

Telematics by the Numbers

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At a Glance

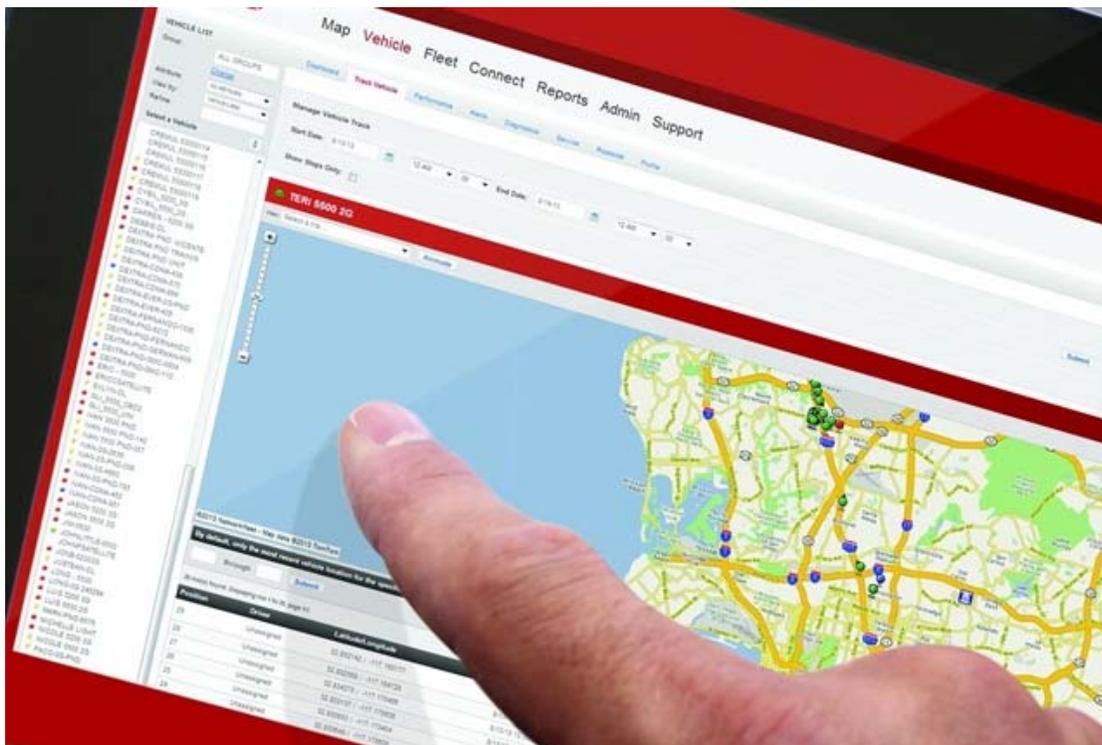
By installing telematics, fleets have seen savings in the following areas:

- Reduction in fuel use
- Improved maintenance
- Improved routing and ensuring appropriate vehicle use
- Providing vehicle information in the event of accidents or customer complaints.

Government fleets know perhaps better than anyone what it's like to manage a tight budget. So it's no surprise that some may encounter sticker shock when considering an investment in telematics. With a cash outlay for the devices themselves as well as costs for installation and ongoing tracking, the costs of implementation may cause some to shy away from a purchase.

But there's also a good case for making the investment — with potential savings on fuel, time, materials, maintenance, and more, the return on investment (ROI) can add up quickly.

With their telematics savings in hindsight, four fleets discuss how their programs paid off.



City of Worcester — Keeping Contractors Accountable

The City of Worcester's decision to pilot a telematics solution was due in part to a desire to provide better service to its citizens. During the winter months, several citizens called the Massachusetts city to report their streets hadn't been cleared. Before implementing its telematics solution, the city had no way of telling when a street had been sanded — or if it had even been sanded at all — other than sending a person to physically inspect the site.

Seeking a more realistic solution, the city piloted a GPS tracking system on 82 vehicles, about 35 of which were operated by contractors. The city agreed to pay the installation fee, while the contractors would pay for the device — a condition required to be eligible to do the work. The city also agreed to pay the monthly tracking cost. This initial investment of less than \$25,000 plus monthly tracking costs would allow city staff to know exactly on which streets ploughs had traveled and where salt had been spread.

"We told the contractors that they had to install [telematics] on their vehicles in order to do business with the City of Worcester moving forward. Some were apprehensive about this, which raised a red flag," said Jim Kempton, assistant director of Street Operations.

Kempton suspected some of the contractors might have been spreading salt in places other than city streets. Trucks would go out with plenty of salt to get the job done, but would return empty before finishing the job. With a telematics solution in place, his suspicions were confirmed.

Now, Kempton can track exactly where salt is spread and can keep crews accountable for covering the proper territory. He's also able to tell citizens what time their street was cleared, down to the minute. "We have been able to see current and historical location to address citizen complaints and easily verify whether or not a sweeper or sander has been down a particular street and when," Kempton said. "We know if salt has been spread on city streets or on someone's driveway."

As a result of its telematics program, between time and materials that were previously wasted, the city's conservative

estimate of its savings is \$10,000 per winter season. These savings alone would pay off its initial investment in devices in just three winter seasons. That ROI is greater when considering total savings beyond winter usage, including reduced fuel and labor costs, improved vehicle maintenance, and more. "We also have a sense of security that our resources are going to the right place and the job is getting done," Kempton said. "You can't put a price on that."

City of Napa — Improved Maintenance and Compliance

The City of Napa, Calif., wasn't new to telematics when it implemented its current solution. While the first solution did a good job of tracking vehicles, it didn't provide telemetric and diagnostic information. With frequent vehicle breakdowns and excessive repair costs, city staff members needed information that would help them perform proactive vehicle maintenance.

So the city chose to implement a new solution on 66 of its vehicles and leverage reporting to monitor excessive idling, vehicle utilization after work hours, and mileage discrepancies.



"Reviewing daily reports helps us ensure our fleet is operating at maximum efficiency," said Chris Burgeson, fleet manager, City of Napa. "[The telematics system's] remote monitoring of excessive idling, after-hours vehicle usage, and mileage discrepancies helps control costs and keep the fleet operating more efficiently. And its ability to track odometer readings and issue diagnostic trouble code alerts has helped prevent vehicle breakdowns, generating more cost savings."

In addition to significantly reducing maintenance and vehicle replacement costs, telematics helped the City of Napa maintain vehicles so it stays compliant with yearly emissions inspection requirements — known as smog checks — which had added to the city's already high fleet management costs.

"Every time [the system] saves the city from performing a vehicle repair or smog check, there's an instant payback," Burgeson said. "We're big fans of the system and can't wait to get it on the rest of our fleet."

Right away, the city saved \$50 per vehicle in yearly smog checks, totaling \$3,500 fleet-wide. It also saw immediate cost savings by reducing fuel costs by 10%. The fleet's operating efficiency improved as well, which in turn meant fewer vehicles were needed — another 10% savings. The city has also reduced greenhouse gas emissions by 44,000 lbs. each year.

"Although we initially purchased the system for automatic odometer readings to improve maintenance, we also found [the provider's] diagnostic trouble code alerts to be extremely helpful in preventing vehicle breakdowns, while simultaneously saving the city a great deal of money," Burgeson noted. "Telematics yields real savings across the board with fuel, efficiency, utilization, maintenance, assurance, and more."

Washington County Emergency Medical Services — Reducing Fuel, Maintenance, and Repair Costs

Washington County's Emergency Medical Services vehicles in Florida see a lot of action — with just five emergency response vehicles serving 21,000 people across a 40,000-acre region, the urgent nature of the business takes a toll on vehicles. One look at brake replacement cycles — every five months — made it clear the organization needed to lessen the wear and tear on its vehicles and gain more control over maintenance. With fuel and repair costs on the rise, too, staff looked to telematics for a solution.

"We use the [telematics] system to reduce fuel costs by monitoring idle time, speed, and MPG, among other variables," said Randy Truette, director of ambulance services. "In addition, if one of our vehicles gets in an accident, we can now show the speed and position of the vehicle. If someone complains that it took too long for a vehicle to arrive at the scene of an emergency, I can provide details about the route."



Washington County's telematics solution also provides maintenance reminders and engine diagnostics that help the fleet address repairs before they become an issue. In three separate instances, the telematics system transmitted a code for an engine problem serious enough to cause the vehicle to break down. "If we hadn't been made aware of these malfunctions and had them fixed right away, the vehicles would have required towing and costly repairs," Truette said.

Since installing telematics, Washington County EMS has seen an average savings of \$300 per month — \$3,600 per year — in fuel costs alone, even in the face of higher gas prices.

Maintenance reminders, together with idling and speed monitoring, have also cut costs. Because vehicles are operating at lower speeds and not idling as long, Washington County EMS now replaces brakes every eight months instead of every five. At \$300 per job, that's an annual savings of \$1,350.

Overall costs dropped nearly \$5,000 in one year, not including savings from proactive repairs. The County estimates a six-month total return on investment.

"These outstanding results have made us strong advocates for telematics. Based on our experience, other agencies of Washington County are now getting ready to install [telematics] on more than 60 vehicles," Truette said. "Telematics can transform your operations by giving you the tools to be more efficient, improve safety, and reduce costs."

Baltimore County — Better Use of Public Resources

When Baltimore County Executive Kevin Kamenetz vowed to make the Maryland county government more efficient, effective, and innovative, the Office of Information Technology (OIT) decided to consider telematics as a way to meet the vision. The county set out to increase efficiency, reduce fuel consumption, reduce vehicle mileage, reduce carbon footprint, and eliminate unauthorized use of county vehicles. It achieved every one of those goals with its telematics solution.

With a telematics system actively deployed on approximately 850 county-owned vehicles, including everything from dump trucks and snow plows to animal control vehicles and senior-ride buses, staff can track vehicle location and use a dispatching module to more efficiently dispatch service vehicles.

To achieve its goals, the county invested \$325,000 in its telematics solution — and it paid off. "Driver behavior improved immediately. Productivity increased. Agency fleet managers were notified when a driver exceeded a county-wide threshold set in the system for excessive stop time, excessive idle time, exiting the county, and exceeding posted speed. When the fleet managers brought these alerts to the drivers, the amount of incidents decreased dramatically," said Donna Fair, GPS program manager, Baltimore County OIT. "One agency saw a 30% decrease in mileage within the first month the units were installed."

Between October 2012 and September 2013, the total miles accrued by county vehicles decreased by 817,327 miles compared to the same period a year ago. With fewer miles driven, fuel usage dropped a dramatic 99,311 gallons — a savings of nearly \$300,000 in fuel costs. The reduction in monthly average gallons of fuel used decreased by almost 8,300 gallons.

“In these difficult economic times, it’s important for governments to use all their assets wisely. By utilizing all of the features of a telematics system, we have been able to demonstrate our commitment to this goal while contributing to the county’s green initiative. Route planning, reduced mileage, improved driver training, reduced stops, and reduced idle time all improve efficiencies, and allow the county to deliver more and better services to our citizens while saving taxpayer dollars,” Fair said. “Not all ROI is tangible. Improvements in driver behavior and the increase in customer satisfaction that results from being able to deliver more services are among the intangible benefits of implementing a successful telematics solution.”

ROI Is Your Call

Telematics solutions can help fleets save costs in a number of areas. From savings on fuel, maintenance, and repairs to creating safer, more accountable drivers, the benefits are numerous. Ultimately the fleets with the greatest success have taken careful steps to establish goals, selected a solution that fits those goals, then carefully monitored their progress toward them. With a thoughtful approach toward leveraging a telematics solution, government fleets can achieve the ROI for which they’re held accountable.

A Review of the Numbers

City of Worcester, Mass.

The investment:

- Less than \$25,000 for devices and installation
- Monthly tracking fees

The payoff:

- \$10,000 saved in wasted time and materials per winter season

City of Napa, Calif.

The payoff:

- \$50 per vehicle in yearly smog checks, equaling \$3,500 fleet-wide
- Reduced fuel costs by 10%
- Improved operating efficiency by 10%
- Yearly reduction of 44,000 lbs. of greenhouse gas emissions

Washington County, Fla., Emergency Medical Services

The payoff:

- \$300 per month (\$3,600 per year) average fuel cost savings
- \$1,350 savings on brake replacements
- \$5,000 overall fleet cost savings, not including savings from proactive repairs
- 6-month return on investment

Baltimore County, Md.

The investment:

- \$325,000

The payoff:

- Reduced mileage by 817,327 miles in one year
- Fuel usage dropped 99,311 gallons in a year

- Saved nearly \$300,000 in fuel costs for a year

Boost Your Chances of ROI

Putting a telematics solution in place is a major step toward running a more efficient fleet. But to improve your chances of a quick return on investment, experienced fleets suggest the following:

- Develop an internal deployment plan
- Identify areas of focus to master in the first few weeks, months, and years
- Establish short- and long-term goals for leveraging telematics data
- Inform drivers and fleet staff about the purpose behind using telematics
- If drivers are resistant, stay focused on the benefits and objectives of the system
- Establish a policy for the use of company vehicles, including disciplinary actions for violations
- Dedicate a program manager to review and report on telematics data
- Conduct regular audits to help identify trends and anomalies.

Sources:

- *Chris Burgeson, fleet manager, City of Napa, Calif.*
- *Donna Fair, GPS program manager, Office of Information Technology, Baltimore County, Md.*
- *Jim Kempton, assistant director of Street Operations, City of Worcester, Mass.*
- *Randy Truette, director of ambulance services, Emergency Medical Services, Washington County, Fla.*

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