



CITY OF FALLS CHURCH

DATE: January 8, 2021
TO: Economic Development Authority
FROM: Zak Bradley – Public Works Director
SUBJECT: LED Streetlight Conversion

Introduction and Request

This memo provides information on the ongoing CIP Project to replace the city's existing streetlights with LED fixtures. Included is information on the project justification, project description, community engagement, and next steps for a pilot/test installation. Staff request review and concurrence prior to advancing to the pilot program detailed below.

Background and Project Description

As part of the City's environment and sustainability goals the City has an opportunity, through a partnership with Dominion Energy Virginia (DEV), to expedite the replacement of Dominion-owned mercury vapor and high pressure sodium streetlight fixtures with LEDs, which have 75% lower energy-consumption and last five times longer. Energy and maintenance cost savings allow for payback periods of as little as four years for a basic fixture, or 12 years for a premium fixture. The lighting can also offer improved visibility for public safety, enhancing walkability and bikeability in the City.

This CIP project allows the City to select different types of replacement lighting in separate spaces throughout the City, allowing for unique looks in particular areas. Lighting selection will be consistent with the City's streetscape standards, where they apply. DEV is already replacing some fixtures on existing lights that have failed with LEDs. However, replacements are piecemeal, made without consideration for the overall aesthetic or light pattern and color needs in different locations. Only lights in the "basic" classification are being replaced, and only with the existing fixture style. While this process is at no additional cost to the City, waiting for lights to fail may result in non-uniform replacement types, and will also delay realization of the environmental and cost benefits of reduced energy consumption and maintenance. By selecting several basic style lights, as shown below, the City will be able to provide guidance to DEV and meet the desired appearance and light quality both for individual repair replacements and a coordinated, uniform aesthetic and color temperature along corridors. Premium fixtures and costs will be focused on Great Streets.

The following table outlines the plan to direct DEV lighting replacements, depending on aesthetic, function, and cost consistent with adopted plans.

WHERE	FIXTURE NAME	PREMIUM OR BASIC
Corridor	Cobra Head	BASIC
Parks	Colonial Style	BASIC
Frady' Park	Basic Acorn	BASIC
Residential	Carlyle Acorn	BASIC
Great Streets Preferred	Cutoff Acorn	PREMIUM
Great Streets Back-Up	Carlyle Acorn	BASIC



Color Temperature Reference



Carlyle Acorn



Basic Acorn



Cutoff Acorn



Colonial Style



Cobra Head

Community Engagement

To date, City staff has presented to the following boards and commissions and has had a multi-department task force site visit with DEV to confirm lighting options. The only change to result directly from the presentations with the board and commissions was to have Dark Sky compliant fixtures in city parks. To accommodate this, the basic acorn has been replaced with the cutoff acorn in all parks except for Frady's Park, where the basic acorn will remain for aesthetic reasons. The board and commissions below were invited and in attendance at the DEV field visit and were able to provide comments on the color temperature as well. Based on nighttime observations and surrounding community's experience, a color temperature of 3000k will be used in residential areas. Commercial areas may receive a color temperature of 4000k at the Police Department's or Sherriff's request. The City also plans to reduce the HID-LED equivalent wattage one step to offset any additional brightness impacts.

Planning Commission:	February 2020
Architectural Advisory Board:	March 2020
Environmental Sustainability Commission:	May 2020
CACT:	September 2020
Field visit:	October 2020

Next Steps – Pilot Installation

Prior to the roll out of the LED streetlight replacement program City wide, staff will select a small portion of the City to begin the LED fixture swaps in. This smaller, pilot program will help ensure that any unintended consequences will be mitigated. While public comment will not be accepted for aesthetics and design of the lighting, there will approximately one (1) month for residents to work with the City on any negative impacts the new LED lights may have. The affected residents will receive notice letters so that they can report any issues immediately, helping to expedite the roll out of LEDs City wide and maintain the one month communication timeframe.

- *All Cobra Heads will be replaced with Shoebox LED Lights
- Red Lines = Great Streets: Cutoff Acorns (Premium Lighting)
- Green Shapes = Parks: Colonial
- Blue Dots = DEV owned Commercial & Residential Lighting

