greengeneration SOLUTIONS®

We Lowered Energy Costs 71% in Parking Garage by Using High Efficiency LED Lighting

Annualized energy savings are equivalent to 854 metric tons of greenhouse gases reduced or 180 cars removed from the road.

Building Facts

Date Built	1982
Parking Spaces	1,800
Square Feet	300,000
Asset Type	Parking Garage

Results

Annual Energy Savings	1,238,825 kWh
Annual Energy Reduction (%)	71
Annual Savings	$114,914
Gross Investment	$616,700
Rebates	$48,726
Rebates as % of Total Project Cost	7.9
Net Investment	$567,974
Net Payback	4.9 years
ROI	**20%**

Challenge

Located in the Midwest region of the United States, this 300,000 ft^2 urban mall stretches over four blocks. It was constructed in 1912, converted into a mall in 1982, and underwent upgrade renovations in 2004.

The six-level above-ground parking lot was built in 1982 and lighting upgrades were implemented in the early 1990s. The garage provides parking for the adjoining retail mall.

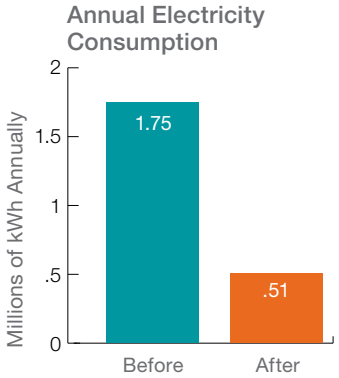
Our Solution

The existing 986 lighting fixtures in the parking garage were 150 W metal halide low-bay fixtures. They were not controlled by dimmers or sensors and ran continuously throughout the day, throughout the year.

- Replaced the metal halide lamps with 51 W LED dual sensing dimmable fixtures. The power required to run the fixtures greatly decreased while ensuring optimal light levels were maintained in the garage
- Installed occupancy and daylight sensors. As a result, the new fixtures vary their light output depending on detected natural light levels and pedestrian and car traffic in the garage
- Coordinated all rebate capture activities with the state utility to secure funding for 8% of the total project cost
- Completed a consumption analysis was completed on the parking garage prior to and after the installation of the lighting and sensors to measure and verify the impact of the Solution.

Energy Savings – 71%

- New LED fixtures reduced wattage and the baseline demand of the garage by 65%
- Installed lighting and daylight- and occupancy-sensors save about 1,238,825 kWh annually
- Solution resulted in an overall, verified 71% reduction in the annual electricity consumption of the parking garage.



How can we help you? Please contact Green Generation Solutions at info@greengenerationsolutions.com or 301.202.2930