

CITY OF BIRMINGHAM

LED CONVERSION

Case Study



THE MAGIC CITY SHINES BRIGHTER WITH LED STREET LIGHTS

SUMMARY

The Council Members of Birmingham collectively made the decision to invest in the lighting infrastructure of the city's neighborhoods and downtown core to improve nighttime visibility, safety, aesthetics and energy efficiency, while reducing maintenance costs, uplight and crime. Previously, Birmingham had a large number of High-Intensity Discharge (HID) fixtures that were not meeting the city's appropriate lighting requirements and energy efficiency. It was a growing concern when it came to brightening Birmingham, Alabama. With the conversion to LED fixtures, the improved lighting has encouraged both citizens and visitors to enjoy city centers, neighborhoods and the surrounding environment.

PROJECT HIGHLIGHTS

Project Site: Downtown Birmingham, Alabama

LED Conversion: 2,823 total fixtures

LED Fixtures: K445 Sol-Lux post tops, K804 Coronet Sr. pendants, K704 Coronet Jr. pendants and K118 Washington post tops

Energy Cost Savings: 50-70%



THE CHALLENGE

The Magic City's streets were getting dark, maintenance requirements were increasing, and energy efficiency was a top priority for Birmingham, Alabama. Since most of the city's street lighting was powered by HID lights, they were experiencing higher energy costs with shorter lifetime value. Plus, when Birmingham Council Members examined their current lighting situation, they realized their existing HID bulbs were the root cause of an urban sky glow.

THE SOLUTION

Birmingham is Alabama's most populated city, with a thriving business community, amazing architecture, and motivated Council Members looking to enhance the nighttime environment of the city to show off all it has to offer. As an energetic city, there are increasing levels of activity into the night that should be supported by a strategy that improves nighttime visibility and offers additional safety to visitors and residents. King Luminaire Co. Inc., a division of StressCrete Group, in partnership with Alabama Power, converted the existing HID fixtures to LED, adding tremendous overall functionality, historical aesthetics, and increased security throughout the city. The project specified the conversion of 2,823 decorative luminaires, which resulted in a reduction of reflective uplight, increased energy efficiency and improved product lifecycle.

THE RESULTS

The city of Birmingham's investment into their lighting infrastructure not only provided elevated aesthetics of the city's downtown core, but also increased safety and nighttime visibility through LED lighting with uniform lighting distribution and the elimination of many dark areas between poles. In addition, the new LED luminaires provided a reduction of direct and reflected uplight which was the primary cause of urban sky glow.

Obtaining energy efficiencies whenever possible is a growing concern in today's economy and a priority for many municipalities. New high efficiency LED luminaires typically provide energy cost savings of 50-70% and last 15-20 years, while HID fixtures require maintenance approximately once every five years thus quickly contributing to the payback period for LED conversion projects.



“This project got started thanks to the voices of leadership with our city who wanted to make sure we had lighting in appropriate areas throughout the neighborhoods to reduce crime and make sure our thoroughfares were lit so that drivers can see when they're driving through our city.”

Jay Roberson, City Council President
– District 7, City of Birmingham



“These lights are simple to install, easy to work on while wearing safety gloves, and provide a great deal of reliability to our customers.”

City of Birmingham, Installation Crew

HIGHLIGHTS

Products:

- 1,420 K445 Sol-Lux which offers a traditional appearance with high performance and minimal maintenance characteristics.
- 653 K804 Coronet Sr. and 470 K704 Coronet Jr. are traditional pendants available in two sizes, to allow both roadway and pedestrian concerns to be individually met without any compromise. A timeless design for both contemporary and historical settings.
- 280 K118 Washington post top acorn offering a pleasant, well balanced shape, and is one of King Luminaire Co. Inc.'s most popular ornamental luminaires.

Energy & Maintenance Savings:

- Increased energy efficiency and extended life span of LED fixtures provides energy savings of 50-70% and lower maintenance requirements of LED fixtures significantly reduces street light maintenance costs.
- Energy conservation and reduced maintenance costs results in a reduction of the city's operational budget.

Community Benefits:

- A well-lit community improves public safety and encourages both citizens and visitors to enjoy the city centers, neighborhoods and the environment.



STRESSCRETE GROUP

With manufacturing facilities in five North American locations, StressCrete Group produces an extensive line of high performance decorative outdoor lighting fixtures, decorative spun concrete and metal poles, plus pole arms and accessories, bollards and site amenities. We also manufacture a vast range of spun concrete poles for power distribution and transmission, sports lighting, high-mast lighting, and specialty poles for the electrical and communications industries.

We are a family business that operates by the core values of honesty, integrity, compassion and respect to better the lives of our employees, their families, our customers and the communities we represent. StressCrete Group services multiple market segments through two divisions:

- StressCrete Ltd., established in 1953, is the longest-operating, most experienced manufacturer of spun concrete poles in North America. With plants in Alabama, Kansas and Ontario, we offer the broadest, most diverse range of spun concrete poles and bollards in the industry, with quality second to none.
- King Luminaire Co. Inc. produces a comprehensive assortment of high performance outdoor luminaires, metal poles, pole arms and accessories, plus bollards and site amenities. With an array of state-of-the-art LED Technology and HID optical systems, and plants in Ohio and Ontario, King Luminaire is a North American leader in the outdoor lighting industry.

At StressCrete Group, we provide every customer with the highest quality innovative products and work as a team to create and maintain life-long customers through world class service.