

Texas Parking Garage

Case Study





In the midst of the pandemic, the world shut down except for essential workers who ventured out into a reality that felt eerily similar to an apocalypse.

A building in Texas, built for 5k people with a five story parking garage laid mostly dormant, except for a few security guards watching over the property. One evening, at the height of the pandemic, there was a crash in the parking garage due to poor lighting which was when the property owners knew they needed to spring into action to keep their people safe.



They called upon their property management group, Camelot, to investigate the best lighting control solution for the existing structure. Understanding the breadth of the job, Camelot brought in Carl Burseson from Mayer Electric, known for his expertise in finding answers for challenging projects. Burseson went to the parking garage to get a scope of what they were up against and discovered there were over 1700 fixtures in the space, the existing circuitry was a rat's nest, and the control system was as good as an on/off switch. With an understanding of the current state of the electrical system, Burseson set off to understand what Camelot's ideal situation would be for a lighting control system.

“What it came down to was they needed the lights to be dimmable, and wanted to be able to program the lights to dim based on where the fixtures were located in the garage and different times of day. It's a pretty basic request if the garage was just being constructed, but because the fixtures were already wired, it was a big challenge due to the scale of the building and quantity of lights.” - Burseson

As it stood, in order to utilize the existing infrastructure with traditional lighting controls, they would need to run 0-10 volt wire to 1700 LED fixtures. Undeterred by challenges, Bruleson reached out to his network of professionals to hash out the reality of the situation, and brought in Shea Parker from Hossley Lighting and Power Solutions. Right off the bat, Parker knew between the cost of labor, materials, and time it would take to complete the job, rewiring the garage to take advantage of the 0-10% dimmable LED fixtures was not an option.

“Once Carl came to me, and after doing a few rounds of discovery, I knew Casambi was the best solution. We needed to go wireless to make this possible otherwise the property owner would never sign off on slinging so much cable. I’ve worked with Casambi in the past, and their system is practical, functional and proven.” -Parker

Without question, Parker and Bruleson knew Casambi was the answer, but needed to convince the property owners and Camelot. With a technology as innovative as Casambi’s lighting control system, Parker recognized the importance of demonstrating how it operates so they would not only understand the simplicity of installation, but the capabilities of dimming, level of customization, and ease of use. Additionally, most control systems require sensors to intuitively dim based on the time of day, but Casambi’s nodes are designed with an astronomical clock, so a sensor isn’t needed because the GPS coordinates can be programmed through the app, and the lights will dim accordingly. This builtin feature greatly simplified a highly complex situation. Beyond the day-to-day functionality of the lighting control system, what takes Casambi’s technology to the next level is the ability to remotely troubleshoot, program and adjust the lights remotely, all made possible through gateways.

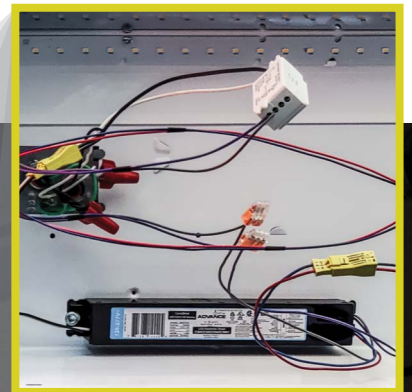
“We showed up with a few A2D node samples provided from Casambi, and did a demonstration of how to install the node into the existing fixture, and then let them take the rest for a test run. After just one demo, they were able to install the ones they had on their own and use the app to dim, program, and group them. Being able to retrofit the existing lights is what made this project possible. Shortly after our demonstration, we got a PO.” - Parker

After about a six week lead time, the 1700 nodes, and one gateway were in hand and ready to be installed. Parker and Burleson went onsite to ensure the electricians understood the functionality of the nodes, which was as simple as connecting the leads in the A2D node to the leads in the fixture.

“It took them the first 100-200 nodes to learn the mechanics, but after that, they were able to create a sort of assembly line to install and program each fixture, and then they just cruised along. Between the electricians and Camelot, they were able to take it and run with almost no supervision because it was so easy and the app was so intuitive. There was almost this lingering question from the electricians of “And what else? What am I missing?” because it was so easy.” - Parker

With such a huge installation, Parker and Burleson expected the installation to take months with roadblocks along the way, but after the electricians understood the nuts and bolts, they were able to complete the installation in under two months, with only two faulty nodes.

Detail of Casambi node retrofitted into every fixture.





“I was shocked that we only ran into 2 faulty nodes out of 1700 because we usually count on a 10% failure rate when it comes to electronics in any project, let alone one of this scale.” - Parker

After installation was complete, Burleson and Parker intended to meet with Camelot to assist with the programming of the lights to achieve a cascading dimming effect they desired. The garage had three sides that were exposed to natural daylight so they wanted the rows of lights on the outermost rim of the garage set at the lowest dimness to conserve energy during daylight hours, and incrementally ramp up in brightness as the sun went down. To their great surprise, because of the app's easy interface and intuitive nature, Camelot had already programmed the lights to brighten and dim based on the astronomical clock. Ultimately, because of the programming and utilization of natural daylight, the parking garage outfitted with Casambi's technology, reduced their electrical load by around 68%. That is on top of the savings of using LEDs versus incandescent lights.

It took vision, ingenuity, and an innovative product to take a parking garage that operated with an “on/off” control system, and make it smart. It took Casambi.

LOCATION

United States

PROJECT LEAD & LUMINAIRES

Camelot, Property Management

Carl Burleson, Mayer Electric

Shea Parker, Hossley Lighting & Power Solutions

GARAGE SITE

Dallas, TX

CASAMBI UNITS

1700+

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