THE EFFECT OF DIGITAL TECHNOLOGY ON THE RAIL CUSTOMER EXPERIENCE

APTA EMERGING LEADERS • CAPSTONE PROJECT • CLASS OF 2019 • GROUP 2

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PURPOSE

- To identify how agencies are using digital technology to enhance the rail (i.e., automated guideway, commuter, heavy, intercity, intermediate, light, or regional) customer experience throughout the entire trip journey.
- To develop case studies and provide other agencies/authorities with future technology trends in transit.

METHODOLOGY



- Online Survey (10 questions, broken out by Customer Journey Segment)
- Interviews used to develop case studies
- Target Demographics:
 - APTA Members from rail organizations
 - Personal Industry Contacts



SURVEY RESULTS OVERVIEW

- The survey period was February 14, 2019 March 1, 2019.
- There were 24 survey responses out of the 150 (16%) at the close of the survey.
- Seven of the responses were removed because either they did not apply to rail, the agency was already represented, and one survey participant did not provide any contact or agency information.
- For the duplicate agency submissions, the answers were combined so that each agency was only represented one time.
- After the removal of the seven surveys, the final total of survey responses was 17 (11%).

PARTICIPATING AGENCIES

Agency Size





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KEY FINDINGS

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PLANNING THE TRIP:

WHICH FEATURE(S) DOES YOUR AGENCY'S TRIP PLANNER CONTAIN?







PLANNING THE TRIP: ARE THERE ANY OTHER FEATURES YOUR AGENCY IS WORKING TO ADD TO YOUR TRIP PLANNER?



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PLANNING THE TRIP: CASE STUDY: TRIMET MULTIMODAL TRIP PLANNER





Challenge

Add shared-use mobility options to TriMet's existing multimodal trip planner

The Solution

Building on their existing platform, TriMet released a multimodal trip planner that incorporates a comprehensive list of shared-use mobility service providers

Ticket Purchasing Feature(s)





PURCHASING TICKET

WHICH FEATURE(S) DOES YOUR AGENCY'S TICKET PURCHASING APP CURRENTLY CONTAIN?

WHICH FEATURE(S) IS YOUR AGENCY WORKING TO ADD TO YOUR TICKET PURCHASING APP?

Planned Additions to Ticket Purchasing App



0% 5% 10% 15% 20% 25% 30% 35% 40% 45%

PURCHASING TICKET



Challenge

Make it easier for customers to use and choose public transit

The Solution

Develop an app that allows riders to manage and load PRESTO fare cards, tap phone to pay and plan their transit trip

CASE STUDY: METROLINX'S PRESTO MOBILE APP



DOES YOUR AGENCY USE ANY STATION SPECIFIC APP AND/OR INTERACTIVE KIOSKS WITHIN THE STATION?

Station Specific App and/or Interactive Kiosks



NAVIGATING THE STATION:

DOES YOUR AGENCY INCORPORATE TECHNOLOGY INTO THE STATION MANAGEMENT SYSTEM?



NAVIGATING THE STATION CASE STUDY: AMTRAK NEW YORK PENN STATION WAY-FINDING APP





The Problem

New York Penn Station is very complex with 9 entrances, 4 floors, and multiple agencies

The Solution

Develop an app that provides a turn by turn solution to navigate the station

ONBOARD TRAINS:

WHAT DIGITAL TECHNOLOGY ARE YOU CURRENTLY USING ON-BOARD **TRAINS TO ENHANCE THE CUSTOMER EXPERIENCE?**



ONBOARD TRAINS: CASE STUDY: AMTRAK SEAT RESERVATIONS

Challenge

Amtrak wanted to distinguish its premium product for customers.

The Solution

Develop a reservation system for Acela first class customers to reserve seats on the Amtrak website or app.



CONCLUSION

- Enhancing customer experience in the passenger rail industry is a priority, and there are opportunities to leverage digital technology across each experience on the customer journey.
- Digital technology solutions have been proven to increase customer satisfaction, attract ridership, support revenue objectives and create operational efficiencies.
- Agencies have many ideas in the pipeline, and this space is one to keep an eye on



THANK YOU! ANY QUESTIONS?

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Appendix

Appendix: Industry Precedents

Planning the Trip	Industry Precedent
WHICH FEATURE(S) DOES YOUR AGENCY'S TRIP PLANNER CONTAIN?	TriMet: RTP has elevation changes rtp.trimet.org, the ride share integration is in beta. We have a Transit Tracker, Trip planner, subscriptions, in addition we have 24/7 contact by text where a live local agent can provide information. LACMTA ("Metro"): integrated travel alerts and predicted vehicle arrivals (Nextbus) into the Open Trip Planner for our websites and the Go Metro mobile app. Go Metro allows riders to "favorite" trips, lines, and stops and to receive alerts about those favorites. OTP also adjusts trips based on the system status contained in transit alerts. Can override and provide custom trips by user
ARE THERE ANY OTHER FEATURES YOUR AGENCY IS WORKING TO ADD TO YOUR TRIP PLANNER?	Chicago Transit Authority: Working on refresh to Ventra app, which will have trip planning across CTA, Metra and Pace Translink: Integration with the Compass card and open payment options for customers to be able to plan and pay for their trip with the same App. SEPTA: Account balance information for fare card Metro - St Louis: Mobile ticket purchasing

Appendix: Industry Precedents

Navigating the Station	Industry Precedent
DOES YOUR AGENCY USE ANY STATION SPECIFIC APP AND/OR INTERACTIVE KIOSKS WITHIN THE STATION?	LACMTA ("Metro"): The most prominent interactive kiosks are Metro fare media (TAP) purchasing machines. We have also experimented with trip planning and neighborhood guides. While not interactive, Metro's rail status ticker is a popular feature in the East portal of Union Station. We recently signed a contract with Intersection to deploy 100s of digital map cases on Metro Rail. The first of these will be delivered this year on our renovated Blue Line. SEPTA: Touchscreen for wayfinding and travel information: on time, late, annulled WMATA: Ticket Vending Machines.
DOES YOUR AGENCY INCORPORATE TECHNOLOGY INTO THE STATION MANAGEMENT SYSTEM?	Chicago Transit Authority: Dynamic volume based on ambient noise Metro Transit - Minneapolis/St. Paul: Platform announcements Translink: Speaker announcements are used and currently being upgraded. LACMTA ("Metro"): Automated rail arrival announcements in most stations, and we look forward to incorporating more technologies to streamline our riders' experience. SEPTA: Audio visual public address system WMATA: Speaker announcement system with text-to-speech, along with digital delivery of the information. Department of Transportation and Public Works – Miami Dade: PA system at rail stations

Appendix: Industry Precedents

Navigating the Station	Industry Precedent
WHAT DIGITAL TECHNOLOGY ARE YOU CURRENTLY USING ON- BOARD TRAINS TO ENHANCE THE CUSTOMER EXPERIENCE?	 LACMTA ("Metro"): Visual displays to indicate the train's position on its route. Audio announcements for next station, and when doors will close. Working to bring Mobile Routers into our rail cars for security, real-time tracking, and to provide riders with WiFi. We have added the above technology to our bus fleet and are now piloting our rail cars

CASE STUDY: TriMet Multimodal Trip Planner

- WHY: TriMet was interested in a first-mile last-mile solution.
- BUDGET: TriMet was one of eleven grant recipients of the FTA Mobility on Demand Sandbox Project. The \$678,000 award was supported by \$324,000 of in-kind contributions.
- **PROJECT RESOURCES:** 38 private and public partners collaborated.
- HOW LONG TO DEVELOP: Two years.
- **BENEFITS:** TriMet is the first US transit agency to release a multimodal trip planner that incorporates shared-use mobility providers, which is a fundamental first step towards providing their customers with convenient, personalized door-to-door travel options. The new trip planner is designed to be easily replicated by transit agencies in other cities. Because it uses open source technology and open data, other transit agencies can quickly adjust the trip planner for their system. TriMet can then benefit from improvements other agencies make and incorporate them into their trip planner. TriMet anticipates increased customer satisfaction and ridership.



CASE STUDY: Metrolinx PRESTO Electronic Payment App

Manage & Load PRESTO Cards

- WHY: Develop one platform to serve as an electronic payment system that eliminates the need for tickets, tokens, passes and cash that can be used across multiple agencies in the Great Toronto, Hamilton and Ottawa areas.
- PROJECT RESOURCES: PRESTO is an operating division of Metrolinx. The Province [Ontario] provides leadership, funding, policy, and program direction for the PRESTO system. Metrolinx administers the Accenture contract, and provides corporate services support.
- BENEFITS: The PRESTO platform seamlessly links 11 transit agencies and their fare policies, making it even easier for people to travel. Fares and products offered, such as senior, student and child discounts, monthly transit passes, loyalty programs, etc. can be included and updated as needed to potentially increase revenue and/or ridership.

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Tap Phone to Pay (Android)



Plan Trips & Receive Offers

CASE STUDY: Amtrak New York Penn Station Way-Finding

- WHY: New York Penn Station is very complex with 9 entrances, 4 floors, and multiple agencies. Amtrak wanted to develop technology that would provide a better way for customers to navigate the station.
- PROJECT RESOURCES: Amtrak identified a vendor to help develop an indoor navigation solution. The vendor had a team of 10. Amtrak product development team consisted of a senior project manager, customer experience team members, an IT data analyst, and an architecture team (a team of 11 from Amtrak)
- HOW LONG TO IMPLEMENT: From inception to deployment took four months, which includes installing over 1000 beacons and developing the app from scratch for cell phones.
- HOW IT WORKS: Similar to the way that Google Maps works.
- BENEFITS: Customers are able to find and navigate to all points of interest in the station (restaurants, gates, platforms). Through data research, Amtrak has seen an increase in customer satisfaction by 7 percentage points in Acela and 6 in North East Regional. People who are not familiar with the station are able to comfortably navigate with ease. Increased safety as Amtrak can use the information from the app as a heat map to show where customers are grouped and are able to route those customers a different way to the same destination. Able to track customer points of interests by the destination they select.
- **LESSONS LEARNED:** More communication across agencies and stakeholders.

CASE STUDY: Amtrak Seat Reservations

- WHY: Seat reservations on the Acela trains was considered an important component of ensuring customers viewed the Acela First Class a premium product.
- PROJECT RESOURCES: The project team varied in size over the life of the project. Initially, a small business team (<5) defined the product features and requirements. The team expanded in size as development moved into implementation including an IT team of approximately 10 to implement the features and included training of onboard personnel to facilitate change management. All conductors who work on Acela trains had notification and training.
- HOW LONG TO IMPLEMENT: From beginning to end, it took roughly 12 months for an initial rollout, which included surveying other European train companies to understand their business drivers and eventual solutions; as well as determining effective seat assignment rules.
- HOW IT WORKS: Acela first class customers can reserve seats on Amtrak.com or the Amtrak app.
- LESSONS LEARNED: More quickly quantify the potential revenue impacts of reserved seats (e.g. if single riders prefer window seats, how does that impact people who wish to sit together?). The Amtrak product is complex compared to an airline product because planes generally have at most 2 stops compared to an Acela which may have up to 10 stops. Release several versions of the product on different trains to assess customer and revenue impact to determine which is the most successful in terms of quantifying revenue impact and improving customer satisfaction.