



GOING GREEN BY GETTING SMART

White Paper

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IMPROVED FUEL CONSUMPTION MANAGEMENT

Fuel costs account for a major portion of the total fleet operating cost and will vary according to vehicle type, driving style and mileage, so managing your fuel consumption is a critical part of green fleet management. An OBC equipped smart truck can help reduce fuel consumption - and an organization's carbon footprint - as follows: OBCs connected to mapping systems allow fleet managers to optimize each truck's routes to reduce time spent on the road and the number of engine hours per day. Route and fleet management solutions are proven to reduce fuel consumption with more efficient routing and by the monitoring of vehicles and drivers.

The savings can be huge.

ABI Research cites such benefits as over 12 percent increases in service profitability, 13 percent improvements in vehicle utilization, and nearly 15 percent decreases in travel time with fleet and route management solutions. The ultimate fuel saving is achieved by having a truck generate more or similar revenues in less time.

Driver Performance

Start date: 4/12/2010 12:00 AM End date: 4/29/2010 11:59 PM View Report

Division: (all) Line of Business: Commercial

Export in: Pdf Csv

Driver	Division	Distance (M)	Engine	Idling	Driving	Excessive	Fuel (Gal)	Gal/Hour	MPG	Usage %	Idling %
#		269.61	15:50:08	04:29:24	11:20:44	01:24:04	54.10	3.42	4.98	71.65	
#		258.86	22:57:20	09:57:40	12:59:40	04:17:32	0.00	0.00	0.00	56.61	
#		356.36	12:47:05	02:40:38	10:06:27	01:10:21	49.45	3.87	7.21	79.06	
#		178.27	18:09:03	04:17:31	13:51:32	01:26:37	63.96	3.52	2.79	76.35	
#		319.88	29:59:28	11:25:39	19:33:49	03:00:54	0.00	0.00	0.00	61.90	
#		353.68	20:52:58	04:50:47	16:02:11	00:36:13	73.23	3.51	4.83	76.79	
#		191.94	07:47:32	01:28:21	06:19:11	00:05:30	29.75	3.82	6.45	81.10	
#		233.82	16:32:23	04:20:11	12:12:12	01:29:41	59.15	3.58	3.95	73.78	
Count=8		Sum=2162.42						Avg=2.72	Avg=3.78	Avg=72.16	

Specifically, they can:

- Increase density so it takes less time (and therefore fuel) to service customers.
- Optimize your routes to use less fuel and driving time.

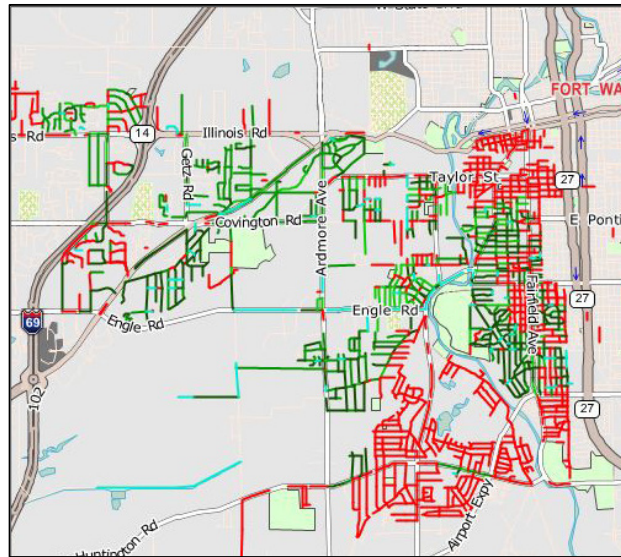
Leading OBCs can also let you reduce the amount of fuel burned by the engine as it is being used by:

- Using alarms to monitor and reduce idling.
- Identifying aggressive driving patterns through alarms (progressive shifting). For example, it is possible to compare RPMs with the vehicle's speed. Going from 0 to 30 KM/hour can be done in a fuel efficient or aggressive manner.
- Identifying vehicle maintenance problems. For example, if two vehicles of the same type with the same engine are used for the same task, but show different fuel economy, this can be either a driver issue or a truck issue. If it is a truck issue, fleet managers can go back to the manufacturer to have the truck 'tuned' to ensure consistent and optimal fuel performance.
- Collecting the ECM codes (engine malfunction) so that engines can be repaired before problems escalate. A healthy engine burns less fuel.

REDUCED OVERALL MILEAGE

Fleet management systems that incorporate OBCs with a mapping and direction function capabilities automatically provide driving directions to the truck's next stop based on run sheet data - no driver input is required. They can often provide a graphical view of the calls to the driver, and some will automatically re-calculate the route when a driver selects an out-of-sequence manual stop. This ensures that each route is optimized for time and distance, thereby reducing overall mileage.

Most systems are designed to provide features similar to those of a GPS equipped car - specifically, textual and audible driving directions to a driver. However, the leading systems differ from the typical GPS approach in that subsequent locations do not need to be entered by the driver. Ongoing route locations and directions are based on the driver's schedule and provided automatically. These could be the next stop in a predetermined sequence, or a driver-selected stop should he elect to run his route out of sequence. This ensures that both the driver's time and the truck's usage are used as efficiently as possible.



DRIVER MONITORING AND EDUCATION

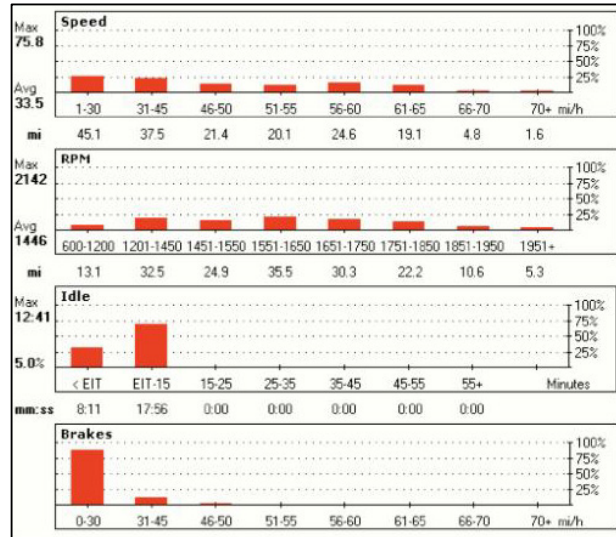
Driver behavior is fundamental to ensuring high levels of fleet efficiency. Your drivers must be made aware of efficient driving techniques, either by increasing awareness or with ongoing driver training. Even the most fuel-efficient vehicles will perform poorly with an inefficient driver behind the wheel. Real-time monitoring of driver behavior and driving patterns allows fleet managers to influence and educate drivers on more fuel and emissions-friendly driving approaches.

Today's leading OBC fleet management solutions provide managers with real-time visibility into driver activity and behavior. All departments have access to centralized fleet driving data for a completely transparent representation of a driver's performance. Mapping systems can be integrated that deliver a real-time map view of individual vehicles' positions relative to towns, cities, highways and streets.

Managers can select from a number of layers which determine the level of detail and plot the vehicle's position according to reported events. Using mapping systems connected to smart trucks, managers can further reconstruct the route taken by a driver on any given day, and view alarm criteria, such as exceeding a specified speed limit. Managers can also identify drivers that are deviating from assigned routes or making unscheduled side trips (meeting for lunch, taking the wrong route etc.) which can lead to unnecessary fuel consumption.

These systems allow fleet managers to:

- Track drivers with precise geo-coding (GPS) of all data and events
- Determine how their vehicles are being handled
- Determine which drivers generated alarms and where these were generated
- Monitor driver speed in relation to speed limits
- Plot locations of alarm occurrences



CASELLA WASTE SYSTEMS

Casella provides solid waste, recycling and resource management services in seven Northeastern U.S. states. Casella makes it a business strategy to create sustainable value beyond the traditional disposal model. They selected FleetMind’s solution for waste and recycling organizations that includes tools for onboard computing, fleet mapping, reporting and analysis, driver direction, automated service verification, wireless communications and more. Casella started with a small pilot deployment in July 2008 to test the system, and implemented a phased rollout of the system to more than 150 Casella collection vehicles and 11 sites. The implementation included both hardware and software installations in vehicles and offices, and back-office systems integration.

With fleet management tools, Casella now supports smarter, leaner and greener fleets by:

- Optimizing each truck’s routes to reduce time spent on the road and the number of engine hours per day.
- Reducing the amount of fuel burned by using alarms to monitor and reduce idling (by an estimated five percent).
- Identifying inefficient driving patterns and vehicle maintenance issues for immediate resolution.



casella
waste systems, inc.



"Customers will benefit from our enhanced ability to now provide "real-time" on-route information, while we can all breathe easier knowing that our FleetMind-equipped vehicles are helping us reduce vehicle mileage and fuel consumption, as well as overall greenhouse gas emissions."

Mike Brennan, Director of Operations & Maintenance,
Casella

KIMBLE RECYCLING & DISPOSAL

Based in Dover, Ohio, Kimble Recycling & Disposal (formerly J&J Refuse) is one of the largest independently-owned refuse carriers in Ohio. Kimble delivers dependable, cost-effective and environmentally responsible waste management services to residential, commercial and industrial customers in 20 counties in eastern Ohio. As part of their ongoing drive for operational excellence,

Kimble turned to FleetMind for a fleet management solution that would help them improve their overall fleet operations. By using FleetMind OBC technologies, they are able to make their drivers more aware of green-friendly driving techniques. Using FleetMind's FleetMap, Kimble managers can reconstruct the route taken by a driver on any given day, verify any deviations or unscheduled side trips, and view alarm criteria, such as exceeding a specified speed limit or excessive idling.

This lets Kimble determine how their vehicles are being handled. Real-time monitoring of driver behavior and driving patterns allows Kimble managers to influence and educate drivers on more fuel and emissions-friendly driving approaches.



"With FleetMind, we can close the gap between our vehicles and our office operations. We are more communicative, responsive, transparent and informed. This makes us safer, greener and more productive."

Keith Walker, Kimble Recycling & Disposal

ABOUT FLEETMIND SOLUTIONS, INC.

FleetMind Solutions, Inc. is the award-winning technology leader for fleet management solutions. FleetMind's technology is derived from over 10 years and millions of dollars invested in developing the industry's best and most advanced fleet solutions specifically designed for waste and recycling environments. FleetMind solutions have been successfully installed in thousands of vehicles across North America. Our products have allowed the industry's largest waste and recycling fleets to link their drivers and vehicles to business operations in real-time to ensure improved productivity, safety, sustainability, profitability and customer service. For more information, visit us at www.FleetMind.com.

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