

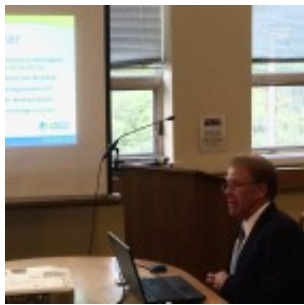
## New Tech May Mean Darien Street Lights Cost Less, Do Much More

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Imagine Darien's street lights needing less maintenance, using less electricity, costing less, providing better light and maybe doing something more — like helping provide WiFi service to cars.

That could happen in a few years with a combination of recent LED lighting technology, Internet technology, state regulations allowing towns to buy light fixtures from Eversource, and utility rebates for upgrading equipment — all of which is now available to Darien.

Oh, one more thing — the town or even first responders in an emergency could adjust a street light if, say, more lighting was needed at an accident scene. Or the town could make a lighting adjustment at one particular street light if it was bothering a neighborhood.

All these possibilities were brought up in a presentation Monday to the Board of Selectmen by Jack Hanley from [ESCO Energy Services Company](#), a business that advises clients in ways to save money by adopting energy-efficient systems, and then helping to run them.

It was a sales pitch: ESCO wants the contract to advise the town, research the project, convert the lights to modern LED lighting and maintain the lights and light fixtures for years.

[Here's a PDF of the full ESCO LED Street Light Presentation](#)

Currently, towns with street lights rent them from Eversource (the new name for Connecticut Light & Power

and other utilities). Eversource charges for electricity itself (\$46,887 in a recent month) and for delivery of it to the street lights as well as for maintaining the lights (\$67,924). For Darien, the total cost is \$114,811 for that recent month.

### **How the money gets saved**

Hanley displayed a chart showing how Darien might save money by buying 843 street lights in town, then using state rebates to help pay to convert the lights from standard lighting to modern LED.

Even after conversion and maintenance costs for switching to LED are included, the town could save several thousand dollars in the first year (partly due to lower maintenance and electricity costs). The savings increase through the first 10 years of the contract.

Switching all of the streetlights to LEDs would save the town an estimated \$27,651 a month in electricity costs (the current \$46,887 cost minus the new cost of \$19,236). Eversource would charge only \$6,200 for distribution costs instead of the \$67,924 it now charges, although it also wouldn't be maintaining the lights. Overall, Eversource would bill the town \$25,457 a month instead of \$114,811 — a savings of \$89,374, although the town would be paying other bills instead.

First, there would be the cost of buying the lights from Eversource and retrofitting them with LED replacement lights. The total cost for that is \$424,909. The town would get a rebate of \$76,054 from the utility for adopting the energy-saving measure of replacing the lights, which brings down the cost to \$348,855.

Under Hanley's cost projections, the town would pay for the conversion costs over a five- or six-year period at \$72,464 per year. (If the town opted to have street lights with "controls" that allow for monitoring and adjusting the lights electronically, the somewhat conversion costs would be \$65,183 a year for six years instead of \$72,464 for five years.)

The cost of installing the lights with controls is \$325,916. The cost without controls is higher, \$362,312, according to Hanley's presentation. (It wasn't clear at the meeting why the cost would be higher without controls.)

Darien typically borrows money for capital projects, and town officials could do so with a note and eventually a bond. The town, with its AAA rating, gets low borrowing rates (this week, the town got an interest rate of 1.739 percent on a \$3.135 million bond).

The LED lights are warranted to last 10 years and, in reality, often last 15 to 20 years, Hanley told the selectmen. They need less maintenance, need to be replaced less often and use less electricity, he said. The town would pay ESCO an annual maintenance cost (including the cost of replacing or fixing a light fixture if

it's damaged or destroyed) of an estimated \$10,116 to start. ESCO estimates that cost may go up to \$12,090 in the 10th year of the contract.

With all the reduced costs and added costs factored in, the town would save \$6,794 in the first year of the contract and the savings go up after that, under Hanley's estimates. Once the conversion costs are paid for, the savings go up significantly, totalling \$505,535 over the first 10 years for a lighting system without controls (for one with controls, the savings would be less — \$393,678).

Hanley's calculations did not seem to include the cost of bonding to pay for the conversion, and he did not include paying police to monitor sites where workers would be replacing street lights.

Hanley's calculations are also estimates. If town officials decide to go forward, ESCO would study all of the town's street lights and come up with a proposal — with the additional details, the asking price could go up or down compared with the estimate.

There are a variety of LED lights available, Hanley said — "Some are more durable than others, some perform better than others." Prices also vary. The kind of light they emit is generally whiter than typical non-LED street lights, which means people are more likely to be able to distinguish red from brown and dark blue from black — something useful when witnesses report the color of a car to police, for instance.

### **What else you can do with a street light that has controls**

If controls for the street lights are put in, not only would town officials be able to dim some of them or raise the power on some (for instance, in emergencies). Connected to the Internet, the street lights could also be used for finding people wearing tracking devices (like people with dementia), connecting to cars with services like OnStar which help drivers in emergencies — by 2017, all new cars are mandated by the federal government to be ready to use a system like OnStar, Hanley said.

If the system can be used to find dogs with electronic chips in them, he said, then "you'll never have another lost dog in town."

Govi Rao, chief executive officer of Noveda Technologies of Bridgewater, N.J., accompanied Hanley and gave part of the presentation. Rao said the light fixtures could work as an antenna service, much as cell-phone antennas on towers now work. The technology to do this already exists, he said.

### **What could happen if the town waits years before doing this**

Town Administrator Karl Kilduff said one risk in waiting a long time to make the conversion is that Eversource may decide to upgrade lighting fixtures itself, adopting some of the new technology that Hanley and Rao explained. If that happened, Eversource would raise the price for the town to buy the fixtures, he said.

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Eversource might also offer a service similar to what ESCO is offering, First Selectman Jayme Stevenson said. Overall, Stevenson said, she was impressed with the presentation. The matter is scheduled to be discussed at the next Board of Selectmen meeting.