

Case study

# New Trier Township High School District

Northfield, Illinois



## Energy savings and avoided long-term costs fund improvements to construction project

New Trier Township High School District 203 is a comprehensive, four-year high school located along the western Lake Michigan shoreline just north of Chicago. New Trier's freshman campus in Northfield, along with its Winnetka campus, serves more than 4,200 students and 400 faculty from seven suburban communities.

### Challenges

- Accommodate increasing student enrollment, which will exceed capacity of current facilities in the next 10 years.
- Avoid deferring capital projects due to lack of funding.
- Improve educational facilities of the freshman campus to ensure learning environment equity for the community.

### Solutions

- Negotiate a 10-year, \$5.7 million Performance Contract to expand original construction project of recommissioning the freshman campus.
- Replace inefficient HVAC systems, perform lighting retrofits, and install a Metasys® Building Automation System.
- Work with project design team to select code compliant systems and program Metasys for maximum building comfort and performance.



Don Goers, associate superintendent for business.

“The Performance Contract allowed us to make significant improvements now, while the facilities are being renovated, and obtain over \$4.1 million in energy savings and avoided capital costs. We could not have completed this construction project in a timely and cost-effective manner without it.”

**DON GOERS, ASSOCIATE  
SUPERINTENDENT FOR BUSINESS**

## Results

- Leveraged a \$17.7 million construction project into a \$24 million project, which allowed for additional infrastructure improvements without increasing total operational costs.
- Projected more than \$4.1 million in energy savings and avoided long-term capital costs over the term of the contract.
- Improved staff utilization by avoiding long-term repairs and standardizing Metasys platform at both campuses.
- Met community’s expectation in providing a quality learning environment at the freshman campus.

## Expected enrollment increase spurs campus recommissioning

New Trier Township High School District’s motto reads, “To commit minds to inquiry, hearts to compassion, and lives to the service of mankind.” Founded in 1901, the school district was the first school opened in a community named for the immigrants from Trier, Germany, who settled there.

The district owns two high school facilities, including a campus in Winnetka and one in Northfield, Illinois. After the 1985–86 school year, all academic programs were consolidated to the Winnetka campus to help reduce costs. Nearly 75 percent of the Northfield facilities were then leased to a variety of businesses.

Since that time, student enrollment at New Trier has been increasing gradually. “Demographic studies indicate that, during the next 10 to 15 years, student enrollment will outgrow the capacity of the Winnetka campus,” states Don Goers, associate superintendent for business. In response to this expected growth, New Trier initiated a \$17.7 million restoration project which would recommission the Northfield location as a freshman campus. As the project developed, the district realized that there would not be enough money available for infrastructure needs, such as mechanical improvements.

Challenged with the need for funds and long-term savings, New Trier turned to Johnson Controls, Inc. for a solution. “We had an established relationship with Johnson Controls from a Performance Contract in 1993 in which they performed with distinction,” states John Neiwem, director of physical plant services. “Since that time, we have standardized on Johnson Controls systems.”

## Time and money saved during construction

After researching the customer’s needs, Johnson Controls presented a 10-year, \$5.7 million recommendation, using energy savings and avoided long-term lifecycle costs through a Performance Contract to fund additional improvements within the construction project. Johnson Controls demonstrated how long-term expenses associated with deferring the required

infrastructure improvements would exceed the financed costs of including these improvements with a Performance Contract. In effect, the \$17.7 million voter-approved project was leveraged into \$24 million worth of work without significantly increasing the initial capital outlay and the total operational cost over the term of the contract. "This approach allowed us to take advantage of a unique opportunity to make significant improvements now, while the facilities are being renovated, and obtain over \$4.1 million in energy savings and avoided capital costs down the road," says Goers.

"The Performance Contract had the tangential benefit of a design/build approach, allowing construction to begin many months earlier, which was important in meeting a very aggressive construction schedule," comments Neiweem. "Because of our past experience with Johnson Controls and its subcontractor alliances, we were confident this approach would work," adds Goers. "We would not have completed this construction project in a timely and cost-effective manner without Johnson Controls."

## Providing for growth and improving the educational environment

The project included HVAC system upgrades, lighting retrofits, and a Metasys building automation system. "We are not only saving significant amounts of energy dollars, we are also getting code-compliant equipment that meets air quality requirements and provides the educational environment expected by the community," states Neiweem. Additionally, both campuses have been standardized onto the same Metasys platform, improving staff productivity and offering ease of operation.

Many of the Northfield facilities had been modified to meet the needs of tenant businesses, which are unlike the needs of an academic institution. "We now have flexible systems that will accommodate the necessary remodeling and allow for future changes and continued growth," says Goers.



Classroom renovations, including lighting retrofits, HVAC upgrades, and a Metasys system enhance the learning environment for students and faculty and provide flexibility for future growth.

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**JOHN NEIWEEM, DIRECTOR OF  
PHYSICAL PLANT SERVICES**

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