

Case study

Overview: State introduces a pioneering AET system with no room for error

When a state toll agency began construction on their first all-electronic toll highway, they had much at stake. The tolled, limited-access highway promised to substantially reduce traffic delays, but the project had a controversial history with several studies conducted over five decades and much spirited public debate. The state toll agency (STA) could not afford toll collection errors that might turn public sentiment against the project.

“Conduent exceeded our expectations and was able to work with the state toll agency, the state highway administration, and other contractors to ensure an on-time opening with no major issues. They worked as a partner in order to meet all objectives. The Conduent project management staff stayed in constant communication with our project manager, which helped to foster a team that was able to respond quickly to resolve any issues that came up.”

– Deputy Director,
Support Operations
state toll agency



From the start, the project took on ambitious goals. The suburban area was notorious for its traffic, and the STA sought to create a congestion-free highway that would offer an alternative to the busy beltway. At the same time, the highway would relieve commuter traffic on other nearby interstates. To achieve its goal, the authority decided to implement the region's first cashless system that would collect tolls at highway speed from gantries, eliminating tollbooths along its 19-mile stretch.

The STA wished to employ a time-based pricing strategy that lowered tolls during off-peak hours and raised them during peak hours. The STA also required a system that could accommodate congestion-based dynamic pricing (wherein cost is correlated to traffic congestion) in case they decided to implement it in the future.

The project called for designing and developing an integrated all-electronic tolling system and ongoing maintenance of the hardware and software. Given the size and degree of public interest in this toll road, the agency sought a partner with close experience and a proven track record of successful implementations.

As the leading provider of transportation technology services worldwide and the largest integrator of E-ZPass® in the United States, Conduent fit the profile. We had processed more than half of all electronic toll collections transactions in America and had installed cashless all-electronic toll systems for transit authorities in North Carolina, Los Angeles, New Jersey and the San Francisco Bay Area. Additionally, we had previously installed free-flowing cashless lanes for this state. That experience made adding functionality for the multiple lane Automatic License Plate Recognition (ALPR) system more efficient for this new toll road.



The challenge: Achieve absolute reliability in a tighter time frame

A state-of-the-art all-electronic tolling system that captures vehicle information at highway speeds relies on precision technology and flawless execution. In addition to recognizing E-ZPass® transponders from people who have opened an E-ZPass® account, the system also must be able to recognize and capture information from non-account holders. That the project had garnered heightened public attention, adding to the importance of a successful, error-free implementation.

Unlike drivers in other nearby regions, the citizens who would be the heaviest users of this new toll road had little or no exposure to toll roads – much less all-electronic tolling. As a result, the STA had to undergo exhaustive public education for which Conduent would serve as the chief subject matter expert. As part of the public information effort, we integrated the ALPR system with a technology that improves traffic flow through real-time data collection and communication.

Finally, and perhaps most challenging, the weather posed an unforeseen obstacle as the area experienced one of the rainiest years on record. With highway construction delayed for weeks due to weather, the window in which we had to implement the tolling system was diminished.

The results: Flawless execution as the toll highway opened ahead of schedule

Despite weather-related delays in construction (and the consequent coordination challenges with sub-contractors), we completed the installation to I-95 12 days before the scheduled highway opening.

The commute that previously took 50 minutes now takes approximately half that time. Shipping costs also have been reduced, helping the regional economy. The STA has achieved its objectives of improving quality of life and safety by curtailing over-crowding on roads and cutting down travel time so people can spend more time with their families. “A trip between [two local interstates] on the [new toll road] saves up to 25 minutes compared to driving local routes,” said the state toll agency’s Acting Executive Secretary. “Traffic volumes are right in line with our projections.”

The new toll road continues to run smoothly. The Electronic Toll Collection accuracy stands at 99.9 percent while toll revenue has met or slightly exceeded projections.

By turning the toll collection system over to Conduent, the state toll agency was able to follow its core mission of managing its transportation facilities, tunnels and bridges without having to worry about toll collection.

Contact us

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