



## SCHOOL BUILDING AUTHORITY ENERGY EFFICIENCY IN OUR SCHOOLS

### Overview

Since their adoption in 2007, the School Construction Regulations (SCR) have established standards that ensure statewide uniformity and equity in the quality of school construction. The School Construction Program has worked diligently over the course of the last five years to ensure that the equity and uniformity described in the regulations extend to each project's finances. The School Construction staff works with districts to ensure responsible, efficient, and forward-looking use of state and local resources.

Furthermore, as of 2007, RIDE ensures that all projects comply with the requirements set forth in the most recent Northeast Collaborative for High Performance Schools Protocol (NECHPS) so that approved projects provide high quality learning environments, conserve natural resources, consume less energy, are easier to maintain, and provide an enhanced school facility.

With the leadership and oversight of the School Construction Program, Rhode Island public schools that have undertaken construction projects **use at least 30% less energy and 20% less water** than buildings designed to code, and have **diverted at least 50% of construction waste** from the landfill. And many projects are striving to go far beyond these standards to create sustainable, efficient, and high performance 21<sup>st</sup> century learning environments.

### NECHPS VERIFIED:

- Providence Career Technical Academy
- Nathan Bishop Middle School
- East Greenwich - Cole Middle School
- Little Compton – Wilbur McMahon Renovation
- Newport – Pell Elementary School
- Paul Crowley East Bay MET School



Nathan Bishop Middle School, Providence, RI is the first NECHPS historic renovation.

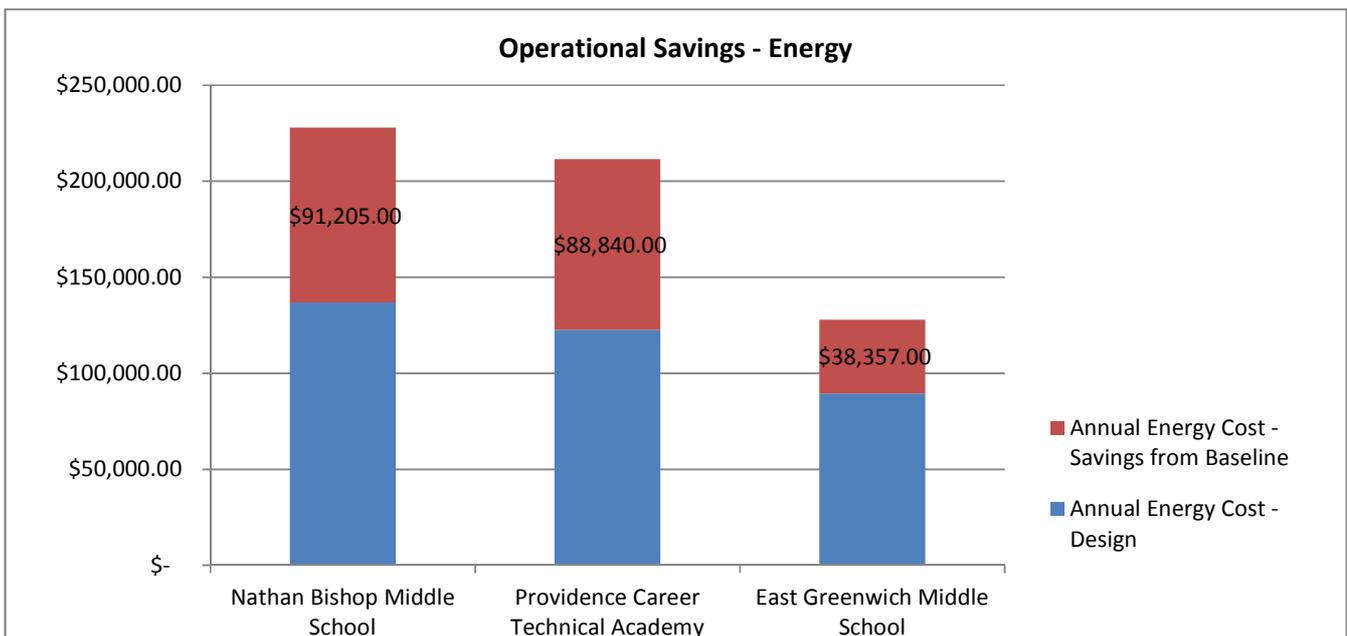
**NECHPS DESIGNED:**

Rhode Island is one of the only states that requires all school construction projects – from small renovations to new construction – to comply with the NECHPS Protocol. This innovative requirement means that all work done in schools complies with the highest standards for healthy and sustainable design and construction practices. In general, renovations are only required to comply with the prerequisites and credits applicable to the scope of work and therefore may not receive full NECHPS Verification.

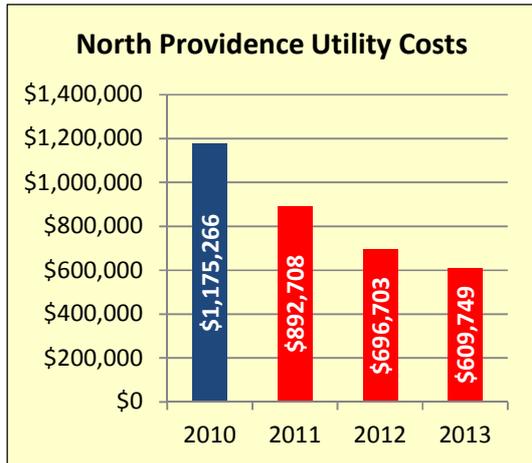
- Barrington District-wide Repairs
- Bristol Warren District-wide Repairs
- Central Falls District-wide Renovations
- Chariho District-wide Renovations
- Compass School Renovations
- Coventry District-wide Repairs
- Exeter-West Greenwich District-wide Renovations
- East Greenwich - High School Renovations
- East Providence District-wide Repairs
- East Providence Energy Upgrades
- Lincoln District-wide Repairs
- Middletown District-wide Repairs
- MET Entrepreneurial Center
- North Kingstown – District-wide Renovations
- North Smithfield Energy Upgrades
- Paul Cuffee Charter School – Renovations
- Pawtucket District-wide Repairs
- Portsmouth District-wide Repairs
- Providence District-wide Repairs
- UCAP Renovation and Addition
- Scituate District-wide Renovations

**Energy Savings**

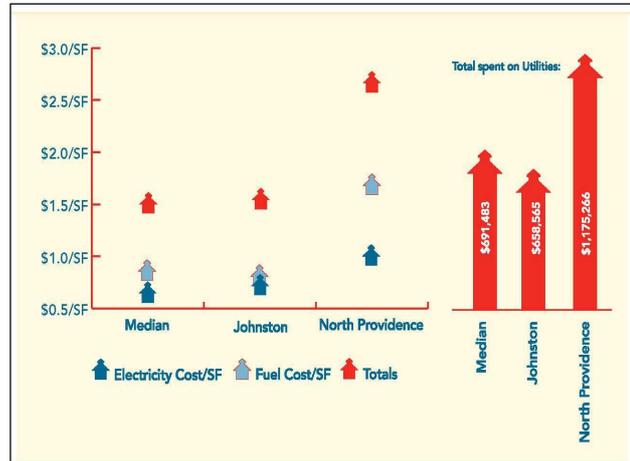
In complying with the School Construction Regulations and the NECHP Protocol, LEAs and their design/construction teams undertake life cycle cost analyses that compare the cost of construction and installation against the operational cost to find efficiencies. As a result, most school projects, - including HVAC, lighting, and exterior envelope repairs – result in more efficient systems that provide districts with operational savings.



In 2013, the School Building Authority released the Public Schoolhouse Assessment, the first statewide assessment of public school facilities in Rhode Island ([link to Assessment](#)). The report identified an opportunity for substantial operational savings from energy improvement projects and recommended that districts determine areas of excess use, conduct energy audits, and identify potential efficiencies. As a result of this recommendation, several districts have undertaken energy improvement projects that have substantially reduced their energy bills – directing more funding to the classroom.



Reduction in North Providence Utility Costs



Comparative Energy Costs against Median

**Examples:**

- **Davies**, taking advantage of National Grid incentives, reduced their utility costs each of the last four years, from \$454,865 in FY 2010 to \$253,322 in FY 2013.
- **East Providence** and **North Smithfield** each completed energy retrofit projects including replacing antiquated systems district wide. Both districts saw **20% decreases** in utility costs after implementing their upgrades.
- Since setting energy guidelines in September 2006 and with the guidance of an Energy Manager, **Cranston Public School** has found \$7.5 Million in energy savings for the district.

## **Paul Crowley East Bay MET**

The School Building Authority has also set a high standard for State construction with the development of the Paul Crowley East Bay MET School and by doing so blazes a trail for districts to follow in the construction of sustainable, 21<sup>st</sup> century schools. The School Building Authority pursued an innovative design-build approach with a completion in 2014. The project complied with the RIDE School Construction Regulations and with the Northeast Collaborative for High Performance Schools protocol. The project, currently occupied, maximizes renewable energy sources available on site and minimizes energy consumption with an air-tight, well-insulated exterior envelope. The staff and students of the Paul Crowley East Bay MET School are committed to the efficient use of the facility and to exploring innovative ways of using the building to teach and learn about sustainability, green technologies, and the environment.



**Paul Crowley East Bay MET Center, Newport, RI**

### *Net Zero Facility:*

- 150kW Photovoltaic system (in progress)
- Air tight building enclosure
- Super insulated shell
- Innovative ventilation system
- Geo-thermal heat pump
- Water efficient fixtures

### *School as a Teaching Tool:*

- *Recycling Program*
- *Energy Tracking w/ EPA Portfolio Manager*
- *Drinking water sampling program*
- *School/Community Garden*

### *Health Program:*

- Green Team
- Indoor Environmental Management Plan
- Integrated Pest Management Plan