Hands-Free Accessible Fare Gates

Part of MBTA Fare Transformation

Massachusetts Bay Transportation Authority

Fare Transformation

Making paying for transit easier, more convenient

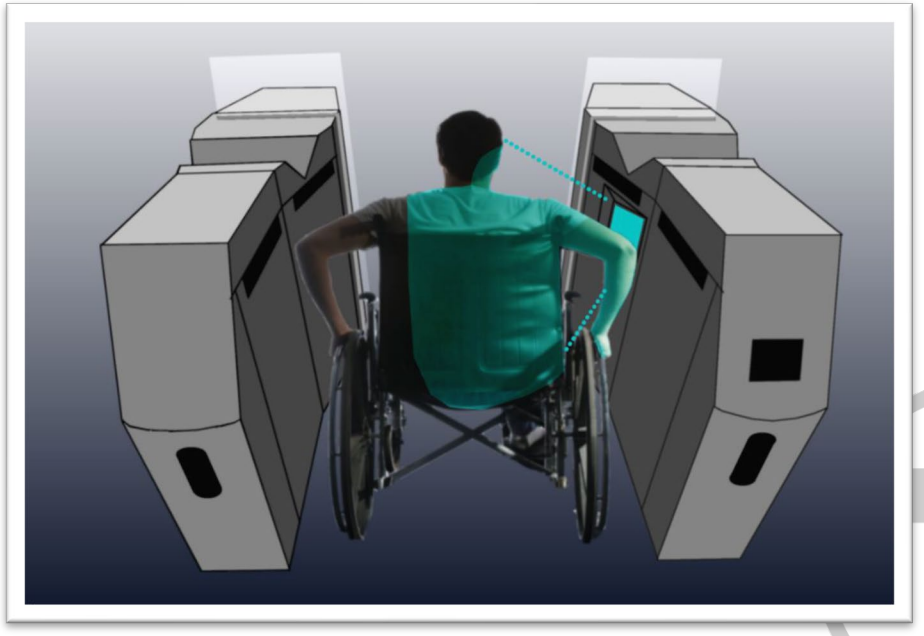
Accessibility features

- Larger tap targets and clearer response messages
- Online applications for reduced fare benefits
- Website, mobile app, and automated phone system for managing your Charlie Card
- Options for family member or other person of your choosing to help manage your account
- Fare vending machines support contactless payments, high contrast mode, privacy mode, and audio instructions
- Ability to set accessibility preferences on your Charlie Account
- Fareboxes removed from vehicles
- Expansion of retail network, with accessibility requirements and checks for all retailers

Charlie

Hands-Free Accessible Fare Gates

- For customers with disabilities at subway stations
- “Hands-free” Charlie Card can be used to automatically open gate when a user approaches
- On at least one wide gate at every gated station entrance
- Same card will work as a tappable Charlie Card on all other modes of transit
- The hands-free card will have all the same functionality as a standard Charlie Card



Hands-Free Accessible Fare Gates Cont.

A gate that can be operated without requiring the user to physically present their Charlie Card for validation

What we've already done

Research and Development

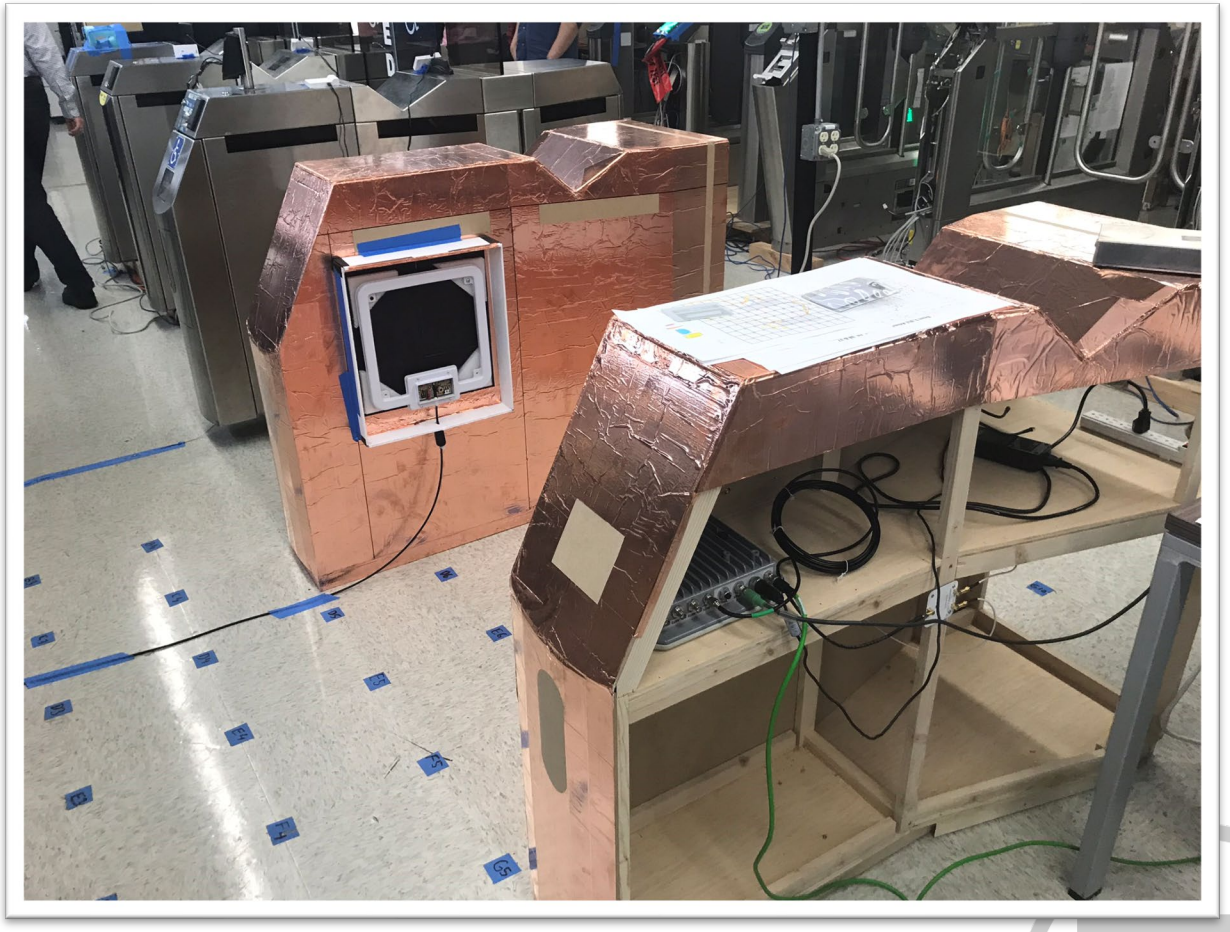
Mid-2020 to Mid-2021

- Commissioned our fare system vendor (Cubic) to do a design study to explore options for a hands-free gate solution
- Talked with peer transit agencies in Vancouver and Brisbane to compare approaches and learn from their experience
- Presented and evaluated four different technologies
- Demonstrated very basic prototypes of the solutions

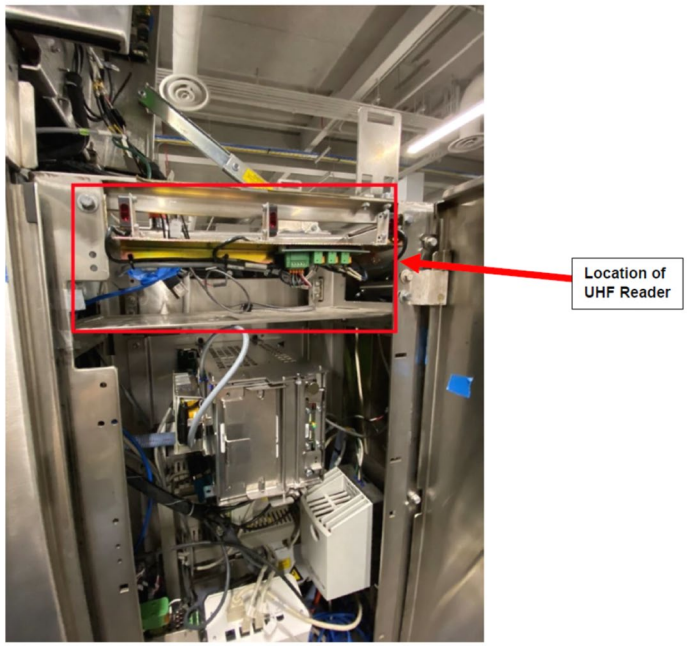
Selection of Technology

Late 2021

- Selected one leading technology (RFID)
- Choice based on user experience, compatibility with existing hardware, and suitability for the MBTA transit environment



What we're doing now



Design Review

Started in Late 2021

- Progress the design development on the selected technology (RFID)
- Developing use cases to account for various mobility devices and positions of the hands-free card
- Engineering work to incorporate new hardware into existing fare gates
- Identifying stations where adjacent gates may cause interference and determine which gate will be hands-free
- Designing reader screens and signage to help identify which gates are hands-free
- Designing hands-free fare cards

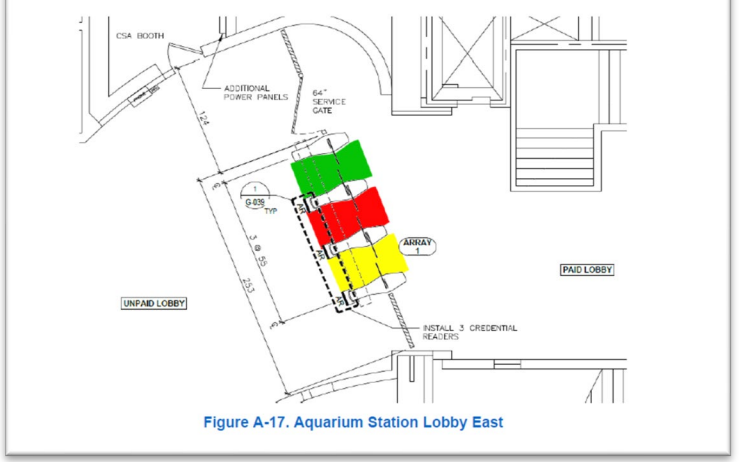


Figure A-17. Aquarium Station Lobby East

What happens next

User Testing

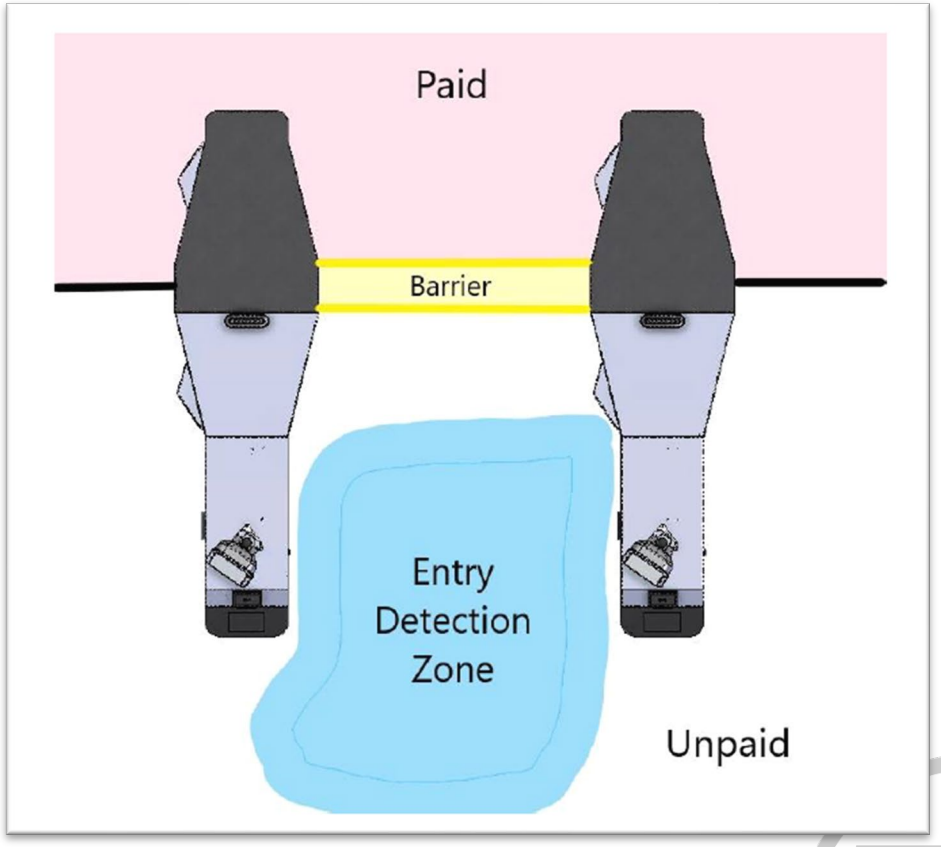
Late 2022

- Set up working prototype in the Boston lab
- Recruit MBTA customers with disabilities to participate in test sessions
- Run test sessions to get feedback on the technology
- Identify improvements to incorporate into the final design of the hands-free gate

Field Demonstration

TBD

- Install the hands-free gates in ten stations
- Recruit MBTA customers with disabilities to participate in field demonstration
- Test the new technology out in a real-world environment
- Prove that the system works before installing at all stations



Thank you!

For more information about Fare Transformation, visit www.mbta.com/fare-transformation