



# 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<sup>2</sup> 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.

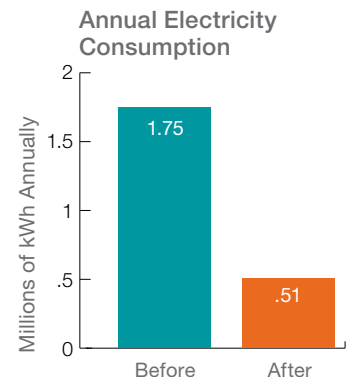
## Our Solution

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](mailto:info@greengenerationsolutions.com) or 301.202.2930