



## City of Tyler/Johnson Controls, Inc.

### Cooperative Savings Through Public-Private Partnership

**Overview** - By providing more efficient water metering and reducing energy consumption in city facilities and traffic signals through a partnership with Johnson Controls, Inc., the City of Tyler, Texas is calculating some \$29 million in benefits to taxpayers over a 10-year period. The project involved unique cooperation between city departments, with the recovered revenue from one area (water) benefiting others (traffic, city facilities and public safety). The entire Tyler community profits through lower public expenditures, reduced water loss, and environmental improvements at a time when water, energy and funding are in short supply. The partnership's creative use of technologies, financing and public information are best practices that Johnson Controls is implementing with municipalities around the country.

**Problem** - Challenged by budget constraints and a desire to avoid tax increases, the city of Tyler needed a way to fund facility and public safety improvements and meet a five-year state energy reduction mandate. In addition, planners wanted to recover \$2.2 million in annual lost revenues from inaccurate water meter readings.

**Program Description** - In 2003-04, Tyler Water Utilities hired Johnson Controls (and subcontractor A.E. Shull & Co.) to install 31,000 meters with transmitters that send water usage information to mobile readers. Water bypasses were added in some areas, allowing city workers to repair meters without shutting off water to customers. Johnson Controls guaranteed the benefits, which helped the city include other upgrades, such as installation of energy efficient motors and speed controllers at the wastewater treatment plant. In addition, new LED traffic light replacements will provide some \$83,000 in annual utility savings.

### **Results**

- **Improved delivery of services** - The automatic meter readers make the data much more reliable. The job also is safer for utility workers – they never have to leave their trucks or work with reluctant homeowners. The upgrade was accomplished without staff reductions (some staff retired, others took equivalent jobs in other city departments). Installation was completed two months earlier than anticipated.
- **Innovation** – The public-private partnership meant accountability and project excellence. Cooperation also was emphasized by encouraging departments to work together to identify savings and prioritize upgrades.



- **Replicability** – Both partners are using the project to their benefit. Tyler has the tangible savings, and Johnson Controls has replicated it in communities across the country.
- **Sustainability** - Johnson Controls provides a sustainable source of savings by guaranteeing the accuracy of the meters (or refunding the difference to the city). Additionally, the project addresses social and environmental sustainability issues through reduced energy consumption and generation.
- **Cost Savings** – The city receives nearly \$29 million in benefits over a 10-year period. The performance contract with Johnson Controls guarantees the city \$25 million from more accurate monitoring of billable water usage and energy savings, thus allowing the city to pay for upgrades with the recovered revenues and savings.
- **Impact on city economy** – The city now is avoiding lost revenues by delivering a more accurate measurement of water usage and a more consistent reading process. In addition, the meter-reading process is not reliant upon weather and avoids time-consuming individual meter reading, which provides operational savings by reducing the number of people needed to read the meters. Transferring to the new technology positioned the city for future upgrades in the meter-reading process. And by changing the traffic signals and HVAC, the city reduces electrical consumption and the cost of city operations. Additional long-term savings will be realized since the new aluminum traffic signal fixtures last longer than the existing plastic ones.
- **Economic/business benefits** – The city has maximized collection of revenue, which minimizes the need for future rate increases and assists the city in keeping a low tax rate, a rate that has been reduced from \$0.515260 in 1996 to \$0.248855 for FY04-05.
- **Measurable results** - In just one year, the upgrades exceeded the state's five-year mandate of 25 percent energy reductions.

Costs	
Meter Program	\$15.0 M
Motor Control Change-out	.5 M
Lighting and Electrical Upgrades	2.9 M
<b>Total Costs</b>	<b>\$18.5 M</b>

Benefits	
Recovered Water Revenue	\$22.2 M
Facility Utility Cost Reduction	2.0 M
Traffic Lighting Electric Cost Reductions	1.0 M
Personnel Cost Reductions	1.3 M
O & M Cost Reductions	1.3 M
Capital Cost Avoidance	1.0 M
<b>Total Savings</b>	<b>\$28.8 M</b>