



# METRO NASHVILLE PUBLIC SCHOOLS IMPLEMENTS PLAN TO REDUCE ENERGY USE & SAVE MILLIONS

**M**etro Nashville Public Schools (MNPS) is a school district that serves the city of Nashville, Tennessee and Davidson County and has a staff of nearly 5,800. Additionally, more than 86,000 students are currently enrolled in the District, comprised of 73 elementary schools, 33 middle schools, 25 high schools, 18 charter schools, and eight specialty schools. The District is also supported by service facilities, including a Central Office, Print Shop, Transportation Building, Supply Center, and a Professional Development Center.

## BACKGROUND

SitelogIQ has been working with MNPS for over five years on various energy efficiency measures such as smart LED lighting and various networked controls. Though these various projects, MNPS has seen firsthand energy savings from these projects in the range of 40-60% on average. In addition to energy savings, these projects have been focused on maximizing student and employee comfort and safety.

Armed with proof that the energy efficiency measures were yielding positive results for the District, the partnership grew in the fall of 2019 to include an energy conservation program through SitelogIQ's EnergyIQ (EIQ) division, a team of experts focused on bringing together data-driven technology and energy management intelligence to the forefront of facility optimization.

## ENERGY MANAGEMENT IMPLEMENTATION

MNPS partnered with SitelogIQ in month of April 2019 with the purpose of tracking and reducing energy and water consumption through behavioral and controls-related energy efficiency measures. SitelogIQ began by conducting an assessment of the District's energy use and consumption behaviors. By studying these trends, the EIQ energy engineers identified opportunities for energy reduction. EIQ Energy Managers performed detailed site audits at 40 of the District's 157 facilities. Based on these audits, key energy conservation measures were compiled, analyzed for potential, and presented to the District and its stakeholders to demonstrate the feasibility of the program.

Due to the positive results they've already yielded, MNPS has adopted an aggressive, energy-conscious mindset and made the success of the program its priority. To date, the SitelogIQ EIQ team has taken the following actions to spur along with the progression of the program:

- EIQ Data Team developed an interactive dashboard to track energy and cost savings progress throughout the process of the program.
- EIQ began supporting MNPS with the hiring of three full-time, onsite Energy Managers. These EIQ Energy Managers work directly with MNPS to aid in the energy management and data analytics services for all 157 facilities, including:



- Ongoing staff training and Energy Lessons
- Analysis of expected ROI and impact of implementing recommended measures
- Strategic recommendations to continuing to build on the energy efficiency measures already implemented
- Forged strong relationships between the SitelogIQ team and District personnel, leading to the development of an interdepartmental committee focused on reducing energy consumption.
- Implemented upgrades to programming to shorten HVAC schedules and limit set-points during periods where sites were not in use.
- Developed and executed a shutdown plan that involves all staff, minimizing energy usage during major school breaks: Fall, Winter, Spring and Summer.
- Currently in coordination with several District Education Programs, including STEAM and Urban Green Lab to promote outreach of Energy Education.

## PARTNERSHIP HIGHLIGHTS

- Between April and December of 2019, energy use has been reduced by over 9.4 Million kWh, yielding utility cost savings of \$695,095.
- Utility cost avoidance for a 5-year timeframe projected to be \$10 Million.
- MNPS's interactive dashboard is complete with multiple methods of comparing energy usage between sites, including the Energy Usage Intensity Map. This map shows differences in energy usage per square foot by differing sizes in bubbles representing each location (see Fig. 1).

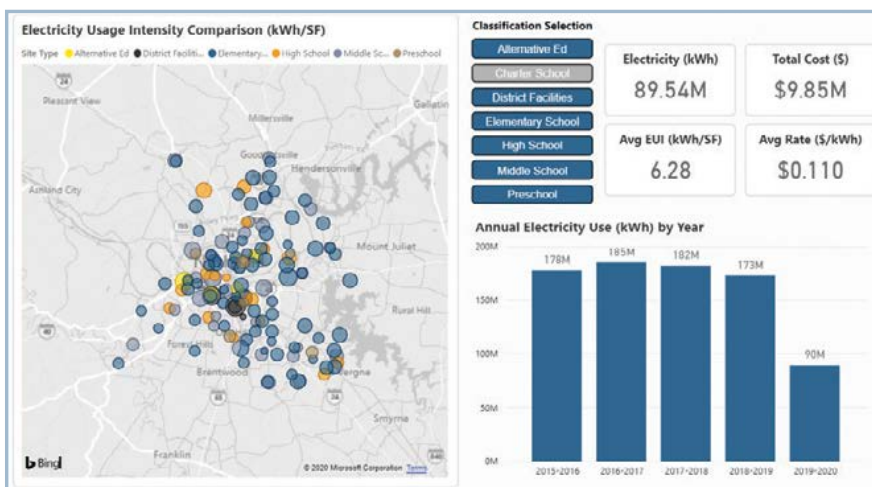


Figure 1

## GOING FORWARD

- Complete audits on all sites within the District and develop an Energy Grading System tailored to furthering energy conservation measures
- Lead programming efforts to update Building Automation Systems to run HVAC schedules across all capable District sites more efficiently
- Develop online resources to further Energy Education outreach and inform the public on the progress of the program, further inspiring the City of Nashville to follow suit
- Implement recommended energy efficiency measures to permeate an energy-conscious culture in all directions
  - **Top-Down** through the implementation of policies as rolled out through Senior Management and the Board.
  - **Bottom-Up** through educational programs headed by student leadership.
  - **Middle-Out** through a collaboration of staff training, incentive programs, and friendly competition between schools. ✨



### TESTIMONIAL FROM CASEY N. MEGOW

*Metro Nashville Public Schools Assistant Director of Facility Planning and Construction*

*"SitelogIQ has been a true partner in creating our district's conserve energy program. They have been open and honest about our options in building our program. They have offered expert advice and guidance while leading our efforts to implement our program. Working with the SitelogIQ team has been a great experience, and we are looking forward to continuing our work together and realizing continued cost avoidance from our energy conservation program."*