

Funding the future

As revenue from fuel taxes falls, and the industry looks for new sources of income, there is increasing focus on tolling technologies. **Jack Roper** gets a preview of this year's IBTTA Toll Excellence Award winners, who are certain to inspire anyone planning to roll out new systems

The International Bridge, Tunnel and Turnpike Association (IBTTA) provides advocacy, thought-leadership and education to toll facility owners, operators and associated businesses worldwide, advancing innovative solutions to critical infrastructure challenges. Founded in 1932, it has members in 23 countries across six continents and works to promote the sharing of best practices and procedures learned by the respective toll operators around the world.

In September 2019, IBTTA will present six Toll Excellence Awards (TEAs) at its 87th Annual Meeting in Halifax, Nova Scotia, Canada, recognizing innovations from across the industry. This year's IBTTA theme - 'Driving the Future of Mobility' - was selected by President Chris Tomlinson, who pioneered a system of credits incentivizing Atlanta's drivers to adopt alternative transportation modes in 2014. Tomlinson will confer the coveted IBTTA President's Award on one supreme champion from among the six recipients.

Future mobility cannot be driven by technology alone. It will rely on

back-office processes which can support scalable interoperability, innovative procurement for new infrastructure and good relationships between operators and the driving public. Recognizing this, IBTTA dispenses TEAs across six categories encompassing every aspect of tolling.

"Our well-rounded structure means that anything your organization does should fit one of the categories," explains TEA chairman David Machamer. "Technology is important in improving how we collect tolls. But toll operators also need good customer service. Social responsibility and administration, for instance P3 selection practices, are also important pieces of the picture."

The winners were selected from 25 entries after individual grading by judges. "Every year, we look forward to seeing the excellent projects and processes our members are carrying out," Machamer continues. "It's always a hard choice, but we have a really good slate of winners."

Without further ado, *Traffic Technology International* is proud to introduce this year's tolling superstars...

A quiet evening on Oklahoma Turnpike, whose Authority is now using ETC's Central Interoperability Hub. The other beneficiaries are Central Texas Regional Mobility Authority, Fort Bend County Toll Road Authority, Harris County Toll Road Authority, Kansas Turnpike Authority, North Texas Toll Authority and Texas DOT

\$1bn

The approximate revenue processed since May 2017 by the Central United States Interoperability Hub



Private Sector Award

WINNER:
Electronic
Transaction
Consultants
Corporation (ETC)



ETC is proud to deliver this next-generation Central Interoperability Hub... providing a tolling experience to over 13.5 million customers in three states

Kevin Holbert, executive vice president, ETC

The IBTTA has worked assiduously to advance the case for national interoperability, developing national standards and supporting agencies in harmonizing their back-office processes as a precondition to doing business together. Last year's President's Award recognized North Carolina Turnpike Authority's success in creating an interoperable continuum from Florida to Maine with tri-protocol reader technology and IBTTA's labors are nearing fruition as members grow together into regional hubs which may soon coalesce into one interoperable environment stretching from sea to shining sea.

Since May 2017, the Central United States Interoperability (CUSIOP) Hub has enabled drivers to travel the length of Kansas, Oklahoma and Texas using a single transponder from any of seven member agencies. ETC's brief was to design, develop, test and implement a hub system

compliant with US national interoperability (NIOP) standards to facilitate transaction processing, reporting and reconciliation between authorities. They successfully created the first multi-state hub to meet new NIOP standards with 100% compliance expected before 2020. It has so far processed nearly a billion transactions and over US\$1 billion in revenue using standardized transaction and file-transfer protocols. The CUSIOP system is soon expected to begin processing transactions from other hubs and could provide a foundation for multimodal mobility through its capacity to process data from non-tolling transit and ride-share agencies. Crucially, ETC's success will furnish other hubs with a template for full NIOP compatibility.

"ETC is proud to deliver this next-generation CUSIOP Hub, providing a tolling experience to over 13.5 million customers in three states," says ETC EVP, Kevin Holbert. Where previous Private Sector winners may have excelled in delivering a specific local project, ETC's achievement may prove instrumental in shaping a new world of interoperable mobility which spans a continent.



Toll Operations, Engineering and Maintenance Award

WINNER: Illinois Tollway



“Our team took on the challenge of implementing a system common among Fortune 500 companies and major financial institutions but rare in the open-road tolling industry

José Alvarez, executive director, Illinois Tollway

Driving the future of mobility depends not only on technology and infrastructure but also scalable back-office systems enabling toll operators to seamlessly absorb increasing volumes and revenues.

In 2012, the Illinois Tollway began Move Illinois, a US\$14 billion, 15-year capital program including its first cashless toll-roads, a cashless interstate interchange and new lanes stretching 62 miles from Chicago to Rockford. The agency expects to generate increases of 45% in transactions and 50% in revenues by 2027. Consequently, Illinois Tollway knew they needed to scale steeply while accommodating the new lane technologies, service features, cyber-security measures and business rules associated with cashless tolling.

In 2013, the Illinois Tollway awarded a six-year, US\$44 million contract to implement and maintain a Customer Relationship Management (CRM) system to Accenture LLP. Accenture’s CRM solution leverages SAP business software well-established in the financial sector but

comparatively novel to the transportation sphere.

Since its 2016 inception, this CRM system has underwritten improved service and security, cost-saving automation and efficient processing of steadily rising revenues. It currently serves 1.6 million drivers daily, handling some 2.8 million toll transactions, 88% from either I-Pass or E-ZPass users, collecting over US\$1.5 billion in annual toll and violation payments.

Looking beyond the traditional realm of tolling to discern a wider business landscape has furnished Illinois Tollway with robust foundations on which to build a future of growth, interoperability and cashless automation which could benefit the entire tolling industry.

“Our team took on the challenge of implementing a system common among Fortune 500 companies and major financial institutions but rare in the open-road tolling industry,” says Illinois Tollway executive director José Alvarez. “We needed a flexible back-office solution that prepared us for the future. The CRM system has allowed us to enhance customer service, improve data-security and adopt more complex processing systems.”

2.8m
The number of toll transactions handled every day by Illinois Tollway’s CRM system



Customer Service and Marketing Outreach Award

WINNER: Tampa Hillsborough Expressway Authority



Ever-increasing demand on toll facilities already burdened to capacity can necessitate radical engineering solutions, but convincing uneasy local populations of their benefits requires patience and persistence. Growing congestion on Tampa’s Gandy Boulevard, in Florida, initially prompted plans to widen the narrow corridor by removing homes and businesses, twice thwarted by vociferous community opposition.

When Tampa Hillsborough Expressway Authority (THEA) took over the project in 2009, their daring vision for an elevated tollway above the existing median that would leave adjacent buildings intact faced continued opposition focused on perceived aesthetic and economic detriments. But by 2014, with congestion jeopardizing hurricane preparedness and Tampa’s population projected to double by 2040, action had become imperative.

THEA relaunched the Selmon West Extension Project with a multifaceted outreach campaign at its leading edge, first engaging

community and business leaders in meaningful one-to-one conversations. They created a digital survey and commissioned an economic impact study, using the results to address public concerns. THEA’s procurement has minimized construction-related lane closures and the precast segmental bridge design will maintain cross-corridor visibility. Virtual Town Hall Meetings enabled locals to vote for alternative design concepts, investing them in the superstructure’s aesthetics. This proactive approach secured resounding project endorsement following four previous failures over 25 years and THEA’s Shop Gandy! campaign continues to boost local business revenues predicted to suffer from works-related disruption.

The Selmon Expressway is now under construction, a dramatic engineering spectacle which will improve regional connectivity from 2020 onwards. “Community partnership is an indispensable pillar of our work,” says THEA CEO and executive director Joe Waggoner. “The success of any construction project depends on open and ongoing dialog with those it affects. THEA is honored to accept this IBTTA Award on behalf of the entire Tampa Bay community, who have been so integral to this effort.”

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Joe Waggoner, CEO and executive director, THEA

2040
The year by which it is predicted the population of Tampa, Florida, will double





Social Responsibility Award

WINNER: Central Florida Expressway Authority, Florida Department of Transportation and Florida's Turnpike Enterprise



Central Florida's three million population is swollen by a staggering 75 million tourists visiting each year, putting strain on regional roads. In response, the Florida Department of Transportation (FDOT) and Central Florida Expressway Authority (CFX) are building the 40km Wekiva Parkway, with Florida's Turnpike Enterprise (FTE) collaborating in design and tolling of some sections.

The US\$1.6 billion expressway, Central Florida's first all-electronic toll facility, traverses the ecologically sensitive Wekiva River, rich in wildlife and subject to enhanced environmental protections. Partner authorities have implemented a raft of measures safeguarding the area's natural resources and offering a blueprint for similar projects in the future, as FDOT secretary Kevin J. Thibault explains.

"This project sets the standard for linking mobility with environmental stewardship," says Thibault. "It involved buying 3,400 acres of conservation land, building 1.5 miles of wildlife bridges and limiting the number of interchanges. Three bridges span the waterway with no piers to disturb the riverbed and top-down construction, with form-traveling cranes working on segmental box culvert bridges, eliminating the need for equipment in the waterway."

"The Wekiva Parkway closes the gap in Central Florida's beltway and has already had tremendous success in relieving congestion

Laura Kelley, executive director, Central Florida Expressway Authority (CFX)

Elevating the roadway will preclude conflicts between vehicles and wildlife and the overall design achieves an authentic 'parkway' feel. "When completed in 2022, the Wekiva Parkway will become a model for smart transportation planning through sensitive natural areas everywhere," adds Thibault.

"The Wekiva Parkway closes the gap in Central Florida's beltway and has already had tremendous success in relieving congestion," says CFX executive director Laura Kelley.

"Where CFX anticipated 6,300 daily trips on the five-mile stretch that opened in 2017, we are seeing 20,000 vehicles each day. But it is about so much more than that. Years of extensive collaboration have also shaped ground-breaking environmental protections, making the expressway a source of community pride.

"Many environmentalists now refer to the 'Wekiva Parkway Model' when discussing future corridors, and this IBTTA Award reinforces that accomplishment."



20,000
The number of vehicles using the first five-mile stretch of Wekiva Parkway each day. It opened in 2017 with expected traffic of 6,300 a day



Technology Award

WINNER: Pennsylvania Turnpike Commission



"Our key guiding principles at the PA Turnpike include safety, innovation and customer service. This remarkable suite of apps envelops them all

Mark Compton, CEO, PA Turnpike

Catch It Early is the mantra of Pennsylvania duty officers working to maintain turnpike traffic flow and travel times, which they can now do using their brand new CAAR, the system that has won them the IBTTA Technology Award 2019.

A geographic information system (GIS) web application developed by 2017 IBTTA Technology Award winners the Pennsylvania Turnpike Commission (PTC), CAAR (Catch it early, Act, Analyze and Review) unites multiple data layers in a single platform, providing officers with a suite of visual awareness tools.



Partnering with AccuWeather, Waze, INRIX and Verizon to gain access to real-time data feeds, PTC created a 'data lake' by drawing together video, photo, radar, wind, traffic speed, travel-time and weather data, which is integrated in CAAR's GIS dashboard layers.

The Pennsylvania Turnpike was dubbed 'America's First Superhighway' at its 1940 opening and today PTC operates a 888km

522

The number of miles of roadway operated today by Pennsylvania Turnpike Commission

tolled network. Thanks to CAAR, traffic staff accustomed to juggling multiple systems to detect incidents or track emergency responders are now armed with an unrivalled situational overview.

They can monitor all key safety variables through a single tool, nipping traffic situations in the bud by deploying the optimum response at precisely the right time and location. CAAR was developed by PTC's GeoAnalytics Team in collaboration with their Traffic, Engineering and Operations Department and has surpassed initial objectives.

PTC are already focused on the next phase, which could involve incorporating artificial intelligence to augment a currently prescriptive tool with predictive capabilities.

"Our key guiding principles at the PA Turnpike include safety, innovation and customer service," says PA Turnpike CEO Mark Compton. "This remarkable suite of apps envelops them all. I am delighted with how our team has collaborated to produce these solutions, which will help improve situational awareness and enhance safety for our contracted responders, maintenance employees and customers. We certainly appreciate this acknowledgement of our work from IBTTA and our industry partners."





Administration and Finance Award

WINNER:
Transurban North America (North Virginia)



Washington, DC was recently ranked among Earth's 20 worst-congested cities and the capital's commuters spend 155 hours stuck in traffic annually, a day longer than their New York counterparts. The new, eight-mile 395 Express Lanes will convert and expand existing I-395 HOV lanes between DC and Springfield, Virginia, improving travel-times to the Pentagon and Amazon's future Crystal City headquarters.

The lanes will connect parallel expansions into a 63-mile managed-lane network, easing congestion and enabling transit incentives. Transurban utilized a unique set of financing tools to deliver a project set to open in fall 2019, on-time and on-budget.

Building on its partnership with Virginia Department of Transportation (VDOT), Transurban undertook to finance, develop, construct, operate and maintain the new lanes in collaboration with multiple parties. They created a unified credit which improved on

Segment 95 to support Series 2017 Credit Bonds and earned a one-notch credit upgrade to BBB from S&P and Fitch. US\$1.5 billion in priority orders allowed spread-tightening to a final +49-50 basis points to Municipal Market Data rate, showing outstanding fiscal value.

"This IBTTA Award reiterates the value of public-private partnerships in rebuilding America's infrastructure," says Transurban North America president, Jennifer Aument. "The project adds a third reversible lane for a faster rush-hour trip while creating time-savings on regular lanes for easier access to the Pentagon and the explosive economic growth at Crystal City, generating 600 jobs and US\$0.5 billion in economic activity."

"This is a model example of a successful P3 and we are proud that commuters and regional communities will reap its immediate and long-term benefits." ○

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Jennifer Aument, North America president, Transurban

\$0.5bn

The predicted additional economic activity that will be generated annually at Crystal City, DC, aided by the new express lane



Heading for Halifax

The 2019 IBTTA Annual Meeting takes place in Halifax, Nova Scotia

The 87th IBTTA Annual Meeting takes place in Halifax, Nova Scotia on September 15-17 2019, with Halifax Harbour Bridges (HHB) acting as hosts. A maritime city of just over 400,000, Halifax abuts the wild Atlantic at Canada's eastern extremity. Since the Harbour cuts deep inland, two suspension bridges provide vital

connectivity between Halifax and Dartmouth: the 1.3km Angus L. Macdonald Bridge (opened in 1955) and the 1.2km A. Murray MacKay Bridge (opened in 1970), which together support 34 million annual crossings.

Created in 1950, HHB operates both bridges and is self-funded through tolling revenues. By 2015 the Macdonald Bridge was

wearing out and HHB undertook a feat attempted only once before: retrofitting suspended spans with new deck whilst keeping the bridge open at peak times.

The Big Lift entailed a titanic rolling removal and replacement of 46 deck segments, accomplished entirely during overnight and weekend closures. HHB won public project support

through an imaginative outreach campaign based on the principle of 'Show, don't tell,' which secured an IBTTA Toll Excellence Award in 2018. HHB last welcomed IBTTA's membership to Halifax in 1999, when their annual theme was 'Growing Your Toll Business in the Next Millennium.' The intervening years should provide old friends with much to discuss.

