

Engineering Department

City Street Lights - LED Conversion Analysis

Date: 8/2/2022

JED

KEYS Energy - Standard Monthly Lighting Charges - Case 1

(KEYS owns fixture, lamp replacement, plus dawn to dusk energy)

Lamp Type	Monthly Price Ea.	City Street Lights (Qty)	Monthly Charge to City
100W SV	\$ 9.71	165	\$ 1,602.15
100W SV-Cutoff Optic	\$ 9.82	663	\$ 6,510.66
200W SV	\$ 15.08	96	\$ 1,447.68
200 W SV-Cutoff Optic	\$ 15.14	359	\$ 5,435.26
400W-SV-All	\$ 25.69	18	\$ 462.42
24W LED	\$ 12.09	152	\$ 1,837.68
38W LED	\$ 12.70	469	\$ 5,956.30
54W LED	\$ 13.40	231	\$ 3,095.40

Proposed Replacement LED Bulbs

54W LED	\$ 13.40
---------	----------

Based on review of the KEYS Energy - Standard Monthly Lighting Charges - Case 1 above, it appears that the only existing bulbs that result in cost savings and are cost effective for the City to replace with new LED Bulbs are the 200W SV, 200W SV-Cutoff Optic, 400W SV-All. This was confirmed by KEYS Energy. The quantity of lights in these Lamp Type categories totals 473.

Cost Difference Before and After Bulb Replacement

Number of 200w SV, 200W SV-cutoff & 400W SV Bulbs	473
Monthly Cost	\$ 7,345.36

Number of Replacement 54W LED Bulbs	473
Monthly Price Ea. - 54W LED	\$ 13.40
Monthly Cost	\$ 6,338.20

Savings Per Month After Bulb Replacement:	\$ 1,007.16
Savings Per Year After Bulb Replacement:	\$ 12,085.92

Cost to City

LED Bulb Price	\$ -	(KEYS Absorbing Cost)
KEYS Labor Per Bulb	\$ 165.00	(Approx) Password
Number of Replacement 54W LED Bulbs	473	
Total Cost to City	\$ 78,045.00	

Return on Investment

Total Cost to City	\$ 78,045.00
Cost Savings per year	\$ 12,085.92
Payback - Years	6.46