

# Lessons in Innovative Funding for District Improvements

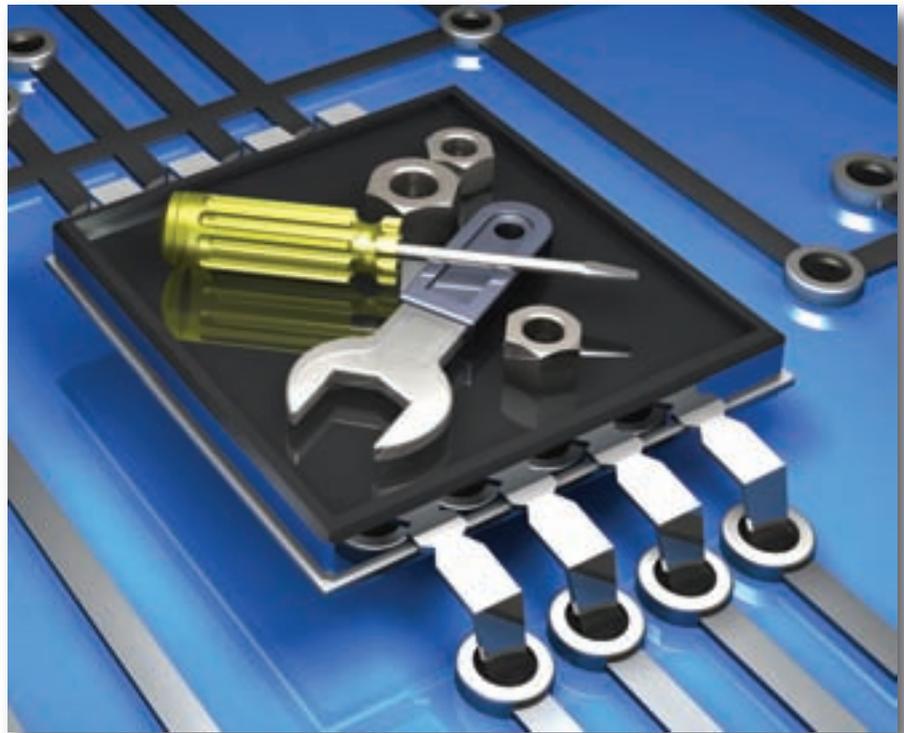
By Gwenn McDaniel

**N**ear the shores of Lake Superior, Michigan's Houghton-Portage Township School District is known for academic leadership and strives to provide an exceptional and secure learning environment for its students. However, like many districts around the country, Houghton-Portage is not immune to the economic restrictions. In a recent effort to address the need for facility improvements, technology upgrades, and overall energy efficiency, the district had to be imaginative when it came to funding.

By using some creative thinking and leveraging community support, the district funded school improvements through a performance contract coupled with a voted bond referendum, the first of its kind in the state of Michigan. This approach allowed more than \$12 million of improvements to the district's schools, while delivering \$3 million in energy savings to the district's general fund.

**Step 1: Think Outside the Funding Box.** The school district of Houghton-Portage had a growing need for facility improvements at the high school, middle school, and grade school. Those needs included new technologies, security systems, and facility improvements, including larger physical education and music areas.

Officials first considered a performance contract as a method to fund energy-efficiency improvements at the three schools. Performance contracting allows users to make improvements by using the expected



**Performance contracting allows users to make improvements by using the expected utility and operational savings to offset the cost of the upgrades.**

utility and operational savings to offset the cost of the upgrades. Essentially, through a performance contract, the project pays for itself. An energy audit indicated that there would be significant cost savings within a performance contract, but not enough to offset the cost of all the desired improvements.

The district partnered with a facility services and energy company to develop an alternative plan for funding: a performance contract within a

bond referendum. If bond support were to fail, the proposal included a parallel plan to leverage energy savings under a performance contract.

**Step 2: Involve the Community.**

To garner community support, the facility services and energy company partnered with Superintendent Bill Polkinghorne and the Houghton-Portage school board to develop and implement a support campaign. The Teaching for Tomorrow campaign

was designed to communicate the project's effect on technology, academic and instructional needs, and energy efficiency.

Town hall meetings, news releases and letters, an online communications platform, and a radio program were some of the campaign initiatives. With the help of an architect, engineering firm, and construction manager, the facility services and energy company gathered supporting materials and submitted the bond application.

"As a board, we had looked at the bigger picture and wanted to do more than just energy upgrades, but were concerned about not having the necessary operating funds," says board member Brad Baltensperger. "This approach provided a comprehensive package instead of requiring us to pick and choose the upgrades we could do. This ultimately made it easier for the board to buy into the project and to sell it to the community."

The effort paid off. The bond referendum was voted through successfully. Retrofits and upgrades for existing facilities began immediately. Under the performance-contract model, the facility services and energy company could put firm pricing into the bond referendum, alleviating the need to finalize costs after the community passed the bond. "This process not only saved us money because we were able to make decisions early in the process and were working with fixed costs, but it also saved a lot of time," recounts Phillip Foltz, board member.

## Improved Technologies

The bond at Houghton-Portage Township Schools included upgrades to classroom and lab computers, monitors, printers, and projectors. In addition, a wireless network was installed to provide complete wireless coverage throughout the district. The network allows students, teachers, and guests to use laptops in nontraditional areas and provides Internet access to visitors without affecting the district's network.

**An Efficient, Integrated System.** To replace an old analog phone system, a VoIP (Voice over Internet Protocol) system was deployed by leveraging the existing cabling infrastructure. This approach not only reduced construction costs but allowed for an additional savings of \$10,000 annually in communications costs. The system operates even if the network between the buildings fails.

"With the presence of Michigan Technological University in Houghton, expectations are high for our district to maintain a parallel course. The project allowed us to address antiquated technologies and failing computers in order to meet those expectations," says Polkinghorne. Baltensperger adds, "The end result is improved instructional delivery in the classroom, which is in keeping with our reputation for academic leadership."

In addition to the phones, Internet Protocol-based speakers, clocks, and bell system use the same cabling and

replace two disparate paging and clock systems. Now, one system provides overhead paging, synchronized clocks, and bells on the same network. The system greatly improves the district's capability for emergency response inside the classroom and offers greater flexibility with text messaging and classroom-by-classroom communication.

**Increased Safety and Security.** The district looked for additional ways to increase the safety and security of students, faculty, and staff. As a result, the facility services and energy company installed a state-of-the-art security management system at all three schools. Identification cards are now required for access at select doors. In addition, sensors on remaining doors enable the system to monitor them and notify personnel if a door is used or left open.

## One of the most significant improvements to the security system was the installation of an integrated Internet Protocol camera surveillance system.

One of the most significant improvements to the security system was the installation of an integrated Internet Protocol camera surveillance system. Twenty-six new cameras throughout the district share the same Ethernet cabling and can be viewed from multiple locations and the Internet. "Each principal has access to those camera views on a monitor in their office, which has been a huge help in maintaining security and has received accolades from our student council," Polkinghorne notes.

## Fiscal Savings Through Energy Savings

An energy audit revealed numerous ways in which the school district at Houghton-Portage could improve energy efficiency. Improvements included lighting retrofits and water conservation measures, including new toilets, urinals, and low-flow fixtures at all three schools.

In addition, selected boilers and thermostats were replaced; variable frequency drives, occupancy/carbon dioxide sensors, and other heating, ventilating, and air-conditioning (HVAC) equipment were installed, as were vending machines and a new chemical pool cover at the high school. All lighting and HVAC equipment and controls are now monitored by a new building automation and control management system. Aging windows at the middle and high schools were replaced, and roof repairs or partial replacements were done at all three schools.

The energy-efficiency upgrades are expected to bring the district savings of 30%, nearly \$110,000 annually over the 20-year contract. Because the community funds the upgrades, these savings can be used to operate district facilities rather than repay debt.

“The benefit of these upgrades goes beyond the savings to one of the key drivers behind this project. And that is the improvements they bring to the academic environment like proper lighting, comfort, and technologies that allow the learning to take place,” Foltz says.

Under a five-year planned service agreement, the facility services and energy company maintains the building automation and control management system and HVAC equipment and provides measurement and verification services to ensure that savings are realized. Training of district personnel is also provided to help them optimize energy efficiency.

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“We expect this training, along with the new equipment, will help us reduce maintenance costs over the long term,” notes Randy Ricchi, business manager for the district.

## Bringing the Community Together

Working closely with the architect, engineers, and construction manager, the facility services and energy company served as the technology contractor for the design of all low-voltage systems for the district’s new gymnasium and music room, slated for completion in the fall of 2010. The new gym and music room augment facilities currently shared by the middle and high schools and will also provide recreational space for the community.

Starting with the end in mind, the designs included the same technologies and equipment used in retrofitting the existing facilities, to reduce initial costs and ensure compatibility. All systems will be integrated with the existing building automation and control management system.

“Our goal with both the upgrades to the existing facilities and this new construction is to do everything that we can to provide the academic environment for students and teachers that the community expects,” Polkinghorne says.

Despite economic challenges, the district found the right service provider and developed an innovative funding model to meet the community’s expectations.

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