

## 21<sup>st</sup> Century Technology Rescues 19<sup>th</sup> Century Infrastructure

By generating more than \$1.7 million in guaranteed annual savings through a variety of energy improvements and revenue enhancements, Honeywell helped the City of Duncan, OK deploy a Tropos wireless broadband network that will be leveraged for a range of municipal applications and upgrade their facilities and utility systems.

### Customer Overview

Known as the official “Crapemyrtle Capital” of Oklahoma, Duncan is a city over 100 years old, with a population of 22,500 residents located in Southern Oklahoma.

### Critical Drivers

Duncan was faced with an infrastructure crisis that extended throughout the community. The water treatment plant was served by one raw water line, which was old and faced expensive rehabilitation whilst being a critical resource. They were losing substantial revenues through inaccurate water meters, and their costs to collect and process readings from water and electric meters, coupled with an aging (and about to retire) workforce, was reaching a breaking point. Their police and fire personnel were using expensive cellular radios that were limiting their ability to communicate with the dispatch office and did not offer bandwidth-intensive remote video capabilities. The buildings and other energy-intensive infrastructure was in substantial need of repair and modernization. Faced with these items, in an economic and political climate that did not support tax increases, the city seemed to be out of options.

### Honeywell Solution

To address the issue, city officials teamed with Honeywell, which identified and installed a number of infrastructure improvements under a 15-year energy savings performance contract (ESPC). The ESPC allowed Duncan to finance the improvements and use the subsequent savings and revenue increases – which were guaranteed by Honeywell – to pay back the loan. This ensured the project would not increase city operating budgets or require additional taxpayer dollars. In addition, the City is utilizing more than \$2 million in grant funds from the state of Oklahoma and the American Recovery and Reinvestment Act (ARRA), helping offset some of the project cost.

### Project Specifics

Infrastructure improvements included:

- Installation of ‘smart’ electric and water utility meters, equipped with wireless communications modules, enabling advanced metering including interval data collection, instantaneous meter readings and water leak detection.
- Deployment of a 27 square mile network of Tropos Networks’ wireless broadband mesh communications network to backhaul data from the smart meters and to enable applications for public safety (police and fire vehicles), mobile workforce communications (utility workers, building inspectors and many others), video surveillance and public Internet hot zones.
- Retrofit of traffic signals and street lights with high-efficiency, long-life and energy-saving LED and induction technology, respectively.

- Upgrades to heating, ventilation and cooling (HVAC) equipment and building controls at the court building, main fire building, main library, police station and City Hall.
- Addition of second raw water line serving the municipal water treatment plant, providing critical back-up supply.
- Utilization of variable-speed drives for pumps, and fine-bubble aeration equipment at the wastewater treatment plant.

### **Guaranteed Impact**

The city will see significant energy and operational savings and enhanced water utility revenues as a result of the project:

- Annual operational savings and revenue increases of approximately \$1.7 million per year.
- Energy consumption reductions of 2.2 million kilowatt hours per year, enough electricity to power more than 200 homes per year.
- Annual carbon emissions reductions of an estimated 1,600 metric tons, equivalent to removing 300 cars from the road.

For more information, visit  
[www.honeywell.com/buildingsolutions](http://www.honeywell.com/buildingsolutions)

### **Honeywell Building Solutions**

Honeywell

1985 Douglas Drive North  
Golden Valley, MN 55422-3992

1-800-345-6770, ext. 605

[www.honeywell.com](http://www.honeywell.com)

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