

# Streamlined: Rugged technology improves efficiency and response time in solid waste collection

In the city of Enid, Oklahoma, Deputy Director of Public Works Robinson Camp and his boss, Public Works Director Jim McClain, found themselves imagining a way to automate some of their work processes – garbage collection, for starters. Their goal was similar to what any forward-thinking municipality or business would want: streamline their services in a cost-effective manner.

It started with the most common of prompts: customer feedback. When a citizen of Enid would report a problem – stray trash, a missing garbage can or a patch of unruly grass in a public space – the city employee on the phone would have to tell them it would take two to three weeks before the problem could be addressed. It wasn't that the city was putting tasks off; it just took too long to take care of every individual task.

Camp explains: "Every project work order had to be handwritten. Then the employee responding would have to drive 15 minutes to the service center, chat a bit, pick up the work order, drive across town and do the work. It was taking an hour to get each job done."

## The search for a solution

It was no surprise that Camp and McClain wanted to streamline. And in this era of shrinking budgets, the rising cost of their staffing was as troubling as the slow response times. But what was the best way to solve this? At a public works conference, McClain came across a solution that used handheld computers and a relevant software application, but the product was so expensive that the city could afford only four or five units, and the system had limitations that wouldn't let it do all that Enid needed. Close, but not it.

Unfulfilled but undaunted, Camp and McClain headed to a national convention. While there, they took a map of the exhibitor area and circled every vendor they thought might offer something they could use. And then they talked to every one of those vendors. That's how they met Handheld.

"Handheld showed us the solution they had in mind," says Camp. "What struck us first was that they said we could get 14 work-ready handheld computers within our budget. That got our attention." Then they explained that the Nomad rugged handheld they were recommending had cellular communication capability – something that had been tested and used extensively in European models, but that was relatively new for a rugged computer in the United States. GPS was also standard on the Nomad. All that remained was to find the right software to pair with the equipment.

"We found an application called Dispatched that we liked, but it was designed for cell phones, not handhelds" says Camp. "We told the Dispatched people about our ideas, and that we wanted to do X, Y and Z. They asked two questions: Does the handheld have GPS, and does it run Windows Mobile? I told them it did. He assured me it would work, and it has." The Dispatched folks created Enid's own personalized version of the Dispatched software, and they purchased a Nomad so they could work hands-on with it to customize, load and test their software on it.



## Challenge

Slow response time, high costs for the City of Enid's solid waste collection.

## Solution

The City of Enid selected Nomad rugged computers equipped with cellular data and GPS capabilities, plus a robust software package tailored to their needs.

## Result

The new system has reduced the customer response time from 3 weeks down to 24 hours and reduced the workforce requirements from a staff of 14 down to two people.



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## Real-time improvement

Once the Nomads were loaded with software, it was time for the on-the-ground application. Enid chose to start with their solid waste collection – i.e., garbage trucks – where ruggedness is a baseline requirement for all equipment.

The new system effectively automates anything that happens beyond loading the truck with garbage. When an operator needs to note something – a construction project that blocks pick-up, a missing cart, a customer-caused obstruction or even a problem requiring attention from another city crew – he pushes a pre-populated button on the Nomad's touchscreen. That message, tagged with the exact time, date and GPS coordinates, goes instantly to a central dispatcher. If it's a note as to why collection wasn't completed, the information goes into the customer's file for reference in case there is a complaint. If the message identifies a task, the dispatcher uses the new software to drag-and-drop the information to create a work order, then sends that work order to another field worker equipped with a Nomad. That worker goes to the location, takes care of the task, and can even bill the customer's account for fee transactions using the Nomad.

When a city worker performs work that also requires a customer receipt, the Dispatch software is set up to produce receipts complete with the worker's electronic signature. The Nomad's Bluetooth capability lets the worker carry a portable printer and be able to print the work order and the receipt.

## A happier – and smaller – workforce

Perhaps not surprisingly, there was some initial resistance to the new system. “The main guy was very vocal against using a computer,” recalls Camp. “He said, ‘No computer is going to tell me what to do.’ Our response was basically, ‘Just make it work.’ And after working with this system, he's a convert. Now he sees things on his route and takes it a step further – instead of just doing what the computer tells him to, he'll enter new task info on the Nomad himself. We're getting way more work out of the guy than before.”

And that two- to three-week response time? Thanks to the new combination of Nomad and Dispatched, that's been reduced... to 24 hours.

That cost savings includes a smaller workforce – from the current staff of 14 solid-waste collectors, the automated system will actually reduce the need to just two positions, a change that will save hundreds of thousands of dollars.

And in this case there's not even much downside of eliminating positions. “Not many people want to be solid waste collectors,” says Camp. “We have trouble getting workers, and have had to use staffing services to find people, which cost us even more. With this new system we'll eliminate hard-to-fill positions, and actually re-assign four of our collectors to maintenance positions that we don't have now.”



For more information about the Nomad, visit [www.ultrarugged.com](http://www.ultrarugged.com) or [www.handheldgroup.com](http://www.handheldgroup.com)

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