



# Tonganoxie Unified School District 464

*Upgrades save school district more than \$200,000/year • Tonganoxie, Kansas*

Upgrades at Tonganoxie USD 464 began in February, 2009, and were completed in August of the same year. Overall savings in operations, maintenance and utilities expenses are projected to be \$217,000 annually. The \$2.1 million project is being funded through savings realized via a Trane performance contract with a projected payback of fifteen years or less. Savings are projected to rise to more than \$6.2 million over the predicted lifespan of the systems.

In 2009, Tonganoxie USD 464 was awarded the Kansas Governor's Energy Achievement Recognition Award. In March, 2010, the district received the Trane Energy Efficiency Leader in Education Award for its sustainable energy and operational efficiency improvements.



Tonganoxie USD 464, northwest of Kansas City, Kansas, serves 1,900 students and employs nearly 250 administrators, teachers and staff members. Facilities include an elementary school, middle school and two high schools. Its mission is to prepare each student to be a fully productive and caring participant in a changing world with the educational tools to reach their full potential.



High efficiency Trane chillers are helping Tonganoxie USD 464 save more than \$200,000 per year.

### Systems installed

- Two 100-ton Trane Series R™ chillers
- One 60-ton Trane model CGAF chiller
- 18 model YHC Precedent™ packaged rooftop air conditioning units
- Trane Tracer Summit™ building automation system
- The Trane performance contract was made possible via Kansas statutory fiscal tool KSA 75-37, 125 and the Facility Conservation Improvement Program

### Challenge

Upgrades were needed throughout the district's buildings to improve thermal, visual and acoustic comfort, indoor air quality and aging infrastructure while reducing energy, operational and maintenance expenses. Improvements to the elementary school, the middle school and the district's high schools, as well as to an automated bus route optimization program, were launched in February, 2009, and completed in August, 2009.

### Solution

The district entered into a performance contract with Trane for a self-funding package of products and services customized to deliver significant energy and operating cost reductions. Improvements include:

- High-efficiency HVAC systems to improve indoor air quality, comfort, and ventilation
- District-wide building automation system for central HVAC system control to optimize efficiency
- High efficiency lighting systems
- Low-flow water fixtures to conserve water, reduce sewage
- Additional cameras, recorders and monitors to enhance student and staff safety
- Bus route automation software to increase efficiency and student safety
- Developed a long-range strategic plan using the services of an educational consultant

### Results

Overall savings in operations, maintenance and utilities expenses are projected to be \$217,000 annually. The \$2.1 million project is being funded through savings realized via the Trane performance contract, with a projected payback of fifteen years or less. Savings are projected to rise to more than \$6.2 million over the system's predicted lifespan.

Tonganoxie Superintendent Kyle Hayden said, "These are important to creating the ideal learning environment and saving operating costs. We also wanted an educational way to help students understand the improvements we are making and follow the project through its life cycle."

Tonganoxie USD 464 not only partnered with Trane to improve infrastructure, it took advantage of the Trane BTU Crew curriculum to educate students on sustainability. This special curriculum features in-depth lessons, including a school building energy audit and assessment of the building's environmental impact.



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