



REALTERM
ENERGY



Case Study:

Town of Pepperell, Massachusetts

Turnkey LED Streetlight Conversion

*A Dark-Sky Friendly LED Streetlight Upgrade
with Significant Energy and Cost Savings*

A Dark-Sky Friendly LED Streetlight Upgrade

OVERVIEW

- RealTerm Energy was selected for a full turnkey LED streetlight conversion
- RTE completed a pilot project with the Town in March of 2021 to gather citizen input
- 411 Cooper LED luminaires installed
- Ubicquia smart controls installed for all the lights
- Over \$1 million in cumulative savings over 20 years
- 81,291 kWh annual energy savings
- 80% reduction in the Town's overall lighting costs
- 72% reduction in energy consumption (kWh)*

BENEFITS OF AN LED UPGRADE

- 60 to 80% savings in energy consumption
- Up to 80% maintenance reduction
- Improved visual acuity
- Reduced light pollution and preserved dark sky
- Lower greenhouse gas emissions
- Greater citizen engagement
- Beautifies streetscape

BENEFITS OF SMART CONTROLS

- Additional 20% in energy cost savings
- Remotely operate and dim streetlights
- Minimize maintenance
- Extend long-term performance
- Become Smart City ready

**The Town is dimming as per the following dimming profile: Lights will be at 50% dusk to 12:30 am, then 30% for four hours, until 4:30 am, then returning to 50% until dawn.*

Pepperell is a town in Middlesex County, Massachusetts and is home to approximately 11,604 residents. It is located 45 miles northwest of Boston on the northern border of the state.

OPPORTUNITY

As detailed in their 2020 Master Plan, Pepperell was exploring the idea of converting their High-Pressure Sodium (HPS) streetlights to Light-Emitting Diodes (LEDs). They wanted to preserve their night sky and improve citizen safety while decreasing their overall maintenance and energy costs.

In March of 2021, Pepperell completed a pilot project with RealTerm Energy in order to gain valuable feedback from its residents. By working with RTE, the Town installed different luminaires to test out various color temperatures and manufacturers. Residents had the opportunity to provide valuable input which was key to helping the Town pick the best luminaires for their communities.

After the completion of the pilot project, RealTerm Energy was chosen by the Town to complete a full turnkey LED streetlight conversion.



SOLUTION

With the LED streetlight upgrade, Pepperell was able to achieve its goals and more. The installation of the dark sky-friendly 2200K luminaires reduced overall light pollution including glare and skyglow due to their warmer CCTs (cooler color temperatures). The Town's total energy consumption will also decrease by 72% (kWh) with the addition of energy-efficient LEDs and smart controls.

This upgrade will save the Town over \$1,000,000 in cumulative cost savings over the next twenty years with \$80,000 in savings in the first year alone.

From the initial inventory audit to lighting design to procurement to installation, RealTerm Energy provided a full turnkey solution saving the Town additional time, expenses, and resources.

INSTALLATION MANAGEMENT DASHBOARD

As a part of RTE's service experience, we created a customized installation dashboard that the Town could use to track the progress of their LED streetlight installation. With advanced geospatial analytics and high-performance visuals, it enables the Town to stay well informed and make rapid decisions as needed.

MAINTENANCE SERVICES

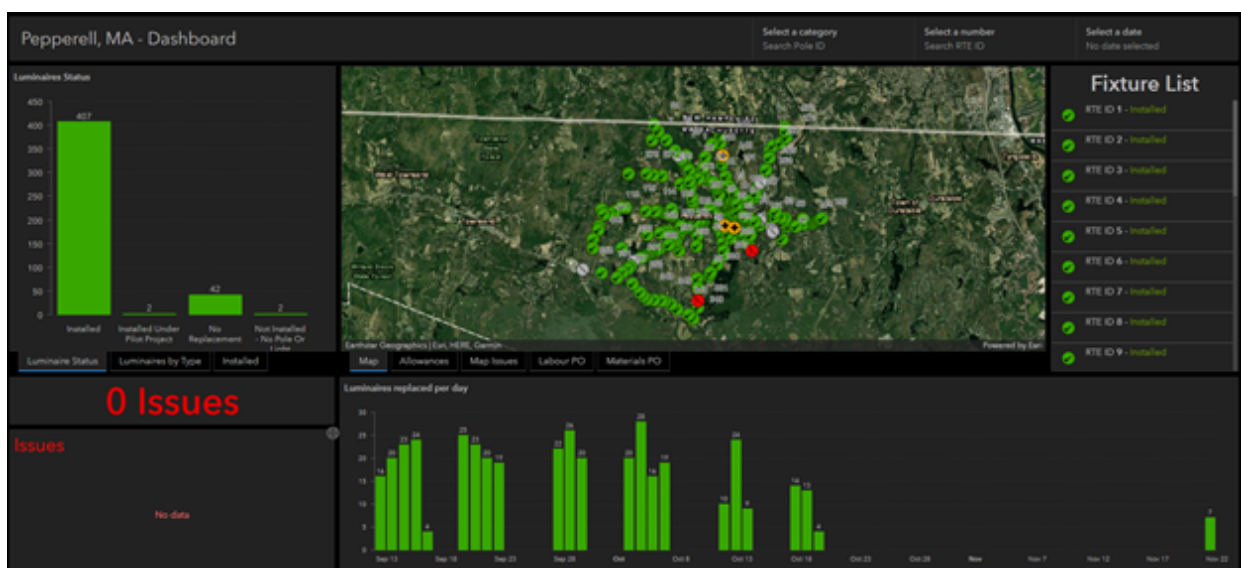
RTE is providing long-term maintenance services to the Town ensuring that their new streetlights assets continue to deliver the highest value and protect their lighting investment. RealTerm Energy's maintenance program is designed to reduce the burden on municipalities by streamlining outage reporting, contractor dispatching, and inventory management.

The maintenance program includes a 24/7 online, map-based outage-reporting system to simplify streetlight issues in a single pane system. This program reduces average streetlight outage time and required municipal staff time which benefits citizens, employees, and the Town.

To learn more about our maintenance service program, [view our brochure here.](#)

REALTERM ENERGY SERVICES

- In-depth Streetlight & Infrastructure Audit with GIS and Geomatics
- Comprehensive Photometric Lighting Design
- Product Evaluation and Estimation
- Procurement Management
- Installation Management
- LED Streetlight Maintenance Program





The future is Smart. We can get you there.

realtermenergy.com

info@realtermenergy.com

(866) 422-5200



"I continue to be grateful for the excellent communication from the RTE team. They made this experience extremely enjoyable, there was no anxiety because they all have kept me well informed."

"The team approach is helpful. They communicate well with each other and can pick up on missing information/expertise as needed."

Andrew MacLean
Town Administrator, Town of Pepperell