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"Something easy to do" is one definition of "breeze," and in the US, the newest smart card system for public transport is proving the brand speaks for itself.

In October last year, riders of the Atlanta Metropolitan Rapid Transit Authority (MARTA) were introduced to the Breeze Card and Breeze Ticket and – like their names suggest – the new smart cards are being swept up as an easier way to pay fares. Breeze also distinguishes itself as the 1st and only all-smart card transit system in North America, which means no more tokens and no more magnetic tickets. The system, designed and delivered by Cubic Transportation Systems features an open-architecture platform that includes the Cubic Tri-Reader and Nextfare terminal architecture, giving transit operators a choice of any ISO 14443 Type A or B smart card types. MARTA chose the NXP MiFare and MiFare Ultra Lite cards and is issuing them to riders as the Breeze Card and the Breeze Ticket. The Breeze Card is the familiar hard plastic smart cards common to public transport. The Breeze Ticket, while called a "ticket" is actually a contactless smart card too, only it is made of recyclable paper stock and designed for occasional riders, including tourists.

MARTA's decision to go wholly contactless was a bold move, and one that will pay off in many ways, including more secure and convenient payment for riders, more data-rich reporting capabilities for planning and policy management, and less costs for maintaining the system over time since the contactless architecture removes the need for moving parts at the customer interface. But unlike its other definition, "Breeze" is no gentle wind. From the start, Breeze represented a tenacious, focused effort on the part of the transport agency and Cubic to convert a legacy magnetics-based system to an all-new technology platform within a tight time schedule. System installation began in December 2005 and the rail and most of the bus system were effectively completed last October, demonstrating the high level of partnership and teamwork required for a 38-station rail system and 600-vehicle bus fleet.

The system also includes park-and-ride lots, which will receive the world's 1st all-contactless entry and exit processing equipment this coming spring. The contract also includes options for regional stakeholders to participate in the Breeze system, which are beginning to be exercised and will connect 4 more transit agencies to the MARTA system in 2007. Taken together, the project has been a testament to teamwork, teamwork and more teamwork. Since political and partisan interests can often affect the momentum of a project, it is perhaps a 1st in public transport that the MARTA and Cubic teams were able to roll-out the system in such a short period of time (the contract was awarded in 2004).

From the outset, the project's tone was one of partnership and collaboration, and that was the key to the success of the project. In addition, MARTA was an eager customer in its mission to upgrade from the 26-year-old fare collection system originally installed by Cubic. MARTA has released several public announcements stating its objectives for Breeze - to help it better focus on customer service, improve reliability, learn more about its customers' needs and capture lost revenue due



*Martin Schmidt*



*James Moseley*

## A Breeze Through Transit

to fare evasion.

Initially, identifying the requirements and division of work among the participants captured the contract's scope. Then, establishing the plan for execution was accomplished earlier on when MARTA kicked off a partnership session between all the parties. Using the skills of a professional facilitator to guide the discussions and identify the expectations, MARTA, Cubic and key subcontractors were able to create a clearly articulated mission statement which became the roadmap to success. This was a critical step in the process because of the sheer magnitude of moving parts. For Cubic, more than 100 engineers and field specialists have been involved in the project. For MARTA, the project crosses nearly every operational aspect of its organisation including bus, rail, parking, customer RideStores, the money room, card encoding and distribution, and etc. Clearly, it's a relationship that touches multiple disciplines and organisations within both the customer and contractor organisations demanding that all be in lockstep to maintain direction and schedules. Managing expectations was fundamental to the programme's success. MARTA stayed close to the project through regular communication and by making itself available for ongoing partnering meetings. This was a constant that applied to all parties directly involved in the project as well as at the executive level in both the MARTA and Cubic organisations.

By staying close to MARTA's executive team to discuss issues and make commitments, our management helped to ensure that 'little things' didn't spiral out of control and lead to issues that could impact the project's performance and scheduling. Cubic also attribute the project's success to the "100%+" that my team committed from inception to launch. On our side, the features and functionality of the new smart card system drove development. Led by project engineer Steve Sansom, a team of software and device-specific engineers dissected and assigned the requirements that would deliver a MARTA system capable of:

- Seamless travel for patrons
- Integrated fare collection for bus, rail and parking using smart card-only fare media
- A system that could support stored value, single ride and period passes, flat fare for bus and rail, and parking fees based on travel on the system or lack thereof, all as defined by the fare policies and business rules
- Travel from one mode to another
- The ability to download change characteristics as they affect fares, transfer rules and other operational parameters including autoloan and credit-debit payment

Taken together, these requirements were designed into both the end-user interface, ie., the e-Payment infrastructure, and the central computer and back-office processing and reporting platform that manages the entire system. The new system consists of operational software, computer networks, communications, high-speed smart card encoding machines, sales terminals for customer agents, parking equipment, bus

fareboxes and driver control units, faregates and multi-language ticket vending machines that issue smart cards. Supporting the entire architecture is Cubic's Nextfare central system, a suite of software and hardware tools that includes the Cubic Tri-Reader and Nextfare terminal architecture, and the Nextfare Business Management System.

Once the equipment was ready for installation to begin in December 2005, our field

operations specialists led by Martin Schmidt and James Moseley assumed the most visible role – to both the travelling public and to MARTA. All 600 buses in MARTA's fleet were changed out to Cubic's new equipment. On the rail side, as soon as the station modification contractor readied each of the 38 stations for installation, our team installed the new fare collection equipment, requiring that commuters be temporarily re-routed to MARTA staff for manual fare collection. Here again, MARTA staff proved instrumental in managing the changes as they were unfolding to their customers.

In the weeks leading up to the Breeze Card launch, MARTA official held a series of customer forums throughout its service areas to familiarise riders with the new way of paying




fares. They also explained new features that will soon be available with the card, including balance protection, reloading capabilities, web services and more convenient fare programmes.

"The equipment is in all the rail stations and buses, and it's performing very well," said Neil Poling, Director, Technology Enterprise Management & Planning, MARTA. "Cubic staff has been extraordinarily helpful in rolling this system out on

time. We think we've developed a unique partnership that's been instrumental to a successful project roll-out." Noting that rail ridership is up, he commented favourably on the aesthetics of Cubic's new equipment. "It's given our stations a whole new look," he said.

As with every new system, we had our unique challenges and technical nuances to work out, but the positive attitude of everyone at MARTA and Cubic were key to staying on task. We designed something different based on a lot of application experience. It was this wide variety of experience that helped us through this in a reasonably expedited way.

In nature, breezes come and go, but at MARTA, it looks like this new "Breeze" is here to stay. 



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