companies that effectively mine the data generated by their operations can improve margins, reduce downtime, and free up capital to invest in other areas of their businesses.

Telematics is useful not only for analyzing current fleet operations but also for planning for the future. Every fleet operator has access to rich streams of data coming from tractors, trailers, drivers, fleet management systems, and service records. These can be used to analyze past events, monitor current operations, and reveal trends and patterns that should be used in planning and making projections for the future.

Just as data helps manage truck fleets, it also helps manage trailer fleets. Premier trailers provide abundant, valuable streams of data. The trailers you own should do the same. You can use this information to help you forecast future demand for trailers.

If you find that trailers you own have periods of inactivity or reduced usage, you may be able to trim the size (and cost) of your owned trailer fleet and lease trailers as needed to meet demand. If you find you have shorter periods of high demand due to seasonal or temporary needs, perhaps short-term rental trailers would make more sense. On the other hand, you may find that total operating costs can be improved by reducing your fleet overall, so you can glean greater efficiency from your remaining trailers.

FOUR SIMPLE STEPS TO GET STARTED



FOUR SIMPLE STEPS TO GET STARTED

With so much new trailer technology out there, it can be hard to know how to start using tools effectively. To begin, make sure you're working these trailer tech essentials into your routine:

- 1. One-time:** Enable drivers to access trailer loaded/unloaded information in real time.
- 2. Daily:** Check idle trailers and alert dispatchers about their availability.
- 3. Weekly:** Check overall utilization rates for the past week and adjust routes proactively if needed.
- 4. Monthly:** To plan for the upcoming month, review trailer utilization data from the same month last year.

LOOKING INTO THE FUTURE: NEW TRAILER TECH ON THE HORIZON

Trucks and trailers of the future will be different than what we see today—and what we see today is different from the technology that was available just a few years ago, much less a decade ago.

Each year, new technology changes trailer transport and operations. Here are some technology categories to keep an eye on as the supply chain progresses.

Driver Assistance and Safety Technology

What works for passenger vehicles may or may not work for heavy-duty commercial vehicles. Adaptive cruise control is not a novel idea, but the technology is being leveraged for more than a safety feature. It can improve fuel mileage as well when trucks “platoon,” driving nose-to-tail to reduce aerodynamic drag.

Autonomous Trucks and Vehicles

Autonomous trucks are inching closer to reality. Despite many hurdles—including required approvals, regulation, and other obstacles to the momentum of autonomous technology—unmanned commercial trucks for transport are on the horizon.

For the supply chain, they offer some key advantages. A prevailing driver shortage just might get some relief if an over-the-road truck driver is not always required to be in the vehicle for all, if any, of the time it’s on the road. Plus, autonomous vehicles are programmed, tested, and tried to be ultra-safe; thus, accidents and mishaps are significantly reduced, and safety is boosted.

Many carriers are experimenting with autonomous self-driving trucks, while technology developers are plowing ahead with technology to make autonomous trucks safe and manageable.



Electric Vehicles

There's much ado about electric vehicles (EVs), and the recently passed Inflation Reduction Act has many generous concessions for and funding available to get electric vehicles on the road.

There are many hurdles to overcome in electrifying vehicles, but many have already been crossed. "Range anxiety," or a concern about the range that can be traveled on a full charge, is a key issue because truckers already have limitations on driving hours allowed on the road. Driving an electric vehicle means they must contend with time spent at recharging stations and the need for available infrastructure to charge their vehicles.

In the meantime, battery banks and energy storage capacity, along with time-to-charge, are all being explored and making strides to boost EV technology.

The arrival of electric vehicle technology has already had a tremendous impact on auto manufacturers, and cargo-carrying vehicles are getting there also.

Electric vehicles produce no emissions. They are clean, require less maintenance, and drive much quieter. Depending on their energy source, they stand to be more sustainable and could be the next big thing in trucking—so stand by.

Assorted Trailer Technologies

When it comes to trailer technology, there's an assortment of new choices—integrated into the trailer itself or added on as tools and equipment—you can use to best manage and maintain the trailer. Trailer features and functionality have increased dramatically and are vital contributors to your value chain.

Premier Trailer Leasing has always been at the forefront of advanced technology that improves your fleet's capability, efficiency, and return on investment. These technologies include innovations such as:

- **FleetLocate® real-time trailer tracking**
- **IntelliScan cargo sensing**
- **Comprehensive online fleet management capability**
- **Two-way refrigeration monitoring and control**
- **Fuel sensors**
- **Solar panels**
- **Liftgate battery monitoring**

We're continually developing, evaluating, and implementing systems that will have a meaningful impact on your fleet's operations.

GLOSSARY OF TERMS

Below is a basic glossary of terms commonly associated with truck and trailer technology. It is by no means exhaustive, but it does explain many commonly used words and terms associated with trailer technology.

Connected vehicle: A truck or trailer equipped with telematics that allows connections to other devices on the truck or trailer, as well as services, networks, and devices external to the truck or trailer.

Fleet tracking: This term can apply to many different processes that involve using sensors, as well as GPS and cellular networks, to gather real-time data about the location and availability of fleet vehicles and equipment.

Geofencing: This is technology that allows you to set virtual borders at tracking locations. That way, when a semi-trailer crosses into these digitally defined zones, it can alert fleet managers or send information to your data analytics system.

Maintenance dashboard: Although we ordinarily think of a physical dashboard as something that exists in a car, in maintenance a dashboard is a digital display of important metrics (often maintenance metrics) shown in a web or app-based program. This makes it easy to view real-time information which is important for fleet management maintenance.

Predictive maintenance: A maintenance technique, often fueled by technology and data, for assessing material and equipment, understanding critical points of failure or degradation, and estimating reasonable times to perform maintenance to avoid failure.

Radio Frequency Identification (RFID) tags: Physical devices mounted on a cargo load that use radio frequency technology to provide information about the cargo.

Sensors: Sensors are physical devices mounted on various places throughout a truck and trailer. They use different means of detecting analog data. For example, a sensor may gather temperature or pressure data, or it may work with a camera to detect the presence of cargo. The information gathered by the sensor is converted into a digital format and used for telemetry as well as visual dashboards to monitor performance and conditions.

Telematics: The aggregation of data from the sending, receipt, and storage of data and information connected with fleet vehicles. Data generated by telematics helps fleet managers optimize their fleets. Optimization can achieve cost savings in maintenance, driver behavior, reporting, fuel use, idling, and inventory management.

Tire pressure monitoring system: A system that remotely monitors tire pressure and informs drivers and fleet managers about immediate tire problems or impending tire failures, as indicated by tire pressure data.

Find more terms at BehindTheCab.com

TECH AT PREMIER TRAILER LEASING

Technology that increases productivity, reduces detention time, maximizes drivers' hours of service, and increases residual equipment value has the power to increase your revenue potential.

Premier has invested in the most innovative, capable technologies, as well as proven systems and components such as:

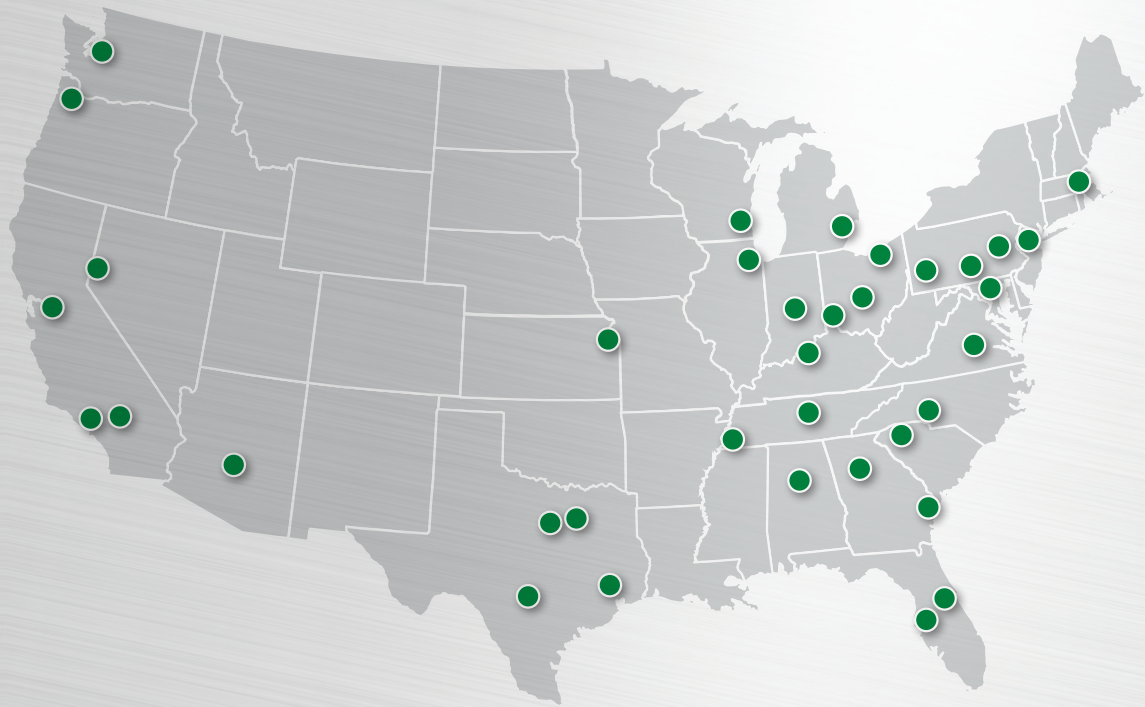
- **Air ride suspensions**
- **Aluminum roofs**
- **Purkeys charging systems**
- **Liftgate battery monitoring**
- **Two-way refrigeration monitoring and control**
- **Fuel sensors**
- **Solar panels**

All of these tools are used to help our clients do business more simply, efficiently, and profitably. With years of industry experience, Premier understands what you need and takes special pride in partnering with our clients to develop effective, tailored solutions delivered with the friendliest, most flexible customer service you've ever experienced.

Contact us to see what we can do for you.

Premier Trailer Leasing is proud to partner with leading connected vehicle intelligence company Spireon to provide best in class trailer and cargo tracking to our customers.





Want to learn more about trailers
or need a hand?
Visit **PremierTrailerLeasing.com**
or send an email to
trailers@premiertrailerleasing.com.

