

## Brown Continues Getting Greener: Telematics Helps UPS Squeeze Out Higher Efficiencies and Increased Safety



By Tom Schueneman | May 7th, 2008 2 Comments

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Think back to when you actually saw a UPS truck sitting at a crowded intersection waiting to turn left. Depending on where you live, it may have been awhile. Because in some test markets Brown doesn't go left. (and I'm not talking about the upcoming election.)

While most UPS trucks are probably still turning left at intersections, such a maneuver is not beyond examination. With skyrocketing fuel prices and a barrel of oil now hovering around \$122 a barrel as I write this (and many analysts looking for \$150 a barrel oil), simply waiting in traffic to make a **left turn** becomes an inefficiency that can't be

afforded.

But how do you effectively monitor a fleet of over 65,000 delivery trucks to determine routes, vehicle movement, operation, and condition to maximize efficiency and safety while minimizing fuel consumption?

UPS is a leader in developing a proprietary sensing and data collection system based on **Telematics** to track everything from tire pressure, idle times, speed, engine RPM – even the number of times the truck is put into reverse and if the driver is buckling-up. The data creates a picture of the truck and driver's day. The data is stored on board and uploaded at the end of the day to one of UPS's data centers via a 900MHz radio link.

Then the data mining begins. And therein lies the true benefit of the UPS Telematics system.

### Drowning in Data

It's not the data – It's what you do with the data that counts. Data collection on vehicles isn't anything new. If you own a car manufactured in the last decade or so, it's collecting data (though on a relatively limited basis). The ability to collect various bits of data is actually the problem. What to do with all that data? Instead of a useful tool, it becomes another source of information overload.

I spoke today with UPS Automotive Manager Mike Hance and Public Relations representative Donna Barrett to find out how Brown is implementing the Telematics system as part of the company's overall efforts toward efficiency and sustainability.

Trial of the Telematics system started about a year ago with 340 vehicles in Georgia. The system can track up to 200 metrics, but the real power comes from the proprietary algorithms that cull the data and presents the end-user, from managers to truck maintenance workers, with usable information in a clean "dashboard" format for clear analysis and decision-making in three key areas of operation:

#### 1. Fleet Management

With Telematics, fleet management becomes more efficient through just-in-time "conditional-based" maintenance. By maintaining fleet vehicles based on the actual condition of key mechanical components, maintenance workers or able to use less resources, increase efficiency of maintenance operations, and minimize truck break-downs in the field.

#### 2. Safety

By monitoring driver braking patterns, engine RPM, speed, seat belt use, and other driver performance metrics, managers can help drivers adopt behaviors and habits that not only increase their efficiency but their safety as well.

#### 3. Idle Time Visibility

Simply put, telematics data has led to decreased average vehicle idles times 24 minutes per driver per day. Enough said there.

These are the three principal areas that Telematics is currently used to help increase vehicle and systems safety and efficiency. Another aspect of the system is route management. That electronic clipboard you sign your name on when you receive a UPS package is equipped with a small GPS unit. Trucks also carry another very precise GPS unit on board. The GPS data from these units are combined to determine where route inefficiencies exist and help design more straightforward routing and "clustering" of deliveries, reducing the miles driven and fuel consumed.

Through the Telematics system, UPS has been able to show a solid return on their recent investment in 50 new HEV (hybrid-electric vehicle) trucks by showing a verifiable 40% increase in fuel efficiency over standard diesel-powered vehicles. Telematics helps determine the economic bottom line of efficiency.

UPS plans to expand its Telematics system to 1500 vehicles nationwide. I couldn't help but wonder what drivers think of a system that seems to monitor their every move. According to Mike, the program is well received by almost everyone within UPS. It's part of the company's philosophy and one that we've reported on before at 3P. ([here](#) and [here](#)).

Telematics is a key component to that philosophy and if the trial runs continue to go well, Mike expects the system will be rolled out fleet-wide.

UPS operates the largest private fleet of green vehicles in the world. That fleet includes hybrid, compressed natural gas, liquefied natural gas, propane, hydrogen fuel cell, electric, and even hydraulic vehicles. Since 2000, that fleet of green vehicles has traveled 143 million miles (143,000,000).

I've always been a little color blind – I could swear that brown UPS truck that just passed by was actually a shade of *green*.

### UPS in the Air

The main hub of the UPS air fleet is in Louisville, Kentucky. Here are some of the key points Donna and Mike shared with me on the work UPS has done at improving their ground air fleet operations:

- 350 pieces of ground support equipment are powered with biofuels.
- They have developed routing software for flight sequencing and ground operation of their air fleet, reducing idle and taxi times significantly, and reducing fuel consumption by millions of gallons every year.
- Nitrous oxide emissions from jet exhaust is down 34% and noise has been abated by 30%.
- Engineers have designed new landing technologies that help airplanes make much of their descent at idle, from 35,000 feet to touchdown.

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