



Project Objectives

- Improve lighting within the city
- Increased safety and security
- Flexible control over street lighting
- Energy savings
- Maintenance savings

Energy Conservation Measures Installed

- Upgraded 1,732 streetlights to LED
- Installed smart nodes for a lighting management system
- Reconnect and restore power to 654 pole toppers

The City of Wilmington is Delaware's largest municipality. With just over 70,000 residents, the city is dotted with history going back to its Swedish settlers in the 1630s. In response to constituents' continuous requests for improved lighting, city officials sought out solutions that would not only address safety concerns, but also reduce energy use.

The City of Wilmington partnered with Seiberlich Trane Energy Services (STES) to help retrofit over 1,700 city owned streetlights to LED lamps with advanced controls. During the initial phase of the project, 650 lights were identified that needed to be diagnosed, repaired, and brought back into service. After all work was completed, the city reduced the energy consumed by streetlights by 69%.

The LED luminaries chosen included advanced controls giving the city the option to add new capabilities such as advanced dimming, gun shot detection, parking spot availability, and trash level indicators. For example, the Department of Public Works can now increase brightness during special events to enhance safety and security after nightfall.

STES delivered an interactive dashboard with clear data visualization of lighting status which has saved maintenance costs. Prior to installation, crews had to drive around twice a week before sunrise to check for burned-out lamps. The U.S. Department of Energy recognized the City of Wilmington in 2021 for this project awarding it a winner for Advanced Use of Sensors and Controls for Lighting.

Project Results

The improvements are expected to realize annual energy savings:

- **999,730 kWh of electricity (69%)**

The environmental impact of the project was:

- **708 metric tons CO₂ equivalent annual emissions reduction**

DNREC grants for energy efficiency

- **Over \$170,000 awarded**

ANNUAL ENVIRONMENTAL IMPACT OF PROJECT

Greenhouse Gas
Emissions Avoided From

158



Gasoline-powered
passenger
vehicles driven for
one year

CO2 Emissions
Avoided From

89



Homes' energy
use for one year

Greenhouse Gas
Emissions Avoided By

245



Tons of waste
recycled
instead of
landfilled

Carbon
Sequestered By

11,715



Tree seedlings
grown for 10
years