



Wireless Fleet Management

An R.C.M.P. Perspective

by Julie Furlotte, CAFM

When fleet management at the Royal Canadian Mounted Police, (RCMP), decided to initiate a trial of a wireless electronic fleet management solution, it was looking for a method of tackling issues that plague almost every vehicle fleet today. Issues such as—difficulty in obtaining accurate and timely lifecycle data, pressures of operational and capital costs, and of course, driver safety were at the top of the list. Managing the land fleet for a national police service provides unique challenges as well. The fleet consisting of 10,000 vehicles is spread out over the second largest nation on earth. Being one of the largest federal fleets, there are also pressures to be at the front of pollution reduction and energy efficiency. All the regular issues of dealing with a police service fleet are there as well: data and system security, existing software interoperability, and scalability, (some detachments have less than five vehicles located in remote areas).

A chance meeting brought a local firm to the RCMP's doorstep in Canada's Capital, Ottawa. The company was ready, willing, and able to answer the request for a pilot with 50 vehicles at three sites in the Ottawa area and to provide a business case showing all the direct and strategic benefits of interest to the RCMP. The local firm's solution involves collecting data directly from the vehicle diagnostic port under the dash and transmitting that information via a WiFi 802.11b protocol to a building-mounted receiver when the vehicle returns to its fleet yard. This wireless transmission occurs without any monthly airtime charges common to traditional 'telematics' solutions. The pilot phase-in began in December of 2003 and, very soon after, 50 vehicles were equipped with the company's *vehicle interface units*. Supplying and properly configuring an on-site wireless data processing server easily dealt with any worries about data security.

The RCMP's existing fleet management service provider was involved early on in order to facilitate seamless preventative maintenance and lifecycle data transfer to their existing fleet software. Their cooperation was understandable, given the opportunity for them to gain good working knowledge of a system that can add value to their offerings

to other fleet clients. Having a telematics system on the shelf that is in use with one of North America's premier police services certainly provided some very positive market differentiation in the fleet management service provider's competitive world.

The results began pouring in soon after the pilot started. During the primary stages, the RCMP was only looking for accurate and automated odometer readings captured during a 'drive by' event while maintaining a high level of data security. While these features were easily delivered, benefits unforeseen by fleet management started showing up as well. The system reports battery voltage during starter operation, and average minimums and maximums while driving, the fleet maintenance supervisors were quickly able to take action on drained batteries before they let a driver down at the start of a shift or worse, on the road. It is no secret that police cruisers have one of the heaviest electrical accessory demands and even with high output alternators; it is common to discharge a battery during low speed operation. In addition, the ability of the system to capture and report details on engine diagnostic trouble codes gave the police service the opportunity to present their Crown Victoria Interceptors to local Ford dealers for warranty

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bulletin repairs resulting from engine temperature trouble codes. Without this help, the repairs would have been completed in-house, and the costs absorbed by the fleet. It also saved the time, trouble and expense of pulling vehicles off the road for a simple 'loose gas cap' trouble code.

The system found further savings by locating and displaying 'pending' engine and transmission trouble codes. Using early warnings from the vehicle computers prevented roadside breakdowns and expenses from consequential damage. For example, when a modern vehicle's oxygen sensors begin to fail, it will not generate a warning light on the dash. However, its first signs of weakness can cause the engine control computer to run a more fuel rich mix through the injectors, leading to higher fuel costs and expensive catalytic converter damage. The same holds true for something as common as spark plug wear-outs. The engine misfires and the cause is not immediately reported to the driver by means of the 'check engine' light, but this is a definite waste of fuel and can cause operation and safety concerns during emergency accelerations.

At the beginning of the pilot, automation of fleet utilization was not a consideration. Any fleet manager


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knows the time that a simple utilization report takes to complete and that such reports are usually met with many false barriers put forward by personnel (from all levels), who equate asset size with job satisfaction. The fleet trip logistics report from the pilot, (which is time and date stamped and quantified all vehicle movement), when viewed in weekly and monthly formats provided *easy to understand* snapshots of true vehicle utilization. This detail of reporting goes a long way towards "right sizing" a fleet.

Another challenge to RCMP fleet management is the emphasis on 'green' operations. With the Canadian federal government's support of greenhouse gas and pollution reduction (as spelled out in the international Kyoto Accord) comes pressure on all of its fleets to meet new targets of greenhouse gas reduction and energy efficiency. The system's constant monitoring of all emissions diagnostics is the equivalent of running an annual emissions test on a daily basis. It has also allowed us to measure engine idling hours, establish idling baselines and then monitor the effectiveness of our idling awareness campaigns. Many communities across the country are initiating anti-idling bylaws and rules in recognition of the negative affect that excessive engine idling has on both air quality and driver health. The idling reports now coming across the fleet manager's desk everyday will make instituting and managing a responsible program easier than ever.

Being responsible for a police or emergency service fleet is certainly one of the most challenging jobs in asset management, but using reliable and affordable technology lets true leaders measure success by delivering sustainability and reducing total cost of fleet ownership. 

The RCMP work with Netistix Technologies Corp. located in Canada's Capital of Ottawa. The system that has proven so successful for the RCMP is the Netistix Technologies Corp's "FleetPulse™" solution.