

Case study
City of Tyler
Tyler, Texas



City uses utility savings and recovered revenues to renovate infrastructure

The City of Tyler, Texas adopted a plan called the “Blueprint for Better Government,” which encourages municipal governments to operate more like a business. The plan requires all city departments to be more responsive to citizens’ needs and deliver quality services in a cost conscious manner. Johnson Controls, Inc. supported this plan by providing technology and equipment upgrades, which are projected to provide \$29 million in benefits to the city over a 10-year period.

Tyler provides service to its 100,000 citizens through 29 support facilities, which encompass more than 392,000 square feet. With water being its largest revenue stream, behind sales tax, Tyler needed to recover lost revenues resulting from inaccurate water meter readings identified by Johnson Controls. Tyler also needed to address long-overdue facility upgrades and comply with state mandates requiring the city to reduce energy consumption. Challenged by budget constraints and a desire to avoid tax increases, the city needed a way to fund these improvements.

Pleased with Johnson Controls delivery under an earlier contract, Tyler entered into a new performance contract with Johnson Controls. The contract guarantees nearly \$25 million from increased billable water usage and energy savings. The performance contract allows the city to pay for the meter replacement with the recovered revenues and savings. Further, state-mandated utility reductions will be achieved five years ahead of schedule. The new contract is broken down into three focus areas – water, city facilities, and traffic signals.



The City of Tyler water utility recovered lost revenues estimated at \$2.2 million annually.

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DIRECTOR OF UTILITIES &
PUBLIC WORKS
CITY OF TYLER

City recovers lost water revenues and incurs savings

Johnson Controls tested the city's existing water meters and found inaccurate meter readings, which resulted in lost revenues estimated at \$2.2 million each year.

To recover these revenues, Johnson Controls installed 31,000 new, more precise meters. "Johnson Controls is helping us avoid lost revenues by delivering a more accurate measurement of water usage, and a more consistent reading process with the new meters," states Greg Morgan, Director of Utilities & Public Works for the city. "In addition, the reading process is not reliant upon weather, and is safer for our staff."

The new meters avoid a time consuming meter reading process, which provides operational savings. They emit radio signals, which are captured by a receiving device carried by city workers, allowing them to take readings while driving. In the future, the same signals may be transmitted to radio towers that will transmit the readings directly to a receiver at the city's business office. "Transferring to the new technology today has positioned us for future technology upgrades without great cost," adds Morgan.

The meters were replaced in eight months, a process that normally may have taken up to five years. The need for meter replacement will be eliminated for 10 years as a result. Water bypasses were added in some areas, allowing city workers to repair meters without shutting off water to customers.

Water and sewer infrastructure improvements incorporated into the contract, including installation of energy efficient motors and speed controllers at the wastewater treatment plant, will produce an additional \$915,000 of utility savings over the life of the contract.

"Johnson Controls exceeded our expectations," notes Morgan. "They've been responsive to our needs, and on top of everything else, negotiated with local contractors for installation of the meters which keeps taxpayer money in the Tyler community."

Traffic signals and facility upgrades deliver savings

In addition to improving water utility performance, the City of Tyler needed to upgrade its facilities to address deferred maintenance and reduce operational costs. Johnson Controls implemented lighting retrofits in all 29 of the city's facilities. A Metasys® building management system was installed in major office buildings, and air conditioning units were replaced with more energy efficient equipment in select buildings. "We've managed to keep our utility costs down across the city as a result," indicates Morgan. Existing equipment is supported by Johnson Controls under an operations and maintenance agreement, which includes replacement schedules for HVAC units and other older equipment.

Traffic signal upgrades throughout the city will deliver significant energy savings. Incandescent fixtures were replaced with new LED signal lights, which reduce energy consumption from lighting fixtures by 90 percent. "One light doesn't add up to much, but when you replace 3,700 signal lights, it adds up fast," says Morgan. The traffic light replacement accounts for more than \$83,000 in annual utility savings that are guaranteed under the performance contract. Additional long-term savings will be realized since the new aluminum fixtures last longer than the existing plastic ones.

The upgrades will help the city meet state mandates to reduce energy consumption by five percent annually over a five-year period. "We will actually exceed the five-year mandate of 25 percent in just one year," notes Morgan. As a result, the City of Tyler received a one-time \$123,000 utility rebate from the local electric provider.

Future capital cost avoidance

Johnson Controls analyzed the condition of existing HVAC units and other mechanical equipment and determined that, in some cases, maintenance costs would surpass future replacement costs. Savings from the performance contract were used to upgrade the equipment now, avoiding excessive maintenance costs and future capital costs.

"One of the key things that Johnson Controls has done is to help us review and benchmark our operations. This helps us determine if we're providing the best possible services at the best possible cost," says Morgan. "They've helped move us into 21st century technology."

Results

Revenues and savings after the first three years exceeded the guaranteed amount by \$2.43 million. The City of Tyler received two prestigious awards for this project: American City & County Magazine's 2004 Crown Award and the U.S. Conference of Mayors' 2005 Public/Private Partnership Award.



The Harvey Convention Center is one of 29 Tyler facilities receiving lighting and HVAC upgrades.

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