The Future of Modern Transportation Ticketing Has Arrived

As in other consumer interactions, those travelling on public transport or going to events increasingly expect a modern ticketing experience that is seamless and easy to use. Whilst providing this experience, operators and event organizers need to ensure that they are enabling customers to access services quickly to keep to timetables, managing revenue efficiently and reducing the risk of fraud.

Although contactless ticketing was slowly being incorporated into transportation and event access for quite some time, the pandemic significantly accelerated its adoption making it a new industry standard. As part of that ticketing experience, ticketing-on-the-go via contactless payments was not feasible, either technically or financially due to the 3G and 4G infrastructure as well as disparate payment platforms, bank fees and many opportunities for fraud. Now that the technology has advanced — along with the development of a universal Europay, Mastercard and Visa (EMV) payment solution — operators are re-thinking the overall customer journey and moving toward a more digital or mobile paradigm. In fact, transportation authorities who do not process contactless payments will increasingly feel pressure from peers, customers and wider society to upgrade their systems.

This shift benefits the overall customer experience. Going beyond "ticket to ride" with physical tickets or tokens, digital tickets are a favorite of passengers who resent the inconvenience of visiting a box office, ticket kiosk or terminal to buy tickets in person. Unlike their printable counterparts, holding tickets in an app and adding them to digital wallets with smart ticketing is much more convenient. Digitized tickets help streamline the ticket buying process, which has a high appeal to today's generation of travelers. It also allows operators to make data-driven decisions in real time, lowering operating costs and increasing efficiency.

CONTACTLESS TICKETING TECHNOLOGIES

What was originally perceived as a complex process to implement, integrating a ticket reader with a mobile application and fare software, is now generally a turnkey process. A streamlined contactless entry and exit solution for transit is composed of these three elements:

1. Hardware for ticket reading and cEMV payments.

2. Software for the payment validation infrastructure.

3. Integration with a common mobile app.

Smart ticketing solutions are all about adopting technologies like RFID, NFC and QR/Barcodeto ensure that customers can use the ticket type and media of their choice while accessing the service. The rise of smartphones with NFC technology provides the necessary infrastructure for smart ticketing access. While RFID is extensively used in smart cards due to its cost-effectiveness, it is also becoming a standard in sports and entertainment venues, parking, transport, as well as other industries.

HOW CAN TRANSIT AUTHORITIES AND OPERATORS BENEFIT?

A contactless EMV solution is extremely suitable for cities seeking to streamline their approach to deployment for ticketing alongside introduction of contactless payments. As well as offering more efficient operations with high passenger throughput speed with shorter lines, transportation operators can track payments, create fare caps and discounts, carry out refunds and collect transaction data. This also allows them to make operational decisions, such as consolidating routes, alternating the frequency of stops and adjusting fares — all based on accurate, real-time passenger data. Another benefit is creating happy customers by providing a more seamless and stressless experience using a single point of presentation for barcode, NFC and contactless EMV payment. This encourages customers to use the ticket medium that they find most convenient, secure and intuitive to use, while ensuring that public services remain accessible by all demographics.

Common Types of Credentials

 Barcode Readers

 NFC/RFID Readers

 RFID Readers

 cEVM contactless EMV Readers

 QR

HID

TIPS FOR IMPLEMENTING A CONTACTLESS TICKETING SOLUTION

- Payment Service Provider (PSP) software must have an interface with the ticket reading hardware

- The solution should be EMV Level 3 certified

- Vendors (both hardware and software) should have established implementations at large transit authorities and a track record of experience with multiple modes of transportation ticketing

- Verify that security protocols do not lie only with the software and that there is a payment security element in the firmware as well, for a robust closed-loop solution

- To conserve space, speed up customer transaction time and reduce maintenance, ticket reading and payment should be consolidated into one module or reader

- Make sure the ticket readers purchased accommodate several different payment service providers (partner agnostic) so that you are not tied to just one supplier, ensuring flexibility and a future-proof solution

- Beware of hardware solutions that will become obsolete

- Require the ability to make security updates to the equipment remotely to future-proof your investment and make changing payment service providers or acquiring banks seamless and cost effective

- Make sure the software provider has an interface with existing EMV payment firmware

- Ensure you have converged technology in your ticket readers, and that they are able to support scanned QR/Barcodes, closed-loop RFID and contactless payment cards. Some companies offer only one mode of technology or one payment option per module. One single point of presentation for multiple technologies in a small form factor provides flexibility.

- Be careful of 'homegrown' software solutions. You may be captive to that software, and it will be hard to upgrade/change.

HID

THE FUTURE AWAITS

Multiple trends are emerging in the contactless ticketing space, including:

- Mobility-as-a-service (MaaS) — with MaaS, transportation service providers can integrate Uber, Lyft, scooters, ferries, or any mode of transportation, into their offering
- Apps such as Moovit, and others, will eventually integrate with all public agencies, allowing travelers to pay for their entire journey in one application
- Payment methods will transcend mobile wallets and smart phones to include wearable devices
- University students and employees are already using their badges and IDs with NFC technology to utilize one credential for physical access to facilities as well as transportation

CONCLUSION

Ticketing and payment systems are necessary elements of any public transport system, and those systems are comprised of various generations of technologies and architectures. Demands for an improved customer experience, streamlined operations and lower costs are requiring operators to seek a future-proof ticketing solution that is easy and fast for customers and accessible to all, regardless of the type of credential they carry. The transition from legacy to new contactless ticketing environments should not be daunting — as long as the correct precautions are taken. The result will be a secure, flexible, turnkey solution that can handle any new transportation or ticketing trends that come our way.

Ready to learn more? Visit our Ticket Reading and Validation Systems web page.