

Energy Currents

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GIS for Energy

In-the-Field GIS Innovations Prove Golden Apple for Gas Utility Services Avista Mobile GIS Integration Gains Efficiency Success

Avista is using GIS to gain ground in mobile response. Avista's mobile dispatch GIS application is rendering a return by decreasing manhours in the field, lowering costs, and increasing efficiency for gas service response.

Avista provides both gas and electric services in the northwest region of the United States, but here we will focus on the gas chapter of the company's story. The utility serves approximately 300,000 gas customers in a 26,400-square-mile area. To improve its service and efficiency, Avista sought to implement a wireless, real-time, mobile workforce management system that includes GIS applications for gas meter and compliance orders.

Since 1996, Avista has been using ESRI GIS software products for better customer services. Originally the company used the Regional Dispatch Monitor, referred to as the "red dot machine." It took a customer's trouble-call ticket data and placed a red dot on the map to show the customer's location. Later, the company began using ArcGIS as part of its facilities management system and continues to add new tools to the system so it evolves with emerging GIS technologies.

The Avista Facilities Management (AFM) system

uses Oracle software for its facilities management database. ESRI's ArcGIS software functions are used to manage facility data and design and build the electric and gas facilities network. In addition, ArcGIS is used for complying with gas transmission regulations; performing engineering analysis; and currently, speeding up the mobile dispatch process. More than 400 employees use the system.

Before GIS was part of dispatch operations, the mobile team processes were more time consuming. The company had 11 gas dispatch centers within its service area of Idaho, Oregon, and Washington. Orders for gas service, gas trouble calls, and compliance inspection were received by phone or computer. Service orders were then dispatched to the field workforce via paper tickets. Field-workers returned comments on forms and completed their time sheets on paper.

Through staff and service analysis, Avista's



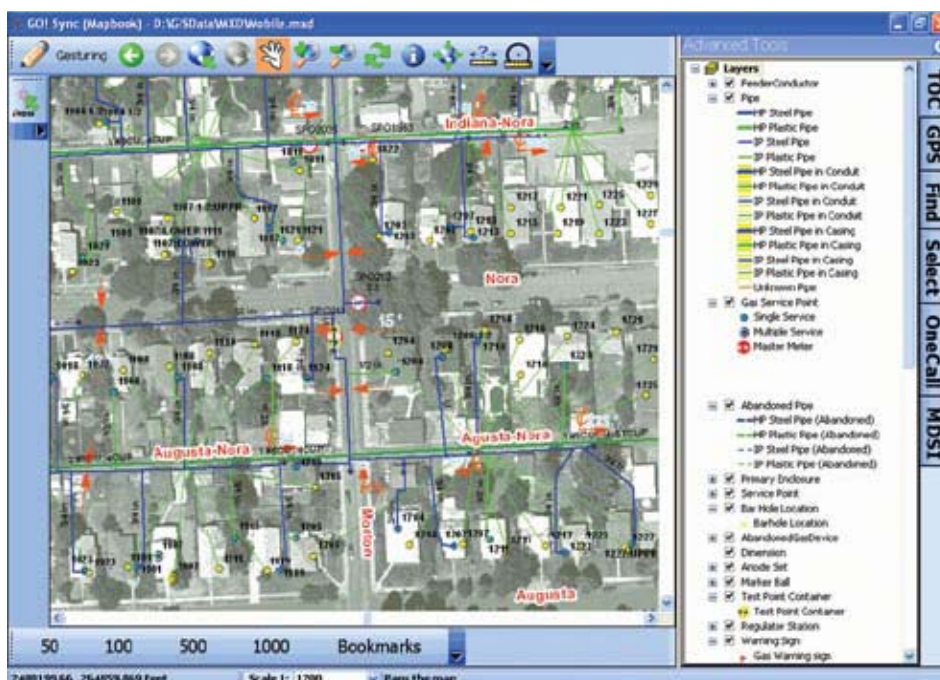
Dispatcher uses Advantex application built on ArcGIS. When the export button is clicked, orders are automatically uploaded and displayed on Mapbook. Here the green is a gas service ticket (allows placement of service point). Red indicates a gas trouble ticket (allows placement of repair on pipe or device and barhole). Blue indicates a gas follow-up ticket (allows placement of barhole).

managers set measurable goals for improvement. The top priority was to reduce the effort required to assign, dispatch, monitor, and close gas service trouble and collections work. The field-worker-to-dispatcher ratio had been 8:1; confidently, managers set an ambitious target goal of 14:1, a reduction of more than 50 percent.

Another goal was to improve gas service personnel and collectors' productivity through routing of work, real-time dispatch of daily orders, home starts for field personnel, and elimination of paperwork. During an 8-hour shift, 4.4 hours were actually spent completing service work. The project goal was to add an hour to this. Thanks to the new mobile GIS, Avista met these goals.

Avista is using an Advantex application to complete infrastructure and to plan, schedule, and execute all types of fieldwork. The application provides mobile workers with information and wireless capability to retrieve work orders, view work information, and input work results. Dispatchers manage workflow by assigning and dispatching work to the field using location, priority, availability, and skill sets. And real-time data allows dispatchers to monitor progress of work in the field, providing even greater efficiencies.

Sixty-eight field-workers were affected by the project. By implementing mobile technologies, such as Tadpole Technology GO! Sync Mapbook on

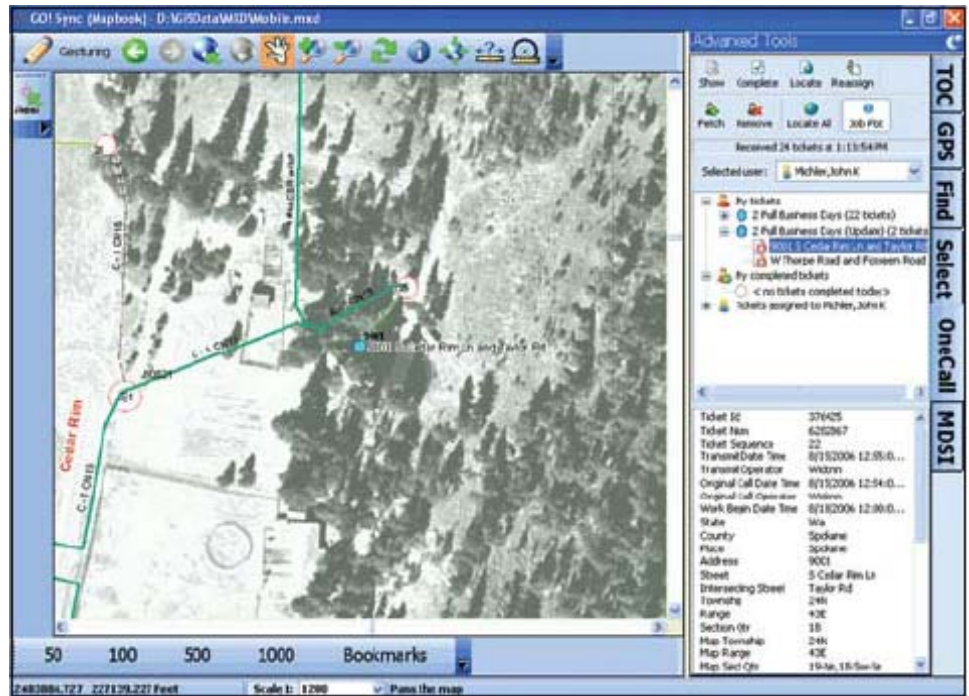


Overview of the GO! Sync Mapbook Application on the Mobile Device supports gas facility network updates in the field.

laptops and digital notebooks for data posting and updates from the field, fieldworkers did not need to check in at the office but could now leave from their homes and go directly to their work sites. Avista leveraged the same capabilities to ensure gas compliance task completion. Wireless connections made certain that field work order data was current, making it easy to communicate with the dispatch office. They could geographically see where they needed to go, the asset and inclusive information they needed to work on, and how to get to the site. This eliminated nearly all the old paperwork processes and made for more accurate records.

The golden apples of geospatial innovation helped Avista meet its challenges and gain even more success from its GIS. Avista achieved its objectives of improving dispatch-to-worker ratios and also leveraged the system to capture meter-installation and trouble location data in the field and feed it back to the corporate GIS. The dispatch application shows the location of the mobile workforce and keeps GIS-fresh data flowing to and from the field crews.

GIS has also reduced miles driven per hour of job time from more than 13 miles to about 10 miles. That translates into less time in the truck, less time at the pump, and more time actually performing field tasks. In addition, service teams complete 90 percent of their day's scheduled appointments.



Line inspectors use OneCall maps to ensure the safety of the public and create compliance records with state authorities.

Avista's mobile dispatch application has improved customer satisfaction and company efficiency.



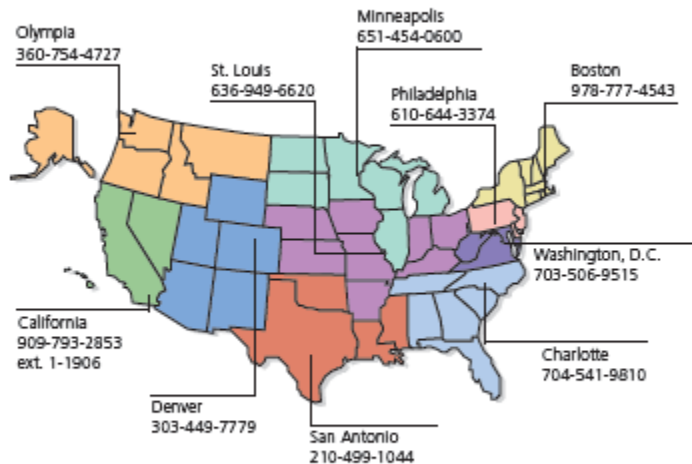
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