

LED Streetlight Conversion

Citywide conversion from high pressure sodium to LED streetlight fixtures.

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*Presenter: Drew Bryck, Environmental Program
Manager*



Background

- 7,964 existing street lights
- Majority are High Pressure Sodium
- Started investigation of LED option in 2016
- City of Phoenix was also investigating the options and selected Ameresco
- Saving of 38% of original cost estimates to utilize Cooperative purchasing from Phoenix



Advantage of LED

HPS Street Lighting (HPS)

- 1970s Technology
- Poor Color Rendering
- Higher Energy Use

LED Street Lighting (LED)

- Current Technology
- High Color Rendering (3 X Better than HPS)
- Over 60% less Energy than HPS



Rationale

- Strategic Goal: Maintain Community Safety for Businesses and Residents
- Municipal Sustainability Plan: Key component.
- Reduce energy use by 3,600,000 million kWh/year
 - Enough to offset the energy use of 267 homes.

Phase I – GIS Audit and Pilot

- In this phase the goal is to accurately identify all of the City's Street Lighting including information for each location such as
 - Fixture Type
 - Wattage
 - Pole Configuration
 - Utility Provider
- Utilizing this data, the appropriate LED Retrofit Fixture to correctly light each type of roadway can be determined through photometric modeling of the typical configurations
- Once the fixture selections are complete, the guaranteed energy savings and final project costs are determined and provided to the City for Approval to proceed to Phase II Implementation



Phase I Cont.

Three outcomes of audit:

- Audit complete – Project not feasible.
- Audit complete – Project feasible – City does not proceed with construction.
- Audit Complete – Project feasible – City moves forward with construction.

Phase II - Implementation

- Includes material procurement, installation of the LED fixtures, confirmation of performance and confirmation of energy savings
- Also included is the securing of Rebates from APS
- Beneficial to complete the APS served fixtures by year end to maximize the rebate amount (\$0.11/kWh 2017 vs. \$0.05/kWh 2018)



Schedule

- GIS Audit and Photometric Design Sept, 17
- Review and Approval by City Nov, 17
- Implementation of Project June, 18
- Confirmation of Performance July, 18
- Guarantee of Energy Savings Annually for Full Term

Recommendation

Staff is requesting that City Council approve a CPA with Ameresco to complete an investment grade audit and pilot demonstration in the amount of \$103,449.