

Fact Sheet



Streetlighting

According to recent studies, lighting can consume upwards of 48% of a facility's energy costs. However, we most often think of internal building lighting. There is tremendous potential for cost saving by focusing on outdoor lighting, namely streetlighting, parking lot lighting, and external façade lighting. Streetlighting has the greatest potential for savings using new, intelligent control systems combined with more state-of-the-art fixtures and bulbs.

Around the world, streetlighting systems run by municipalities are considered a fixed expense for operations, something both necessary and desired. Further evaluation has shown that there are significant maintenance costs, security issues, and reliability issues with older, proprietary, inflexible systems.



Maintaining existing systems requires a significant annual budget, support staff, and a plan to ensure that the systems remain functioning. Bulbs need to be replaced roughly every four years or 12,000 hours of usage potentially costing hundreds of thousands of dollars annually. Identifying lamp failures is an ongoing maintenance issue since existing systems rarely have the capability to provide individual lamp/fixture alarms.

Energy costs are of major concern as well, and any relief from escalating electricity costs is welcome news. Several studies have shown that outdoor lighting systems can cost a city upwards of 40% of its annual electricity budget. New lamp and ballast technology has proven to substantially reduce ongoing operating costs. The world of LED streetlighting technology will also help drive down the power requirements and increase the flexibility of systems.

LONMARK members are addressing this market by offering a LON® based solution that provides for a more intelligent, open solution to streetlighting. This solution uses LON as a two-way communication system over the power line wires to provide a fully functional central monitoring and control of each individual fixture. Additionally, new fixtures that are LONMARK certified can dim the lighting

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in a full range providing energy savings, custom lighting level needs, and increasing security. Solutions based upon this architecture unbundled the hardware from the monitoring software, from the installation contact, providing a very open, flexible system that can scale according to needs.

There is a strong desire for municipalities to control costs and simply dimming the lighting at various times of the night can drive costs down substantially. Some recent case studies are showing a 30% or more cost savings by implementing a new open system based upon energy savings alone. Add into the mix the reduced cost of maintenance since each fixture reports its functional state; hence, there is no longer the need for maintenance crews to visually check each fixture. Lighting levels can be adjusted based upon location, time, events, etc. For example, an infrequently used area at 2:00am might have its lighting level reduced to 50%, but a more heavily trafficked area can have its lighting level set at 80%. Both save money and provide the security needed.

The lighting pole can also become a part of the municipality infrastructure as an asset. Some cities are considering having electric vehicle charging stations attached to their lighting poles, providing a charging meter and payment system. Others are using the poles for parking meter payment. Since there is a networked two-way communication system in place, the ability to do monitoring, and transactions is part of the overall system.

LONMARK is taking a leading role in this new area of open, interoperable systems and our members are supporting this effort through new product development and system integration expertise. We can help design an open system using the latest lamps and fixtures, provide front-end software for monitoring and control, and help architect a system for each specific application.

If you are interested in saving money, having more flexibility, and increasing the value of your streetlighting system through an intelligent infrastructure, then please contact LONMARK International. We will be happy to put you in touch with our members that can offer a multitude of solutions.

LONMARK International is a non-profit, member supported industry trade association with worldwide affiliates. Our focus is on supporting the open control networking standard using the LONMARK set of open controls standards and offering educational and informational programs. We invite you to learn more about LONMARK and our programs. www.lonmark.org/streetlighting



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