



Mobile Resource Management Helps Columbia Public Works Satisfy Customers

About Columbia Public Works

Consistently ranked among the top U.S. cities by national magazines and organizations, Columbia, Missouri offers residents the advantages of a big city with the friendliness and quality of life usually found in small towns. The city is home to three colleges and boasts excellent schools and health care facilities as well as an abundance of recreational opportunities, including miles of fitness trails, 42 parks and proximity to the beautiful Ozarks. Columbia offers all of the basic services traditionally provided by cities, including fire, police, public health, public works, transportation, recreation and solid waste, wastewater and storm water management.

Situation

Keeping residents and city workers safe is a priority for the department of public works in this growing community. As part of maintaining the city's infrastructure, the department works to keep roads snow-free during the winter and storm sewers flowing year-round to minimize the possibility of floods. Dispatchers used two-way radios to let drivers know where and when to treat roads for ice and snow or clear storm sewers when floods threatened, but the radios didn't allow them to reach drivers who were out of the vehicles. Also, because public works shares a radio frequency with other city departments, communication was often hampered by chatter on the line. Finally, the department's drivers might be out of radio range if they had to travel outside city limits to replenish supplies. The City of Columbia needed a reliable way to stay in contact with its crews to help ensure their safety and well-being and that of city residents, optimize route management to reduce redundancy and save the city money in fuel and road salt expenditures.

Solution

Columbia officials chose an AT&T mobile resource management solution that gives the city public works department powerful tools to track its mobile assets for improved security, increase efficiency and reduce costs. The solution leverages WebTech Wireless™ Quadrant™ from AT&T, a premier GPS-based telematics system that provides real-time information to support efficient fleet management. The solution's mapping, reporting and messaging capabilities boost productivity, decrease costs, protect workers and improve the city's ability to serve its citizens.

City Uses Wireless Solution to Enhance Safety, Service

Columbia is a growing community in central Missouri, the state's fifth-largest city. Its population, nearly 95,000, has increased 16 percent just since 2000. The city's largest employers are its three colleges, three hospitals and public schools; the city itself is Columbia's fifth largest employer. Visitors are attracted to the area's parks and trails, lakes, festivals, museums and more.

The city is proactive in its efforts to sustain the excellent quality of life that Columbia residents enjoy, using hybrid vehicles whenever possible and employing renewable resources like biodiesel fuel that provide clean air benefits. It's also quick to adopt technology that offers the promise of improved service for its citizens and increased safety for residents and workers.

As part of its commitment to maintaining the city's infrastructure and protecting the public safety and environment, the city implemented an AT&T mobile resource management solution to help ensure contact with workers in the field. The solution was designed to avoid situations like the one that occurred after an accident two years ago when a driver from the public works department rolled a pickup truck off an

City of Columbia Public Works Facts

- **Business Needs**
Improved customer service and driver safety, better tracking of mobile assets
- **Networking Solution**
Mobile resource management solution provides real-time information to support efficient fleet management
- **Business Value**
Enhanced customer service, better protection and supervision for city workers, reduced costs
- **Industry Focus**
Municipality
- **Size**
95,000 residents



icy road; it took city crews more than an hour to find the accident site. “Nobody knew exactly where he was,” said Dave Daly, Columbia’s manager of street and storm water operations. “We worried that if someone had trouble we might not know about it until it was too late to help them out.”

WebTech Wireless Quadrant solution from AT&T gives Columbia the ability to wirelessly track and monitor its vehicles and other mobile assets using the nationwide AT&T mobile network. The system gives Daly and Street Superintendent Sam Thomas a wealth of vital information, including vehicle location and speed, stops and deliveries, diagnostics/maintenance information and safety alerts. The department’s drivers benefit from custom mapping and routing information, turn-by-turn directions and two-way communication with dispatchers, as well as safety features such as ignition locks and panic buttons.

The solution has been deployed on 42 city vehicles so far. “Now if something happens we can get there right away,” Daly says. It protects not only crews working in the city, but those that have to travel into neighboring counties to pick up supplies, keeping them in touch with dispatchers and supervisors. Mobile data terminals let workers transmit text and numeric information over the air via the AT&T mobile network; workers can also use their cell phones for voice and data transmission.

The Snowplow’s on the Way

The solution also helps Columbia enhance customer service. “The main reason our public works director initially wanted to install GPS units in the trucks was to make the division more responsive to citizens,” Daly explained. For instance, during the winter a resident may call in to report that an intersection is snow covered and treacherous.

Although the city assigns trucks to clear and salt priority routes in Columbia’s six districts, there is also a “swing truck” to respond to customer calls. This solution will make it easier to dispatch the swing truck efficiently, and dispatchers can now inform callers of the approximate time a certain area will be treated.

City officials are now better equipped to manage their routes during snow season. “We sometimes wasted time and materials doing some streets multiple times,” Thomas said. Now instead of making two or three passes over some neighborhoods, officials can check a GIS map and see exactly which streets have been treated.

Because officials can see the city map and the location of all trucks in near real time, they’re able to let callers know when they can expect to have their street cleared or storm sewer unblocked. “Sometimes while we are on the phone the resident will say, ‘Oh yeah, there goes the truck now,’” he added.

Leaner, Greener Operations

Columbia has realized improved workforce productivity thanks to real-time monitoring of vehicle routes. The solution is effective in discouraging workers from using the vehicles to run personal errands or travel other than to their assigned locations. “We know which trucks are assigned to whom and where they are supposed to be,” Thomas said. “I can look at the map and tell at a glance if workers are where

they are supposed to be or not.” As a result, workers have become more vigilant about sticking to their assigned routes. Officials are notified instantly if a city vehicle travels outside approved locations or is used after work hours.

The telematics solution also helps Columbia reduce operating costs by letting them monitor idling, speeding, harsh braking, sharp acceleration and engine over-revving. Helping their drivers develop long-term best practices can help significantly decrease fuel consumption and thereby reduce carbon dioxide emissions. The WebTech Wireless Quadrant solution from AT&T provides auditable reports that show how effectively the city is cutting greenhouse emissions.

As part of the city’s efforts to operate more efficiently, Thomas said, “Our director instructed us not to let the drivers sit in trucks with air conditioners running.” Thanks to the mobile resource management solution, managers can monitor when a vehicle’s ignition is turned on and off. “Now we know our trucks are not running up and down the road as much. Drivers are where they are supposed to be and working where they are supposed to be – at all times – so it makes it a lot easier for us to track.”

WebTech Wireless estimates that improved driver training can save fleets 5 to 20 percent on fuel costs and Columbia officials say the city has already started saving money. “We just started this last year, so we don’t really have all the data yet but I know it’s saving fuel money,” Daly said. City officials, he adds, are pleased.

Thanks to the solution, Columbia is also better equipped to protect city assets. For instance, if a citizen claims that a city vehicle hit his car or mailbox, it’s easy to use the GPS time stamps to determine which units (if any) were on the street in question, and at what time.

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– Sam Thomas, City of Columbia Street Superintendent

Enhanced Dispatch, Reduced Costs

Columbia is so pleased with its WebTech Wireless Quadrant solution from AT&T that it has installed it on city buses and sewer jets, the trucks the city uses to flush underground sewer lines. Very soon, the city plans to deploy the solution for its safety forces, the better to quickly dispatch emergency vehicles. The mobility solution will let police and fire dispatchers see the real-time location of each squad car and fire truck in the city to find the best unit to respond.

Columbia also plans to install telematics devices on its snowplows and salt trucks to let managers see which roads have been plowed and where salt is being spread, Daly explained.

“The guys won’t just be going out and turning on the spreader and driving until it’s empty and then driving back,” he said. To conserve materials, Daly said, drivers are only supposed to apply salt on hills and curves and at intersections, places where ice and snow are most dangerous. “Soon we’ll be able to tell when the plow is up or down and whether the spreader is on or off,” he said. “That will help us save a lot of materials.”

The solution will enable the city to document where and when salt was applied and how much was used; such information could be extremely helpful to the city in case of a lawsuit or other challenge instituted by a citizen.

Other communities are very interested in Columbia’s mobile resource management solution. A number have contacted Columbia officials to learn its benefits and find out how they could initiate a similar plan in their towns. “Most folks are interested in finding out how this thing really works,” Thomas said. “I think everybody is looking for a way to cut costs.”

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