

Life with the Tampa-Hillsborough Expressway!

Marty Stone, Planning Director for Tampa-Hillsborough Expressway Authority (THEA) takes me on a journey travelling the Selmon Expressway's conversion to a cashless solution.

Marty believes there is benefit in his method of 'concept through to completion', he says, "It gives you an institutional knowledge from beginning to end and you lose nothing. Even big organisations are now starting to look at projects this way so, you don't lose project knowledge through the whole process!". The Selmon conversion is no exception to this rule for Marty.

THEA has set September 2010 for the end of cash collection on the Expressway but development for this project began in 1998 when the original idea for the Reversible Express Lanes (REL) were developed.

At the time, the innovative REL was not only a solution to THEA's congested lanes and lack of expansion area but also a test bed for all-electronic tolling (AET). If the REL was accepted and successful with Tampa's customers then it would provide a basis to consider converting the whole Expressway to all-electronic tolling.

In 2006, after reviewing the success of the REL, the THEA board asked for a broader inquiry into the development for All Electronic Toll Collection (AETC). HNTB performed a detailed analysis of traffic to determine whether this would be a viable transition for the entire Expressway. At the time of the analysis the local lanes had 69% of its customers using electronic tolling. Today the usage has increased to more than 74%. A 2007 on-line survey of cash customers helped to gain the green light for the project when they said 'they would favour an all electronic system, especially if it saved them money!'. Today, customers on average save 25cents per transaction, which equals 50 cents to a \$1 a day.

The Expressway has coin machines that are 25-30 years old. It is an ageing system with high maintenance expense and when not manned also incurred high evasion rates. So, in 2006 permission was given to begin the preliminary design phase for AETC, 2007 saw a major move forward and the final designs for the civil structure got underway in 2008. Kisinger Campo & Associates (KCA) carried out the design work under the direction and oversight of HNTB. HNTB and KCA will continue to provide consultancy for post-design services throughout construction, and backoffice operations with PBS&J offering support on the equipment and installation side. There will be 12 new gantries and new AETC equipment for the Selmon mainline lanes and equipment upgrades for the REL, totalling 50 ORT lanes including the 6 REL's.

The selection process for the lane integration cut out the lengthy and expensive procurement process using a provision under Florida law that allowed THEA to 'piggyback' on contracts which had been competitively selected by other government agencies. THEA looked at 3 separate government contracts for Open Road Tolling (ORT) and were given estimates not bids. Three vendors were invited to submit tenders and all 3 implemented Idris technology in their solution; ETCC (an Idris Technology Partner) under contract to the Miami-Dade Expressway Authority (MDX), and 2 vendors under contract to the Florida Turnpike Enterprise (FTE), Raytheon and Transcore. Transcore was selected based on a competitive tender and their offering of a 'state of the art' ORT system. Transcore has a long standing relationship with the REL system and are familiar with the workings and the proven technology within it, so being able to use the same team again was a benefit to THEA. ETCC won the MDX contract for the lane-to-back office integrated solutions which, for this project, required some big changes to the business processes in support of the new

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technology. MDX is currently finalising development of the new back office in Miami that they will share with THEA.

Marty Stone commented, “We haven't used the term 'cashless' to describe this project. Because customers will still be able to pay cash at off-road facilities, it's more of an open access highway with business rules to accommodate people with and without transponders using license plate technology and billing mechanisms.”

The new system infrastructure is a pretty straight forward aspect of the project, Marty and his team worked with Transcore on the production schedule for fabricating the gantries and, even extended the project time-scale by 3 months to accommodate the build schedule. The new, all steel tri-core truss gantries and their technical infrastructure has mounted 'state of the art' front and rear cameras. This was a requirement to enable THEA to capture trucks with trailers. In Florida the owner of the vehicle pays the toll not the owner of the trailer being pulled, hence the need for front and rear camera's to capture both license plates. The rear cameras are colour and the front cameras are black and white and both will use a finger printing OCR process to improve plate number recognition. MDX and THEA will use this information to improve processing for the back office operations. They need the greatest lane detail and information to ensure they also have the best and most efficient back office operations. There have been small advances in transponders over the last 10 years but huge advances in video quality and capabilities. The MDX/THEA backoffice will be responsible, not only for violation issues and reporting, but also video toll collection using license plate technology and this involves big revenue.

The project to upgrade the Expressway has been designed so as not to affect customers. Gantries are being constructed down stream from existing toll plazas. They are already going up and will be tested and commissioned, but not become live until the whole system is complete and ready. THEA will “throw the switch” and then demolish the old toll plazas and clear the site to leave a 'clean, modern, freeflow highway'. The THEA team have put into action an extensive marketing and communications plan to inform their customers that all-electronic tolling is coming. THEA has a target electronic toll collection usage of 80% by the September date of conversion.

There are 3 main business goals for this project. According to Marty; customer safety, reliability of trip, convenience and time saving is the first ultimate goal to ensure improved customer satisfaction. He tells me, “This project is not just about the technical aspect, it's about providing a safer environment for customers – no impediments, time saving, no stopping to pay a toll - truly freeflow!”.

THEA's second goal relates to operations and internal expectations to achieve improved services as well as reduced unit costs with lower maintenance and collection costs. This solution will provide a system which offers the ability to monitor and verify operating conditions of a toll system in a way not possible today. THEA's solution gives real time monitoring and excellent reporting functionality, creating better systems maintenance twenty four seven. It's a system which monitors itself.

The third goal is one of financial performance for the overall agency, not just saving costs but real revenue generation and lower cost of operations, with verifiable financial performance. The final outcome will be increased net revenue, better prices for customers, lower operational costs, increased toll revenue, and better quality of life.

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The Tamps-Hillsborough Expressway has already had a major effect on community life within its boundaries. Marty was recently taking a group of attorneys for a tour of the facility and he relayed the following: “There were 10-12 lawyers in our conference room, over lunch I was explaining the operations system. Afterwards, one of them came up and said 'I want to thank you, you are saving me 30 minutes in the morning and afternoon everyday driving to work, it’s the first time in a couple of years when I’ve been able to eat breakfast with my family!’”, proof this project has real impact on people’s lives.