

Public Works Operation Reduces Field Service Waste

With a route optimization solution, this public works operation has increased its stops per day by 29% and reduced fuel consumption.

The City of Stillwater, OK, has improved its waste management operations with an automated route optimization solution that has allowed it to increase the number of stops its collection trucks make each day. The software, in conjunction with a new automated waste collection program, has allowed the city to significantly reduce costs while improving customer service.



By using the C2Logix FleetRoute solution, the Waste Management Division of the City of Stillwater, OK, has been able to increase productivity on its routes, increasing the number of homes serviced from 700 to more than 900.

Stillwater's Waste Management Division, which services some 13,000 homes, first began looking at a new route management system when it launched a six-month pilot program to test a new automated collection program. Previously, collection trucks operated with three-man crews who had to physically lift and empty garbage cans into the collection trucks; the new trucks use an automated arm to lift the cans from the

curb into the truck. With the new vehicles, the division was able to reduce its crews from three operators to just one. However, that initial pilot program (which involved 3,000 homes) brought the division's routing issues to light. In the past, each driver was assigned a geographic area and had to develop his own route. The drivers primarily drove their route by memory, which increased the possibility of missing some addresses during the day. "If you put a new driver

in the truck, he'd drive the route in a completely different way, which also caused some problems," says David Higgins, director of the Waste Management Division.

Drivers also crisscrossed each other's routes and did not always operate in the most efficient manner. This decreased the number of stops they could make per day and wasted fuel. "We wanted to start the new automated collection system as efficiently as possible," Higgins says. "We came up with specifications for what we needed and started looking at software solutions."

Optimized Routes Improve Driver Performance

The city selected FleetRoute from C2Logix to organize its waste collection routes. Higgins and his staff design the routes, and provide the division's drivers with multi-page maps of the routes, organized in binders. The drivers are able to follow the routes easily by paging through the binders as they progress through a shift.

When new homes or neighborhoods are added to the routes, Higgins can plot the new stops within existing routes in order to update the binders. Supervisors can evaluate the routes using an aerial view map, and drivers, in turn, are able to provide input into the routes by alerting supervisors to conditions they may not be aware of, like unmarked one-way streets. "The routes are only as good as the information we put into the system," Higgins says. "The drivers provide a lot of valuable feedback through the notes they put into the binders."

Case Study

By optimizing routes, Stillwater has been able to increase productivity on its waste collection routes, increasing the number of homes serviced per day from 700 to more than 900. FleetRoute also helps determine when the trucks should head to the landfill based on the average weight of waste collected at each home and plans the most efficient route

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for the driver to take for offloading. “If we tried to do this manually, it would not be very efficient,” Higgins says. “We’ve really been able to maximize our resources.”

In addition to increasing the number of stops per day, the division has saved on fuel expenses (although he has not yet been able to compare year-over-year data) through more efficient driving. “We cover as many homes as possible with as few miles as possi-

ble,” Higgins says. “We’ve also alleviated the need to have more trucks on the road.”

Higgins has also been able to equalize the routes, balancing mileage with the number of stops and taking trips to the landfill and lunch breaks into account when designing the routes. “We can balance the routes in that way, but without the planning software we just couldn’t do it efficiently,” Higgins says.

While deploying the solution, Stillwater faced the challenge of convincing the drivers that the software could develop a better route than they could. “There was some strong apprehension,” Higgins says. “We were sensitive to the fact that we don’t have the most tech-savvy personnel. We took the time to sit down with them and show them the software. We gave them the maps and let them go through the routes. Then we sat down together and made changes. We could tailor the route and correct any problems in the maps.”

Stillwater currently tracks its waste collection trucks and other vehicles using a GPS system from a company called Location Technologies. Eventually, Higgins hopes to integrate the routing and tracking systems to provide even more functionality. The city also plans to expand the routing solution to cover Stillwater’s two street sweepers. ●

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