

## CattronControl LRC

A major interstate in one of the country's largest metropolitan cities is a main traffic artery for commerce in the Midwest and plays a key role in keeping commuter traffic moving during rush hour.

Safely managing traffic flow via a reversible lane changing system during periods of high congestion can be a real challenge. Those responsible for the traffic lane automation chose Laird Controls to provide a state-of-the-art CattronControl™ wireless system that integrated with the state's traffic flow automation for the expressway.

A remote controlled, reversible lane change system determines which lanes are open during the in-bound morning rush hour and then, later in the day, which lanes to redirect the outbound traffic flow for the commuter's drive out of the city.

Since 1995, a legacy system by Laird Controls provided dependable service for 20 years of continuous services in the highly critical control environment before it was decided to upgrade to newer technology that would increase safety and flexibility for the expressway worker.

With clear instructions from the system's owner to keep the layout of the new system as similar as possible to the original while also not disrupting the existing installed equipment. Laird Controls engineers constructed an overlay bank of relays with identical inputs combining the existing and new relays into a single interface.

### **New Technology. Same Trusted Functionality.**

The Laird Controls OCU responds to the commands executed by the expressway worker via ergonomic function switches, digitizes them, and creates a secure data packet message that is transmitted to the Machine Control Unit (MCU) via a UHF frequency for a reliable RF "handshake". Return radio signals are sent back to the OCU from the master PLC confirming selected commands have been processed.

The Laird Controls MCU is also designed with compatibility in mind. The challenge was to match the terminal output nomenclature and functionality of the original systems as closely as possible. The Laird Controls team delivered a control package that uses a highly selective UHF receiver to decode the signals sent by the OCU and routes the data to the state-of-the-art microprocessors controlling digital commands that are ultimately processed by the ramp control system's programmable logic controller. (PLC)

### **The What If?**

With the legacy system still operating on a daily basis, there were concerns of what might happen if the new control system experienced issues during the installation process. Supported by an experienced team of Laird Controls field technicians, engineers were able to wire in the new MCU to the customer's control PLC in parallel to the original MCU. Function tests, power outputs and range tests and real-time operation of the ramp control equipment verified that all functions were working properly, in parallel with the already installed system.

### **A Win-Win Situation**

With the new Laird Controls system in operation, the ramp control systems have been working reliably, efficiently, during their daily ritual of opening and closing traffic control gates.

The deep understanding of the customer needs and the ability to provide a purpose-built, cost-effective solution made Laird Controls the right choice for such a critical application. It is a decision that will continue to affect the motorists that benefit from increased safety, improved traffic flow and a shorter commute.

**[Visit our website to learn how Laird wireless automation and control solutions can help you streamline your operations.](#)**