



Comparative Energy Analysis Report

Prepared for
Newport Mesa USD

Prepared by
The Energy Coalition

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

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1. Overview

This report is intended to provide a framework for the Newport Mesa USD, referred to as “Agency” herein, to identify inefficient facilities and infrastructure and prioritize further investigation and energy efficiency retrofit work. This analysis uses only total floor area and 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). Any questions about this report can be directed to your assigned Project Manager, Lauren Seymour at lseymour@energycoalition.org.

2. Total Energy Portfolio

Your Total Annual Energy Cost is **\$2,116,827**

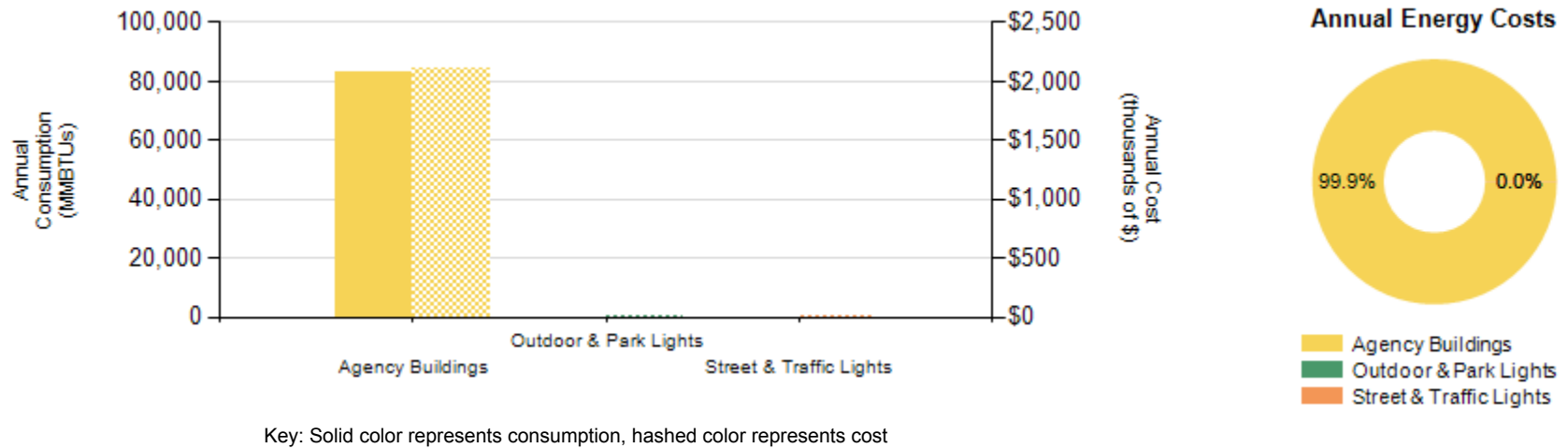


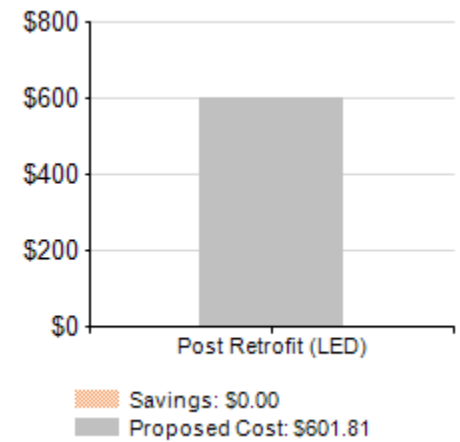
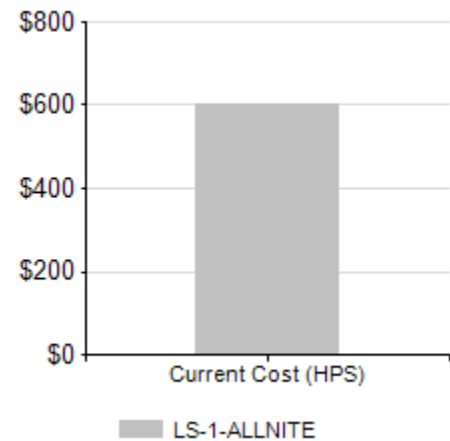
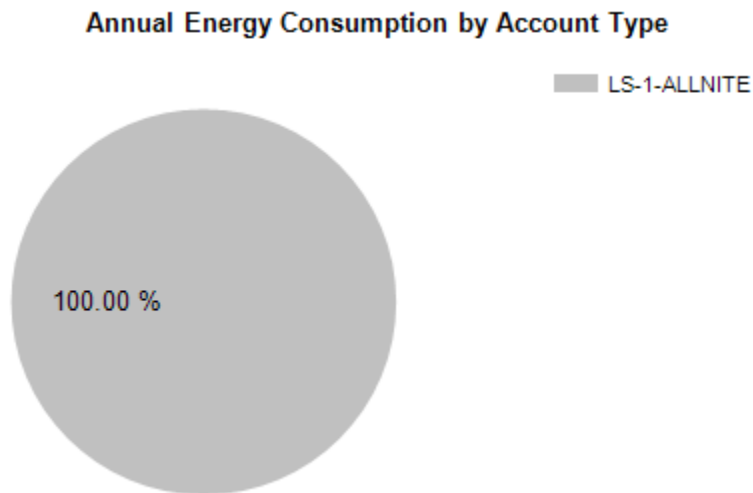
Table 1: Total Energy Portfolio (Annual)

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	10,442,633	\$1,725,361	473,492	\$390,186	82,979	\$2,115,547	5,398,841
Outdoor & Park Lights	1,716	\$678	0	\$0	6	\$678	887
Street & Traffic Lights	1,529	\$602	0	\$0	5	\$602	790

3. Street & Traffic Lights



Your Annual Energy Cost for Street & Traffic Lights is \$602 and 0.0% 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.

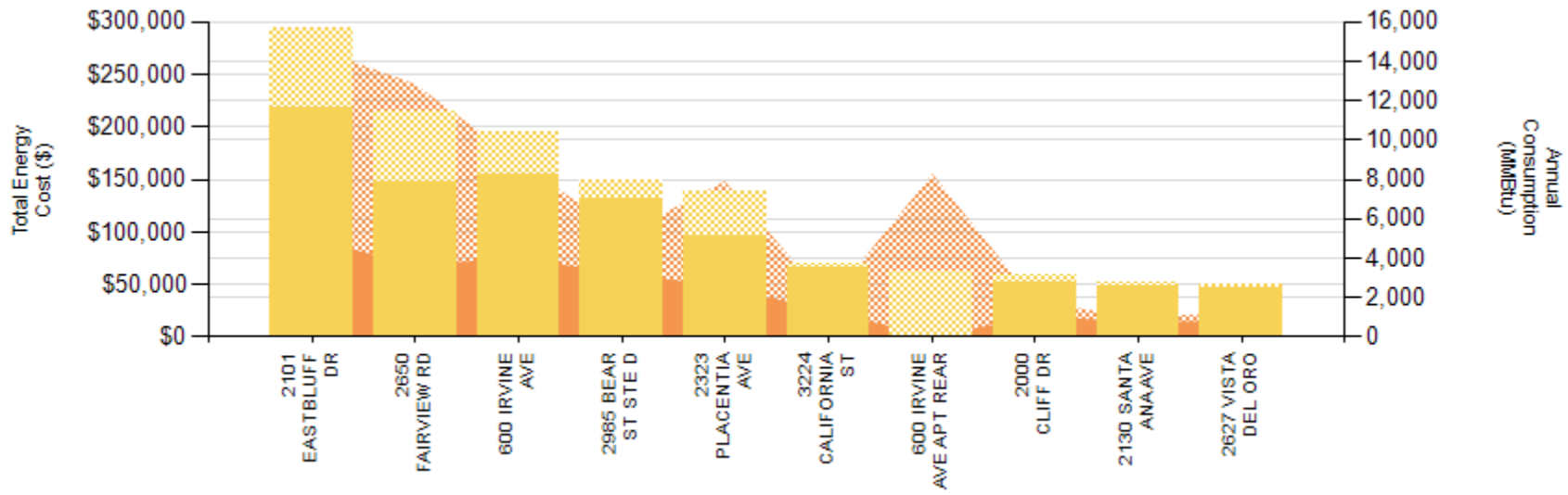
Table 2: Street & Traffic Lights (Annual)

Tariff	Tariff Description	Electric Consumption (kWh)	Electric Cost (\$)	Electric Rate (\$/kWh)
LS-1-ALLNITE	Street Lights (SCE Owned)	1,529	\$602	0.39

4. Building Summary



Your Annual Energy Cost for Buildings is **\$2,115,547** and **99.9%** 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 3: Building Summary (Annual)

Site Name	Address	Electric Consumption (kWh)	Electric Cost (\$)	Electric Rate (\$/kWh)	Gas Consumption (therms)	Gas Cost (\$)	Gas Rate (\$/therm)	Energy Use Intensity (kBtu/ft ²)
Corona Del Mar High	2101 Eastbluff Dr	1,432,605	\$217,756	\$0.15	98,058	\$76,602	\$0.78	50.2
Costa Mesa High	2650 Fairview Rd	1,069,497	\$146,842	\$0.14	91,509	\$67,351	\$0.74	61.4
Newport Harbor High	600 Irvine Ave	1,155,520	\$154,578	\$0.13	131,992	\$101,786	\$0.80	73.7

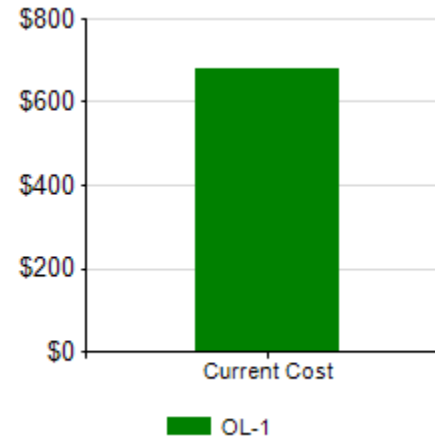
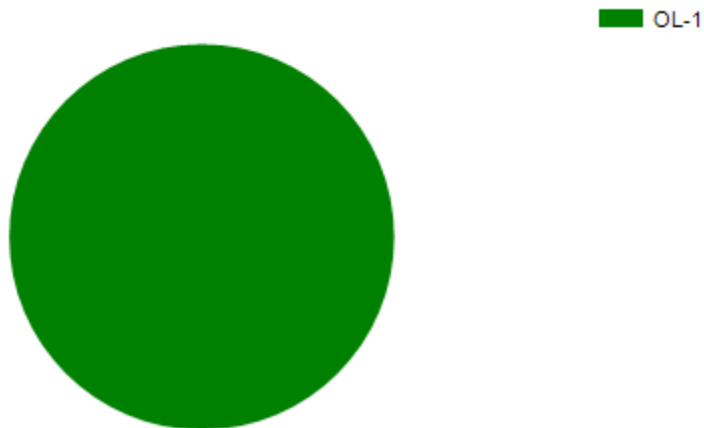
Transportation Building	2985 Bear St. Ste D	940,904	\$131,256	\$0.14	19,443	\$17,211	\$0.89	Unavailable
Estancia High	2323 Placentia Ave	734,741	\$96,912	\$0.13	53,573	\$42,338	\$0.79	44.8
TeWinkle Middle	3224 California St	366,502	\$65,274	\$0.18	4,989	\$5,057	\$1.01	22.3
Ensign Intermediate	2000 Cliff Dr	290,657	\$51,068	\$0.18	7,496	\$7,206	\$0.96	21.2
Kaiser Elementary	2130 Santa Ana Ave	225,304	\$48,959	\$0.22	2,074	\$2,413	\$1.16	20.2
Eastbluff Elementary	2627 Vista del Oro	223,045	\$45,903	\$0.21	4,581	\$4,648	\$1.01	36.8
Anderson Elementary	1800 Whittier Ave	227,339	\$44,377	\$0.20	2,463	\$2,749	\$1.12	67.7

5. Outdoor & Park Lights



Your Annual Energy Cost for Outdoor & Park Lights is **\$678** and **0.0%** of the Total Cost.

Annual Energy Consumption by Account Type



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 4: Outdoor & Park Lights (Annual)

Name	Address	Tariff	Electric Consumption (kWh)	Electric Cost (\$)	Electric Rate (\$/kWh)
Area Lighting	Various	OL-1	1,716	\$678	\$0.40

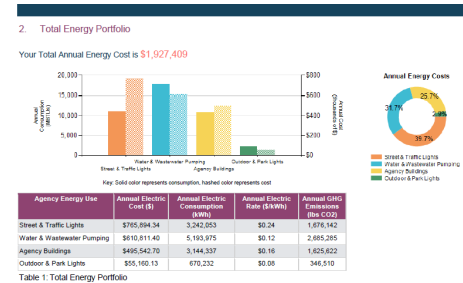
Appendix A - Methodology

1. Data Sources

- Building information, energy usage and cost data used in this analysis were derived from: ENERGY STAR Portfolio Manager® and 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 February 1, 2019 – February 1, 2020.
- 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 and energy intensity, 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].

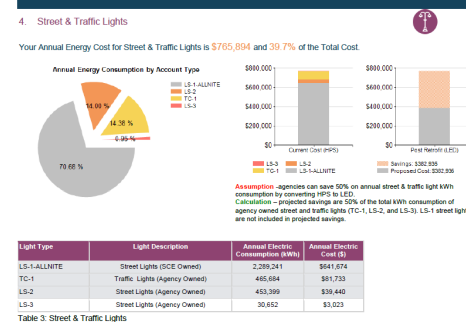
2. Total Energy Portfolio

- 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:
 - 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].

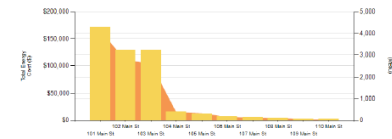


4. Building Summary

- 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).
- Energy Use Intensity (EUI) results are represent Site EUI data found in Energy Star Portfolio Manager (ESPM).
- Baseline Period for EUI results is August 1, 2002 - July 31, 2003.
- Analysis Period for EUI results is July 1, 2018 – June 30, 2019.

5. Building Summary

Your Annual Energy Cost for Buildings is \$492,495 and 25.7% of the Total Cost.



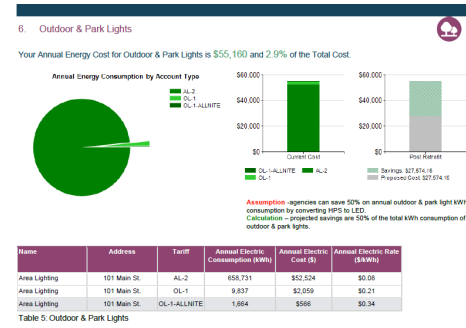
Key: Displays the top 10 consuming buildings. Columns represent Cost, Area Represents Consumption.

Name	Address	Annual Electric Consumption (kWh)	Annual Electric Cost (\$)	Annual Electric Rate (\$/kWh)
101 Main St	101 Main St	1,259,834	\$120,038	\$0.14
102 Main St	102 Main St	801,454	\$125,106	\$0.16
103 Main St	103 Main St	761,790	\$125,046	\$0.17
104 Main St	104 Main St	165,162	\$16,040	\$0.15
105 Main St	105 Main St	92,162	\$12,758	\$0.14
106 Main St	106 Main St	44,372	\$7,410	\$0.17
107 Main St	107 Main St	32,022	\$5,838	\$0.18
108 Main St	108 Main St	26,504	\$4,262	\$0.16
109 Main St	109 Main St	12,863	\$2,864	\$0.19
110 Main St	110 Main St	10,834	\$1,912	\$0.18

Table 4: Building Summary

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/c0fceed5-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

[3] Based on SoCalREN previous project estimates.
