



Fairfax County Streetlights

Program Overview

Department of Public Works and Environmental Services
Department of Transportation

September 28, 2021

Overview

Fairfax County has largest municipal streetlight inventory in Virginia:
~ 59,515 lights

Major initiatives:

- Converting streetlights to dark-sky approved LED
- Increasing inventory through private projects & public programs
- Working with Dominion to expand fixture styles
- Promoting pedestrian & cyclist safety with improved lighting for:
sidewalks, bike lanes, trails



Parameters

- Power companies are providers of County streetlight equipment on public roadways
- Dominion Energy Virginia (96%) and Northern Virginia Electrical Cooperative (4%) own, operate, and maintain streetlight inventory under the VEPGA contract with County
- VDOT issues permits for lighting along ROW
- 2018 Streetlight Study recommended continuation of current business practices with the Power Companies

Streetlight Programs

- LED Conversion: 5-year program to convert 56,600 light fixtures on existing poles (22,200 converted to date, which includes photometric updates to current standards)
- Developer Streetlight Program: Development Plans & Conditions per PFM requirements
- Citizen Streetlight Program (via Dim Bulb Program): Fixtures added to existing utility poles
- District Discretionary Streetlight Requests
- Transportation and County CIP projects: Streets, trails, & Metro lighting
- Outage Reporting Program



Benefits of LED Streetlight Fixtures

- LED conversion program: Reduces CO2 gas emissions by 32.4 million lbs/year (equiv. to emissions of 3,200 cars)
- LEDs reduce long-term maintenance & operations costs
- Dark sky approved fixtures - limits nighttime light pollution and glow
- White LED enhance safety through enhanced color rendition and better visibility for drivers and pedestrians
- Studies show high color temperatures are detrimental to human health & animals – 3000K-type fixtures being used

Streetlight Requirements and Standards

- Public Facilities Manual, Section 7-0800: Includes the requirements & guidance for streetlights on public roads
- Zoning Ordinance Article 5, Section 5109, provides standards on Outdoor Lighting
- Developer plans include proffers and development conditions related to lighting
- Land Development Services (LDS) Letters to Industry, Technical Bulletin 14-07, Tysons Design Guidance, and Criteria for Non-Standard Lighting Along Public Roads
- Urban Design Guidelines recommend preferred fixtures to promote consistency and placemaking in certain Activity Centers

Lighting for Pedestrians/Cyclists

- Pedestrian lighting is provided as ancillary to roadway lighting.
Roads are classified as high, medium or low pedestrian use and lighting levels are set to meet those classifications
- Signalized intersections require 2x the lighting level as the roadway
- Some high pedestrian traffic corridors receive increased lighting:
Route 7 in Tysons and Richmond Highway (BRT project)
- Bike lane lighting is provided as ancillary to roadway lighting when adjacent to the roadway



Streetlight Program Continuation

- Continue annual funding of the LED Streetlight Conversion Program due to benefits of LED lighting and the need to update our streetlight inventory to current roadway standards
- Continue funding the Supervisor District Discretionary fund (can apply toward streetlights)
- Continue regular DPWES, DPD, LDS and FCDOT collaboration on improvements to existing regulations, guidelines and lighting best practices

Improvements to Consider

- Off-site trail lighting
 - Initial design/installation costs and O&M by County
 - Nearly 200 County-owned trail lights currently installed with more in progress
 - County has no O&M resources
- Expand portfolio of lighting types through VEPGA
- Partner with VDOT to relocate rather than remove existing streetlights on roadway improvement projects
- Partner with VDOT to revise secondary road streetlighting criteria
- Implement Smart City Technologies

Primary DPWES-CAP Streetlight Role

- Review of Developer Design Submissions
- Reconciliation of Dominion & NOVEC invoices
- Streetlight Outage Reporting

Questions:

- Does the Board require any further clarification of existing workload/activities?
- What additional tasks and/or initiatives does the Board want the County to add?