The City of Glendale, AZ reaches lighting performance benchmark with help from ROAM

About The City of Glendale

The City of Glendale AZ is situated in the rapidly expanding northwest part of the Phoenix metropolitan area. The City is known for its beautiful tree-lined streets and neighborhoods, and is famous for its charm including the Historic Downtown District. Glendale is also home to the Fiesta Bowl and was the proud host of Super Bowl XLII.

Situation

Street lighting quality is important to a growing city like Glendale. Residents and visitors rely on the street lighting system for safety, security and visual acuity. In preparation to host a major BCS Bowl game, as well as Super Bowl XLII, the City wanted to significantly reduce street light outages and improve the quality of lighting in areas of high visitor traffic.

Challenge

To reach the system outage goal, the City first had to establish a benchmark. Based on citizen call volume and previous work order history, the City estimated their street light outage to be approximately 5-7%. Secondly, the City needed to reduce citizen call-in volume, which was estimated to be approximately 20 calls per day. Third, the City needed to repair malfunctioning lights across their system and improve lighting quality for high volume areas as quickly, efficiently and cost effectively as possible.

Solution

The City selected ROAM to not only assist them in addressing the current outage problem, but to also provide a sustainable lighting management solution that would continue to identify and reduce outages long past the initial outage reduction. ROAM provided the opportunity to utilize available technology to solve an immediate problem as well as set the stage for future lighting system management.

ROAM is a remote streetlight monitoring and management solution that pairs a smart photocontrol, capable of diagnosing lighting problems, with wireless technology to provide increased visibility and management of outdoor street lighting systems. ROAM was a good choice for the City to meet audit requirements, assist in lighting quality improvement and other sustained lighting management goals.

ROAM smart photocontrols were installed on 18,500 City street lights. As each photocontrol was installed, specific information about the street light, including latitude, longitude location, fixture type, wattage etc. was captured and audited. The ROAM photocontrol is backward compatible with lights featuring a twist-locking receptacle making the conversion from standard to smart

"The near elimination of street light repair problems creates a positive feedback loop allowing our City staff more time to focus on other value-added functions for which we are also responsible."

photocontrols straightforward for the service contractor. In addition, ROAM photocontrols begin to communicate data on the health of the light fixture and configure the communication network immediately upon installation.

The City took the ROAM installation and audit opportunity to also improve the quality of lighting by converting 8,500 low pressure sodium fixtures to high pressure sodium fixtures for improved color rendering. The City also made the decision to replace fixtures at this time, determined to be malfunctioning beyond repair. The audit, fixture replacement and ROAM installation took less than four months to complete and revealed several conditions occurring on the City's system, previously unknown or difficult to capture including:

- A 20% outage/malfunction percent, which was much higher than expected 5%.
- Light fixtures on group control, which the City had been assured no longer existed
- The exact location and number of low pressure street lights on their system
- The exact location and number of street lights currently without power and under the obligation of the local utility to repair

Armed with data from the ROAM system, the City set out to immediately drive down their larger than expected streetlight outages. The information also provided the City with ample information to hold utilities accountable for power and group control problems. The City's service contractor also benefited with more detailed information on the nature and location of streetlight problems, which helped to increase repair efficiency.

With the help of ROAM, the City was able to reduce their system-wide outage/ malfunction percent from 20% to 3%, and recently reached a performance benchmark of 1.58%. In addition, the City also realized a reduction in citizen call volume, reducing calls per day from 20 to approximately 3. "Our street light staff is committed to driving the outage number to as close to zero as possible" said Mike Sills-Trausch, Lighting Director for the City of Glendale. "That said zero outages are unlikely given other projects and circumstances that impact lighting, such as traffic incidents that may damage lights, poles and create power issues, however ROAM has enabled us to monitor the system daily and proactively respond to issues quickly."

Because ROAM remotely monitors street lights and communicate this information to a user, who can initiate appropriate action, service efficiency is dramatically improved. ROAM also eliminates the need for nightly patrol and provides crew with the right information to increase the opportunity to repair the fixture on the first visit. This dramatically reduces "drive time", saves fuel and helps to increase repair cycle time. The City also took full advantage of ROAM's Work Order Management module which further enabled proactive and efficient lighting repair.

"The near elimination of street light repair problems creates a positive feedback loop allowing our City staff more time to focus on other value-added functions for which we are also responsible", said Sills-Trausch.

ROAM provided the City of Glendale, which owns and operates their own lighting system, unprecedented visibility into the health and function of their lighting network with the means to efficiently manage work orders and lighting repair (from remote malfunction detection to problem resolution) with limited resources .