

Bethel Middle School

Education • Bryant, Arkansas

About Bethel Middle School

In addition to state-of-the-art systems from Trane, Bethel Middle School includes such green features as north-south exposure, combination concrete and steel construction, insulation, large roof overhangs, high-performance window glazing, high efficiency lighting, daylight harvesting and low-impact landscaping.



Project Summary

- \$11.3 million in projected energy and operating savings over life of building
- USGBC LEED Certified
- Improved staff and student comfort



Bethel Middle School uses a variety of high efficiency Trane systems like these 16-SEER XL16i condensing units to achieve reduced energy costs and consumption.

Systems Installed

- Trane Tracer Summit™ building automation system for integrated climate, lighting, energy use, scheduling, and other control features.
- Nearly 100 VariTrane™ VAV terminals include the patented Trane flow ring and Trane DDC controller.
- Trane XL16i two-stage condensing units (16 SEER) and variable speed air handlers.

Challenge

The Bryant School District had already obtained bond funds to construct a new, conventional middle school. However, after school district leadership began studying sustainable building features, with help from the local chapter of the U.S. Green Building Council (USGBC), the school district decided to change from a conventionally designed school to a high performance, LEED-certified green building.

Solution

Trane recommended that the Bryant School District take advantage of the performance contracting program from Trane that would allow the school district to add green, sustainable building features to the new Bethel Middle School project. The performance contract supplemented the already tight conventional construction budget with an additional \$987,000 to cover the cost of all HVAC equipment plus a Trane Tracer Summit™ building automation system, lighting controls, daylight harvesting control, energy modeling, green power credits and all fees associated with LEED certification.

Results

Bethel Middle School was built using the latest in HVAC, building automation, window and lighting systems technology. As a result, Bethel Middle School is projected to save the school district \$11.3 million in energy and operating costs over the life of the building—savings that can be put to use in education. The high efficiency HVAC systems and use of adequate ventilation air, combined with the Tracer Summit automation system provides better indoor air quality and more consistent, comfortable room temperatures for teachers and students—for a positive impact on student learning.

Dr. Richard Abernathy, Bryant School District Superintendent and a leading proponent of including green, high efficiency features at Bethel Middle School, said, “Trane was instrumental in moving us closer to our goal of achieving LEED certification through the most energy efficient equipment, an integrated control system and a performance contract that helped finance the new construction in accordance with enabling state legislation.”

Another recent construction project by the Bryant School District, Hurricane Elementary School, also uses Trane HVAC systems.



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