


# Memo

**To:** Board of Managers  
**From:** Michael Younes, Director of Municipal Operations   
**CC:** Shana Davis-Cook, Village Manager  
John Fitzgerald, Chief of Police  
**Date:** 2/8/2012  
**Re:** Street light Upgrades

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## **Background**

In the past two (2) triennial Chevy Chase Village resident surveys, residents overwhelmingly supported upgrading the street lighting throughout the Village. As a pedestrian and public safety initiative, with support from the Police Department and Public Works Committee, the Village staff has developed a plan to use funds generated by the *SafeSpeed* Program to enhance and upgrade the lighting throughout the Village's rights-of-way.

The Village currently has 272 streetlights that are installed on PEPCO power poles. Last year, PEPCO replaced all current streetlights—at no cost to the Village—with 70-watt high pressure sodium bulbs; before the switch-out all streetlights in the Village used mercury vapor bulbs. This switch-out was required as a result of Congress passing the Energy Policy Act of 2005, which prohibited the manufacturing and importing of mercury vapor bulbs as of January 1, 2008, due to the high levels of mercury used within the bulbs and needed for manufacturing.

Many of the existing streetlights are spaced at intervals that create wide dark spots along Village streets and rights-of-way or are elevated into the canopies of the trees. The height of each street light is driven by the following factors:

1. Minimum height for trucks to pass: The minimum height for trucks to safely pass under is 22 feet.
2. Location of the streetlight power lines: Depending on #3 below, the streetlight arm will be located eighteen (18) inches below the electrical feed wire.

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3. Wire spacing requirements: Because PEPCO poles are used by other utility companies (Comcast, Verizon, etc.), there are specific separation requirements that must be observed. For example, non-electrical wires must be separated from each other by twelve (12) inches, and electrical wires must be separated from non-electrical equipment/wires by eighteen (18) inches.

Chief Fitzgerald and I have met with PEPCO representatives to discuss additional street lighting and other upgrades such as increasing bulb wattage and reconfiguring lights to be more centered over the intersection. The Board has budgeted \$30,000 for street light upgrades in our current fiscal year (FY12; see the attached CIP Expenditure Detail Sheet).

### **PEPCO LED Street Light Pilot Program**

Over the past 2 years, PEPCO has been exploring the possibility of using Light Emitting Diode (LED) technology for street lighting. LED technology is still new for streetlights. LED lights are far more energy efficient than other types of lighting and provide true white light. LED lights differ from traditional lights in that the latter is naturally refractive because the light emitted from the filament disperses in all directions. Light from LEDs is directional because the light comes from a direct light source called a diode and must be manually reflected and then refracted.

PEPCO has set up a pilot program to evaluate the effectiveness, reliability, light dispersion, and aesthetics of LED street lighting. One of the pilot areas is in the Town of Somerset along Dorset Avenue (between Little Falls Parkway and Surrey Street). PEPCO had hoped to complete its pilot program by spring 2012; however reliability concerns and maintenance issues with the LED lights have forced PEPCO to extend the pilot program through 2014. Once PEPCO's pilot program is completed, the Maryland Public Service Commission must approve the LED streetlights and issue a tariff from which the Village will be able to purchase the lights from PEPCO. The tariff issuance process in some cases can take up to one year. If the program remains on this time schedule, the Village would be able to access LED lights no earlier than FY2016.

### **"Dark Spot" Locations**

Based on 2 surveys conducted over the last eighteen (18) months by the Village Police Department, Public Works Committee and from resident feedback, a list of "dark spots" has been identified as a public safety priority for consideration.

#### **New Lights on Existing Pole:**

- Grafton Street and Magnolia Parkway (Boxwood Area): *Two new lights on existing poles*
- Across from All Saints Church on Oliver Street
- Across from 3909 Oliver Street
- Across from 3915 Oliver Street
- In front of 3922 Oliver Street
- Across from 3931 Oliver Street
- In front of 6320 Broad Branch Road

- Between 108 and 110 Summerfield Road
- In front of 102 Summerfield Road
- In front of 6 Quincy Street
- Between 10 and 24 Quincy Street

**New Lights on New Pole:**

- Between 127 and 129 Grafton Street
- Between 4111 and 4113 Oliver Street
- East Melrose Street between 16 East Melrose Street and Brookville Road
- Laurel Parkway behind Public Works Yard
- East Irving Street between Connecticut Avenue and 4 East Irving Street

**Increase Streetlight Wattage:**

- Intersection of Nevada Avenue and East Melrose Street
- Primrose Street between 28 Primrose Street and Brookville Road
- Intersection of Grafton Street and Cedar Parkway
- Intersection of East Lenox Street and Brookville Road

**Reconfigure an existing streetlights' arm or location:**

- Magnolia Parkway and West Kirke Street intersection
- East Kirke Street between Connecticut Avenue and Brookville Road: *2 lights need to be re-oriented.*

**Pricing**

PEPCO has provided the below pricing estimates received for the various types of street lighting modifications. These are estimates pending PEPCO's design and installation of the streetlights, which can result in unforeseen circumstances and can cause cost modifications. As an example, if a transformer needs upgrading due to the increased street lighting, the transformer cost alone can be over \$5,000; however, the need to upgrade the transformer will not be established until the design work is completed. In some cases the cost could be less. By policy, PEPCO will not begin any work until there is a commitment from the jurisdiction. In certain circumstances (such as the unforeseen need for a transformer), the Village would be able to scrap plans for a streetlight, but we would be required to compensate PEPCO for the work completed to that point. These terms are the same as those that the Village accepted in the agreement with PEPCO for the relocation of four utility poles during the Brookville Road sidewalk project.

<b>Type of Upgrade</b>	<b>Cost</b>
Installation of a new streetlight where a power pole already exists	\$1,015 ea.
Installation of a new streetlight where a power pole does not exist	\$4,619 ea.
Increase wattage on an existing streetlight	\$1,164 ea.
Reconfigure an existing streetlights' arm or location	\$1,239 ea.

## **Recommendation**

Based on the need to increase street lighting throughout the Village and to limit “dark spots” that can attract criminal activity, I recommend a two (2) phased approach over FY12 and FY13. In the current fiscal year, the highest priority areas would be addressed. After the first set of street lights are installed, a follow-up survey would be conducted to further analyze the remaining “dark spots” and identify further vulnerabilities. In FY13, the remaining (and any newly-identified) dark spots would be addressed. Police Chief John Fitzgerald supports this phasing recommendation as appropriate for addressing the public safety concerns.

I would recommend addressing the following locations as “Phase 1” during the current fiscal year for a total estimated cost of \$26,410:

### **New Lights on Existing Pole:**

- Grafton Street and Magnolia Parkway (Boxwood Area): *Two new lights on existing poles*<sup>1</sup>
- Across from All Saints Church on Oliver Street
- Across from 3909 Oliver Street
- Across from 3915 Oliver Street
- In front of 3922 Oliver Street
- Across from 3931 Oliver Street
- In front of 6320 Broad Branch Road
- In front of 102 Summerfield Road
- Between 108 and 110 Summerfield Road

### **New Lights on New Pole:**

- East Melrose Street between 16 East Melrose Street and Brookville Road
- Laurel Parkway behind Public Works Yard
- East Irving Street between Connecticut Avenue and 4 East Irving Street

### **Increase Streetlight Wattage:**

- Intersection of Grafton Street and Cedar Parkway<sup>2</sup>

### **Reconfigure an existing streetlights’ arm or location:**

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<sup>1</sup> Currently, within the Boxwood Area is a free standing light pole, which became inoperable two (2) years ago. Because no one knew who owned the light it was never repaired. After investigating this light, at the Village’s request, PEPCO determined that the light pole is owned by the Village and is connected via an underground electric feed to a PEPCO power pole at the Grafton Street and Chevy Chase Circle intersection. In order to make this light operable, the Village would need to hire a licensed electrician to confirm that the wiring in the light and the pole itself are safe. Once the integrity of the wiring is confirmed, PEPCO can ensure that the underground electrical feed is working properly at no cost. Illumination and repairs, if needed, of this light would be addressed during “phase 2” of the streetlight upgrades if it is determined that the 2 additional lights do not provide sufficient illumination.

<sup>2</sup> Consideration has been made to adding an additional streetlight in this location; however, due to technical issues such as not having an empty power pole available, this is not feasible.

- Magnolia Parkway and West Kirke Street intersection<sup>2</sup>

Phase 2 would be addressed in FY2013 and would include the following locations in addition to those identified in a follow-up survey:

**New Lights on Existing Pole:**

- In front of 6 Quincy Street
- Between 10 and 24 Quincy Street

**New Lights on New Pole:**

- Between 127 and 129 Grafton Street
- Between 4111 and 4113 Oliver Street

**Increase Streetlight Wattage:**

- Primrose Street between 28 Primrose Street and Brookville Road<sup>2</sup>
- Intersection of Nevada Avenue and East Melrose Street<sup>2</sup>
- Intersection of East Lenox Street and Brookville Road<sup>2</sup>

**Reconfigure an existing streetlights' arm or location:**

- East Kirke Street between Connecticut Avenue and Brookville Road: *2 lights need to be re-oriented.*<sup>2</sup>

The estimated total cost for Phase 2 upgrades is \$17,313. Currently, budgeted in the draft Capital Improvements Program budget is \$20,000. I would recommend holding the draft number as budgeted until Phase 1 is complete and a follow-up survey is conducted, at which time a secondary report and recommendation would be made to the Board for consideration. Final Pricing observed from Phase 1 would allow for a further refinement of PEPCO's estimated figures.

If the Board approves the recommendations herein, PEPCO will begin the process to formally design and confirm all electrical requirements for Phase 1. PEPCO anticipates that all design and installation work should be completed within 4 months, barring any unforeseen circumstances that may pull PEPCO crews/contractors from this work (i.e., major weather storms, etc.).

**Attachments**

Map of "Dark Spot" Locations  
CIP Expenditure Detail Sheet



**Legend**

- Existing Streetlight Locations
- New Light on Existing Pole

- New Light on New Pole
- Increase Streetlight Wattage
- Reconfigure existing streetlight arm or location

**Village-wide Streetlight  
"Dark Spot" Locations**

0 250 500 1,000 1,500 Feet



Compiled by: M. Younes 02/8/2012  
Source: Chevy Chase Village

## Project Detail Sheet

### Village-Wide Streetlight Upgrade Project

<b>Category</b>	Infrastructure	<b>Date Last Modified</b>	February 11, 2011
<b>Department</b>	Public Works	<b>Funding Source</b>	<i>SafeSpeed</i>
<b>Zone Location</b>	1, 2, 3, 4	<b>Status</b>	Planning Stage

#### EST. EXPENDITURE SCHEDULE (dollars in thousands)

Cost Element	Total	Est. FY11	Total 6 Years	FY12	FY13	FY14	FY15	FY16	FY17	Beyond 6 Years
Planning, Design and Supervision	16	2	14	2	0	3	3	3	3	0
Land acquisition	0	0	0	0	0	0	0	0	0	0
Site Improvements and Utilities	0	0	0	0	0	0	0	0	0	0
Construction	828	0	828	28	0	200	200	200	200	0
Other	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>844</b>	<b>2</b>	<b>842</b>	<b>30</b>	<b>0</b>	<b>203</b>	<b>203</b>	<b>203</b>	<b>203</b>	<b>0</b>

#### EST. FUNDING SCHEDULE (dollars in thousands)

<i>SafeSpeed</i> Revenues	844	2	842	30	0	203	203	203	203	0
<b>Total</b>	<b>844</b>	<b>2</b>	<b>842</b>	<b>30</b>	<b>0</b>	<b>203</b>	<b>203</b>	<b>203</b>	<b>203</b>	<b>0</b>

#### EST. OPERATING BUDGET IMPACT (dollars in thousands)

Labor/Maintenance			-49.75	0.25	0	-5	-10	-15	-20
Materials/Equipment			0	0	0	0	0	0	0
<b>Total</b>			<b>-49.75</b>	<b>0.25</b>	<b>0</b>	<b>-5</b>	<b>-10</b>	<b>-15</b>	<b>-20</b>

#### Description

This project will replace all 262 High Pressure Sodium streetlights owned by PEPCO with Light Emitting Diode (LED) streetlights. PEPCO is currently testing various types of LED in several locations in the region, based on the results from the study on the service reliability and light dispersion PEPCO will offer an approved LED streetlight. LED lights are far superior than current available streetlight technology, LED lights emit a white light and consume near 80% less electricity and have a near 60% longer lifespan. The project will enhance and upgrade the exiting street lighting creating safer pedestrian and vehicular access throughout the Village. As a result of the increased pedestrian, vehicular and public safety this project is eligible for funding under the *SafeSpeed* program.

#### Estimated Schedule

The project is currently in a holding pattern as PEPCO is still in the testing and evaluation phase of LED street lighting. If the LED streetlights are approved by PEPCO, they would be required to submit to the Maryland Public Service Commission (PSC) an application for a rate tariff for the new LED fixtures including a maintenance charge for approval. It is estimated that approval from PEPCO would be granted in fiscal year 2012 and PSC approval would follow in fiscal year 2013.

#### Cost Change


There have been no cost changes.

#### Justification

This project would enhance and upgrade the exiting street lighting creating safer pedestrian and vehicular access throughout the Village. As a result of the increased pedestrian, vehicular and public safety this project is eligible for funding under the *SafeSpeed* program. The project has also been recommended by the Public Works Committee and Resident Survey to be a priority.

#### Other Disclosures

None

<p><b>Coordination</b> Board of Managers PEPCO Public Works Committee</p>	<p><b>Map</b></p> 
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