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LED Streetlight Conversion Project – Frequently Asked Questions

Why is the City of Peterborough converting streetlights to Light Emitting Diode (LED) fixtures?
The City wants to reduce its energy consumption, maintenance costs and the environmental impact associated with its network of streetlights. It's estimated that the conversion to Smart technology LED streetlight fixtures will reduce annual electricity costs for streetlights by 54% or by $650,000, reduce the maintenance costs on streetlights by 80% or by $187,000 and reduce the City's annual electricity consumption for streetlights by 70% or by 3.6 million kilowatt hours. That's a substantial savings in terms of costs and energy use.

Another factor in the decision is that LED lighting is able to be targeted in a more precise manner than traditional street lighting, reducing glare and lighting only targeted areas. The improved lighting quality enhances safety for both vehicle and pedestrian traffic.

- Energy consumption reduced by 70%
- Energy costs reduced by 54%
- Maintenance costs reduced by 80%
- Reduced light pollution
- Better light quality for pedestrians and vehicle traffic

What are LED streetlights?
LED stands for Light Emitting Diodes. LED streetlight fixtures are energy efficient, virtually maintenance-free, environmentally friendly and last up to four times longer than traditional High Pressure Sodium (HPS) streetlights. LED optics are designed to diffuse and distribute the light in a more precise manner.

Why now?
Advances in LED technology and production methods have brought down the price of LED streetlights in recent years. Given the cost of electricity and maintenance for the traditional street lighting system compared to the ability to reduce energy consumption and costs with LED, City Council decided on April 24, 2017 to convert the City's streetlights to LED fixtures.

How many streetlights will be replaced with LEDs?
This project will replace 7,205 streetlights throughout the City with LED streetlight fixtures.

How much will the City save when it upgrades to LED streetlight fixtures?
The City expects to save an estimated 3,618,570 kilowatt-hours of energy per year, a 70% reduction compared to the current energy consumption for City streetlights. The reduction is

the equivalent of the typical energy use by 375 homes for an entire year. The annual electricity cost is expected to be reduced to $552,800 from the $1.2 million for the existing streetlights, a savings of $650,000.

LEDs will also help the City reduce maintenance costs by a projected 80% because LEDs are a solid-state technology (no moving parts) and last up to four times longer than the City's existing streetlights. Maintenance costs will be reduced to an estimated $46,700 a year from the current annual cost of approximately $233,700 for the traditional streetlights, a savings of $187,000.

Why are the streetlights considered smart technology?
The new LED streetlights will be networked to automatically notify the City when there's a light that's out or malfunctioning, allowing the City to immediately schedule the work to fix the streetlight. The technology should reduce the duration of streetlights being out. Currently, residents call in to report streetlights that are out.

Do LED lights give off less light?
The level of lighting provided by the LED lights remains the same as previous lights. LED streetlights provide a safer light source with better visibility to both pedestrians and motorists. They offer better clarity and improve the ability to identify colours at night. The LED Streetlight Conversion Project includes a change from a drop glass fixture to a flat glass fixture, which changes how light is distributed on the roadway and associated area. This change helps prevent light from spilling or dispersing onto adjacent spaces where it is not intended to be.

Will LEDs reduce or contribute to the light pollution problem?
LED lights actually eliminate the "orange sky glow" found over many cities since the LED is directional and does not disperse in all directions the same way as older light technologies. The LED fixtures are "Dark Sky Compliant" as all light is directed downward.

What are the anticipated installation impacts for my neighbourhood?
It is anticipated that residents and business owners will experience only minor impacts as a result of this project. There will be no permanent construction sites. Crews will be mobile during the installation phase, moving from streetlight to streetlight. There will be proper traffic control with clear signage directing motorists around the installation locations.

When will the work take place?
Installation is scheduled to start the last week of September 2018 and be completed by December 31, 2018.

What wavelength/colour temperature (°K) are the LED lights?
The light colour is a cool white (not a daylight). Glare and other factors were fully considered.

How do streetlights turn on/off?
Streetlights are controlled by an individual photo cell which turns the lights on/off based on light levels present, so lights turn on when it gets dark and off when it gets light.

What is the City doing with all of the streetlights that are being removed?
The existing High-Pressure Sodium (HPS) streetlights will be removed and recycled at qualified environmental disposal centers.

What is the cost of the streetlight conversion project?
The $5.2-million project is supported with $683,428 from the Save on Energy program. Based on the projected savings on electricity, maintenance costs and project costs, the City would recover the cost of the project through savings in seven years.

This information is also on our City of Peterborough website at www.peterborough.ca.

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For further information, please contact the undersigned:
Bruno Bianco
Manager, Infrastructure Planning
Infrastructure and Planning Services
City of Peterborough
500 George Street North
Peterborough, ON K9H 3R9
705-742-7777, ext. 1756
bbianco@peterborough.ca