



City of Bellingham

STREET LIGHTING REPLACEMENT

The City of Bellingham has partnered with McKinstry, a design-build energy services company, to convert all of the city-owned streetlights to LED fixtures. Light emitting diode (LED) lights use less electricity, last longer and provide better light quality. The expected energy, operational and material savings will pay for the project after *twelve years*, and the City expects to avoid replacing the fixtures for another 20 years. This project reinforces the City of Bellingham's commitment to sustainability as the city will now use less energy and send fewer light fixtures to the landfill.

Aging, expensive street lighting costs cities Over 26 million lights illuminate our nation's streets, costing U.S. cities an estimated **\$2 billion in energy costs** and \$4-6 billion in maintenance costs each year. These high costs can account for up to 40% of a city's annual electricity bill and a significant portion of the city's budget.

LED lighting is a cost-effective alternative LED lighting can significantly reduce these costs. Light-emitting diode (LED) technologies have been around for decades, but have only recently become **cost competitive** with existing street lighting technologies.

LED streetlights improve public safety LED lights illuminate city streets with **targeted, high-quality light** that improves visibility and reduces light pollution.

"This investment benefits the environment, makes our streets safer and saves the City money.

Upgrading to more energy efficient lights moves us closer to achieving our sustainability goals and helps to reduce City's government's day-to-day costs."

- Bellingham Mayor Kelli Linville

BENEFITS TO THE CITY

Replacing all of the city-owned streetlights with LED technology will save the City of Bellingham an estimated:



ENERGY
50-60%

This equates to over:



ANNUAL FINANCIAL SAVINGS
\$240,000

Annual emissions savings equivalent to:



SINGLE-FAMILY HOMES POWERED
63



LIGHT BULBS NOT ENERGIZED
18,000



BENEFITS OF LED STREETLIGHTS

Reduced energy consumption
LED streetlights uses **50-60%** less energy than current technologies. They use fewer watts to produce the same amount of luminosity, saving money to power each streetlight.

50-60%
Reduction in energy

Reduced maintenance costs
LED streetlights last up to **four times longer** than traditional streetlights. Most non-LED streetlights, which rely on filaments and tubes that burn out, need to be replaced every 4-6 years. LED lights, which instead rely on computer chips and electronic parts, are expected to last for 15-20 years and are less likely to unexpectedly fail.

Improved light quality
LED lights produce better color rendering and uniform illumination patterns. The white light emitted by LEDs shows colors as they really are, and provides **better visibility** for drivers and pedestrians. LED lights use lenses rather than reflectors to direct light, which reduces light pollution and improves the efficiency of the fixture.

Vehicle for smart cities
LED streetlights are a vehicle for **smart cities**. Smart controls on the lights can dim when there is no activity on the road, alert officials when maintenance is needed, or flicker to show emergency responders the location of a 911 call. Some cities have experimented with adding solar panels, telecommunication equipment, sensors or security cameras to the lightposts. These all allow the city to monetize their assets while managing their energy use and costs.

Meet sustainability goals
Reducing the City of Bellingham's energy consumption by over **1.8 million kWh** is a critical step towards the city's goal of reducing carbon emissions by 70% from 2000 levels by 2020.

Environmentally friendly
LED light fixtures don't use mercury or other toxic substances, and are often **100% recyclable**. Longer lifetimes of the fixtures means fewer end up the trash.

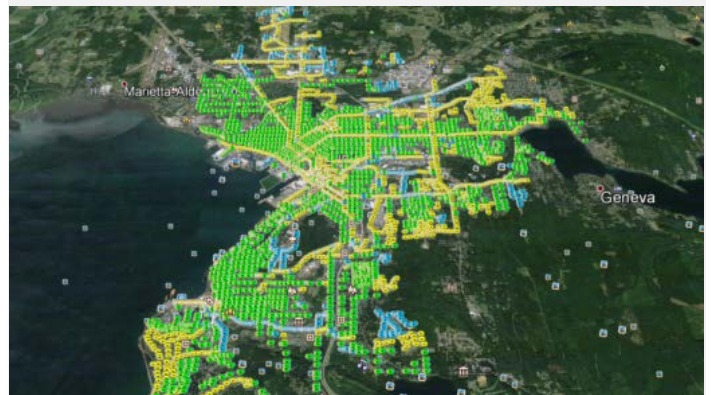
LED streetlights often qualify for low-cost financing
Public agencies often qualify for low-interest bonds or subsidies to upgrade their street lighting. Federal subsidies, bonds and grants all help offset the initial cost of the projects. The City of Bellingham secured a grant from the Department of Commerce for **\$500,000** in addition to an expected **\$400,000** in utility rebates.

THE DIFFERENCE IS CLEAR



The city's new streetlights require less energy and offer better light quality.

TRANSPARENCY



Installation data on the 3,615 city-owned fixtures will be publicly available through Google Maps.

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