CASE STUDY

Busing through Bogota simplified thanks to dual-purpose debit card

With a first-of-its-kind dual-purpose card, Mastercard leverages payment technology to ease Colombia's congested transit system

Overview

As is the case in many fast-growing Latin American cities, commuters and visitors that need to get around Bogota have to rely on public transport if they want to escape slow- moving traffic.

Four million people rely on the city's Integrated Public Transportation System (abbreviated in Spanish as SITP)—a city-wide web of feeder bus routes and large Bus Rapid Transit (BRT) corridors—to make journeys around the city every day. For all these travelers, the prepaid Tullave smartcard, which allows riders to pay for bus fares across the whole network,

is a necessity for life in the city. Consumers load funds onto the smartcard chip, and can then tap Tullave smartcard readers mounted within buses and at BRT stations to pay the fares for their rides, which are deducted in real-time from the card's balance. But even when using SITP and Tullave, they often face delays; ridership of the SITP network is so large that consumers often experience lengthy queues at station ticket offices or kiosks when they reach the point where they need to reload their Tullave card. Reloading funds is a daily occurrence for a significant number of Bogota's residents who frequently don't have funds available to load more than a single day's travel onto their Tullave card.

Scenario

Every morning, Alejandro rises at 5 a.m. so that he can be at the SITP bus station near his apartment before the queues get too long. To get to his job at a restaurant in the Parque 93 neighborhood, Alejandro has only one choice— a ride on one of the city's famous TransMilenio BRT system buses: Bogota has no subway system.

If Alejandro is a few minutes behind schedule, or it's a busy day at the station, he sometimes has to wait an hour to reload his Tullave card—putting him at risk for getting to work late. He often wishes he didn't need to bring cash to the kiosk every day in order to load funds prior to travelling—he wishes he could simply hop on a bus and get on with his day.

Challenge

There are millions of people like Alejandro in Bogota. They rely on SITP and its vast network of efficient buses, but their commutes are hampered by the time-consuming reloading process for Tullave cards.

Recaudo Bogota, the company that issues Tullave cards to consumers and operates the ticketing systems found on all SITP buses, was well aware of the problem.

As Bogota has grown, its transportation system infrastructure has struggled to keep pace. The number of Tullave kiosks provided has likewise not been increased to match the increased ridership. Recaudo Bogota has tried to address the situation by recruiting third-party reload networks that are present in small shops, however that top-up channel incurs a significant commission and the shops are not always adjacent to transit locations. This often forces passengers to walk even further out of their way to reload their Tullave cards.

With fewer than 4,000 reload points in operation, Recaudo Bogota needed a smarter solution to alleviate Tullave top-up congestion. Aware of the success of other new transit payment solutions across the U.S. and Europe, Recaudo Bogota turned to Mastercard seeking a customized solution that would improve the passenger experience without increasing operating expenses

Solution

Approximately half of SITP riders engage the services of one or more of Colombia's financial institutions and hence possess a credit or debit card. A solution that would enable fare payments using such bank-issued payment cards, drawing directly from the funds held in the accounts to which these cards give access, would eliminate the need for cardholders to reload Tullave cards at stations prior to travelling. Additionally, those remaining riders without credit or debit cards would also benefit because they would experience shorter queues themselves when topping-up Tullave.

Hence Mastercard worked with Recaudo Bogota to develop a solution along these lines: a dual-application payment card (or "hybrid" card) model that would enable Recaudo Bogota to collaborate with Colombia's financial institutions to better serve Bogota's residents.

The foundation for the new solution was EMV chip technology, which had recently been adopted by the payments industry in Colombia. While EMV was originally developed to improve payment transaction security, the specifications are flexible enough to allow innovative multi-application products to be developed in which the secure payment application shares the chip with other applications or data. Mastercard and Recaudo Bogota collaborated in developing a specific dual-purpose card model for financial institutions to serve customers in Bogota that had two distinctive components:

1. Co-residency of transportation data—The solution includes clear technical guidelines and commercial terms for financial institutions, enabling them to encode and configure 'virtual Tullave card' data on the EMV chip during the production process for credit or debit cards. This key step ensures both functions can co-reside with the Mastercard payment application and function correctly and independently of one another.

2. Contactless card capability—Financial institutions are provided with clear technical instructions for issuing credit and debit cards that can transact through a contactless interface, as well as the contact plate—a first for the Colombian market.

With this model, payment cards issued by Colombian banks would be substantially more convenient and useful to cardholders as they would be capable of retail and transit payments.

Mastercard and Recaudo Bogota approached the Colombian retail banks together and secured the commitment of Bancolombia to issue the first "dual- purpose card" to its customers in Bogota.

A unique postpaid function was developed to remove the dependency on Tullave top- up kiosks.

The postpaid functionality enables cardholders to make a limited number of rides on SITP buses each day, and to settle the charges after the trip has taken place. Further, it includes the regular capabilities of a Tullave card to receive top-ups at kiosks and in stations. As a result, Bogota's commuters are able to make the daily return bus trip without needing to wait in line to top-up the 'virtual Tullave card'.

Results

The Bancolombia Mastercard dual-purpose debit card was launched in February 2015 and has been an unqualified success. In the first year, the bank issued a high volume of transit hybrid cards, equivalent to about 15% of the system's number of riders with bank accounts. Each month, the rate of issuance averaged double-digit growth. With nearly one-fourth of the cards activated for SIPT usage, more than 10 million rides were completed in the last 12 months using the hybrid cards. The postpaid payment option was chosen by 90% of passengers.

The hybrid card model has since been adopted for use by financial institutions across multiple other Colombian cities.

A more convenient experience for transit users—Reduced time waiting in line at top-up kiosks for cardholders and quicker reloads for non-cardholders

Reduced cost of fare collection for the city—Lower cost of ticket/smartcard issuance

Operational efficiencies—Significant reduction of card reloads cut costs to third party providers

The wider adoption of cashless transactions with contactless transit payments provides a significant step towards financial inclusion for Colombian citizens.

"Today, electronic payment integration is a reality that contributes to an efficient and flexible SITP. This initiative proves our commitment to offering innovative systems and the best technology to simplify its use for all residents of Bogota."

JAVIER CANCELA
CEO, Recaudo Bogota

Let's connect!

Contact Mastercard's global transit solutions team **mobility@mastercard.com.**

Mastercard Transit Solutions:

Partnering with cities, transit agencies and technology partners, Mastercard has been architecting flexible transit solutions that support local infrastructure requirements for almost a decade and is leading the next generation of urban mobility solutions. **For more information on our global transit activities, visit: mastercard.com/transit**