

# Comparative Energy Analysis Report

Prepared for  
City of San Gabriel

Prepared by  
The Energy Coalition

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

Date  
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## 1. Overview

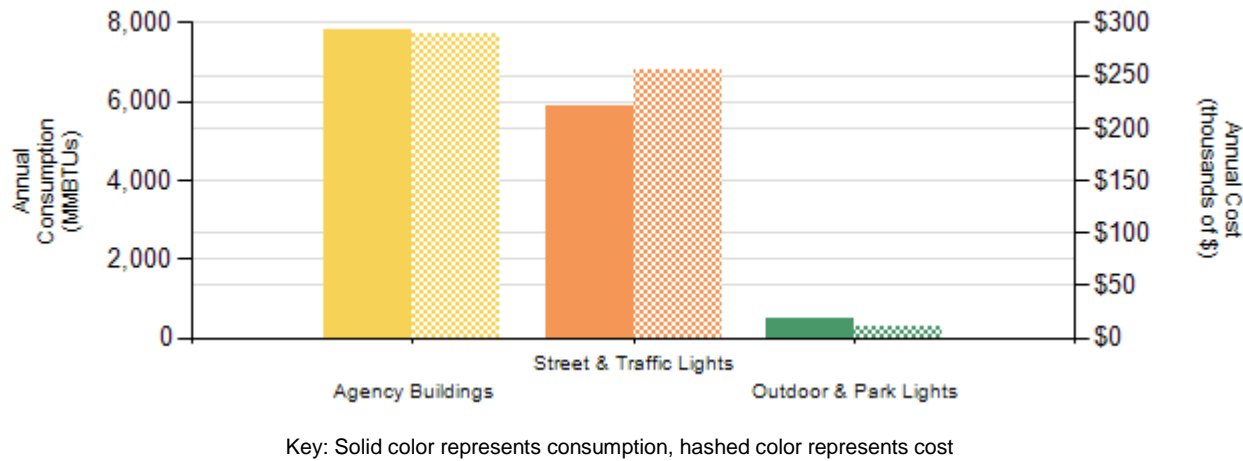
This report is intended to provide a framework for the City of San Gabriel, referred to as “Agency” herein, to identify inefficient facilities and infrastructure and prioritize further investigation and energy efficiency retrofit work. This analysis uses only energy billing data provided by the Agency 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, Natalie Espinoza at [nespinoza@energycoalition.org](mailto:nespinoza@energycoalition.org).

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## 2. Total Energy Portfolio

Your Total Annual Energy Cost is **\$555,149**



Annual Energy Costs

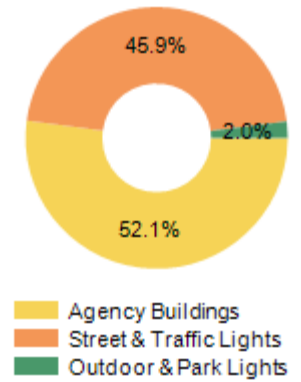


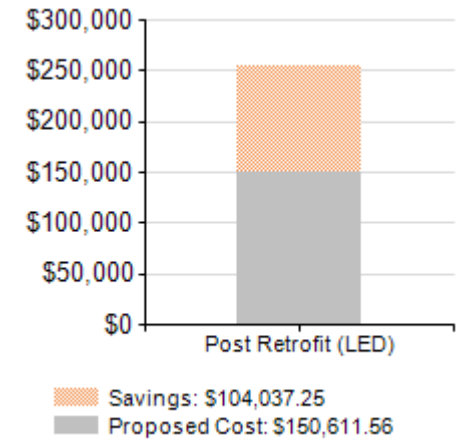
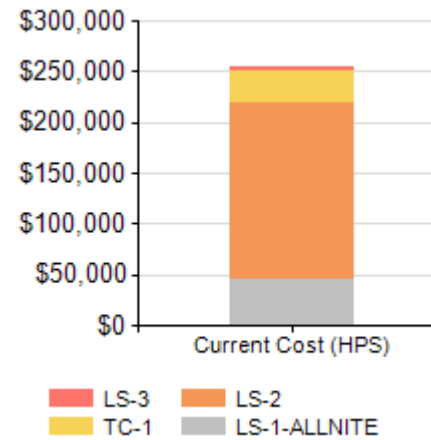
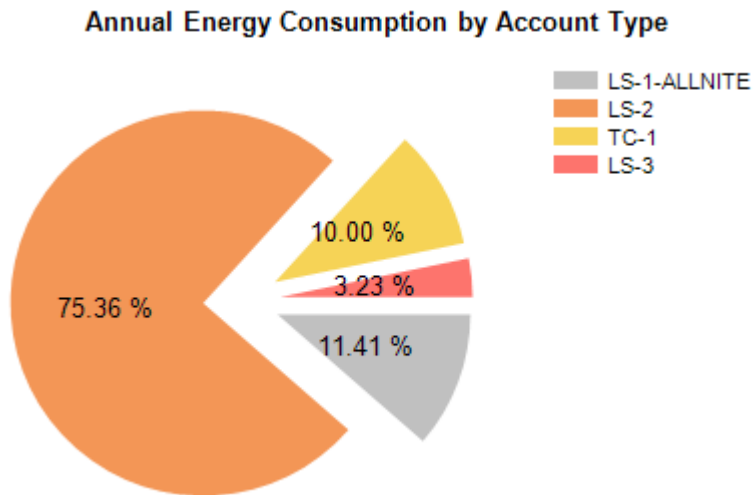
Table 1: Total Energy Portfolio (Annual)

Agency Energy Use	Electric Consumption (kWh)	Electric Cost (\$)	Gas Consumption (therms)	Gas Cost (\$)	Total Energy Consumption (MMBTus)	Total Energy Cost (\$)	GHG Emissions (lbs CO2)
Agency Buildings	1,315,228	\$258,230	33,195	\$31,134	7,807	\$289,364	679,973
Street & Traffic Lights	1,721,487	\$254,649	0	\$0	5,874	\$254,649	890,009
Outdoor & Park Lights	135,855	\$11,136	0	\$0	464	\$11,136	70,237



### 3. Street & Traffic Lights

Your Annual Energy Cost for Street & Traffic Lights is **\$254,649** and **45.9%** 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.

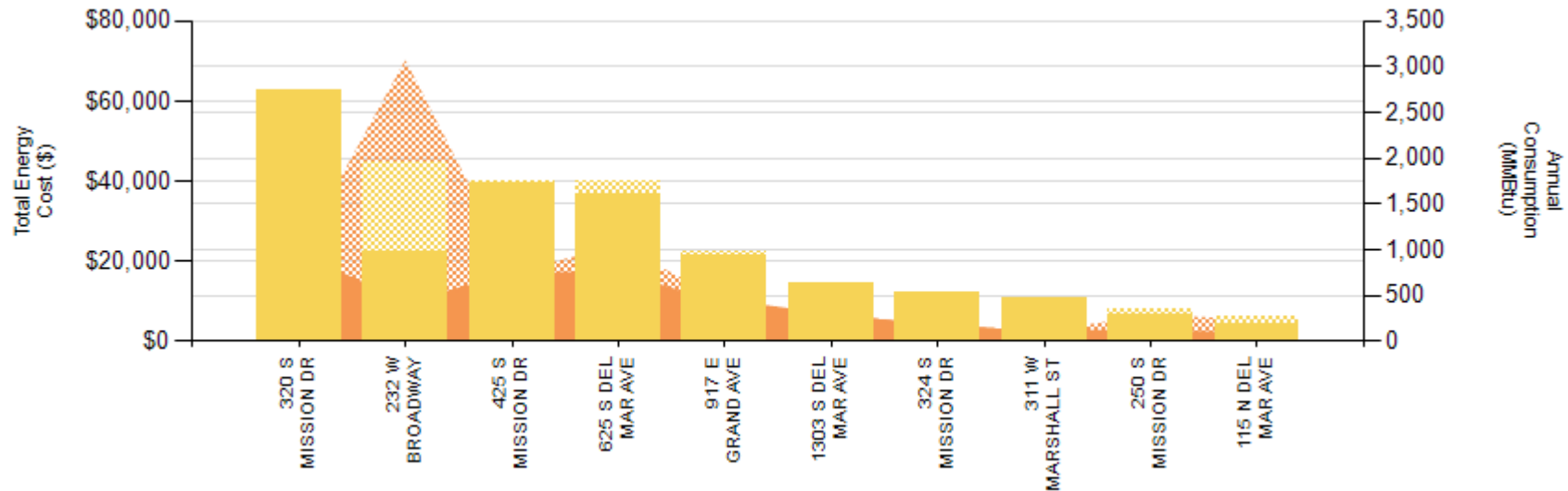
Table 3: Street & Traffic Lights (Annual)

Tariff	Tariff Description	Electric Consumption (kWh)	Electric Cost (\$)	Electric Rate (\$/kWh)
LS-2	Street Lights (Agency Owned - unmetered)	1,297,380	\$173,456	0.13
LS-1-ALLNITE	Street Lights (SCE Owned)	196,372	\$46,574	0.24
TC-1	Traffic Signal Lights (Agency Owned)	172,118	\$29,863	0.17
LS-3	Street Lights (Agency Owned - metered)	55,617	\$4,756	0.09

## 4. Building Summary



Your Annual Energy Cost for Buildings is **\$289,364** and **52.1%** 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.

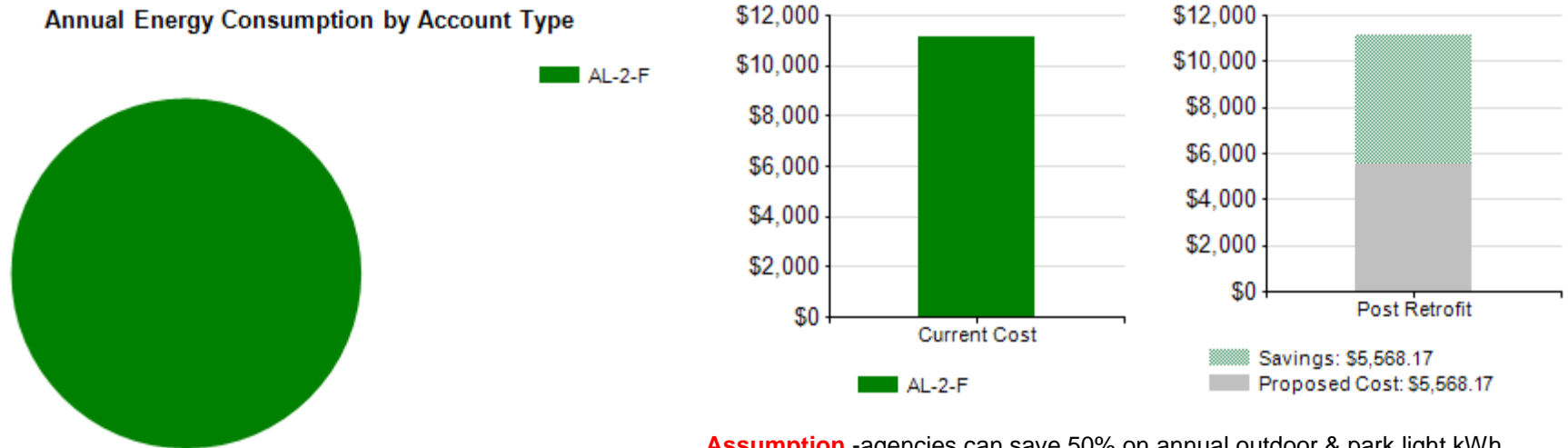
Table 4: Building Summary (Annual)

Site Name	Address	Electric Consumption (kWh)	Electric Cost (\$)	Electric Rate (\$/kWh)	Gas Consumption (therms)	Gas Cost (\$)	Gas Rate (\$/therm)	Disadvantaged Community? (Yes/No)
MISSION PLAYHOUSE	320 S MISSION DR	281,086	\$62,738	\$0.22	0	\$0	\$0.00	Yes
SMITH PARK	232 W BROADWAY	124,912	\$22,265	\$0.18	26,307	\$22,421	\$0.85	Yes
SAN GABRIEL CITY HALL	425 S MISSION DR	215,647	\$39,574	\$0.18	184	\$587	\$3.20	Yes
SAN GABRIEL POLICE DEPT	625 S DEL MAR AVE	224,431	\$36,861	\$0.16	2,689	\$2,994	\$1.11	Yes
SAN GABRIEL PUBLIC WORKS	917 E GRAND AVE	114,684	\$21,343	\$0.19	589	\$902	\$1.53	Yes
FIRE STATION 51	1303 S DEL MAR AVE	85,314	\$14,385	\$0.17	0	\$0	\$0.00	Yes
ADULT RECREATION CENTER	324 S MISSION DR	48,779	\$11,996	\$0.25	0	\$0	\$0.00	Yes
MARSHALL COMMUNITY PARK	311 W MARSHALL ST	31,516	\$10,958	\$0.35	0	\$0	\$0.00	Yes
PARKS AND RECREATION DEPT	250 S MISSION DR	37,915	\$6,434	\$0.17	1,496	\$1,797	\$1.20	Yes
FIRE STATION 52	115 N DEL MAR AVE	23,693	\$4,196	\$0.18	1,574	\$1,876	\$1.19	No

## 5. Outdoor & Park Lights



Your Annual Energy Cost for Outdoor & Park Lights is **\$11,136** and **2.0%** of the Total Cost.



**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	135,855	\$11,136	\$0.08

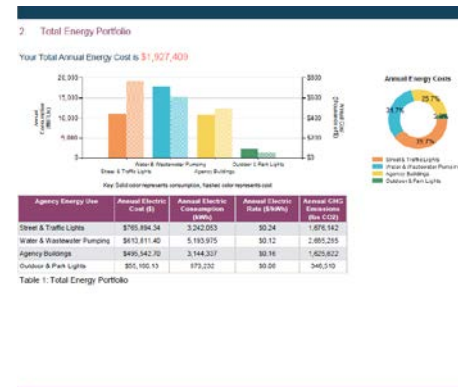
# Appendix A - Methodology

## 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>
- Analysis period for electricity and gas results were based on usage during period January 1, 2019 – December 31, 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

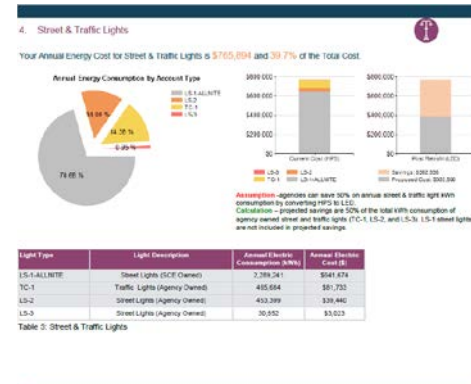
- Total Energy Portfolio data represents an analysis of each agency facility type annual energy costs, annual energy consumption (kWh and therms), GHG Emissions and total annual energy costs for agency facility types based on MMBtus.
- The following agency assets are included in the Total Energy Portfolio: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





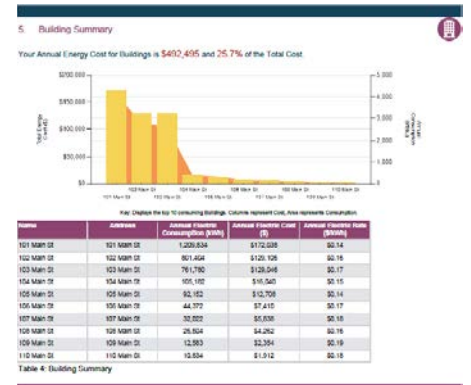
### 3. Street & Traffic Lights

- Street & traffic light data represents an analysis of annual energy costs and annual energy consumption (kWh) 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 is weather normalized and includes the following metrics for the top ten highest energy-consuming agency buildings' (total annual energy costs): annual energy costs and annual energy consumption (kWh and therms).



### 5. Outdoor & Park Lights

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



## Endnotes

[1] Corporate Responsibility Report. (2015). In Southern California Edison. Retrieved from [https://www.sce.com/wps/wcm/connect/c0fceef5-e04a-4287-8301-8e66e3e5fbac/2014\\_Corporate+Responsibility+Report\\_FINAL+single-page.pdf?MOD=AJPERES&ContentCache=NONE](https://www.sce.com/wps/wcm/connect/c0fceef5-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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