



## Project Summary

Known as 'The City of Beautiful Homes,' Redlands, California, was founded in 1881. For much of its history, however, it was known as the 'Washington Navel Orange Growing Capital of the World.' Throughout the years the economy has changed, but the special feeling of community in a small town hasn't.

Energy savings was important, but dependable lighting and maintaining the comfort of their historical small town feel was equally important. Choosing Revolution Lighting Technologies to retrofit their existing HPS decorative street lights allowed them to maintain their original historical feel and take advantage of significant energy and cost savings.

**End User:** City of Redlands, California

**Application:** Decorative Street Light Retrofit

**Products:** ■ RVL T UA Deployable with Lindy Globe

- Benefits:**
- \$17,283 annual savings
  - 15-20 year lifespan of new LED light engines vs. 3-4 year lifespan of traditional lamps
  - 70% reduction in energy use of prior MH/HPS lighting
  - Estimated 4.5 year payback
  - 70.69 tons annual reduction in carbon emissions
  - Dramatically improved look and feel of the downtown

## Project Overview



The LED decorative street light upgrade was funded in part from the city's existing capital improvement budget, an Energy Efficient Incentive Rebate from Southern Cal Edison, and the energy savings generated by a photovoltaic system installed earlier this year at the city's waste water treatment plant. The city focused on retrofit-kit assemblies in place of new fixtures because of the quality and aesthetics of the existing fixtures. The custom LED retrofit kits replaced 150W high pressure sodium lamps with technically-advanced LED retrofit light engines, saving energy, maintenance and money.

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**Project Overview (cont')**

Undertaking this project is estimated to cut the City of Redlands' energy and maintenance costs for just their 203 decorative street lights by nearly \$17,000 each year.



The installation, which was completed in November of 2012, resulted in the retrofitting of 203 decorative street light fixtures. The city's objective was to conserve energy, but just as important, to maintain the historic ambiance of its unique downtown. There is no better feedback on a project than directly from the customer.

**Cost Analysis**

"I want to say that personally, as a 30-year resident of Redlands, the installation of the [RVLT] LED lights represents an enormous upgrade in the lighting of the downtown area of my hometown. Speaking as a citizen of Redlands and not as the project manager of the LED conversion, the LED lights did not change the feel of my hometown at all. Rather, the lights have served to enhance the nature of the area by illuminating the historic buildings and increasing the visibility of the sightlines in the area. Additionally, by providing greater visibility I have immediately felt a greater sense of security when I go to businesses in the area. Perhaps most importantly though, the quality of light provided by the [RVLT] products has already and will continue to make it safer for pedestrians and drivers in the area by making each other more aware of the presence of the other," stated Ross Wittman from the City of Redlands.

**Annual LED Life-Cycle Cost Analysis**

Existing Fixture	Number	Energy Use (kWh)	Cost/Unit	Total Cost
150W HPS	203	164,491	\$ 0.1214	\$ 19,969
Maintenance				4,060
<b>Total Costs for Period</b>				<b>\$ 24,029</b>

Replacement Fixture	Number	Energy Use (kWh)	Cost/Unit	Total Cost
UA Deployable	203	48,902	\$ 0.1214	\$ 5,937
Maintenance				812
<b>Total Costs for Period</b>				<b>\$ 189,864</b>

Savings	Savings
Energy Savings	\$ 14,035
Maintenance Savings (est.)	3,248
<b>Total Savings LED Fixtures</b>	<b>\$ 17,283</b>

Using RVLT LED fixtures resulted in an annual savings of over 70%, estimated at more than \$17,000. Utilizing the grant funding, the savings in energy costs and additional estimated maintenance savings, the project will have a projected simple payback of 3 years.

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