

First-Step Guide to Municipal Decisions about Options for Lowering Streetlighting Costs¹

January, 2018

Background

Historically most municipalities in the MidMaine area were required to lease their streetlight fixtures from Central Maine Power, but, legislation² eliminated that requirement in 2013. Municipal interest in pursuing the new options was high, in part due to the availability of LED lighting, which, despite being more cost-effective than its predecessors, was not being pursued by CMP.

The 2013 legislation (“An Act to Reduce Energy Costs, Increase Energy Efficiency, Promote Electric System Reliability and Protect the Environment”) provides that on or after October 1, 2014, electric utilities (both investor-owned and consumer-owned) shall provide three options to municipalities for street and area lighting:

Under the first option the utility would provide all of the components of the lighting system, including installation and maintenance, and provide electricity delivery to the lighting system from an electricity supplier selected by the municipality. The utility would apply a monthly charge for these services, as approved by the Public Utilities Commission (PUC), that reflects the total cost to provide street lighting equipment for each light and a separate charge for power delivery.

Under the second option the utility would install the lighting and connect the light to the power source on the pole, while the municipality would own and maintain the lighting fixture. The utility would be authorized to apply a one-time charge per light fixture for installation as established by the Commission.

Under the third option the utility would connect to the power lines a light fixture owned, installed and maintained by the municipality. The utility would be authorized to apply a one-time connection charge per light fixture as established by the PUC.

The legislation also provides that under Options 2 and 3, the towns may choose to take ownership of the existing streetlights, pursuant to PUC established criteria and process with fair compensation to the utility established by the PUC. Under option 3 the municipalities can hire a turn-key contractor to replace the lights and fixtures. (See references for the websites of companies that have been mentioned in the local press.) A copy of the PUC ruling on how that compensation is to be determined

¹ First-step guides are designed to help municipal decision-makers explore new or emerging energy options. Because costs and specific technologies change and one size does not fit all, these guides do not attempt to define specific choices, but rather help define the options, provide some basis for deciding whether further exploration is worthwhile and provides a series of further references to facilitate a deeper exploration. These guides are supplied by the Sustain Mid-Maine Coalition, a nonprofit group of volunteers, that aims to promote energy conservation and alternative energy use for Kennebec Valley area residents, businesses, and municipal operations, thereby reducing energy costs for taxpayers while also cutting harmful greenhouse gas emissions.

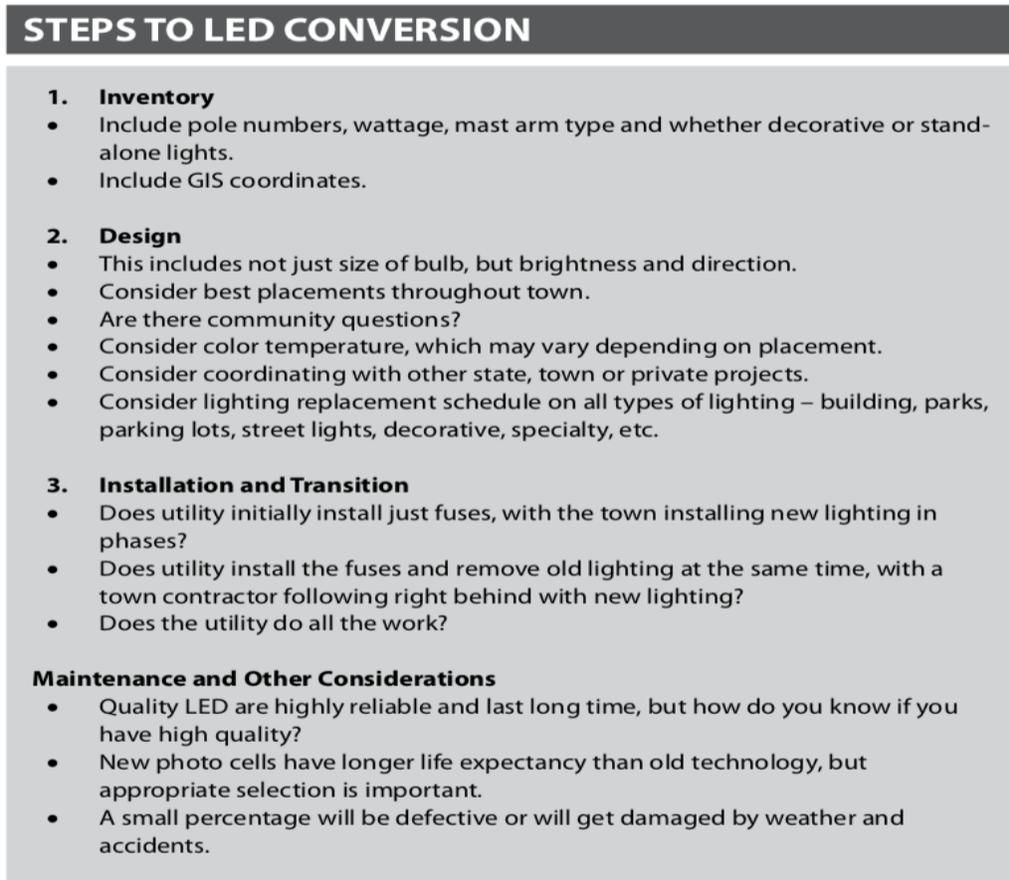
² Title 35-A, Part 2, Chapter 25, Section 2523 (Street Lights; use of poles) Available on the web at: <https://legislature.maine.gov/statutes/35-A/title35-A.pdf>. Scroll down to page 131 to find the relevant section. The PUC rulings designed to implement this law in CMP territory was issued on October 7th, 2015. They are available on the web at: https://www.falmouthme.org/sites/falmouthme/files/uploads/street_light_puc_docs.pdf.

can be found at: https://www.falmouthme.org/sites/falmouthme/files/uploads/puc_09132016.pdf. An important aspect of this ruling is that no compensation is required for equipment over 15 years old.

What Municipal Decisions Would Have to be Made to Initiate a Conversion?

Conversions involve a number of decisions. One summary of the steps involved in undergoing a conversion is outlined in Figure 1

Figure 1



Source: “Street lighting pioneers: Why are some towns changing their lights?” *MaineTownsmen* March 2017 | Volume 79 | Issue 3, p. 8.

As some municipalities have begun to undertake streetlight inventories they have found that the number of streetlights being billed by CMP did not match the number of actual streetlights in use³. In one example Fairfield is now scheduled to be reimbursed \$14,000 by CMP for being overbilled for streetlights that no longer existed.

Recent Developments

³ See <https://www.centralmaine.com/2018/10/21/lights-out-cmp-to-reimburse-fairfield-14000-for-missing-streetlights/>

Portland was the first Maine city to take advantage of the new law by replacing all of its street lights with new, energy-efficient LED light fixtures

Rockland has also taken advantage of the opportunity.

These developments now provide a rich set of municipalities that have experienced the conversion process and are willing to share what they have learned with municipalities that are just beginning.

What are the Costs and Payoffs?

One of the advantages of the conversion, aside from the fact that LED lights use much less electricity is that the new fixtures allow billing on the basis of actual use. Under the current system municipalities are billed on the basis of assumed dark hours. New systems not only allow billing to be based on actual electricity consumption, but the electric use can be controlled via the smart technology involved.

The costs and payoffs will differ depending on the municipality. Size does matter, but apparently municipalities of all sizes can benefit.

For example, Portland's experience according to MAINEBIZ⁴ was:

"Buying the streetlights and converting them to LED will provide the city with a savings of more than \$1 million annually."

What about smaller municipalities? Nathan Poore, the Town Manager of Falmouth, writing in a Maine Municipal Association publication has stated⁵:

"Falmouth currently has a street lighting bill of \$97,590 per year for its 595 streetlights. Converting the entire system to LED would cost \$297,020, which includes purchasing new fixtures, designing the system and managing the construction. This new system would cost \$44,211 per year to operate, including setting aside money for future replacement costs. The annual savings of \$53,379 per year means the investment will be paid off in 5.6 years..."

And Augusta's Ralph St. Pierre, finance director and assistant city manager, has projected that their plan to buy poles and lights:

"would save about \$168,000 a year for 10 years and then, after the new lights and fixtures have been paid for, would save \$306,000 a year for as long as the lights last."⁶

⁴ This article is available on the web at: [http://www.mainebiz.biz/article/20180131/NEWS01/180139990/portland-to-save-\\$1m-annually-by-switching-to-led-streetlights](http://www.mainebiz.biz/article/20180131/NEWS01/180139990/portland-to-save-$1m-annually-by-switching-to-led-streetlights).

⁵ "Street lighting pioneers: Why are some towns changing their lights?" *MaineTownsmen* March 2017 | Volume 79 | Issue 3, p. 8.

⁶ <https://www.centralmaine.com/2018/11/09/augusta-considering-pulling-plug-on-cmp-streetlight-leases-buying-into-led-technology-for-savings/>

In response to the change in the law CMP has issued new rate schedules that include LED municipal lighting options. As a practical matter this means that the first option is now less costly than it was even a year ago. For example, under option 1 (where the municipality leases the street light fixture and CMP pays for the installation and maintenance) the annual lease and electricity cost for a typical 70 W high pressure sodium light is \$128.64 compared to \$113.16 the 70 W LED equivalent or \$15.48 saved per street light annually. The other two options, where the municipality owns and maintains the street light, the initial cost of undertaking the initiative is considerable, but the annual lease savings of roughly \$120 per LED street light is also cost-effective, typically resulting in a 4-6 year payback depending on the actual bids and final conversion costs

Vassalboro has decided to use the option 1 route. By working through Central Maine Power Co. for the conversion project the town can avoid maintenance responsibilities and costs. The town is expected to save \$4,417.91 annually compared to its current situation as a result.⁷

Available Resources for taking Further Steps

Key People in the Conversion Process

Falmouth

[Nathan Poore](#) 207-699-5335

[Melissa Tryon](#) 207-699-5335

CMP

The person to talk with about the specific possibilities is:

Tamra Pierce Tamra.Pierce@cmpco.com

When and if a town has made the decision to move forward on option 1, they could simply call CMP at (800) 565-3181 (in our experience this line is frequently busy). When they answer, you can get connected to a technical service representative to request a work order to replace the existing street lights in your municipality with LED equivalents. According to the rep we spoke with, time and opportunities for questions would be provided, but once the work order is put in, the work should begin within 30 days or sooner.

Key websites

The Town of Falmouth has put together a very helpful website based upon their experience in the conversion process. It contains key documents including a copy of the request for proposal to select a consultant to help them through the conversion process, a copy of the winning proposal, a Powerpoint presentation to the MMA about the conversion process in Falmouth, and contact information for key Falmouth personnel involved in the conversion process. See

<https://www.falmouthme.org/finance/streetlight-conversion-process>

⁷ <https://www.centralmaine.com/2018/12/29/vassalboro-to-convert-streetlights-to-energy-efficient-leds/>

Key articles

1. “Street lighting pioneers: Why are some towns changing their lights?”

MaineTownsmen March 2017 | Volume 79 | Issue 3, p. 7. Available on the web at:

https://www.memun.org/DesktopModules/Bring2mind/DMX/Download.aspx?EntryId=10422&Command=Core_Download&language=en-US&PortalId=0&TabId=119

2. “Portland to save \$1M annually by switching to LED streetlights” MAINEBIZ, January 31, 2018

[http://www.mainebiz.biz/article/20180131/NEWS01/180139990/portland-to-save-\\$1m-annually-by-switching-to-led-streetlights](http://www.mainebiz.biz/article/20180131/NEWS01/180139990/portland-to-save-$1m-annually-by-switching-to-led-streetlights)

3. “Gardiner moves forward with LED conversion” Available on the web at:

<https://www.centralmaine.com/2018/12/09/gardiner-moves-forward-with-led-conversion/>

Some Consultant and Contractor Companies

Affinity LED Working with Gardiner and Augusta.

<https://affinityledlight.com>

RealTerm Energy-worked with Biddeford, Falmouth, Rockland and South Portland

<http://www.realtermenergy.com/en/led-lighting-solutions/street-and-area.aspx>

TEN (the Efficiency Network)—worked with Portland <https://www.tensaves.com/government>