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Maryland Transportation Authority
Introducing All Electronic Tolling to the Washington DC Region

Legend

● Drivers can enter and exit the ICC/MD 200 eastbound and westbound.

○ Drivers can access eastbound ICC from Briggs Chaney Road. Briggs Chaney Road may only be accessed from westbound ICC.

Exit 3 Shady Grove Rd.
Exit 8 Georgia Ave.
Exit 10 Layhill Rd.
Exit 13 New Hampshire Ave.
Exit 16 Columbia Pike
Exit 17 Briggs Chaney Rd.
Exit 19 I-95

INTERCOUNTY CONNECTOR/MD 200

Image courtesy of MDTA.

Overview: Maryland Introduces a Pioneering AET System with No Room for Error

In 2007, when the Maryland Transportation Authority (MDTA) began construction on the Intercounty Connector (ICC) toll highway, it 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 5 decades and much spirited public debate. In short, the MDTA could not afford toll collection errors that might turn public sentiment against the project.

From the start, the ICC project took on ambitious goals. In suburban Washington, DC, an area notorious for its traffic, the MDTA sought to create a congestion-free highway that would offer an alternative to the busy I-495 Capital Beltway. At the same time, the highway would relieve commuter traffic on I-270 in Montgomery County, MD and I-95 in Prince George's County, MD. 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 MDTA wished to employ a time-based pricing strategy that lowered tolls during off-peak hours and raised them during peak hours. The MDTA also required a system that could accommodate congestion-based dynamic pricing-wherein cost is correlated to traffic congestion-in case the authority decided to implement it in the future.

The project called for the design and development of an integrated all-electronic tolling system and ongoing maintenance of the hardware and software. Given the size and degree of public interest in the ICC, the MDTA 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 US, Xerox fit the profile. We had processed more than half of all ETC 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 already installed free-flowing cashless lanes for the MDTA in 2008 and 2009 at Fort McHenry Tunnel and the Francis Scott Key Bridge in Baltimore. That experience made adding functionality for the multiple lane Automatic License Plate Recognition (ALPR) system more efficient for the ICC.

The Challenge: Achieve Absolute Reliability in a Tighter Time Frame

A state-of-the-art AET 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 only added to the importance of a successful, error-free implementation.

Unlike drivers in the Baltimore and Annapolis regions, the citizens of Montgomery County in suburban Washington, DC had little or no exposure to toll roads, much less all-electronic tolling. As a result, the MDTA had to undergo exhaustive public education for which Xerox would serve as the chief subject matter expert. As part of the public information effort, we integrated the ALPR system with CHART, Maryland's Intelligent Transportation System

technology for improving traffic flow through real-time data collection and communication.

Finally, and perhaps most challenging, the weather posed an unforeseen obstacle as Montgomery and Prince George's counties both 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 ICC Opened Ahead of Schedule

Despite weather-related delays in construction -and the consequent coordination challenges with sub-contractors-completed the installation to I-95 twelve days before the scheduled highway opening. The remainder is scheduled for opening in 2014.
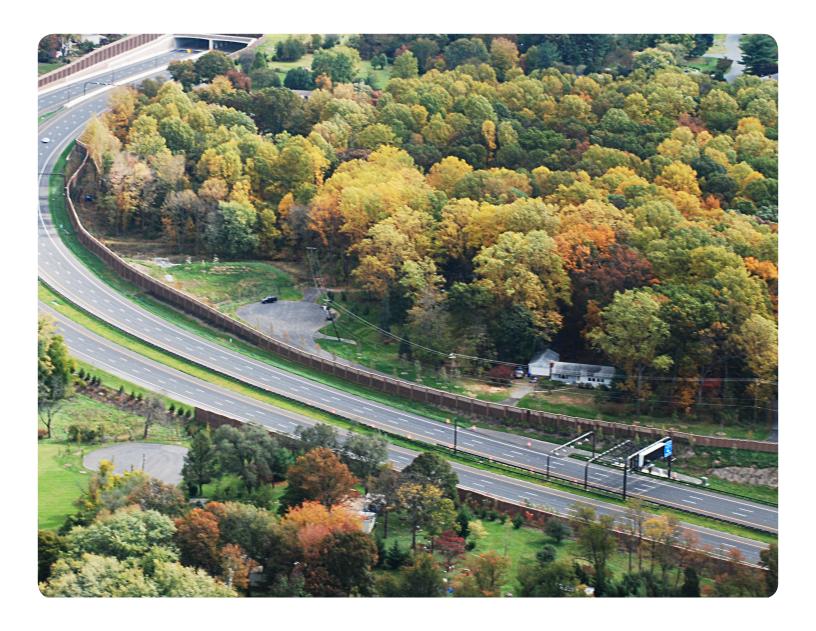
The I-270 commute that previously took 50 minutes now takes approximately half that time. Shipping costs also have been reduced to help the regional economy. The MDTA has achieved its objectives of improving quality of

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 I-370 and I-95 on the ICC saves up to 25 minutes compared to driving local routes," said MDTA Acting Executive Secretary Bruce Gartner. "Traffic volumes are right in line with our projections. Each weekday, nearly 40,000 vehicles now travel the ICC between I-370 and Georgia Avenue and about 30,000 vehicles travel between US 29 and I-95."

The ICC continues to run smoothly. The Electronic Toll Collection accuracy stands at 99.9 % while toll revenue has met or slightly exceeded MDTA projections.

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

"Xerox exceeded our expectations and was able to work with MDTA, SHA [State Highway Administration] and other contractors to ensure an on-time opening with no major issues. They worked as a partner to the MDTA to meet all objectives. The Xerox project management staff stayed in constant communication with the MDTA project manager which helped to foster a true MDTA/Xerox team which was able to respond quickly to resolve any issues that came up during the installations."

John O'Neill
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Contact Us:
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Learn more about the Intercounty
Connector at: iccproject.com

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