



# Residential Sidewalk Lighting

**Focus Group – February 29, 2024**

Residents of Beachwood Boulevard, Ranch Road,  
Concord Road, Beacon Road

**Residents, please sign in and provide your contact information.**



# Residential Sidewalk Lighting

## PRESENTERS

Justin Berns, Mayor

Ali B. Stern,  
Councilwoman & Chair of Communications

Tina Turick, City Administrator

Brian Roenigk, Building Commissioner

Marty Bursky,  
Lighting Expert from Cleveland Lighting

Mike Kachala,  
Lighting Engineer Director for Hinkley Light

## CITY COUNCIL

Alec Isaacson,  
Council President

Danielle Shoykhet,  
Council Vice Present

Jillian Delong

Joshua Mintz

Ali B. Stern

Eric Synenberg

June E. Taylor

# What Our Residents Want



**FAST**



**EASY**



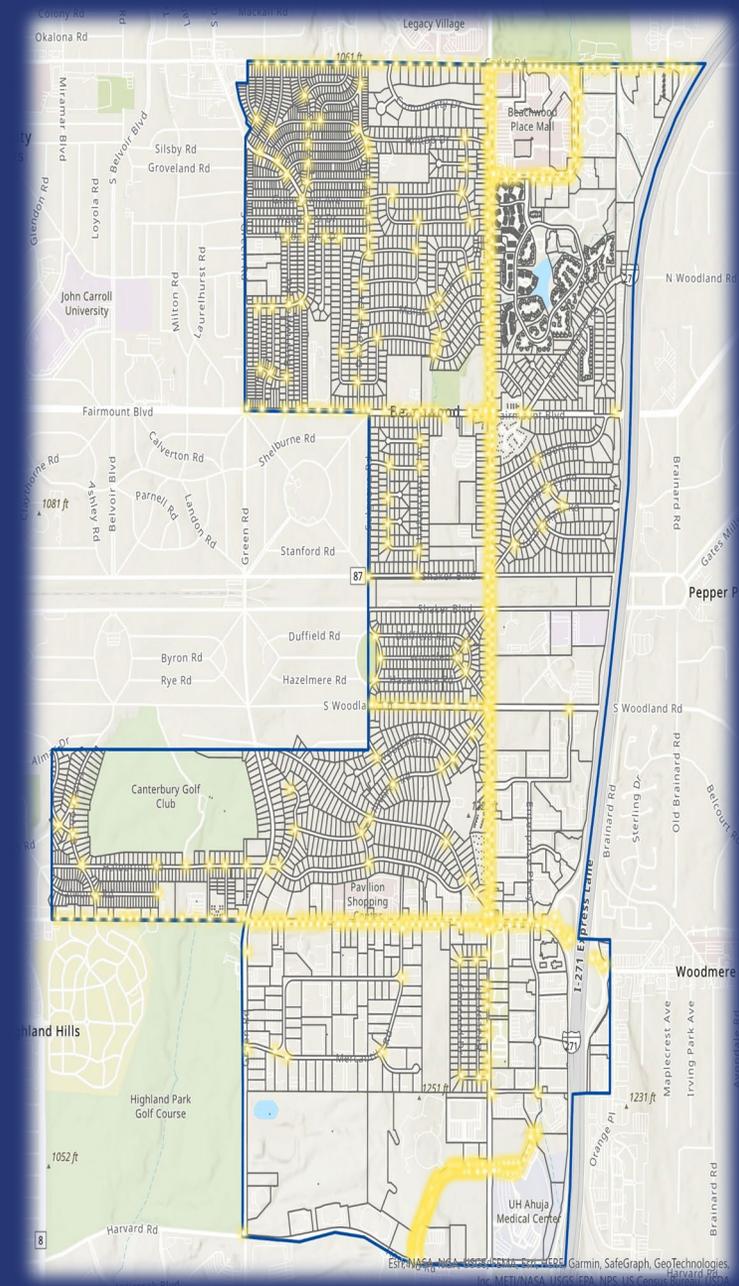
**NO TAX  
INCREASE**

# Innovative Concept - Carriage Lighting



# History of Street Lighting

## Current Street Lighting Map



# Traditional Light Concepts



# Residential Carriage Lighting



**FAST**



**EASY**



**NO TAX  
INCREASE**



# Residential Sidewalk Lighting

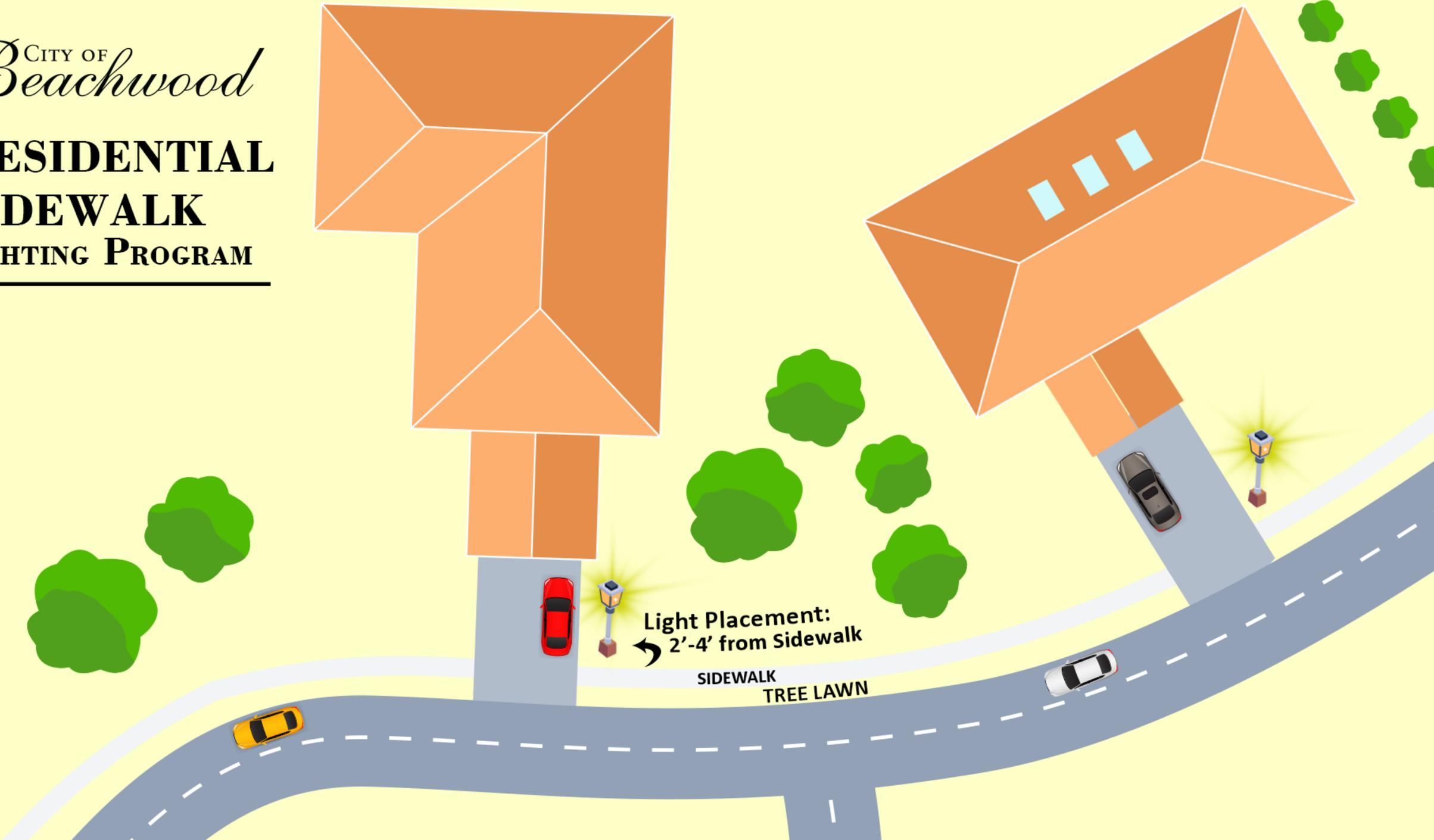
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Pilot Program – Conceptual Model

[BeachwoodOhio.com](http://BeachwoodOhio.com)

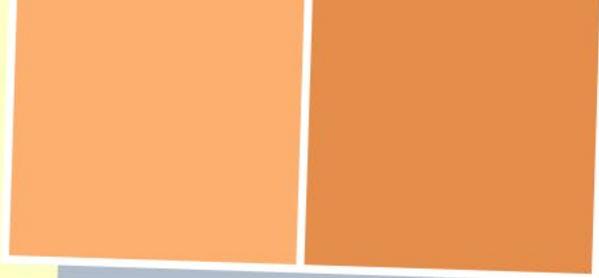
*CITY OF*  
*Beachwood*  
**RESIDENTIAL  
SIDEWALK  
LIGHTING PROGRAM**

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Light Placement:  
2'-4' from Sidewalk

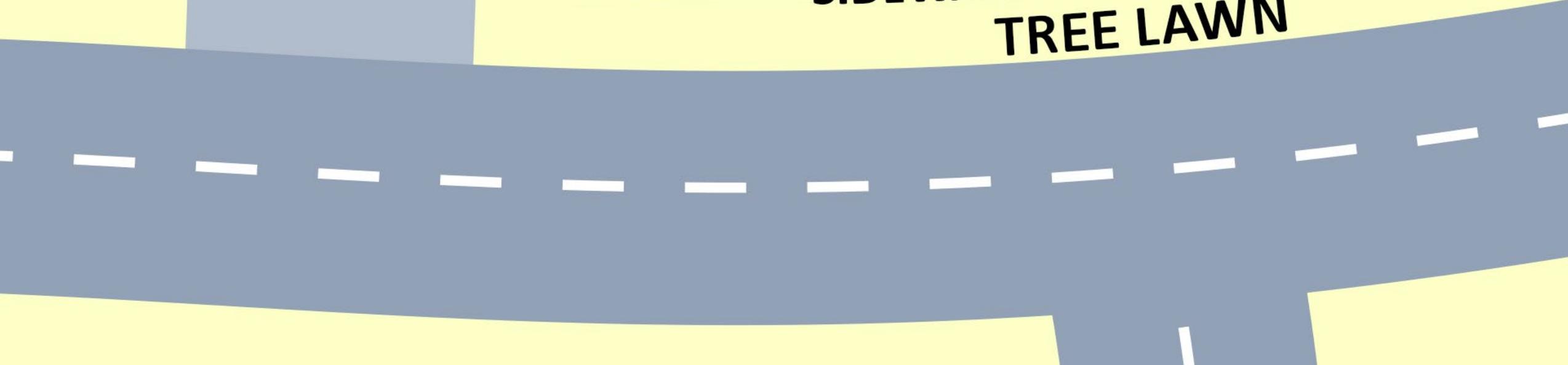
SIDEWALK  
TREE LAWN

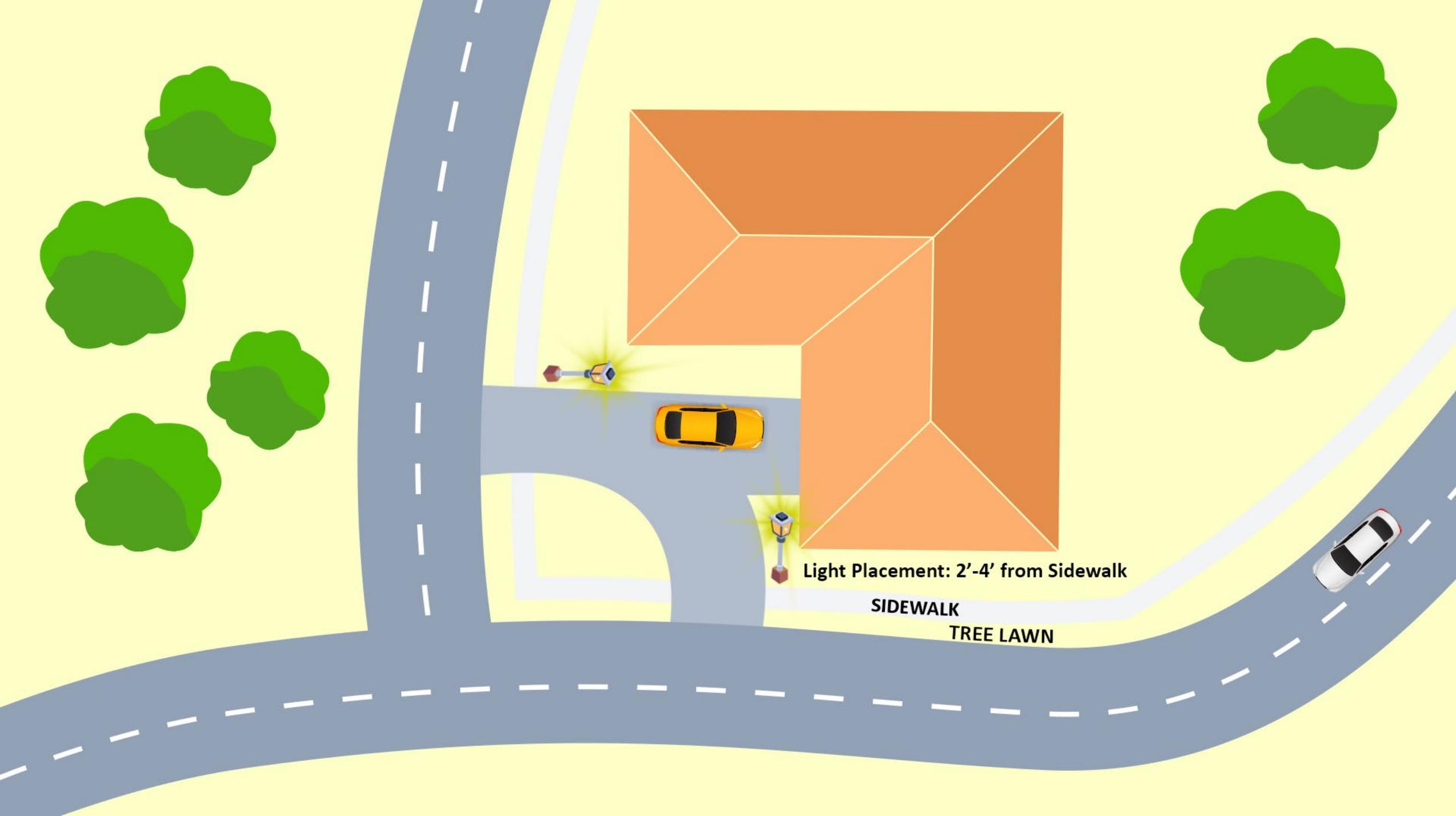


**Light Placement:**  
↩ **2'-4' from Sidewalk**

**SIDEWALK**

**TREE LAWN**





Light Placement: 2'-4' from Sidewalk

SIDEWALK

TREE LAWN

# Efficiency & Impact

Energy Efficiency & Energy Costs	 Light Emitting Diodes (LEDs)	 Incandescent Light Bulbs	 Compact Fluorescents (CFLs)
<b>Life Span (average)</b>	50,000 hours	1,200 hours	8,000 hours
<b>Watts of electricity used</b> (equivalent to 60 watt bulb).  LEDs use less power (watts) per unit of light generated (lumens). LEDs help reduce greenhouse gas emissions from power plants and lower electric bills	6 - 8 watts	60 watts	13-15 watts
<b>Kilo-watts of Electricity used</b> (30 Incandescent Bulbs per year equivalent)	329 KWh/yr.	3285 KWh/yr.	767 KWh/yr.
<b>Annual Operating Cost</b> (30 Incandescent Bulbs per year equivalent)	\$32.85/year	\$328.59/year	\$76.65/year

Environmental Impact	 Light Emitting Diodes (LEDs)	 Incandescent Light Bulbs	 Compact Fluorescents (CFLs)
<b>Contains the TOXIC Mercury</b>	No	No	Yes - Mercury is very toxic to your health and the environment
<b>RoHS Compliant</b>	Yes	Yes	No - contains 1mg-5mg of Mercury and is a major risk to the environment
<b>Carbon Dioxide Emissions</b> (30 bulbs per year)  Lower energy consumption decreases: CO2 emissions, sulfur oxide, and high-level nuclear waste.	451 pounds/year	4500 pounds/year	1051 pounds/year

# Important Facts & Output

<u>Important Facts</u>	 Light Emitting Diodes (LEDs)	 Incandescent Light Bulbs	 Compact Fluorescents (CFLs)
Sensitivity to low temperatures	None	Some	Yes - may not work under negative 10 degrees Fahrenheit or over 120 degrees Fahrenheit
Sensitive to humidity	No	Some	Yes
On/off Cycling Switching a CFL on/off quickly, in a closet for instance, may decrease the lifespan of the bulb.	No Effect	Some	Yes - can reduce lifespan drastically
Turns on instantly	Yes	Yes	No - takes time to warm up
Durability	Very Durable - LEDs can handle jarring and bumping	Not Very Durable - glass or filament can break easily	Not Very Durable - glass can break easily
Heat Emitted	3.4 btu's/hour	85 btu's/hour	30 btu's/hour
Failure Modes	Not typical	Some	Yes - may catch on fire, smoke, or emit an odor

<u>Light Output</u>	 Light Emitting Diodes (LEDs)	 Incandescent Light Bulbs	 Compact Fluorescents (CFLs)
Lumens	Watts	Watts	Watts
450	4-5	40	9-13
800	6-8	60	13-15
1,100	9-13	75	18-25
1,600	16-20	100	23-30
2,600	25-28	150	30-55



# Electricity Calculator – Comparing Bulbs

*(Based on \$0.06 per kWh used for 10 hours per day.)*



## **Traditional Incandescent**

- 100 Watt Bulb
- Estimated \$1.83 per month
- \$21.92 per year



## **CFL Bulb**

- 30 Watt Bulb
- Estimated \$0.55 per month
- \$6.57 per year



## **LED Bulb**

- 20 Watt Bulb
- Estimated \$0.37 per month
- \$4.38 per year

# Five Lighting Principles for Responsible Outdoor Lighting



Responsible outdoor lighting is

## 1 Useful

### Use light only if it is needed

All light should have a clear purpose. Consider how the use of light will impact the area, including wildlife and their habitats.



## 2 Targeted

### Direct light so it falls only where it is needed

Use shielding and careful aiming to target the direction of the light beam so that it points downward and does not spill beyond where it is needed.



## 3 Low Level

### Light should be no brighter than necessary

Use the lowest light level required. Be mindful of surface conditions, as some surfaces may reflect more light into the night sky than intended.



## 4 Controlled

### Use light only when it is needed

Use controls such as timers or motion detectors to ensure that light is available when it is needed, dimmed when possible, and turned off when not needed.



## 5 Warm-colored

### Use warmer color lights where possible

Limit the amount of shorter wavelength (blue-violet) light to the least amount needed.



Photo: CSE-2023



**ALFORD PLACE POST LIGHT**

14" W X 26" H  
(3) E12 5W  
MUSEUM BLACK



**EDGEWATER POST LIGHT**

10" W X 21.25" H  
(3) E12 LED12V  
BLACK



**BROMLEY POST LIGHT**

10" W X 22.75" H  
(3) E12 LED12V  
MUSEUM BLACK



**STANDARD SERIES TRANSFORMER**

4" W X 3.5" H X 6.75" L  
60W 120V  
BLACK



**7' DIRECT BURIAL POST**

3" W X 84" H  
BLACK



# Program Requirements

## Post Light Requirements:

- Top must be 8' or less from grade.
- Placed 2'-4' from sidewalk or right-of-way on the homeowner's property adjacent to the driveway.
- LED, CFL or Low Voltage bulbs only. No incandescent bulbs.
- Powered by 110 volts, 12 volts. No solar powered lights.
- Maximum LED wattage: 20W  
(Equal to a 100W incandescent)
- Multiple lamp fixtures allowed but must equal 20 watts LED.
- LED Kelvin Color between 3000-3500k.
- Must be activated by photoelectric cell.
- No disconnecting means permitted other than the required overcurrent protective device.
- Must come on at night until morning.
- Must be maintained in working condition for 5 years by the homeowner, per the signed agreement.

1. Each homeowner will receive a stipend toward the cost of the post lamp purchase and installation at each curb cut.
2. Post light requirements must be met. See details to the left.
3. The homeowner or registered electrical contractor must first apply for a "no fee" electrical permit from the Beachwood Building Department.

### • Required Permit Items

- Overhead property view with marked location of the post(s) including distance from the sidewalk or right-of-way.
  - Description and specifications of the light, post and power requirements.
  - Once reviewed, the homeowner/contractor will receive the no fee permit and work may begin. The electrical contractor must schedule and pass an underground electric inspection and final inspection with the City of Beachwood.
4. Prior to receiving compensation from the City of Beachwood, the homeowner/contractor must install and pass all inspections. Once approved, the homeowner will be receive their stipend.

*Installation must follow all National Electric Codes and the City of Beachwood Ordinances.*

# Lighting The Way

## Residential Checklist

-  **Pick your light & post.**
-  **Pick your contractor.**
-  **Get your permit.**
-  **Get your inspection.**
-  **Get your money.**





# Let's Start The Conversation!

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Questions? Advice?

[BeachwoodOhio.com](http://BeachwoodOhio.com)



# Next Steps

- March 4: City Council Meeting
- Follow-Up Phone Calls
- Program Update
  - After Passover and Spring Break

## **Additional Questions?**

Contact Mayor Justin Berns at 216-292-1901 or Brian Roenigk, Building Commissioner, at 216-292-1914.

To contact us by email, please use [pilot@beachwoodohio.com](mailto:pilot@beachwoodohio.com).



# Thank You For Attending!

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