How bright will the new LED lights be? Are LED's brighter than existing lights?

We will match existing lighting levels on most of the residential areas. About 11% of the fixtures to be installed are in areas of special interest. For example, roadway intersections, crosswalks, school and parks perimeters are designed to receive slightly increased light levels as an added measure of safety.

How much "blue-light" will these new LED lights have? What is the color temperature of LED lights? What is the correlated color temperature (CCT) of the LED's to be installed?

Residential areas of town will receive LED lights that will appear "warmer" (less blue) in color. These lights have a Correlated Color Temperature of 3000K

Commercial areas of town, which serve businesses and main arterial roads, will receive lights with 4000K Correlated Color Temperature. This color is often called "neutral white". It will appear "cooler" than the 3000K fixtures, with slightly higher blue light. This matches the existing color temperature of the LED lighting that was installed a year ago in the City in commercial areas of town.

The existing High Pressure Sodium lights are typically 2200K in Correlated Color Temperature.

How are you managing glare? How are you managing the Dark Sky Association initiative? What about light spillover or pollution?

The new LED streetlights will significantly reduce light pollution and spillover. Conventional lamp-based technologies emit light in all directions, resulting in a considerable amount of light spilling in unwanted directions. The light emitted by the new LED lights is directional. They cast all light downward, with a uniform dispersion pattern and overall minimize light spillover. 95% of the proposed fixtures to be used in this project comply with the International Dark Sky Association recommendation. If you currently experience light intrusion from the existing High Pressure Sodium streetlights, it is entirely possible that the new LED fixture will resolve the problem. If the new LED light trespass continues to be an issue, please call 778-4303 so we may evaluate and remedy the issue.

Why aren't you replacing all of the streetlights?

Ornamental light fixtures will be part of a future LED conversion.

How long will the project take to complete? How long will it take to retrofit a light?

The project is expected to take approximately 4 months to complete. Each retrofit will take approximately fifteen minutes.

Why is the City converting its streetlights to LED? What are the benefits?

LED lights use less electricity and require less maintenance than existing HPS streetlights, while providing safer and better lit streets. Money saved on electricity bills and light replacements will be used to upgrade City streets and traffic signals. The project will also repair many of the currently non-working streetlights wherever possible.

How did the LED fixtures get selected?

At the initiation of this project City staff and the lighting consultant performed field analysis to document existing lighting levels so LED lights similar to the existing streetlights could be selected for the project. The following steps were taken to come up with lighting requirements for the project performance specifications:

- 1. Light level readings were collected in four residential locations in the City.
- 2. An analysis was completed comparing the existing light levels measured in the residential areas to the modeled LED light levels.
- 3. The selected LED light fixture lumen output was chosen to produce light levels that are comparable to existing levels, while improving lighting quality and uniformity.
- 4. Additional fixture features were required to ensure quality, durability, longevity and electrical safety, as well as minimize light pollution and glare.
- 5. The proposed fixtures were approved for purchase once they met <u>all</u> the performance specifications