



# Town of South Bethany Planning Commission

Draft Street Lighting Master Plan

**Presentation to Town Council**

October 24, 2019

# Today's Objectives

- Provide background & context for the Planning Commission's efforts to develop a comprehensive lighting plan – including key considerations that support our initial recommendations
- Present initial recommendations and order-of-magnitude costs.
- Receive direction from the Council on additional support
- Agree on any next steps and timeframe

# Background

- 2015 CP property owner survey: 60% of primary homeowners and 45% of secondary homeowners wanted street light improvements (approximately 60% of residents responded)
- 2017 Comprehensive Plan:
  - Vision statement: “South Bethany is a well-lit town providing safe use of its roads and walkways by pedestrians, cyclists and vehicles”. “Provide a uniform and consistent lighting solution that attempts to balance cost effectiveness, aesthetics, environmental concerns and input from its property owners”.
  - Goal 3: “to maintain a safe public environment for Town residents and visitors”
  - Goal 5: “plan for and improve Town lighting to meet modern standards for safe communities while meeting concerns for light pollution”

# Street Lighting Master Plan Approach

- Define Goals, Objectives and Scope
  - Clearly define what the Plan does/does not address (e.g., Route 1)
  - The agreed upon basis for reaching conclusions
    - Financial considerations
    - Location considerations
    - Type and functionality of fixtures
    - Implementation considerations
- Approach – describe a methodological approach to reaching conclusions to avoid perception of individual bias within the PC
  - Define process for reaching recommendations

# Process

1. Investigate standards
2. Find similar town programs
3. Identify priority applications of lighting
4. Inventory SB pole and lighting infrastructure
5. Discuss options with DELMARVA Power
6. Obtain cost data per fixture and pole
7. Determine number of all potential new poles and/or fixtures, and those in the prioritized recommendation
8. Develop summary recommendations
9. Present finding to Mayor and Council

# 1. Standards

1. There really are no relevant standards that provide guidance on this type of residential lighting
  
2. Standards:
  - ANSI/IESNA RP-8, American National Standard Practice for Roadway Lighting, or the American Association of State Highway and Transportation Officials (AASHTO) GL-6 Roadway Lighting Design Guide (11). Both were published in 2005. Pertain to state highways only

## 2. Best Practices for Small Towns

New Lighting should endeavor to balance the following:

- Preserve the Town's small-town character;
- Minimize impacts on adjacent property owners;
- Control glare and light trespass;
- Conserve energy;
- Maintain safety and security of people and wildlife; and
- Maintain the view of the stars in the night sky

# 3. Priority Applications of Lighting

1. Many towns have a lighting policy in their Code. These are generally consistent with the prioritization criteria the Committee agreed to
2. Prioritization criteria used in our recommendation:
  - a) Canal-ends
  - b) Key intersections
  - c) Mid-street locations (approximately every 300-400 feet – or about every 6 to 8 lots)
  - d) Use existing poles where possible
  - e) Achieve maximum consistency with type and style of lights on power poles and free-standing poles, and with any existing fixtures to be maintained
  - f) Improved safety, including property



## 4. South Bethany Lighting Infrastructure

The Commission conducted a physical inventory of every street:

- Identified each existing light by type fixture
- Identified each pole with or without light
- Annotated the Town plat/map with collected data
- Provided to Town Manager for use

This was used as the basis for determining number of potential new poles and/or fixtures required to meet priority locations

# 5. Discussed Options with DELMARVA

- Questions posed to DELMARVA
- Received visit from James Smith, Senior Public Affairs Manager
  - Delmarva Power will only provide fixtures from the selection on their site (attached pictures) – either free-standing or pole-mounted
  - Purchasing fixtures outside of this list will require:
    - Purchase and installation of new light poles
    - Contracting for installation of electrical service to the new poles
    - Town responsible for all on-going maintenance, repairs and replacement
  - The only fixtures Delmarva Power will permit on their poles are the ones they provide. There is only one supplier, with limited options.

# 6. Costing Approach

- Investigated tools for costing lighting projects. Found very good tools , but out of scale for our size application
  - Plenty of actual cost examples for similar installations
    - New light fixture standalone, installed: approximately \$8000.
    - Cannot install on DELMARVA poles, so new COBRAS not calculated
- Conducted analysis of leasing from DELMARVA Power versus buying from the open market. Concluded could not recommend buying commercially due to cost and the limitation on use of existing poles
- Obtained data from Town on current cost per light and costs from 2017 light installation project (free-standing lights along Canal Drive and in Cat Hill)
- Key costing assumptions:
  - Average cost per new free-standing pole (one-time) = \$750 each
  - Average operating cost per year = \$138
  - Average annual savings converting existing high-pressure sodium to LED = \$76/fixture

# 7. Analysis of Potential New Fixtures & Poles

Following the location criteria for both total and priority locations, the following fixtures & poles would be required:

**Priority Locations Based On Safety:**

1. Primary intersections
2. Canal-ends
3. Mid-street (approximately 400 - 600 foot intervals)

<u>Location</u>	<u>Total</u>	<u>Priority</u>
<u>New Fixtures</u>		
Intersection/Court	47	27
Canal-End	29	22
Mid-Street	<u>68</u>	<u>21</u>
	144	70
<u>Replacing Existing Fixtures</u>		
On Free-Standing Poles	23	23
On Wood Poles	<u>49</u>	<u>49</u>
	72	72
<u>Total New Fixtures</u>	216	142
<u>New Poles (Free-Standing)</u>	52	22

## 8. Summary Recommendations

- Lease poles and fixtures from Delmarva Power
- Use existing poles where possible
- Replace existing fixtures with those consistent with new application
- Implement only prioritized locations at this time
- Target work to be complete before beginning of 2020 'season'

### Budget Projections

- One-time cost = \$16,500
- Net increase in annual operating expense = \$9,775

# Recommended Next Steps If Approved

- Confirm number and location of fixtures and poles, including discussion with Police Chief
- Get quote from Delmarva Power – installation and operational costs
- Finalize selection of fixture style (both free-standing & pole-mount)
- Develop a survey for homeowners
  - Re-confirming overall interest in improved lighting
  - Describing prioritization criteria to be used
  - Introducing key considerations and initial direction (style, poles, existing, etc.)
- Complete analysis and develop final recommendations
- Present to Council for budget inclusion