

## Community Focus Statement C: Improve public and equestrian safety within Muscoy.

**Action Statement C.7: Install additional lighting on streets and in other public spaces.**



**Benchmark:** Additional lighting in Muscoy is funded and installed.

**Champion:** Volunteer group or person or can be identified by the community

**Estimated Cost:** Contingent upon level of improvements



Streetlights pointed downward avoid unnecessary light pollution. Image Source: [Pixabay](#)

Lighting is important because it increases safety in areas used by pedestrians, bicyclists, and equestrians. Lighting also aids in geographic orientation, as people can use well-lit spaces as landmarks for their reference. However, it can be difficult to achieve a balance between providing adequate lighting and avoiding potential light pollution. In many situations, particularly when there is a security concern, there is a tendency to over-illuminate parks, plazas, streets, or other public spaces. But in fact, too much lighting can be just as detrimental as too little, especially in a setting such as Muscoy where maintaining dark skies is a priority for the community.

The key to developing a good plan is to relate lighting to the evening functions of a particular space, because in the larger view, street lighting is more than just a technical requirement, a security need, or a design element. It can be thought of and used in terms of how the type, placement, and wattage affect how a street is perceived and used.

Although its primary purpose is nighttime visibility for security and safety, successful street lighting takes into account the human users of the street or other exterior spaces in order to improve the users' experience. For instance, one way to emphasize pedestrians and bicyclists over automobile traffic is to replace standard overhead streetlights with smaller-scale, more frequently spaced fixtures geared toward all users, not only vehicles. Additional lighting in Muscoy would increase the health, safety, and welfare of the community while preserving the Muscoy's rural character.

Well-lit spaces allow community members to be involved in physical activity for longer periods of time, not only during the day. Additionally, well-lit spaces provide a greater sense of security for community members.

In recent years, light-emitting diode (LED) lighting has gained traction among cities across the nation. Different sources indicate that cities that switch to LED streetlights can achieve operational savings of up to 40 percent. For example, the City of Los Angeles has seen its electricity bill reduced by over 40 percent by replacing city streetlights with LEDs. The City of Boston saves \$2.8 million a year with its upgraded lighting and the project has paid for itself in a year and a half. Converting existing streetlights to LED or installing new LED lights is one of the options for Muscoy.

While lighting costs vary, Table 1, Lighting Infrastructure Costs, lists potential options and possible typical costs per item or measure to be considered. In order to best address future lighting needs, a feasibility study should be completed to evaluate the overall planning, design, and implementation of future lighting sources in Muscoy. Additional costs that would need to be absorbed by the community would be related to operation and maintenance of the light fixtures.

### Lighting Infrastructure Costs

Potential Improvement	Cost (typical per item)
Lighting Study	\$10,000
Wired Streetlight	\$6,000–\$7,000 per light
Solar Streetlight	\$5,000–\$6,000 per light
Low-Level Path Light	\$1,000–\$3,000 per light

Action	Action Leader	Timeline	Objective Resources
1. Hold a meeting to form a Street Lighting Committee	Champion	Month 1	LEOTEK – A municipal guide for converting to LED street lighting <a href="http://www.leotek.com/education/documents/Leotek.LED.Streetlight.Guide.V7-101613.pdf">http://www.leotek.com/education/documents/Leotek.LED.Streetlight.Guide.V7-101613.pdf</a>  Municipal Solid State Street Lighting Consortium – A place for cities to network with other communities who have installed/upgraded to LED street lighting <a href="http://www1.eere.energy.gov/buildings/ssl/consortium.html">http://www1.eere.energy.gov/buildings/ssl/consortium.html</a>  Project Urban Renewable Energy <a href="http://purecities.org/turn-the-lights-on-smart-cities-and-led-street-lighting/">http://purecities.org/turn-the-lights-on-smart-cities-and-led-street-lighting/</a>  Funding Sources: 2009 American Recovery and Reinvestment Act (ARRA) <a href="https://www.washington.edu/research/gca/recovery/">https://www.washington.edu/research/gca/recovery/</a>
2. Decide whether LED or another type of street lighting makes sense for the community.	Street Lighting Committee	Month 2	
3. Define the scope of the project.	Street Lighting Committee	Month 3	
4. Determine funding source (i.e., self-funding, special district, federal government, state programs, utility programs, energy saving contractors (ESCO), others).	Street Lighting Committee, County Special Districts	Month 5	
5. Complete a financial analysis. Consider initial costs, annual savings, and simple payback.	Street Lighting Committee	Month 8	
6. Determine who will purchase the streetlights and improvements.	Street Lighting Committee	Month 12	
7. Narrow the light fixture selection.	Street Lighting Committee	Month 14	
8. Invite manufacturers to present their products for testing and evaluation.	Street Lighting Committee	Month 15	

9. Test preferred luminaires on residential and commercial streets.	Street Lighting Committee	Month 16	Pacific Gas and Electric LED street lighting replacement/conversion program
10. Issue and award bid.	Street Lighting Committee	Month 19	<a href="https://www.pge.com/en_US/business/save-energy-money/business-solutions-and-rebates/lighting/led-street-lighting/led-streetlight-replacement-program.page?">https://www.pge.com/en_US/business/save-energy-money/business-solutions-and-rebates/lighting/led-street-lighting/led-streetlight-replacement-program.page?</a>
11. Implement project.	Street Lighting Committee	Month 20	
12. Institute a long-term maintenance program.	Street Lighting Committee	Month 20	Large Energy Saving Contractors (ESCO) <a href="http://ecoact.org/our-work/programs/?gclid=CPuPp4Xz-88CFcJkhgodtSOEpw">http://ecoact.org/our-work/programs/?gclid=CPuPp4Xz-88CFcJkhgodtSOEpw</a>