

Using Technology to Lower Costs and Improve Productivity for Fleets

Aeris White Paper



Let our experts lead the way

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INTRODUCTION

The movement and management of freight are vital to the U.S. economy. Nearly 11 million trucks moved 11.3 billion tons of freight throughout the U.S. in 2011 alone, representing more than 10 trillion dollars in value.¹ And that's excluding multimodal shipments (those which travel by combination of sea, rail, and highway), as well as small vehicle fleets like delivery trucks and service vehicles.

Fleet management has continued to evolve over the last decade to keep pace with the complexities of transportation and increasing customer demands. Before cellular technology became prevalent, many transportation managers had to work only from past experience with a lane or driver to proactively troubleshoot freight problems. More often, they were managing issues after the fact with disgruntled customers.

Today, we're shipping more goods, which are worth more, on time-sensitive schedules across more highway miles than ever before. In addition, the regulatory environment is becoming more complex. Fleets need to leverage technology to manage safety, efficiency, and compliance, or they risk unanticipated costs.

This whitepaper will look at issues contributing to higher costs across fleet management sectors and outline how technology can reduce or help manage these challenges. In addition, the paper will outline considerations for fleet owners who are looking to deploy or replace a fleet management system in order to contend with the rapidly changing environment.



INDUSTRY LEADING COSTS

With so many moving parts, it can be difficult to pinpoint every possible cost associated with running a fleet. For the purposes of this paper, we'll focus on the areas most likely to experience cost reductions as a direct result of implementing technology solutions that can simplify critical fleet processes and provide efficiencies across these organizations.

COMPLIANCE

The U.S. Department of Transportation is responsible for the enforcement of hundreds of regulations impacting planes, trains, and automobiles – including nearly 400 regulations impacting motor carriers alone. These include everything from drug and alcohol testing for drivers to hours of service, routing, record keeping – even noise restrictions and parking rules.

And that's just U.S. federal oversight. Each of the 50 states has its own regulatory environment, which adds to the complexity of compliance. In addition, depending upon what a fleet is transporting, to where, and for what purpose, fleet managers may find themselves subject to additional regulations regarding handling of hazardous materials, food safety, and oversized loads.

Compliance with this plethora of rules is often entirely dependent on human intervention – which IT professionals in any enterprise can tell you is frequently less than reliable. Did the driver stop every 200 miles to check the vehicle's tire pressure? Did the driver stop to rest before breaching hours-of-service limits? If the hand-written log says so, is it accurate?

In addition to depending on manual recordkeeping, the act of keeping all those records updated can significantly cut into a driver's hours of service – meaning fewer miles covered in the allocated time and decreased overall fleet productivity. Finally, reporting to each interested regulatory body can mean additional personnel at headquarters managing piles of paperwork. All told, the dollars add up fast, and fleet margins get tighter every year.

KEEPING THE ASSETS MOVING

There are basic costs that apply to owning and operating fleet equipment including fuel, maintenance, and insurance, just to name a few.

FUEL

Commercial vehicles carrying tons of cargo and covering thousands of miles in a single week are particularly affected by unpredictable fuel prices, which in turn impact the prices of food and most consumer goods.

Fleet managers may not be able to control the cost of fuel on a daily basis, but management systems can assist with avoiding unnecessary fuel expenditures. For example, a fleet management system can send an alert if a truck has been idling for an extended period of time. Not only will the driver be alerted, but the fleet owner also receives a notification. Reducing idling time alone could potentially save gallons of fuel.²

Understanding where and for how long idling occurs may identify a potential source of revenue. For example, accessorial charges could be levied to compensate for extended wait time at a customer location. Truck-specific navigation can also reduce out-of-route (unnecessary) miles driven and can even include stops at a company's contracted fuel provider.

MAINTENANCE

Similarly, we've all heard dealers and mechanics say the best way to cut the cost of owning your vehicle is routine maintenance. However, for the fleet manager trying to move valuable cargo across long distances, routine maintenance takes a bite out of profitability. Again, technology offers an alternative. On-board diagnostic systems can capture a variety of vehicle information, which can be sent to fleet management for analysis. Wireless and automatic diagnostic trouble code (DTC) reporting can also report trouble codes while vehicles are in transit before engine problems develop. The result is a planned-for maintenance stop that can be scheduled at an optimal time for the driver and fleet vs. having a truck out-of-service unexpectedly.

INSURANCE

Insurance is extremely expensive for fleets, particularly those companies moving high-value cargo. Insurance providers, much like government regulatory bodies, require a minimum compliance with set restrictions in order to accept and process claims. Data procured from mobile fleet management devices and the truck's engine can provide driver behavior data which can be used to positively impact insurance costs.

EFFICIENCY: TIME IS MONEY

With the proliferation of next-day and, in some cases, even same-day deliveries from both brick-and-mortar and online retail outlets, both consumers and businesses have become conditioned to expect their supplies faster and faster. Should something happen along the way, and a delivery arrives late, costs inevitably go up. Moreover, a delay en route can become a delay of 8 to 10 hours if a driver maxes out his or her hours-of-service limitations. In extreme cases, this may result in a "line down" situation for a manufacturer waiting on parts and, in turn, millions of dollars in lost revenue.

Time drains that get in the way of on-time, every-time delivery include:

POOR ROUTE PLANNING

Too often drivers find themselves caught on the wrong road due to incomplete route information prior to departure. The lack of truck-specific directions can result in time wasted re-routing, missed dock time, or literally being stuck, unable to turn around. To avoid these delays, drivers may find themselves spending their first 30 minutes on the job trying to map out their own "best" route. Mobile fleet management devices with truck-specific routing can be helpful in reducing out-of-route miles and avoiding accidents, resulting in significant savings.

On average, a long-haul commercial truck drives 100,000 miles per year; 10% or 10,000 miles of which are off-route. The annual American Transportation Research Institute (ATRI) study found that the average cost-per-mile for fleets was \$1.63 in 2012, which translates to an annualized fuel expense of \$16,300 per vehicle.³

Reducing avoidable accidents by navigating on truck-allowable roads, clear of physical obstructions such as low bridges or hairpin turns, can save a fleet more than \$35,000 per incident in fines plus the cost of damages to the truck, the road infrastructure, and the cargo being transported.³

LOAD MATCHING AND DISPATCHING

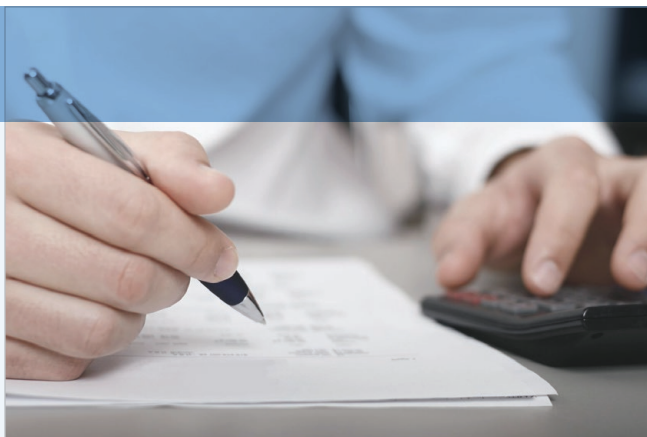
When dispatch doesn't know where vehicles are currently located, it is difficult to find the "best" option for a load. Location-based technologies enable dispatchers to select the vehicle closest to freight pick-up and reduce the number of non-billable miles driven. According to Gregg Tuccillo, President and CEO of Global Ground Automation (GGA), "Using GPS with traffic overlays can help calculate travel time, which is different from distance, and automated dispatch can tap into real-time traffic updates to provide the most efficient routes." In fact, his organization estimates that automating dispatch can lower deadhead miles 10% to 20% and improve overall dispatcher efficiency. More, GGA says that a fleet running 250 power units could potentially reduce non-productive miles by 125,000 to 250,000.

Plus, electronic hours-of-service logs available through a variety of fleet management systems allow dispatchers to understand how many hours each driver has available so they can dispatch accordingly. For example, if a run is expected to take five hours – they will be able to select the driver who has 11 hours left in his hours of service, rather than only three hours, thus maximizing vehicle usage.

BILLING AND RECORD KEEPING

Drivers recording arrival and departure times manually, and faxing in reports weekly can lead to inaccurate bills and customer complaints. Worse, it can delay payment and disrupt cash flow. Tracking systems can automatically calculate mileage by day, trip, and between stops, making trip costs available instantly.

Whether logging the contents of the vehicle, time on the job, or maintenance schedules, recordkeeping takes time and attention to detail. On the front end, it eats up driver hours with tasks outside their expertise. On the back end, drivers' handwritten records can wreak havoc when office staff is trying to sort out missing entries and reams of paper invoices, receipts, and more. Using technology to automate these processes can reduce audit time and lower administration costs.



TECHNOLOGY TO THE RESCUE

Savvy fleet managers know that technology solutions exist to solve these problems. Many have already adopted systems to help mitigate costs, improve safety, and ease the burden of regulatory compliance. Sensors are capable of monitoring everything from tire pressure to the temperature and humidity of refrigerated trailers – enabling predictive maintenance to keep trucks on the road. Low-power RFID systems make keeping track of cargo easier than ever. Sophisticated GPS systems now provide real-time route optimization taking into account weather, local fuel prices, and current traffic conditions to save drivers

both time and hassle and give fleet managers and dispatch the tools they need to get the right vehicle to the right location at the right time. By implementing a more precise solution, a trucking company that generates 40 to 50 million dollars a year in annual revenue could save as much as two million dollars per year.³

With the growth of fleet management technology as a standalone sub-industry, and with a proliferation of available solutions, questions abound about how to choose the best system for a given fleet. Whatever your primary concern, whether regulatory compliance, cost reduction, asset utilization, safety, or driver performance, there are a few key elements to consider when evaluating fleet management solutions.

EASE OF USE

Professional drivers cannot afford to be distracted from their primary responsibility when interfacing with their fleet management systems; ease-of-use is critical. Systems installed to take the place of handwritten driver logs shouldn't be more burdensome than manual recordkeeping. Systems designed to monitor the condition of the vehicle should not require more attention than routine visual checks. Simplicity is key.

COMMUNICATION COVERAGE

Vehicles move – that's why it's critical to engage partners who can connect with the vehicle wherever it may roam. If your vehicles only operate within a city, certain carriers are sufficient. For those vehicles that travel beyond city limits, the challenge of reliable connectivity is greater. Of course, service maps differ for every carrier, so it is best to choose a provider that can bridge networks and even cellular technologies.

COMMITMENT TO THE INDUSTRY AND PRODUCT

With so many new players in the marketplace touting new feature sets, it pays to consider the experience of potential partners and providers. What is their track record? What percentage of their business is dedicated to this type of technology? What do other customers like you have to say about their offerings? What has been their experience and commitment to the trucking industry vs. other verticals? When it comes to mission-critical technology solutions, fleet managers can't afford to invest in an experiment.

Fleet managers need to find vendors who continually invest in their product and are responsive to your particular business needs. Are there elements of your solution in which your current vendor is weak? Are there supplemental technologies that need to be integrated with their solution? Be sure to choose a vendor that puts your needs first – and is scalable to future needs.

SHARING DATA AND INTEGRATION

Fleet management solutions capture a wide variety of data that is maximized when shared with route optimization software, tire pressure monitoring systems, in-cab cameras, and other performance monitoring systems. Choosing a vendor for a fleet management solution isn't just about considering the value of that solution alone, but also the extent to which that vendor is able to leverage a fleet's current technology investments.

CONSIDER THE NEEDS OF YOUR TYPE OF BUSINESS

The discussion about features bears additional consideration for type of service the fleet provides.

By implementing the right solution, a trucking company that generates \$40 to \$50 million a year in annual revenue could save as much as two million dollars per year.

LONG HAUL

For trucks routinely traversing more than 150 miles (sometimes thousands) away from their home terminal, hours-of-service regulations and driver performance are particularly important. These long-distance drivers load and unload much less frequently, reducing the need for up-to-the-minute cargo monitoring, but fleet managers still need detailed location and equipment monitoring, as well as hours-of-service recording and more.

SHORT HAUL

Local and regional transport, with routes typically less than 150 miles, allows drivers to enjoy dinner at home every night. However, these drivers often find themselves delivering multiple loads each day. Frequent loading and unloading requires extensive cargo monitoring and impeccable logs. Thankfully, fleet management solutions can significantly reduce these burdens by automating the cargo accounting and crossing real-time weather and traffic information with mapping and location data. The time efficiency provided by such solutions can even result in the ability to deliver additional loads during the driver's work day, ultimately increasing the fleet's capacity and revenue.

SMALL OWNER/OPERATORS

Whether driving long or short haul, for the owner/operators of single vehicles or small fleets, every penny counts. The cost burden of regulatory compliance on these drivers can be significant. Moreover, they are competing with larger operators who can more easily absorb the cost of technology. As a result, fleet management solutions must be affordable and deliver a quantifiable return on investment to this target audience very quickly.

Owner/operators must depend on themselves for billing, invoicing, maintenance, and route optimization. Integrated, affordable solutions that address all or some of these specific problems will provide a quick ROI for small fleets and owner operators.

EXCEEDING EXPECTATIONS

As connected fleet management solutions become more prevalent, some fleet managers are finding ways to enhance their services to customers and generate new revenue streams outside the original scope of their businesses. For example, some solutions designed for delivery route optimization have proven themselves outstanding compliance engines for both government and corporate policies. Cargo tracking solutions have become customer service engines. Driver monitoring solutions have improved driver retention and training programs. Geo-location of commercial vehicles and public safety personnel has improved emergency response times.

Whatever your reason for adopting a new fleet management solution or upgrading a legacy product, be sure to carefully consider core needs based on your specific fleet operations. Then, once you've rolled out your solution, let the results build new opportunities for you, your clients, and your drivers. By sourcing experienced vendors and service providers to help you along the way, you'll find your solution pays for itself sooner, rather than later.

ABOUT RAND MCNALLY

Rand McNally is the country's most trusted source for maps, navigation, and travel content. For more than 75 years, Rand McNally has been an innovator in the commercial transportation market – from providing mileage and routing software, to truck navigation and E-Logs to mobile fleet management solutions. Learn more at randmcnally.com

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ABOUT AERIS

Aeris is a pioneer and leader in the market of the Internet of Things – as an operator of end-to-end IoT and M2M services and as a technology provider enabling other operators to build profitable IoT businesses. Among our customers are the most demanding users of IoT services today, including Hyundai, Acura, Rand McNally, Leica, and Sprint. Through our technology platform and dedicated IoT and M2M services, we strive to fundamentally improve their businesses – by dramatically reducing costs, improving operational efficiency, reducing time-to-market, and enabling new revenue streams.

Our global headquarters is in Silicon Valley (Santa Clara, California). Our European headquarters is near London, UK. Visit www.aeris.com or follow us on Twitter @AerisM2M to learn how we can inspire you to create new business models and to participate in the revolution of the Internet of Things.

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