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## **CleanScapes**

### **Waste Collection Services Company Goes Green with In-Vehicle Data Collection and Management - A Sierra Wireless® Mobile Workforce Application**

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#### **Waste Collection Services Company Goes Green with In-Vehicle Data Collection and Management**

#### ***A Sierra Wireless® Mobile Workforce Application***

#### **CUSTOMER CRITICAL CHALLENGE**

- In-vehicle data collection solution for waste management trucks
- Required persistent connectivity and rugged design for in-vehicle environmental conditions

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## **SOLUTION**

- AirLink® Gateway, integrated with Routeware's GPS application provided reliable, cellular communications, GPS location tracking for improved fleet management and remote management and maintenance to reduce field service trips

## **BENEFITS**

- Secure, reliable connectivity for real-time transmission of and access to mission critical customer data
- MIL-STD 810 certified for high performance in the harshest of environmental conditions
- Plug-and-play installation and remote management of network of in-vehicle devices
- Portability for easy re-deployment if vehicles are replaced or temporarily out of service

In 2008, CleanScapes began serving as the waste collection contractor for the City of Shoreline, followed soon after by the City of Seattle. The company has grown from just two employees to over 250 and serves three states.

## **Business Challenge**

The vision to improve the urban landscape and reclaim alleys for their utilitarian and pedestrian use was the impetus for CleanScapes' innovative Clear Alleys/ Dumpster-Free Program, which launched in 2000 with a grant from the City of Seattle to provide an alternative waste management program. CleanScapes now serves the residents of Shoreline and Seattle, WA, as well as the downtown commercial core areas and business districts in San Francisco, CA and Portland, OR.

For decades, waste collection companies relied upon paper route-books for their drivers to identify service areas, as well as record and report whether or not a can's contents had been successfully collected. To improve the speed and

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accuracy of reported collection data, CleanScapes began working with Routeware, a leading provider of GPS routing software specialized for the waste industry, to implement an in-vehicle computer solution and help CleanScapes transition from a paper-based to an electronic-based data transmission and management system.

A key component of any in-vehicle solution is the mobile connectivity and GPS information. Routeware, who has over a decade of experience in deploying routing solutions, recommended that CleanScapes use the AirLink intelligent gateways integrated with their routing software.

### **Sierra Wireless AirLink® Solution**

CleanScapes tested the Sierra Wireless AirLink in-vehicle gateway for use in concert with Routeware's electronic data management system that allows drivers to use GPS navigation to run their collection route, while automatically logging and completing work in real-time with corresponding timestamps and location data.

"The introduction of the cellular electronic data collection system in our trucks has allowed us to gather more accurate data, which in turn enables us to improve operational efficiency with accurate route information, improve driver safety and improve our own awareness of actual truck activity," said Sally Hulsman, vice president, CRM Systems at CleanScapes. "We also eliminated the added step of data entry to transfer data from paper route-books into our system to provide reporting to cities."

CleanScapes' Hulsman highlighted the rugged construction, small profile, high reliability and ability to connect remotely and verify connectivity, as predominant drivers in the company's selection of the AirLink gateway. "Our waste management vehicles run seven days a week, 365 days a year, often with multiple shifts in the same 24 hour period," explained Hulsman. "Wear-and-tear on these vehicles is second only to that on heavy-duty mining equipment."

In developing its in-vehicle solution for waste collection management, CleanScapes worked with Routeware and third-party contractors to install the equipment in its trucks. Though each installation was slightly different based on variations in truck cabs and operation, the key components remained the same: an AirLink gateway as the primary communications device, connected to a General Dynamics DMS5000 military-grade tablet PC or Toshiba laptop and cameras used to record visuals of waste receptacle location and condition.

The AirLink management tools allowed CleanScapes to connect quickly and reliably

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to multiple devices in a short period of time, largely eliminating the need for field visits to identify problems. Any required maintenance work is now identified and assigned as trucks return to the field, or simple fixes can be implemented remotely while vehicles are still in service.

“We can now gain access to truck usage data for better driver management and more efficient truck maintenance,” said Hulsman. “In general, we see better overall data sets, which are more accurate because of fewer data entry errors; we experience quicker data availability and see more complete data. More data can be entered through the in-vehicle tablets, which reduces data entry steps and speeds up the process of making this critical data available to use in improving service to our customers.”