



# Comparative Energy Analysis Report

Prepared for  
City of San Dimas

Prepared by  
The Energy Coalition

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

Date  
10/14/2019

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## 1. Overview

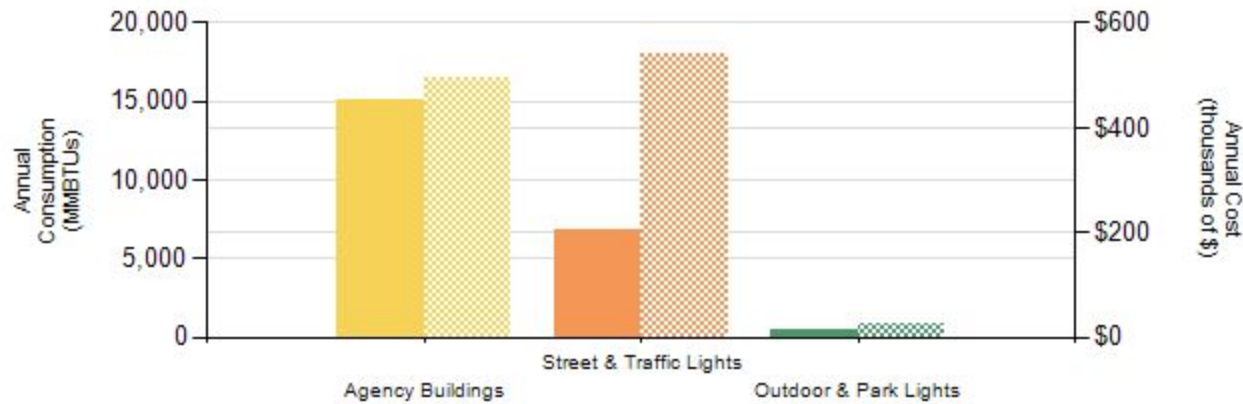
This report is intended to provide a framework for the City of San Dimas, referred to as “Agency” herein, to identify inefficient facilities and infrastructure and prioritize further investigation and energy efficiency retrofit work. This analysis uses only energy billing data provided by the Agency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

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## 2. Total Energy Portfolio

Your Total Annual Energy Cost is **\$1,058,772**



Key: Solid color represents consumption, hashed color represents cost

Annual Energy Costs

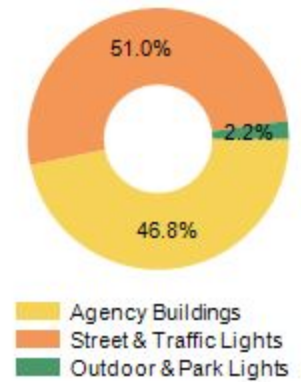


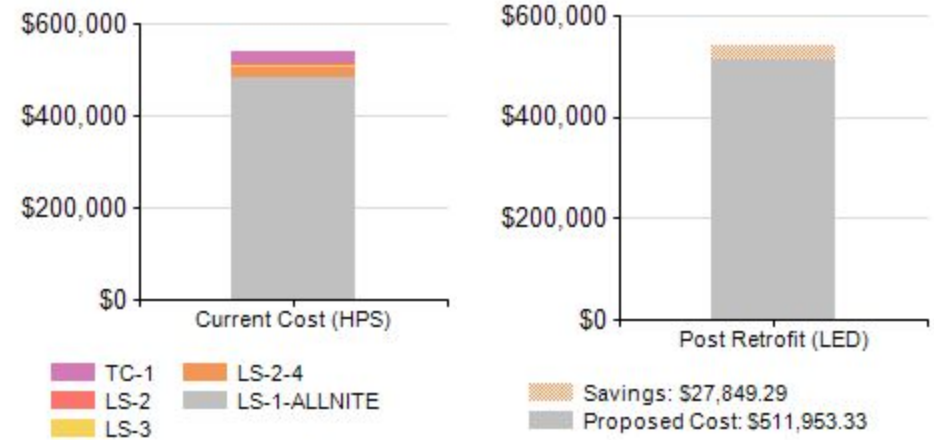
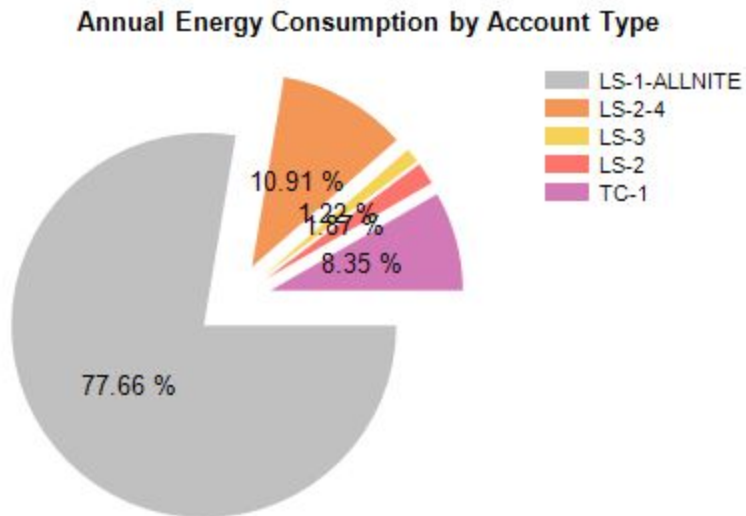
Table 1: Total Energy Portfolio (Annual)

Agency Energy Use	Electric Consumption (kWh)	Electric Cost (\$)	Gas Consumption (therms)	Gas Cost (\$)	Total Energy Consumption (MMBTus)	Total Energy Cost (\$)	GHG Emissions (lbs CO2)
Street & Traffic Lights	2,000,032	\$539,803	0	\$0	6,820	\$539,803	1,034,017
Agency Buildings	2,430,510	\$436,195	68,179	\$59,356	15,106	\$495,552	1,256,574
Outdoor & Park Lights	114,622	\$23,417	0	\$0	391	\$23,417	59,260

### 3. Street & Traffic Lights



Your Annual Energy Cost for Street & Traffic Lights is **\$539,803** and **51.0%** 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)	1,553,130	\$484,104	0.31
TC-1	Traffic Signal Lights (Agency Owned)	166,968	\$28,659	0.17

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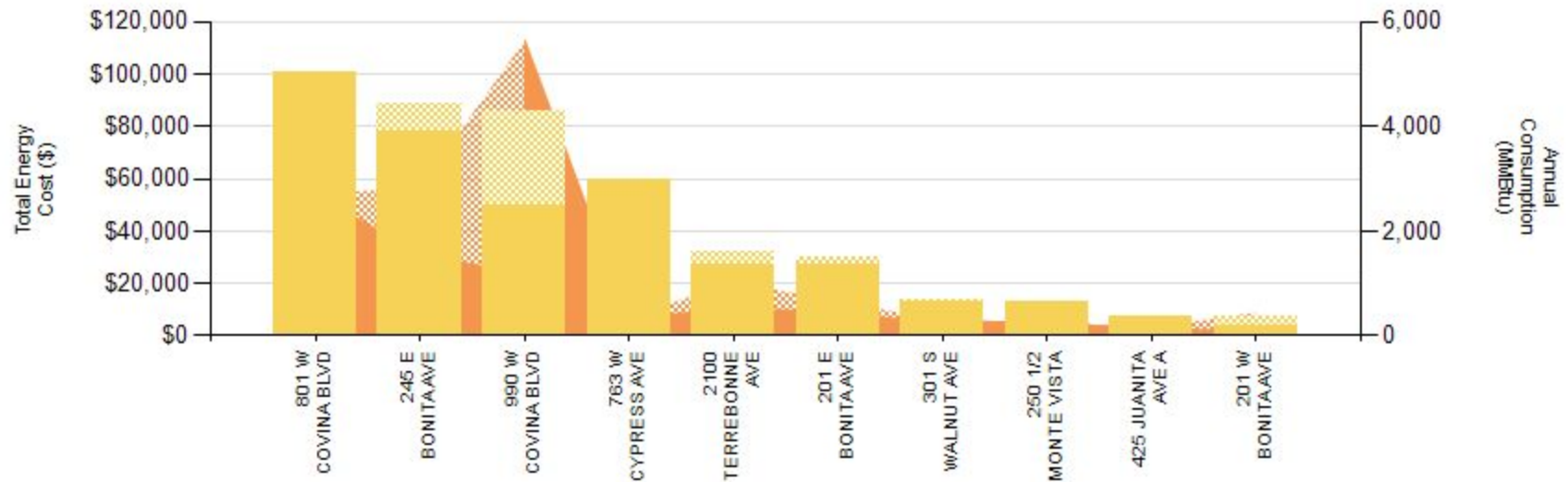
LS-2-4	Street Lights (Agency Owned - unmetered)	218,173	\$21,206	0.10
LS-2	Street Lights (Agency Owned - unmetered)	37,416	\$3,427	0.09
LS-3	Street Lights (Agency Owned - metered)	24,345	\$2,406	0.10

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## 4. Building Summary



Your Annual Energy Cost for Buildings is **\$495,552** and **46.8%** 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)
CHARTER OAKS MOBILE HOME	801 W COVINA BLVD	791,280	\$100,967	\$0.13	0	\$0	\$0.00
SAN DIMAS CITY HALL	245 E BONITA AVE	458,505	\$77,750	\$0.17	12,468	\$11,121	\$0.89

RECREATION CENTER	990 W COVINA BLVD	343,681	\$49,799	\$0.14	44,599	\$35,871	\$0.80
SAINTS STADIUM	763 W CYPRESS AVE	94,773	\$59,470	\$0.63	0	\$0	\$0.00
CANYON GOLF COURSE	2100 TERREBONNE AVE	157,786	\$27,392	\$0.17	4,870	\$4,808	\$0.99
SENIOR CITIZENS CENTER	201 E BONITA AVE	127,653	\$27,382	\$0.21	1,908	\$2,238	\$1.17
MAINTENANCE YARD	301 S WALNUT AVE	68,551	\$13,162	\$0.19	576	\$831	\$1.44
250 1/2 MONTE VISTA	250 1/2 MONTE VISTA	72,391	\$13,342	\$0.18	0	\$0	\$0.00
MARCHANT PARK	425 JUANITA AVE A	40,044	\$7,656	\$0.19	0	\$0	\$0.00
SAN DIMAS HARDWARE	201 W BONITA AVE	29,153	\$3,720	\$0.13	3,302	\$3,498	\$1.06



## 5. Outdoor & Park Lights



Your Annual Energy Cost for Outdoor & Park Lights is **\$23,417** and **2.2%** 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	114,622	\$23,417	\$0.20



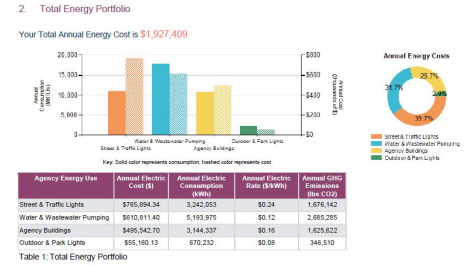
## Appendix A - Methodology

### 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 September 1, 2018 – August 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 CO<sub>2</sub>/MWh + 11.91 lbs CO<sub>2</sub>/therm [1,2].

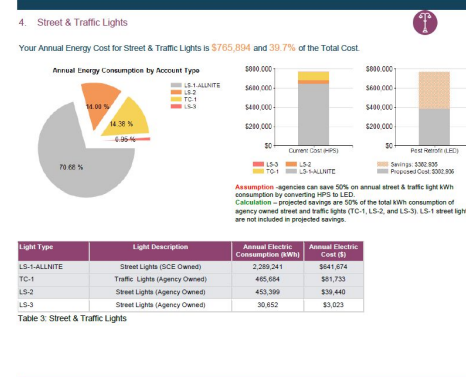
### 2. Total Energy Portfolio

- 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



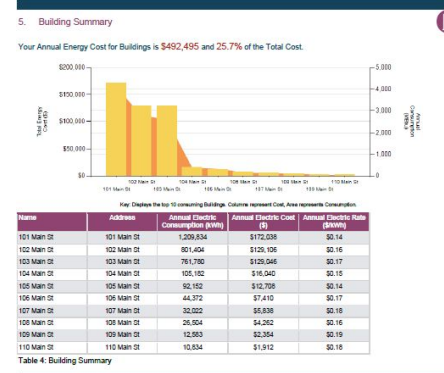
### 3. Street & Traffic Lights

- 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].



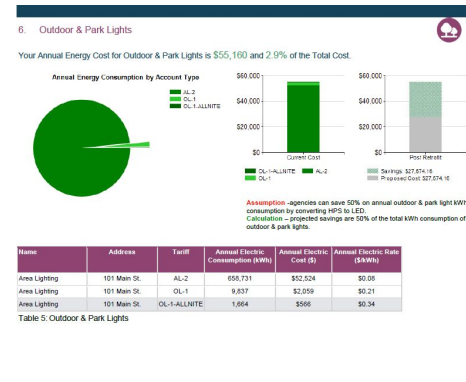
## 4. Building Summary

- 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.



Certain service accounts did not have energy usage data for the range of the analysis period and were excluded:

- Gas: 1114172828, 1196174200

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

- Electric: 746951, 1245582, 1245576, 1245606, 1245611, 1390038, 24110512, 32219295

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## Endnotes

[1] Corporate Responsibility Report. (2015). In Southern California Edison. Retrieved from [https://www.sce.com/wps/wcm/connect/c0fcee5-e04a-4287-8301-8e66e3e5fbac/2014\\_Corporate+Responsibility+Report\\_FINAL+single-page.pdf?MOD=AJPERES&ContentCache=NONE](https://www.sce.com/wps/wcm/connect/c0fcee5-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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