



REALTERM
ENERGY



Case Study:

Village of Newark's LED Streetlight Upgrade

Increased Safety & Decreased Carbon Footprint

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The Village of Newark is located in Western New York State in Wayne County and is home to approximately 9,000 residents spread over 5.4 square miles along the Erie Canal.

OVERVIEW

- RealTerm Energy was selected in 2018 for a full turnkey LED conversion, won through a Request for Proposal
- Services were provided to evaluate the acquisition costs from New York State Electric & Gas (NYSEG)
- A full assessment of all decorative fixtures was performed to ensure correct adaptors and fittings could be costed and ordered when authorized by the municipality
- 1,381 fixtures were installed
- 76% reduction in energy consumption (kWh)
- 65% savings in operating costs
- Approximately 298 metric tons of greenhouse gas eliminated, equivalent to 64 cars removed from the road
- 20-year project savings of \$2,551,678

BENEFITS OF AN LED UPGRADE

- 60-80% savings in energy consumption
- Up to 80% maintenance reduction
- Improved visual acuity
- Reduced light pollution
- Reduced greenhouse gas emissions

OPPORTUNITY

In 2018, the Village of Newark, New York wanted to significantly reduce its energy consumption, maintenance costs, and the environmental impact associated with its network of streetlights. Once installed, the Village realized that LED streetlights could not only achieve substantial energy and cost savings but also improve its overall lighting quality and roadway safety for both vehicle and pedestrian traffic.

RealTerm Energy was contracted to manage the upgrade of 1,381 existing streetlights, composed of 1,230 cobra heads and 151 decorative fixtures.

The new LED fixtures will cut Newark's streetlight energy consumption by approximately 76%, as LEDs require significantly less electricity than the high-pressure sodium lights that were previously in place. The upgrade will also decrease annual streetlight maintenance operating costs by up to 80%, due to LED's solid-state technology (with no moving parts) which last up to five times longer than the Village's existing streetlights. The new LED lights also include a 10-year warranty.

By converting its 1,381 streetlights to LED, the Village will reduce its greenhouse gas emissions by approximately 298 metric tons over the lifetime of the fixtures. This is equivalent to eliminating greenhouse gas emissions from 64 passenger vehicles driven for one year - thus reducing Newark's carbon footprint.

The design team performed photometric analyses for the cobra head and decorative fixtures using a 4000K color temperature throughout the Village, which is preferred by most Governmental Departments of Transportation.



SOLUTION

The natural white color is an important choice in areas where being vigilant is a critical safety issue as it provides a significant visual acuity and color recognition required in higher classified roads and areas of high pedestrian activity.

Additionally, it was determined that a combination of Acuity Brands and Leotek Electronics luminaires yielded the best balance of energy savings, cost efficiency, and long-term performance. Preference was given to fixtures that would maximize available incentives to the Village. It was calculated that after the upgrade, the Village's annual electrical consumption would decrease by 76% and Newark would see a decrease of 65% in their annual electricity costs.

RealTerm Energy played a key role in coordinating and collaborating with the Village and the Electrical Contractor (EC) which resulted in successfully keeping the project on track.

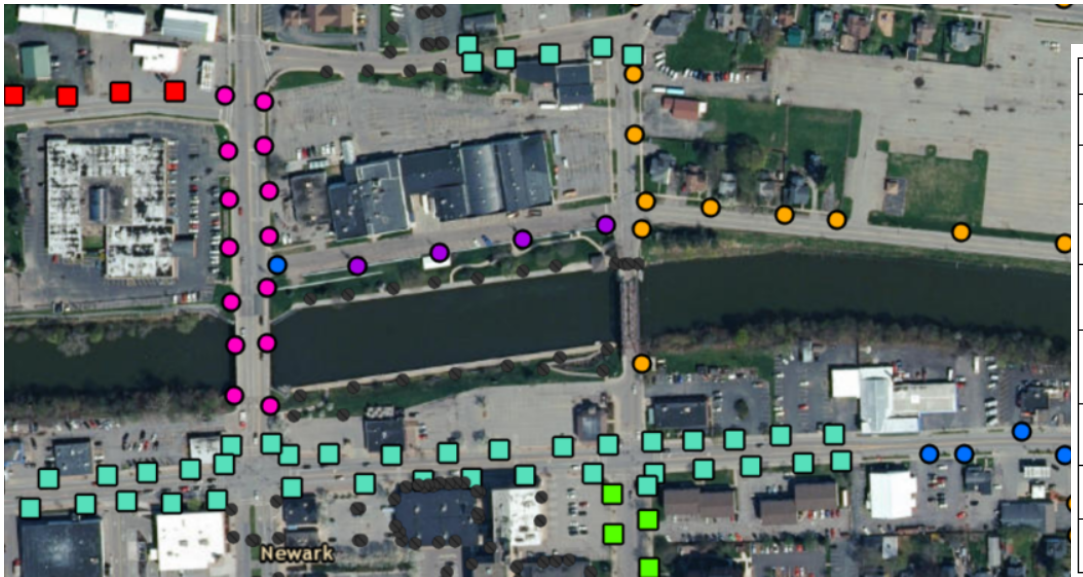
The EC had never used an Installation Map such as RealTerm Energy's but were very pleased at how easy it was to use and how well it validated the actual installations.

Although this was RealTerm Energy's first time applying for NYSEG/RG&E's rebate, we successfully navigated the process using our extensive knowledge from other utility rebate processes.

The project was completed under budget by 5% and on schedule thanks to RealTerm Energy's rigorous and effective methods for managing costs.

ADDITIONAL BENEFITS

The new streetlights installed to date have added a greater level of safety and security for the residents of the Village of Newark while reducing energy consumption and their carbon footprint. This project is a classic win-win as going forward, the community will save tens of thousands of dollars in reduced energy costs each year while providing environmentally friendly lighting.



Newark Design Legend

Point	Wattage	Brand	Type
	25W	Leotek	Cobrahead
	30W	Leotek	Cobrahead
	37W	Acuity	Cobrahead
	39W	Leotek	Cobrahead
	46W	Leotek	Cobrahead
	60W	Acuity	Acorn
	68W	Leotek	Cobrahead
	87W	Acuity	Cobrahead



The Energy to do Great Things

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"We are most excited about this LED streetlight conversion project with RealTerm Energy. It is going to result in saving significant funds that we can reinvest in other municipal services that will greatly benefit the residents of Newark."

"RealTerm Energy provided us with a complete turnkey solution and committed to delivering this project on budget and on schedule to our complete satisfaction. RealTerm's extensive experience and expertise have ensured the project's success. We look forward to being kinder to the environment in an economically savvy way."

Mayor Jonathan Taylor



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