



# **LED STREET LIGHT REPLACEMENT PROGRAM**

January 11, 2018

Public Works Commission



# Outline

- Street Light System Background
- Background on LED Street Lighting Project
- LED Street Light Replacement Program
- Next Steps
- Recommendation



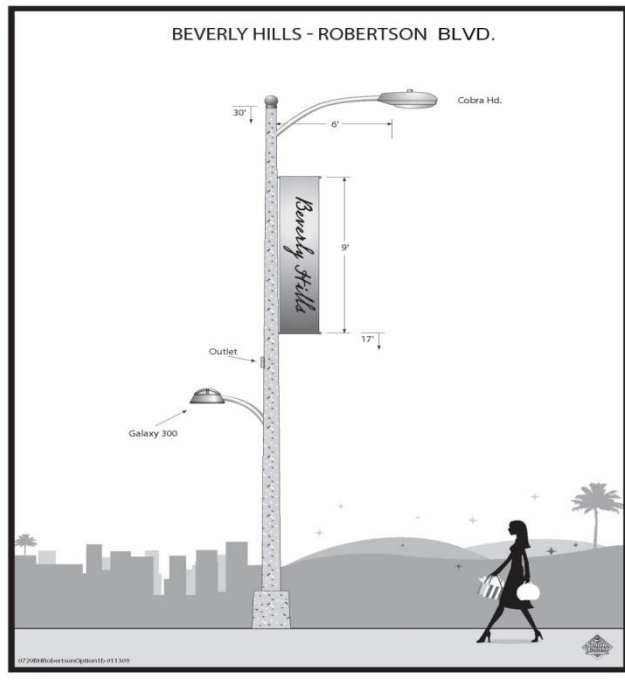
# Street Light System Background

- Estimated 5000 street lights
- Concrete and metal poles
- Electrical cost \$367,000 per year

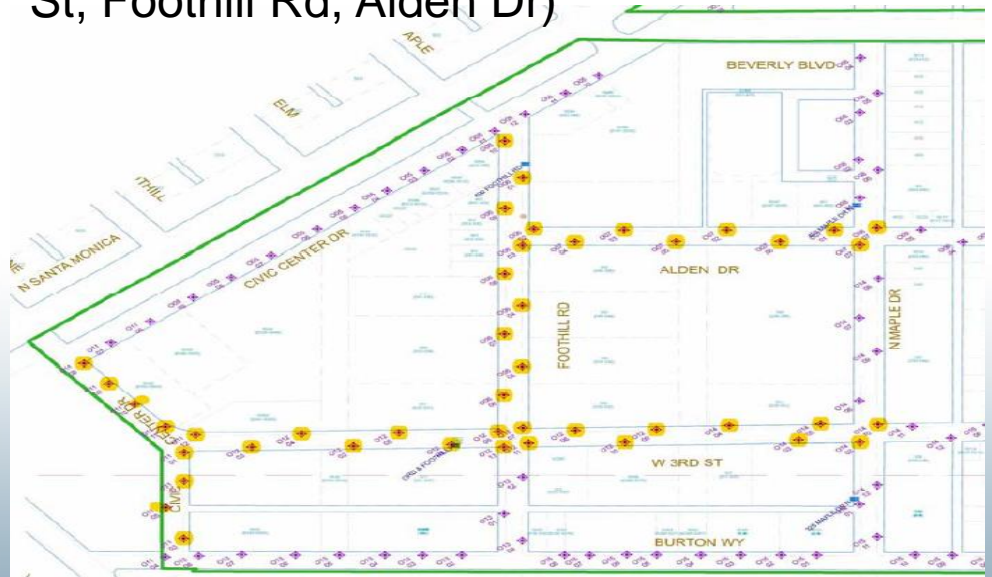


# Background on LED Street Lights

- 2009 Phase III Street Light Project
- 2016 Residential Street Light Pilot Program
- 2017 LED Street Light Demonstration Project



**Public Works Area** (Civic Center Dr, W 3<sup>rd</sup> St, Foothill Rd, Alden Dr)



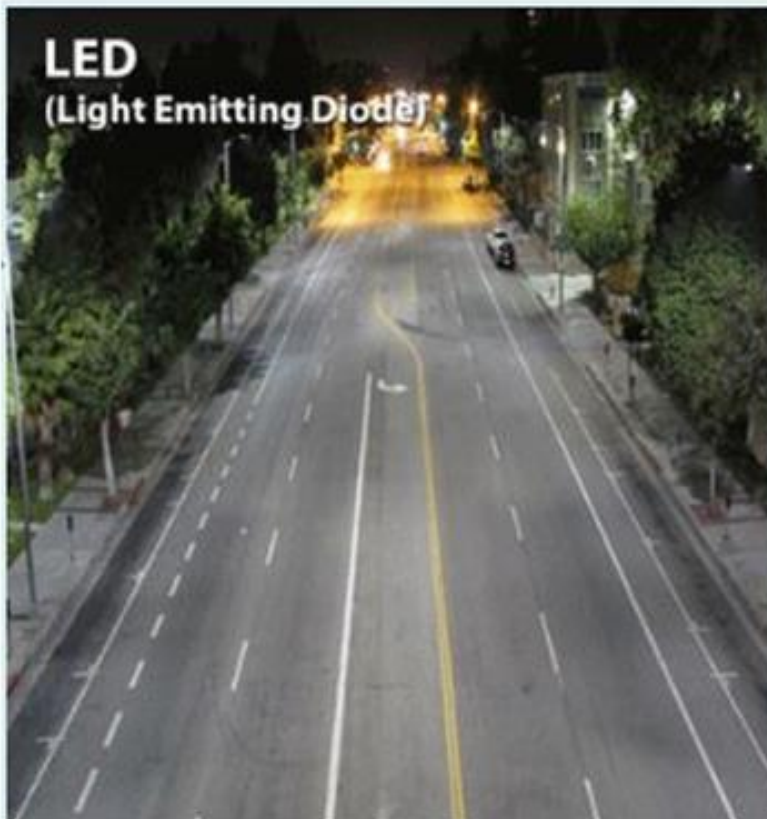


# LED Street Light Replacement Program

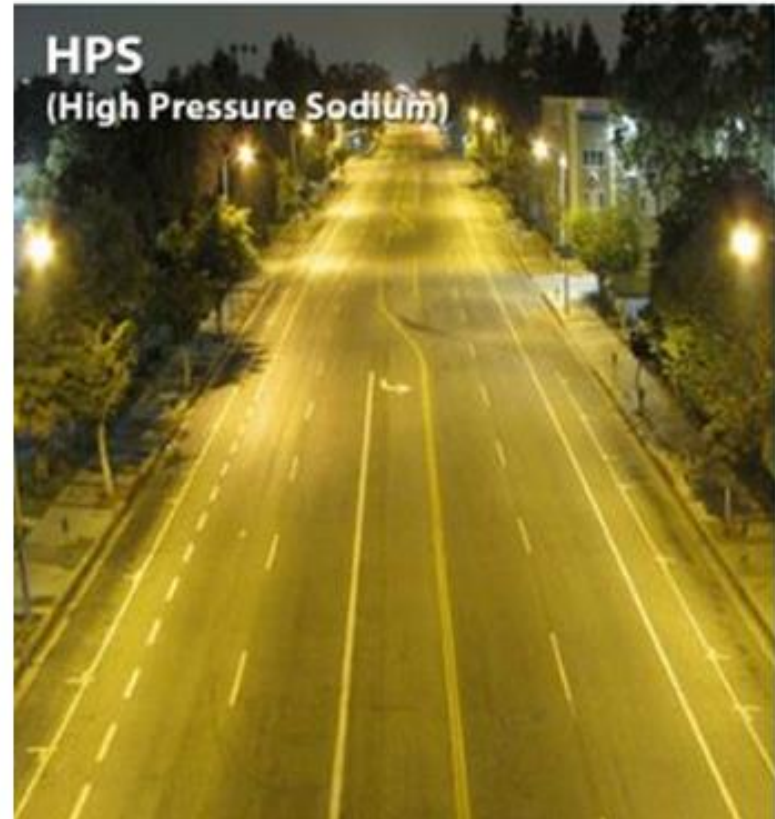
- Recommendation for full implementation
- Budgeted for \$2.5 M & Council Priority
- Standardization of Illuminating Settings:
  - Color Temperature
  - Intensity
  - Distribution
  - Fixture (luminaires)
- Benefits



**Figure 1: LED Light Compared to Standard Street Lights – High Pressure Sodium**



**LED Street Lights**

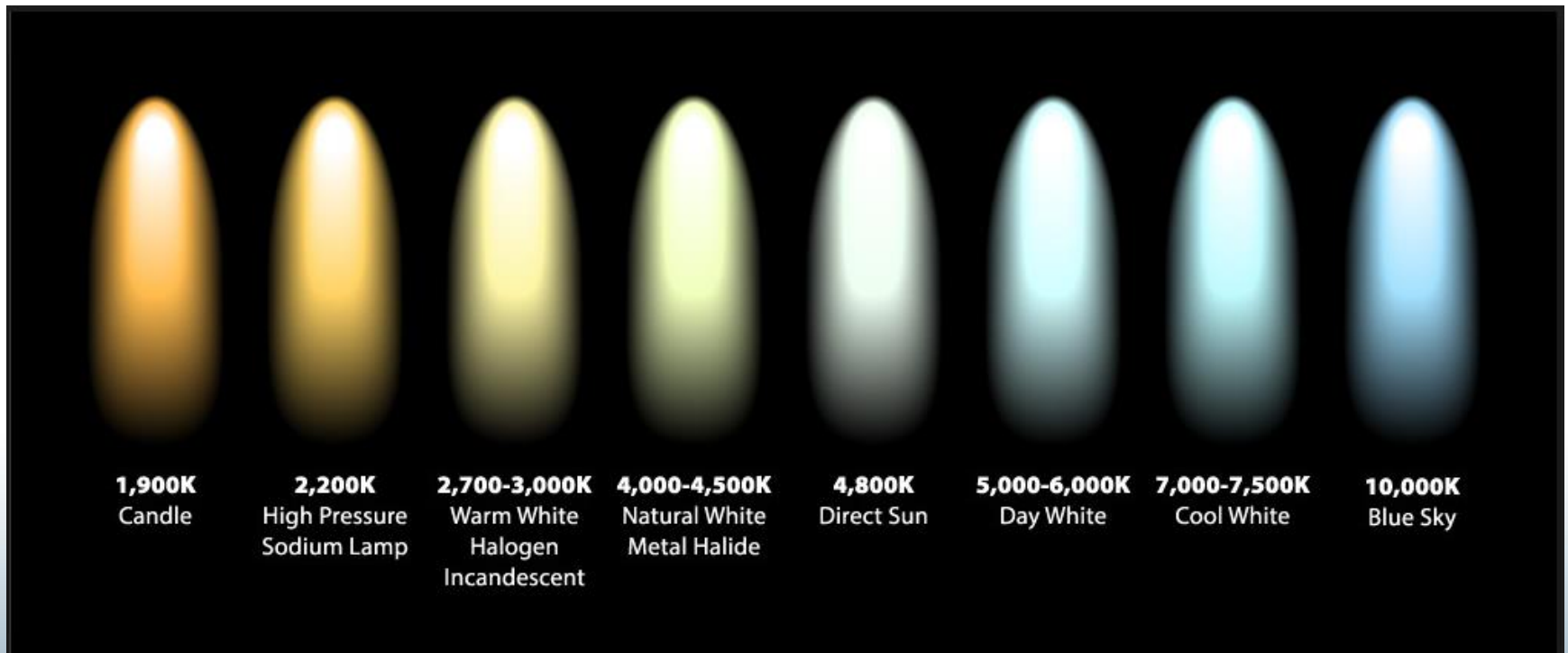


**Standard Street Lights (HPS)**



# Color Temperature

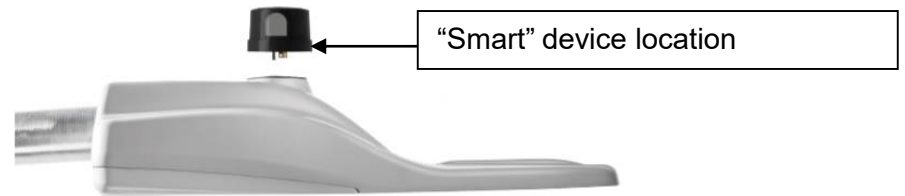
- Residential at 3000K
- Commercial at 4000K





# Light Fixture (luminaire)

- Replace cobra heads with LED cobra heads
- Replace none cobra heads to similar ones



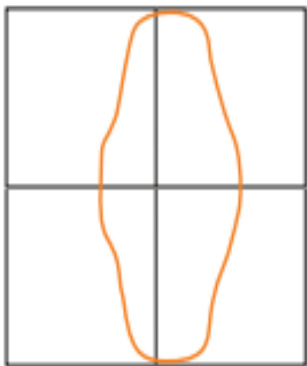




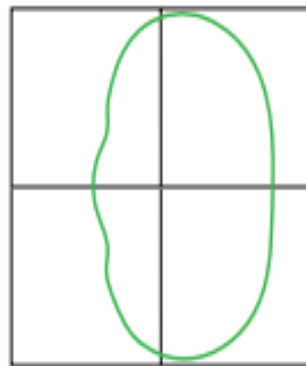
# Light Distribution & Intensity

- Mostly Type 2 and Type 3
- Light Intensity to remain as existing.

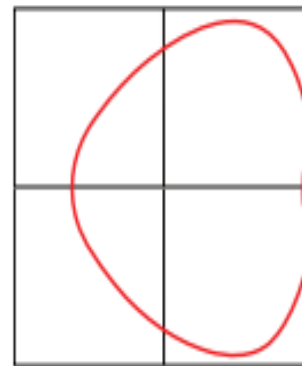
## Distribution Types



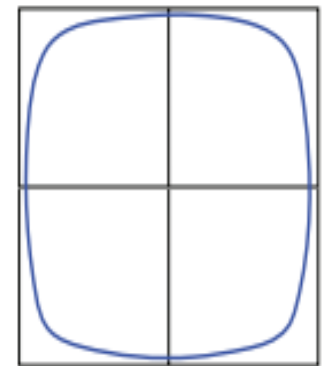
Type 2



Type 3



Type 4



Type 5



## Smart Controls and Smart City Device

- Not recommended for this program due to:
  - Safety
  - Operational Impacts
- Program implementation is “Smart” and “Smart City” device ready



# Benefits

- Reduced Green House Gas (GHG) emission
- Reduce energy consumption by 2.4 M kWh/year.
- Annual cost savings \$184,000
- Receive available incentives
- Reduced maintenance



# Next Steps

- Set up Full Implementation Plan
- Detailed audit for energy savings and benefits
- Use the National Joint Powers Alliance (NJPA) for procurement
- Update the Commission with details of the project.



# Recommendation

- Full Implementation of the LED Street Light Replacement Program