

Streetlights Working Group

March 28, 2011

Meeting Highlights- DRAFT

Attendance: Christopher Chapin, Citelum; Luisa Robles, City of Greenbelt; J. Davis, City of Greenbelt; Walter Seedlock, MWAA; Anthony Lawson, DDOT; Jason Blevins, DDOT; Tina Casey, DDOT; Bob Grow, Board of Trade; Shahid Abbas, Arlington County; Arianna Ugliano, Sierra Club; Judy McGuire, Town of Chevy Chase; Bob Cantrell, Sensus; Ken Hicks, Sensus; Dan Barry, DDOE; Mike Picucci, Pepco; Ernie Baker, Pepco; Michael Haug, Savwatt USA, Inc; Lee Ingram, Prince George's County; Erica Bannerman, City of Alexandria; Allen Hedgepeth, Prince William County; Lisa Jaatinen, City of Alexandria; Bonnie Wine, City of Alexandria; Seema Wadhwa, INOVA

MWCOG Staff: Jeannine Altavilla, Steve Bieber, Jeff King, Joan Rohlfs

1. Call to Order, Introductions: Chair J. Davis, Mayor of Greenbelt

- Meeting called to order at 10:05am.

2. Review of Meeting Summary from September Meeting; Amendments to Agenda

- The minutes from the September 20, 2010 meeting were approved.

3. Pepco's Street Lights Initiative

- **MD 9217- Phase II**
 - Testimony for the rate case in the public service commission case 9217 on street lights was due February 25th. There was a hearing on March 15 and updated testimony is due March 29.
 - Testimony includes a street lights cost of service study and more customer options for unbundled services
- **LED Pilot**
 - This is a streetlight pilot tied to MD9217.
 - Pepco has filed an experimental tariff
 - The rate is just experimental because the technology is maturing
 - Results from the pilot are being finalized, including customer comments
 - Overall favorable
- **Outage Reporting system**
 - Beta testing a streetlight outage system upgrade
 - It is geospatial and intuitive to use
 - Residents can see the light's history
 - Similar to a Google interface, users can locate the light on a map and color coding lets them know if it has been reported and once it's been repaired
 - Working on an email response system to notify the resident it has been repaired
 - Pilot with the Department of Public Works in several municipalities

- Hopefully the customer interface issues will be resolved in 30 days. The mean time for repair is 15 days, and last year 80% of repairs were within 5 days.
 - Have been using a similar system in Arlington. Good customer system. Normal time is 10 days. The contracting company refunds Arlington if it is not fixed in 10 days. The system can generate a summary or reports and fixed lights. Cable problems can be reported. Can report in the field. Automatic emails when fixed. The system has some bugs but is good. It is through Dominion. The major problem is incorrect reporting. The grid system doesn't always correspond to the streets.
- **Mercury Vapor to High Pressure Sodium conversion**
 - Through the end of 2010 6,000 lights were converted. 750 each in Montgomery and Prince George's Counties will be converted in 2011. Similar numbers will be replaced in 2012, with the program finishing in 2015.

4. INOVA Hospital Lighting Replacement Project

- Presentation given at end of meeting.
- "Going Green" by looking at outdoor lighting.
- The garage in Fairfax is one of the County's largest with over 860 lights. Looking at options. In August 2009 induction lights were tested successfully. The fixtures were retrofitted. Indoor garages and some outdoor surface lights are being retrofitted.
- The new garage at Fair Oaks is using LED and working well.
- Difficulties
 - Insuring the UL rating was maintained
 - Worked with neighbors for education
- Program highlights
 - Return on investment in less than two years
 - Garages are currently mercury halide and high pressure sodium.
 - These have a better color rendering on security cameras
 - Installed submeters on the garages to see true impacts, including baseline.
- UL testing?
 - DDOT won't purchase anything not UL rated
 - INOVA- components are UL, but the fixture hasn't been tested
 - Arlington tested in the new fixtures and they are UL rated

5. District of Columbia's Alley Lighting Replacement Project

- In 2009 the District hired Howard University for a study to replace alley lighting that examined the benefits and drawbacks of LED technology. It proved that LEDs had greater efficiency, were less costly, required less maintenance, and were better for the environment.
- 15 vendors were narrowed down to 3 and after a showcase one fixture was selected by a Florida company.
- 1,200 will be installed over the next couple months after the contract is finalized.

- EECBG will fund all of these lights. They are 74 W LEDs to replace mostly 150 lights and also some lower watt lights.
- Some grant money has been given to Virginia Tech to conduct a streetside study. It will last eight months and examine cobra and teardrop lamps from 150-400 W, including tunnels and overhead signs.
- Studies will be available when released, including consumer options.
- Alley lights will be in all 8 wards. There are about 12,000 total alley lights in DC.
- The replacement specifications for the remaining fixtures will change to LED, and they will be updated as needed.
- Replacing the entire fixture was more cost-effective than a retrofit. It is cost-effective to replace them when repairs need to be done.
- A monitoring system, including remote control and self-reporting is being put into place in conjunction with the roll-out. The lights are dimmable.
- Arlington- 40% of the lights have been replaced with LED. Experiments finished 2 years ago. Tried all available lights.
 - They were all intelligent with wireless control.
 - The biggest hurdle is FCC approval with the wireless system.
 - Public safety switched one of their frequencies to fiber optics so the line will be open for the streetlight system. 10-12 KB of data are sent a few times a night, so there is no need for great capacity.
 - The study was completed with LEDs at 100% light levels, and showed a savings in 62% of electricity charges and 64% of kWh usage.
 - Converting to the smart lighting system gained an additional 30% savings for a total of 80-85% savings
 - The lights can flash for an evacuation route
 - Public safety can flash the lights in an emergency area.
 - Working on a system for a push button on the poles for a citizen to report an emergency to 911.
 - The lights exceed International Dark Sky Association standards.
 - There is a 7 year warranty on the lights, which have a practical life of 80,000 hours. Looking for no more than a 2% depreciation after 7 years. Calculations show a payback in 5 years. The County expects the lights to last for 45 years.
 - The wireless system for the entire coverage area is \$60,000.
 - Dominion has been proactive. They own 16,000 lights and are working on a rate with the regulatory authority, VEPGA. They agreed to change all of their lights to LEDs. They used a three month reading from one corridor in Arlington to establish the rates. Arlington will supply the lights and Dominion will install them, with Arlington maintaining ownership. The fixtures are fully ready and cost \$649. The Cobras are Phillips, out of Montreal and the Posts are Relume out of Michigan.
 - Citizens are appreciative as long as it is not in front of their homes. Even with less light it stands out. Overtime they adjust to the color difference.

- Lights can be dimmed individually but are being grouped by streets, arterials, and neighborhoods.
- In Chevy Chase all lights will be converted using available funds. In-house workers will install with overtime and volunteer hours, which will save 80% compared to using a contractor. Now the workmen are familiar with the lights. They started installing 2 lights per day and can now do 120. All except for 16,000 cobra lights are owned by the County.
- DDOT saw maintenance savings on a 40% conversion. There hasn't been other maintenance since they were installed, so it's difficult to tell long-term maintenance costs.
- Arlington's LED traffic lights were all converted by 2009 and have an 80% energy savings and less than a 1% failure.
- All DDOT lights except for the Cobras are metered.

6. Industry Showcase: Sensus

- FlexNet- end-point agnostic system controls: streetlights, smart grid, electric, water, gas
- Sensus AMI- own spectrum that covers a broad area with few antenna
- Induction example- direct connection with each light
- Induction or LED fixtures available. There is no perfect technology. Many prefer induction in close-quarters because it is warmer, but LED gives a greater sight range
- Combine much into one system: monitoring, low voltage, energy consumption, hours of operation
- Work with telecommunications industry to increase ballast life to 12-15 years
- Typical payback is 5 years. Parking garages with 24 hour operations see 2-3 years.
- Low interest financing available through Sensus
- Photo sensor one thing likely to fail. Replacing this with new lights is helpful to ensure less maintenance.
- GPS coordinates work with sunset/sunrise timing and allow dimming as appropriate
- GHG reduction reported
- Emergency flash, demand response capabilities
- True cost to change light- crew and bucket is \$200 per light
- Demonstration of remotely controlled lights
- User interface demonstration with light in Raleigh
- So far utilities have accepted the data for correcting billing.
- If inflexible tariff you must work with utility

7. State legislative Initiatives

- Maryland HB905 has been sent to the Economic Matters Committee but has not seen action.
 - The bill establishes a course to ensure that local governments may purchase their utility-owned streetlights at a fair market value (FMV). If the local government does not believe the utility stated price accurately represents the FMV then the government can

file for a condemnation hearing and allow the Public Service Commission to intervene on their behalf. Criteria to assist in establishing FMV are listed.

- The bill was introduced in 2010 with no action taken.
- Condemnation difficulty establishing the fair market value, probably will not go too far this year due to PSC 9217
- Local governments can buy but it is difficult to establish a fair price
- HB 906 in the state legislature died, which would allow municipalities to set their own standards for brightness. They might try next year.

8. Utility and Local Government Updates- conversion programs, ownership, pilots

- Alexandria
 - Question information on use of LEDs for safety and security. Crime prevention due to bright lights and promotion due to dimming?
 - Lights can be altered in emergency situations, for instance, you can drive more light in areas necessary for a missing person search.
 - One city in Colorado couldn't afford to keep streetlights on so they turned them off.
 - USDOT may release new IES specs this year based on light temperature.
- Arlington
 - Lights are intended for roadway safety, not general area safety
 - MDOT study
 - Lights had no effect on safety
 - Areas with neighborhood watch signs had slightly higher crime rates
 - In urban conditions streetlights enhance safety for pedestrian users. Light uniformity is the biggest factor. Drivers have difficulties when they change from hot to cold light.
 - VDOT and Virginia Tech study had the same findings. It was financed by the FHWA. They recommended a different approach to lighting crosswalks
 - Do not light middle of intersection, but approach to intersection
- Chevy Chase
 - Safety issue with pedestrians on sidewalks. The streetlights are blocked by trees.
 - Arlington does not light neighborhoods. Pole heights are changed based on areas. Not important to light sidewalk, but the crosswalk area.

10. Set Next Meeting Date and Adjourn

- Next meeting tentatively set for May 23rd at 10am.
- Meeting adjourned at 12 pm.