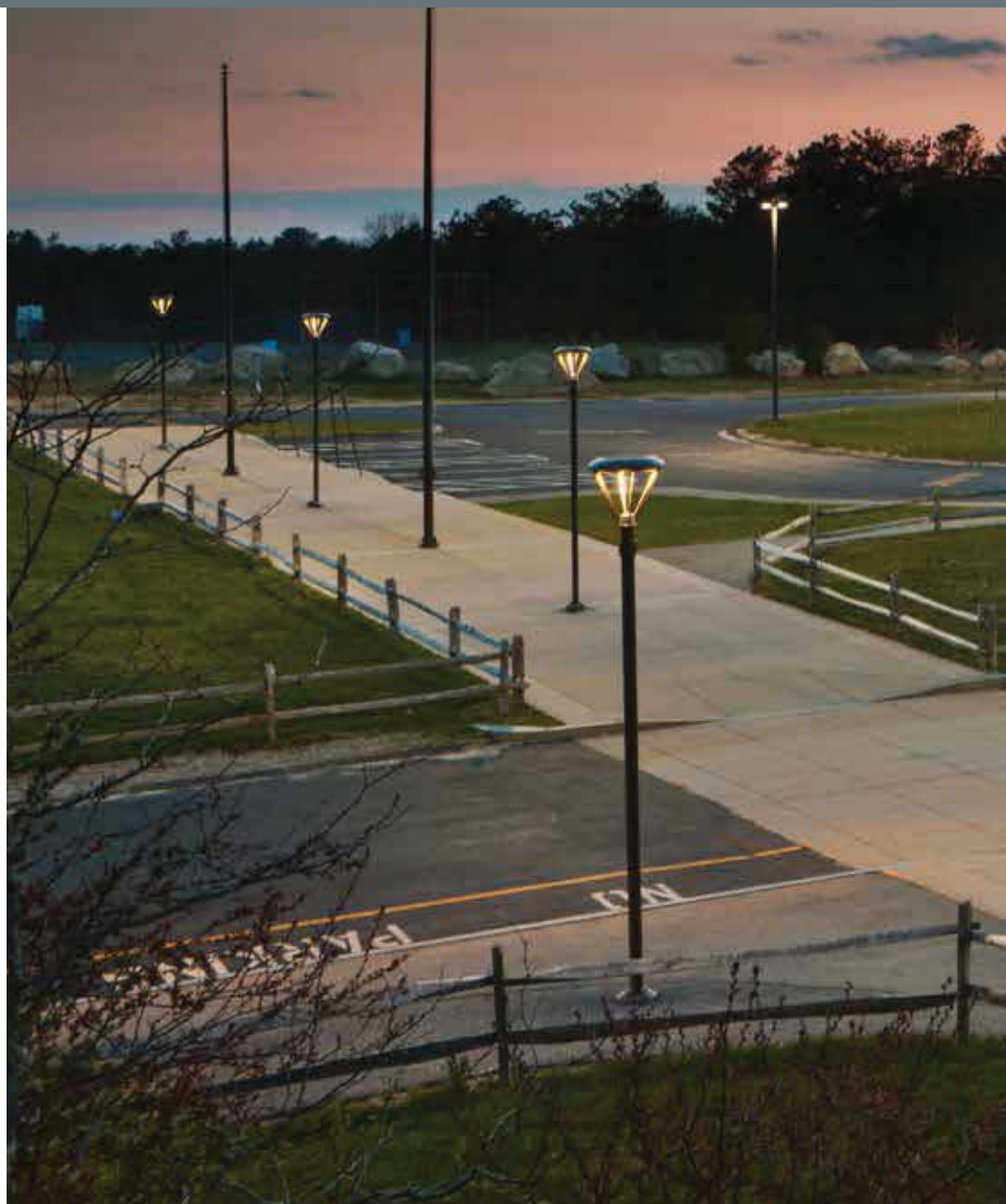
CASE STUDY

Plymouth School District

Plymouth, MA

Northeast School District Reduces Outages & Captures Energy Savings with Outdoor Lighting Control Technology



Like many schools across the country, the Plymouth Public School District in Plymouth, Mass. chartered an energy program to monitor and reduce its energy consumption across its school system of more than 8,000 students. An established program for nearly 10 years, the energy program continues to evolve from updating facilities down to encouraging students and teachers to shut off lights.

During the 2011 – 2012 school year, the District identified an improvement opportunity for energy usage in its school parking lots. There were frequent issues with burned out lamps, constant maintenance servicing and inefficiencies with the lighting itself.

"We were having Maintenance spend a lot of time fixing excessive lighting outages in the parking lots and along the perimeter of the schools," said Chris Hastings, Plymouth Public Schools energy conservation coordinator. "Complaints were coming in from the community that our lights were on during the day at various campuses. This was because the time clocks were malfunctioning and this did not look good for our energy savings program, nor was it helping with our energy consumption."

The installed mechanical time clocks needed constant time setting adjustments across multiple campuses. Additionally, a large amount of energy was used to run lights nearly 24 hours a day during the winter.

The Potential of Lighting Controls

The District contacted RISE Engineering to explore what outdoor lighting and lighting controls systems could help eliminate its maintenance issues. The District was also interested in decreasing its energy usage for both environmental responsibility and cost savings perspectives. And, they would need a solution to implement across multiple campuses.

"We saw the addition of lighting controls technology as an opportunity to fix all of the challenges outdoor lighting posed at multiple sites," said Hastings. RISE Engineering recommended LED lighting paired with the ROAM® outdoor lighting monitoring system from Acuity Brands.

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The ROAM system – a wireless, outdoor light monitoring and management technology –accurately controls lighting usage while maintaining and diagnosing lighting problems.

"The system offered the added benefit of visibility because we could easily identify which lights may be failing by looking on a computerized system," said Hastings. "The visibility could help us fix problems quickly and efficiently."

Plymouth Schools Put Lighting Technology to Use

The wireless monitoring lighting control system was installed at eight of the District's 15 buildings. Building mounted nodes control wall pack luminaires and small pole lights leading to the main entrance through contactors located inside of the building. ROAM nodes were installed on each outdoor fixture in parking areas, as well as on fixtures located on the exteriors of the buildings.

The lighting upgrade included 160 new LED luminaires and approximately 260 ROAM nodes with programming flexibility, giving each school the opportunity to have outdoor lights on at specified, programmed times.

"We scheduled the parking lot lights and building lights to come on at dusk and run until after our custodial staff leaves at night," said Hastings."We implement a dark campus each night. When the building is empty, we have the lights shut off entirely until the morning when teachers begin to arrive. The lights turn back off at dawn with the photocell controls."

Preventative Solution Delivers Successful Results

After one year of reviewing, installing and operating the controls system, the District has experienced significant energy savings, maintenance reduction and positive feedback from the community.

"There is a huge savings in shutting off the lights for five hours a night – a savings people can actually see," said Hastings. "Since installing ROAM, all community member complaints about lighting problems and outages stopped – especially complaints about lights that were on during the day.

"If we do ever have issues, the system is connected to a computerized portal that allows our electricians to address before anyone may visually notice a problem," added Hastings.

Diagnostic information provided by ROAM allows the District to identify

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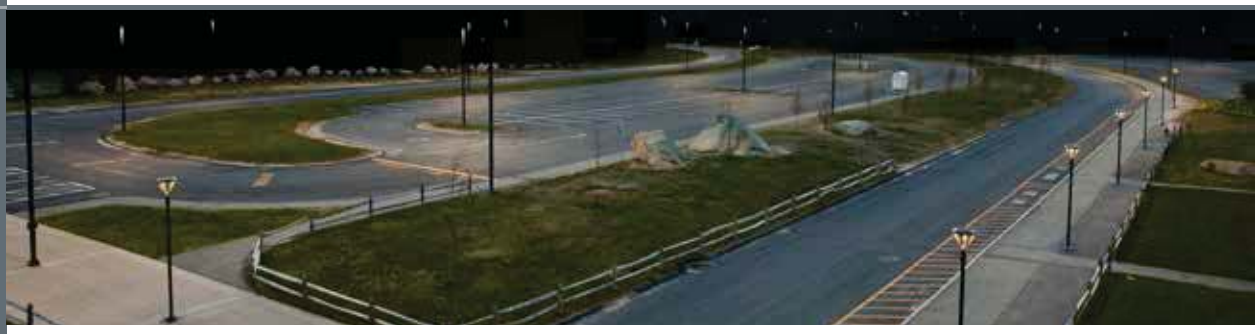

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fixtures that need attention. The system helps enable a preventative process instead of the District's previous reactive method. "The visibility ROAM offers has allowed our electricians to stay on top of lighting maintenance issues," said Hastings.

Additionally, installing the new lighting monitoring system allows the District to maintain lighting settings to accommodate after school activities, school holidays and inclement weather. "We can very easily override everything for whatever reason we may need to with the click of a couple buttons," explained Hastings. "It's simple, and we can just as easily revert back to system defaults for our typical schedule."

Outdoor lighting controls solved all of the problems Plymouth was facing and provided added benefits including rebates from its utility provider. Ultimately, the District is pleased with its LED lighting and controls selection.

"Fortunately for us, we were able to upgrade to new LED lighting at the same time we installed the ROAM system, so we really see the benefits of the LED source working with the controls," said Hastings. "But honestly, if we had installed just the ROAM system on our existing lighting, it would have helped us manage the system better and achieved energy savings as well. Controlling lighting is key to maximizing your outdoor lighting energy savings."

At Acuity Brands, we're maximizing the potential of technology to create the best quality of lighting for every environment. With our industry-leading portfolio and proven expertise in indoor and outdoor luminaires, controls, components, LED technology and daylighting, we deliver integrated, intelligent solutions that expand the boundaries of lighting.

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