

Robertson County

CASE STUDY



Challenge

Robertson County's fourteen government buildings included HVAC equipment from a variety of suppliers, some of which had aged past reasonable life expectancy. The county sought to review its energy usage, initiate infrastructure upgrades to replace aging HVAC systems, and expand its controls system to improve operations and reduce energy costs. In addition, the county wished to improve the historic courthouse's failed building envelope, which was permitting moisture to enter the building and causing comfort issues.

Solution

Trane met with Robertson County administrators, as well as the county's historical society, to discuss the county's issues and the special considerations and requirements for historical buildings. Trane suggested a guaranteed performance contracting solution from the Trane® Building Advantage™ portfolio of services, a self-funding energy program with guaranteed savings to help the customer directly address their needs. The guaranteed performance contracting solution would enable the county to move forward with the critical improvements without additional taxpayer burden.

Trane completed audits of the county buildings and equipment to uncover inefficiencies, and proposed the implementation of a variety of energy conservation measures (ECMs) to reduce energy costs and improve operations.

Improving comfort and energy efficiency

Weatherization improvement measures were taken countywide. This included replacement of windows and doors at the historic courthouse to tighten the building envelope, enhance comfort and increase energy efficiency. In keeping with the aesthetics of the circa 1879 building, the windows were replicated, complete with the original curved, laser seal. Other energy conservation measures included the upgrading of fluorescent lighting with brighter, higher efficiency fixtures to reduce electricity consumption. Sixty-year-old plumbing fixtures were also replaced with low-flow devices, significantly reducing water usage.

In addition, the Trane team evaluated HVAC rooftop units, cooling towers and related equipment at the various county buildings. Units in good operating condition were left in place, while aging systems were replaced to maximize efficiency.

Robertson County Springfield, Tennessee

PROJECT HIGHLIGHTS

Guaranteed performance contracting upgrades reduce electricity consumption by more than 1.5 million kWh and natural gas use by more than 46,000 therms; result in first-year energy savings of \$200,000+, and significant operational and maintenance cost savings.

A hybrid of rural and suburban lifestyles, Robertson County boasts a population of more than 66,000 residents. The county is also rich in history with a courthouse that dates back to 1879.

"We wanted to review our energy consumption. This was the first time we took a comprehensive look at our facilities, and it was a good use of our resources."

- Mayor Howard Bradley, Robertson County

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Maximizing performance

County building thermostats were replaced and a Trane® Tracer® SC building automation system (BAS) was installed to control building operations and reduce energy costs. With Tracer SC, facility managers have access to systems remotely via their mobile device, such as a tablet or smartphone, to establish scheduling, change set points, and manage energy use. To optimize building performance, Trane provides ongoing staff training to enable full utilization of the building automation and management systems.

“With the building automation system, we can control our lighting and cooling, and turn things off when the buildings aren’t in use,” said Bradley. “The ongoing training that Trane is providing is very important to us. It helps ensure that we will have no gaps in knowledge or coverage.”

Results

Using a Trane guaranteed performance contract, Robertson County implemented energy saving improvements throughout its fourteen governmental buildings without increased taxpayer burden. The equipment and controls upgrades have had an immediate impact on improving comfort for courthouse employees and county residents. In addition, the new technologies are helping the county gain control of its buildings, curb operational expenses and reduce energy costs. Electricity consumption has been reduced by more than 1.5 million kWh and natural gas use by more than 46,000 therms, for a first-year actual energy savings of more than \$200,000. Operational and maintenance cost savings of more than \$8,000 were also realized in the first year.

“Our building and grounds team is very pleased with the decision to work with Trane on the efficiency upgrades,” said Mayor Bradley. “Trane was very responsive and their accessibility was amazing. A good relationship means a lot and this is a good relationship.”



About Robertson County

With the Trane Tracer SC building automation system, facility managers control and manage systems via a personal computer, or remotely using their tablet or smartphone.



Trane – by Trane Technologies (NYSE: TT), a global climate innovator – creates comfortable, energy efficient indoor environments through a broad portfolio of heating, ventilating and air conditioning systems and controls, services, parts and supply. For more information, please visit trane.com or tranetechnologies.com.

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