



REALTERM
ENERGY



Case Study:

Town of Auburn's LED Streetlight Upgrade

Increased Safety & Decreased Carbon Footprint

Case Study: Auburn's LED Streetlight Upgrade

The Town of Auburn is located in the State of Massachusetts in Worcester County and is home to approximately 17,000 residents spread over 15 square miles.

OVERVIEW

- RealTerm Energy was selected in March 2019 for a full turnkey LED conversion
- Services were provided to evaluate the acquisition costs from National Grid
- Smart Controls were deployed
- 1,103 fixtures were installed
- 57% reduction in energy consumption (kWh)
- 57% savings in operating costs
- Approximately 156 metric tons of greenhouse gas eliminated, equivalent to 34 cars removed from the road
- 20-year project savings of \$1,771,201

BENEFITS OF AN LED UPGRADE

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

OPPORTUNITY

In 2019, the Town of Auburn wanted to significantly reduce its energy consumption, maintenance costs, and the environmental impact associated with its network of streetlights. Once installed, the Town 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 1,103 existing streetlights, composed of 1,074 cobra heads, 15 decorative and 14 flood lights.

The new LED fixtures will cut Auburn's streetlight energy consumption by approximately 57%, 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 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 Town's existing streetlights. The new LED lights also include a 10-year warranty.

By converting its 1,103 streetlights to LED, the Town will reduce its greenhouse gas emissions by approximately 156 metric tons over the lifetime of the fixtures. This is equivalent to eliminating greenhouse gas emissions from 34 passenger vehicles driven for one year - thus reducing Auburn's carbon footprint.



SOLUTION

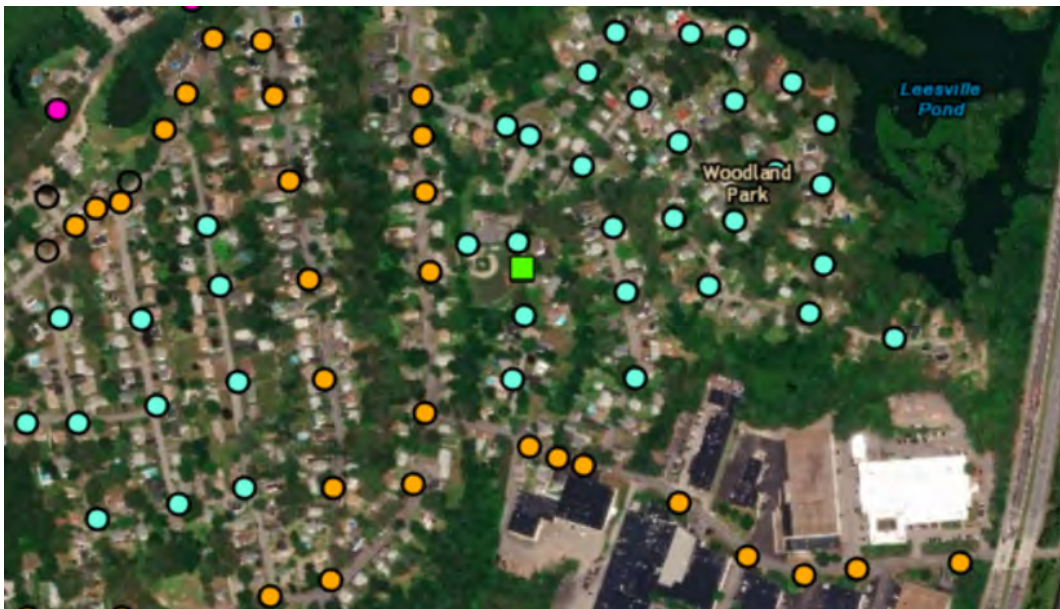
The design team performed photometric analyses for 1,074 cobra head fixtures, 15 decorative fixtures as well as 14 flood lights. The design plans utilized a 3000K color temperature throughout the Town, as it offers pedestrian comfort without compromising the safety and visual acuity required in higher classified roads and areas of high pedestrian activity. 3000K is a solid choice for residential and commercial area illumination, and for towns that want to ensure Dark-Sky compliancy. Additionally, it was determined that Acuity Brands luminaires yielded the best balance of energy savings, cost efficiency and long-term performance and Eaton luminaires were selected for decorative fixtures. Preference was given to fixtures that would maximize available incentives to the Town. It was calculated that after the upgrade, the Town's annual electrical consumption would decrease by 57% and Auburn would see a decrease of 57% in their annual electricity operating costs.

RealTerm Energy deployed Cimcon Lighting smart controls for the Town's streetlights in order to provide a cost effective and modular platform for deploying network and smart city services. This also allows for optimizing environmental benefits and cost savings of a streetlighting controls program while creating a wireless communications network that can serve as the foundation for future "smart and connected city" offerings, both lighting and non-lighting related.





The training provided for smart controls was effective as the client was able to take over the system soon after installation. They were also very impressed with RealTerm Energy's Esri mapping software and the dashboard created for the Town.

ADDITIONAL BENEFITS

The new streetlights installed to date have added a greater level of safety and security for the residents of the Town of Auburn 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.



Auburn Design Legend

Point	Wattage
	24W
	31W
	40W
	85W (floodlight)



The Energy to do Great Things

realtermenergy.com info@realtermenergy.com (866) 422-5200 [f](#) [t](#) [in](#)

“Our experience with RealTerm Energy has been nothing but positive. The people at RTE are first-rate and I cannot tell you how much we appreciated their flexibility as well as answering every question and concern we've had throughout the process. We sincerely appreciate the project management services RTE has provided, their mapping software and dashboard created were very impressive and easy to use”.

Mathew Benoit
Energy Manager
Town of Auburn MA

