

# Comparative Energy Analysis Report

Prepared for  
City of Walnut

Prepared by  
The Energy Coalition

On Behalf of  
The Southern California Regional Energy Network Public Agency Project Delivery Programs

Date  
6/24/2019

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## 1. Overview

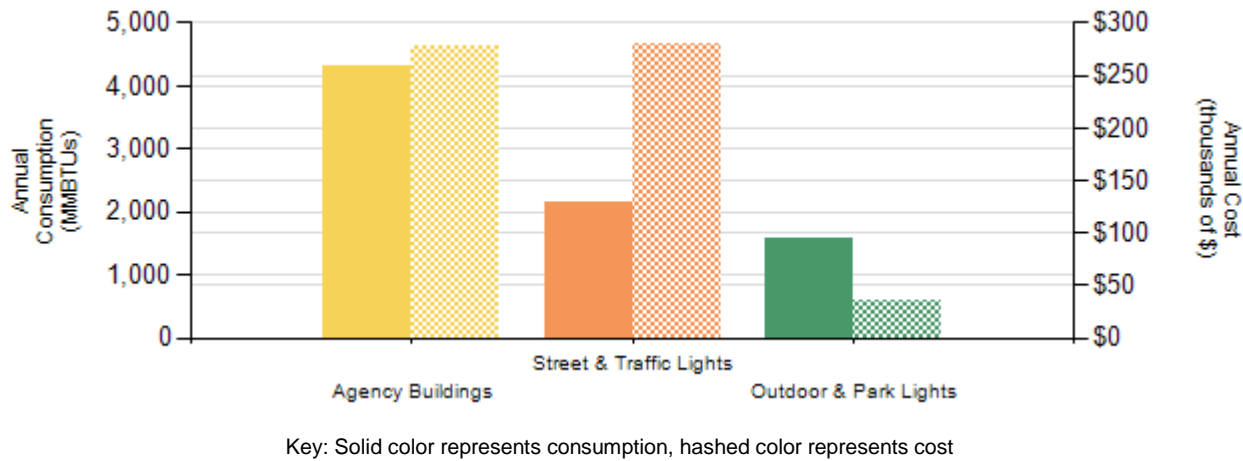
This report is intended to provide a framework for the City of Walnut, referred to as “Agency” herein, to identify inefficient facilities and infrastructure and prioritize further investigation and energy efficiency retrofit work. This analysis uses only energy billing data provided by the Agency to analyze energy use across Agency assets, and to help identify opportunities for energy efficiency improvements. Many factors affect the energy use in different assets, including age, type of heating, ventilation, air conditioning (HVAC), and lighting equipment, facility occupancy and hours, plug loads, and climate. Once individual opportunities with the greatest potential for energy savings are identified, a more detailed screening of those facilities can be performed to identify the specific sources of the inefficiencies.

This report was created by The Energy Coalition on behalf of the Southern California Regional Network ([www.socalren.org](http://www.socalren.org)). Any questions about this report can be directed to your assigned Project Manager, Minh Tran at [mtran@energycoalition.org](mailto:mtran@energycoalition.org).

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## 2. Total Energy Portfolio

Your Total Annual Energy Cost is **\$592,350**



Annual Energy Costs

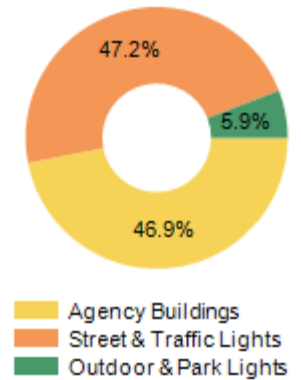


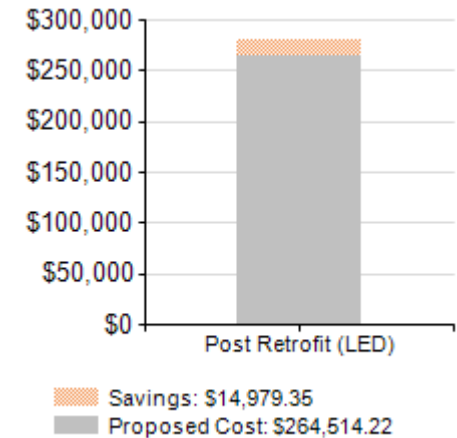
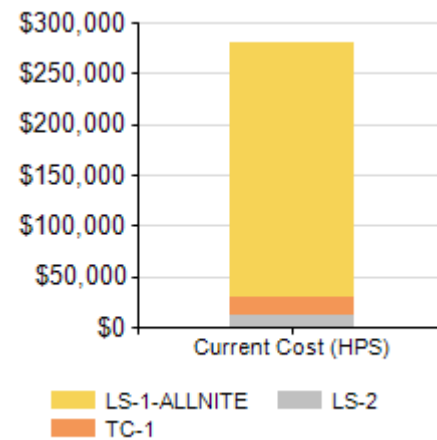
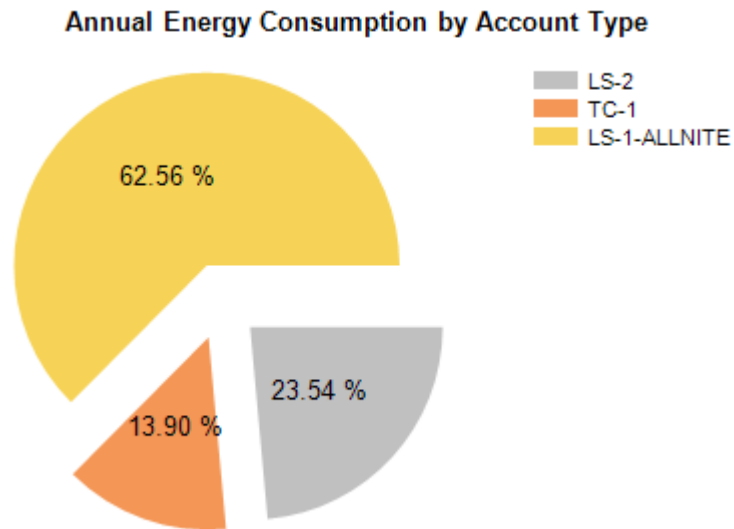
Table 1: Total Energy Portfolio (Annual)

Agency Energy Use	Electric Consumption (kWh)	Electric Cost (\$)	Gas Consumption (therms)	Gas Cost (\$)	Total Energy Consumption (MBTUs)	Total Energy Cost (\$)	GHG Emissions (lbs CO2)
Street & Traffic Lights	635,097	\$279,494	0	\$0	2,165,681	\$279,494	328,345
Agency Buildings	1,067,442	\$271,242	6,788	\$6,764	4,318,745	\$278,007	551,868
Outdoor & Park Lights	462,041	\$34,850	0	\$0	1,575,560	\$34,850	238,875



### 3. Street & Traffic Lights

Your Annual Energy Cost for Street & Traffic Lights is **\$279,494** and **47.2%** of the Total Cost.



**Assumption** -agencies can save 50% on annual street & traffic light kWh consumption by converting HPS to LED.

**Calculation** – projected savings are 50% of the total kWh consumption of agency owned street and traffic lights (TC-1, LS-2, and LS-3). LS-1 street lights are not included in projected savings.

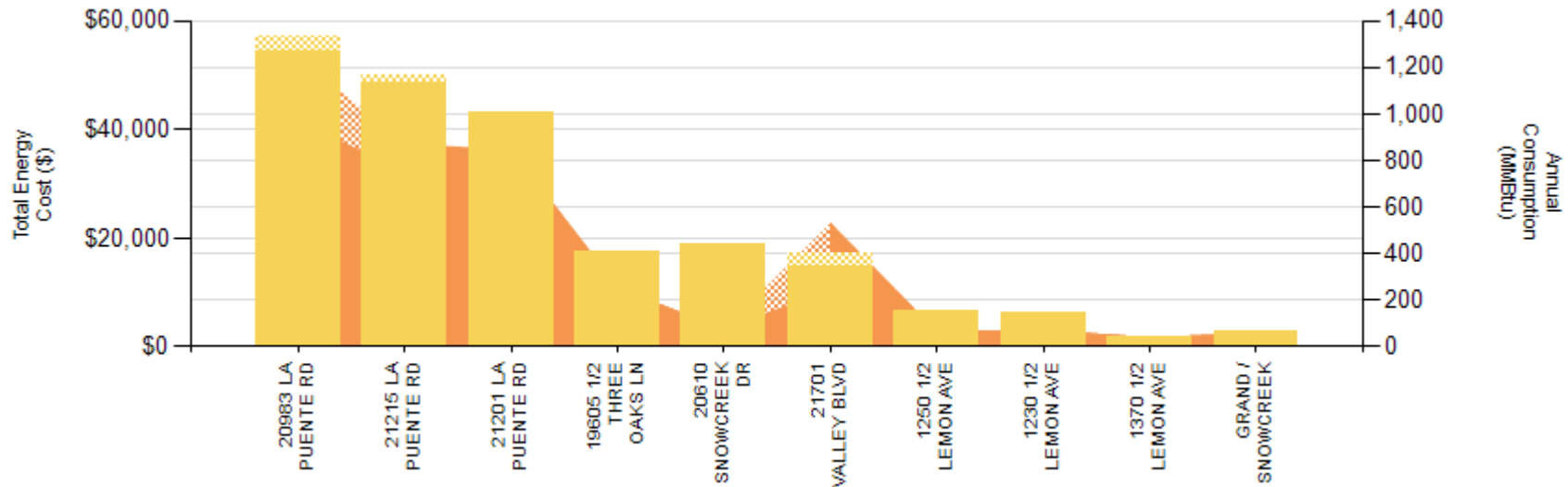
Table 3: Street & Traffic Lights (Annual)

Tariff	Tariff Description	Electric Consumption (kWh)	Electric Cost (\$)	Electric Rate (\$/kWh)
LS-1-ALLNITE	Street Lights (SCE Owned)	397,308	\$249,535	0.63
TC-1	Traffic Signal Lights (Agency Owned)	88,257	\$17,022	0.19
LS-2	Street Lights (Agency Owned - unmetered)	149,532	\$12,937	0.09

## 4. Building Summary



Your Annual Energy Cost for Buildings is **\$278,007** and **46.9%** of the Total Cost.



Key: Displays the top 10 consuming Buildings. Yellow columns represent Cost, Orange area represents Consumption. Electricity is the solid shade, Natural Gas is the hashed shade.

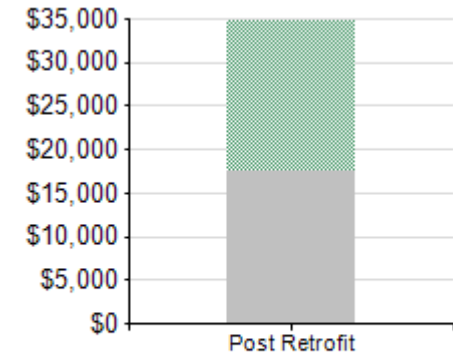
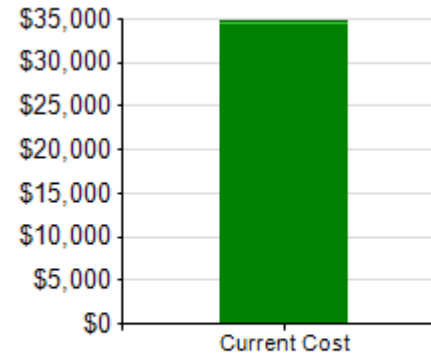
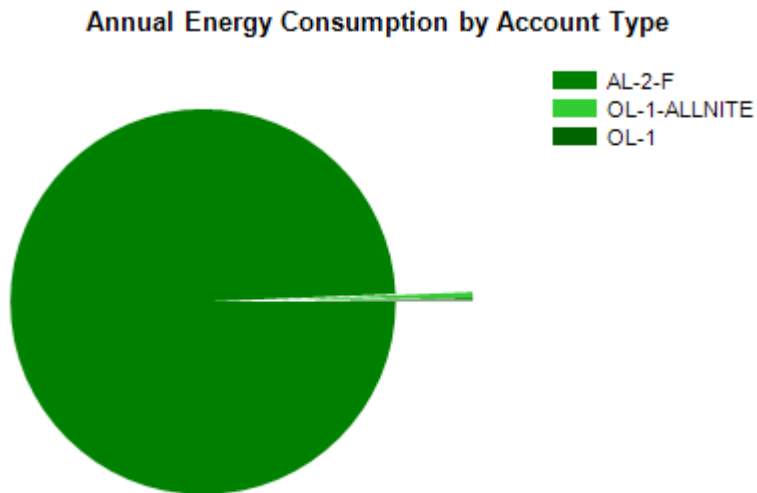
Table 4: Building Summary (Annual)

	Address	Electric Consumption (kWh)	Electric Cost (\$)	Electric Rate (\$/kWh)	Gas Consumption (therms)	Gas Cost (\$)	Gas Rate (\$/therm)	Disadvantaged Community (Yes or No)
WALNUT TEEN CENTER	20983 LA PUENTE RD	283,426	\$54,248	\$0.19	2,750	\$2,929	\$1.07	N
WALNUT SENIOR CENTER	21215 LA PUENTE RD	220,585	\$48,573	\$0.22	1,193	\$1,496	\$1.25	N
WALNUT CITY HALL	21201 LA PUENTE RD	246,923	\$43,236	\$0.18	0	\$0	\$0.00	N
20610 SNOWCREEK DR	20610 SNOWCREEK DR	21,651	\$18,839	\$0.87	0	\$0	\$0.00	N
19605 1/2 THREE OAKS LN	19605 1/2 THREE OAKS LN	73,965	\$17,707	\$0.24	0	\$0	\$0.00	N
WALNUT COMMUNITY SERVICES	21701 VALLEY BLVD	71,913	\$14,735	\$0.20	2,845	\$2,340	\$0.82	N
1250 1/2 LEMON AVE	1250 1/2 LEMON AVE	19,024	\$6,483	\$0.34	0	\$0	\$0.00	N
1230 1/2 LEMON AVE	1230 1/2 LEMON AVE	20,064	\$6,370	\$0.32	0	\$0	\$0.00	N
SUZANNE PARK	623 SUZANNE RD	15,213	\$2,806	\$0.18	0	\$0	\$0.00	N
SNOW CREEK PARK	GRAND / SNOWCREEK	16,570	\$2,726	\$0.16	0	\$0	\$0.00	N



## 5. Outdoor & Park Lights

Your Annual Energy Cost for Outdoor & Park Lights is **\$34,850** and **5.9%** of the Total Cost.



■ OL-1      ■ AL-2-F  
■ OL-1-ALLNITE

■ Proposed Cost: \$17,424.92  
■ Savings: \$17,424.92

**Assumption** -agencies can save 50% on annual outdoor & park light kWh consumption by converting HPS to LED.

**Calculation** – projected savings are 50% of the total kWh consumption of outdoor & park lights.

Table 5: Outdoor & Park Lights (Annual)

Name	Address	Tariff	Electric Consumption (kWh)	Electric Cost (\$)	Electric Rate (\$/kWh)
Area Lighting	Various	AL-2-F	459,017	\$34,389	\$0.07
Area Lighting	Various	OL-1-ALLNITE	2,004	\$269	\$0.13
Area Lighting	Various	OL-1	1,020	\$192	\$0.19

# Appendix A - Methodology

## 1. Data Sources

- Building information, energy usage and cost data used in this analysis were derived from utility consumption billing data provided by agency staff.
- Utility consumption billing data used in this analysis were derived from SCG gas tariffs and SCE electric tariffs
- For more information about the utility tariffs included in this analysis refer to:
  - SCG Gas Tariffs: [For more information about Southern California Gas tariffs](https://www.socalgas.com/regulatory/tariffs/tariffs-rates.shtml); https://www.socalgas.com/regulatory/tariffs/tariffs-rates.shtml
  - SCE Electric Tariff: [For more information about Southern California Edison tariffs](https://www.sce.com/wps/portal/home/regulatory/tariff-books/rates-pricing-choices); https://www.sce.com/wps/portal/home/regulatory/tariff-books/rates-pricing-choices
- All electricity and gas results were based on usage during period May 1, 2018 – April 30, 2019.
- In some cases, multiple meters were associated with a single facility or asset type. For such facilities, to generate estimates of facility-wide energy use, energy usage and cost values were aggregated by summing energy usage and cost values for each day in the analysis period.
- GHG emissions data used in this analysis were calculated using the conversion: 517 lb CO2/MWh + 11.91 lbs CO2/therm [1,2].

## 2. Total Energy Portfolio

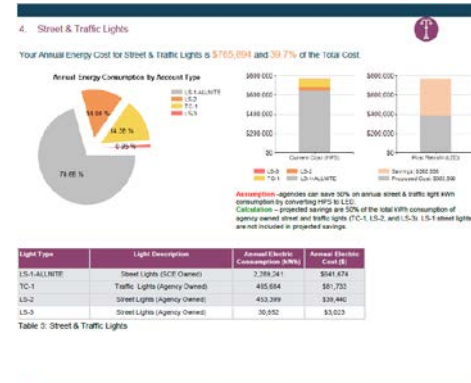
- Total Energy Portfolio data represents an analysis of each agency facility type annual energy costs, annual energy consumption (kWh), GHG Emissions and total annual energy costs for agency facility types based on MBtus.
- The following agency assets are included in the Total Energy Portfolio:
  - Water Pumping
  - Street & Traffic Lights
  - Buildings
  - Outdoor & Parks Lights





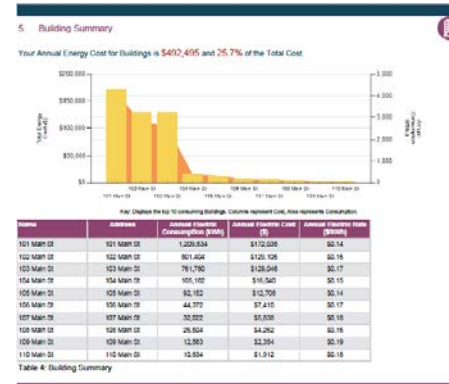
### 3. Street & Traffic Lights

- Street & traffic light data represents an analysis of annual energy costs, annual energy consumption (kWh), GHG Emissions per SCE street & traffic light tariff type.
- Annual cost savings reflects only agency owned street lights in the analysis; assumed cost savings conversion is based on converting HPS to LED agency owned traffic and street lights [3].
- On average, agencies can save 50% on annual kWh consumption by converting HPS to LED, which also results in cost savings [3].



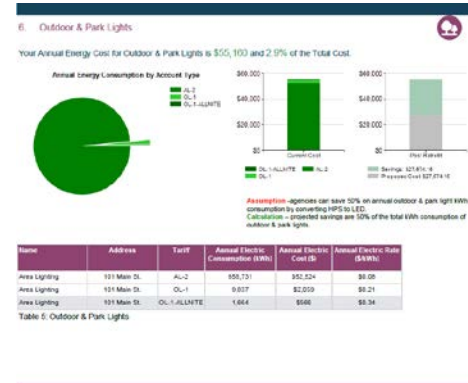
### 4. Building Summary

- Building summary data represents an analysis of the top ten highest energy consuming agency buildings annual energy costs, annual energy consumption (kWh), GHG Emissions, and total annual energy costs based on MBtus.



## 5. Outdoor & Park Lights

- Outdoor & park lights data represents an analysis of annual energy costs, annual energy consumption (kWh), GHG Emissions, and total annual energy costs based on MBtus per SCE outdoor and park lighting tariff type



Certain properties could not be matched to gas or electricity usage data and were excluded:

- 1273 N Grand Ave
- 1490 Parker Canyon
- 1635 Canyon Vista Rd
- 1815 Copper Valley Ln
- 19005 Shakespeare Dr
- 2055 Grand Ave
- 367 Acaso Dr
- 438 Los Gatos Dr
- 839 N Creekside Dr

## Endnotes

[1] Corporate Responsibility Report. (2015). In Southern California Edison. Retrieved from [https://www.sce.com/wps/wcm/connect/c0fcef5-e04a-4287-8301-8e66e3e5fbac/2014\\_Corporate+Responsibility+Report\\_FINAL+single-page.pdf?MOD=AJPERES&ContentCache=NONE](https://www.sce.com/wps/wcm/connect/c0fcef5-e04a-4287-8301-8e66e3e5fbac/2014_Corporate+Responsibility+Report_FINAL+single-page.pdf?MOD=AJPERES&ContentCache=NONE)

[2] Adams, L.S., Nicols, M.D., Goldstene, J. N. (2008). Climate Change Scoping Plan. In California Air Resources Board. Retrieved from [https://www.arb.ca.gov/cc/scopingplan/document/appendices\\_volume2.pdf](https://www.arb.ca.gov/cc/scopingplan/document/appendices_volume2.pdf)

[3] Based on SoCalREN previous project estimates.

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