

MRD: MBTA Charlie App

Date last updated: 02/24/2019

Vision

For those who take MBTA as their daily transportation choice must suffering from missing the train because of charging their Charlie card in the station, our product is a new way to reload MBTA Charlie card that provides online payments to the Charlie card. Unlike the current solutions that charging MBTA Charlie card or buying the tickets on the vending machine in the station, we offer an App to buy the tickets or reload the MBTA card directly without going into the station.

Motivation

Customer Segments

A vast customer base of MBTA is one of the main reasons why this app is needed and would be a successful venture. MBTA touches approximately 80 percent of total population of Massachusetts out of which, 13% are daily active users.

Our surveys indicate that Students and Office Workers will be the key customer segments

We conducted surveys to find out how often people take the T vs how do they buy the ticket.

Majority of people buy tickets on vending machine and would be more than happy to do it online if possible.

Early adopters would be techno-friendly students whereas mainstream users such as daily commuters to office might take some time to adopt and get to know the app. Depending on the age group they belong to and the frequency of their travel we have 4 personas:

Persona	Age & Customer Segment	Mainstream vs Early Adopters
Vigilant Student	16 - 23, Daily Commuter looking for best online deals	Early Adopter
Young Office	24-35, Daily commuter with a lot of responsibilities looking to save time	Early Adopter and Mainstream
Relaxed Managerial Crowd	36-45, 3-4 days a week commute, zero to low financial distress.	Mainstream, eventual adoption

Travellers	Any age, short term passes	-
------------	----------------------------	---

Unmet Needs

Student : We believe Students experience missed train or being late when they tend to forget their charlie cards at home and miss the morning class. Students have lot to do and mostly they tend to be forgetful, having the functionality of using a digital pass will save them a lot of time and make taking the T hassle free.

Office Crowd : Since there is no digitisation as of now, the office going crowd who takes a lot of business trips using commuter rail faces a problem in reimbursement from company. This happens because it's difficult to keep all the paper receipts whose ink fade after a few hours. Having an online record of all the trips they took with the amount charged could dramatically save them big bucks.

Visitors : Travellers from various countries and states who are not familiar with the route options are troubled a lot. They have to stop, look for a map, try to understand the map and analyze which platform to go to, what line to take? to take A,B,C,D or E line. This often leaves them frustrated and anxious. Our app would provide a solution that caters to all these problems making Tourism in Mass easy and on the go.

We conducted surveys at different T stations with different people trying to find and learn the problems of someone who takes the T. We then went on to quantify our results using data from the MBTA website and data that we collected.

Existing Solutions

Current existing solutions the target customers relied on, fall into two categories; the first is official ticket service provided by MBTA, the second is traveling schedule service.

Ticket Service:

1. The vending machine at T station:

Currently, most of the customers reload and buy tickets in the station using the vending machine. Based on our interview, most of the customers have missed the approaching train due to waiting to reload their card or buying tickets in the station, they are willing to switch to a new system which can reload card or buy tickets online if it can save time and meet their needs.

2. M-Ticket App

This app supports purchasing Commuter Rail & Ferry tickets online, but only has Commuter Rail & Ferry schedules, no real-time tracking. From the customer review in

the App Store, we can know that customers do really need a real-time tracking function because the reliability of MBTA service is not high, also customers would like this app to support more transit type such as bus and T.

Travel Schedule:

1. Transit App

This app provides real-time tracking of transit and helps customers to make a plan ahead. It serves 125+ cities in the US and EU. Customers can also request uber or lyft by it. But there is no ticket service for MBTA transit.

2. ProximiT App

This app has a map of nearby T stations and real-time tracking of subway and buses. But the user experience is not good and it only supports two kinds of transit, which are subway and buses.

Differentiation

We being the residents of Massachusetts have the most accurate knowledge of the Routes, options and costs associated with it. Moreover, we first verified our hunches by learning history, surveys, data from MBTA.

Furthermore, belonging to the technology field, we have the knowledge of both backend and the frontend of the product. We can tackle the issues, program the app with least cost and high profits since it's high time we digitise the MBTA ticketing system.

Why Now?

With growing population and existing solutions to the problem makes a very difficult commute for the passengers. With almost 450M people taking the T in 2017, we have the opportunity to speed up the boarding process of 450M people and make their lives easy. The app is an easy to use solution plus it's cheap.

Use Cases

Students:

A. John is a college student who has to go to school every day by T. He needs a monthly pass rather than purchasing tickets every time. But he has a bad memory, he often leaves his charlie card with a monthly pass home. Plus, he has morning class every day, so he should plan a time schedule ahead that when he needs to leave home and when he can get on trains and also when he can arrive at campus. Therefore, he downloads the MBTA Charlie App for a better way to manage his commute.

- He creates an MBTA online account.
- Gets his monthly pass online and reloads it using the app every month.

- Clicks the trip planner to get the route and estimation time from his home to school every time.
- Checks the real-time tracking of trains and buses and schedules ahead.
- Clicks and gets his mobile pass QR-code to access the T using his smartphone, and does not worry about leaving Charlie Card home.

Officers:

B. Tod works in Boston, MA and he often goes to Providence, RI on business by commuter rails. He needs to know the rail schedule and purchase tickets ahead. After his trips, he should keep the ticket receipts to apply for reimbursement at the end of every month, but it is a trouble for him to keep all the paper receipts. So he finds the MBTA Charlie App to manage his travels.

- He creates his MBTA accounts.
- Gets the time schedule of commuter rails and plans ahead
- Purchases commuter rail tickets online.
- Scans e-tickets for boarding.
- Saves his trip history and e-ticket receipts in the ticket wallet of the app.
- Selects his previous trip to have a screenshot of the tickets or print it for reimbursement.

Visitors:

C. Ming is a visitor from China and this is his first time to Massachusetts. He will stay here for some days but he is not allowed to rent a car because he is 17 years old. So MBTA service is his best choice for transit. He plans to visit Boston by trains and buses; travel to Boston harbor by ferries and go to other cities by commuter rails. He does not have a Charlie card, and it is difficult for him to manage paper tickets which are easily damaged and he also needs a travel planner. So he searches and downloads the MBTA Charlie App to manage his transit.

- He creates an MBTA online account.
- Checks transit map of MBTA
- Purchases his weekly pass and commuter rail, ferry tickets online.
- Clicks the trip planner to get the route suggestion.
- Uses the e-ticket wallet to manage his tickets.
- Clicks to generate mobile pass QR-code to access or shows the e-tickets at gates.
- Finds his trip history and takes the ticket screenshot as a memorial.

Market Size

“As of 2019, Massachusetts’ population stands at 6.93 million”,¹ according to the statistics of World Population Review, and our MBTA service covers 80% populations in Massachusetts, which means the number of people taking MBTA is 5.54 million. In contrast to the 90% average

¹ <http://worldpopulationreview.com/states/massachusetts-population/>

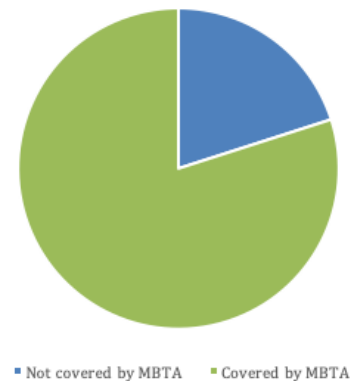
reliability of Subway and Commuter Rail, the average reliability of Bus is 70%. Our App provides real-time tracking service to solve this problem, and also we provide e-tickets purchasing, Charlie card reloading these convenient and practical functions. So there are enough reasons for us to believe that most of the resident would choose our App.

Also from GBCVB Visitation Forecasts, there would be 19 million domestic visitors and 2.6 million international visitors traveling Massachusetts in 2019,² we could assume that there would be 30% visitors would take MBTA when they are visiting Massachusetts, which means 6.5 million people.

Visitors of Massachusetts in 2019



Resident of Massachusetts



Besides those convenient and practical functions which we mentioned before, we have chat bot provide multilingual service for those foreigner visitors. Similarly, we have reason to believe that most of the visitor who is taking MBTA would choose our App too. All in all, our App has the opportunity to serve a considerable number of people, the market size is quite impressive.

Caveats / Risks / Key Dependencies

- Privacy Concerns- There are material concerns related to protecting customer information. MBTA app will need to ensure highly secure data storage and encryption for all customer records stored.
- Legal Concerns- we want to make sure we are not violating any laws regarding the storing and “usage” of private personal data submitted to our application portal.
- Access and downtime concerns - we are aware that users may be concerned about server crashes and not being able to access their applications in a timely manner.
- Users may be hesitant to adopt a different technology when they have a currently solution that works well for them.
- Piracy Concerns- we want to make sure the application we implemented is not copy from others.
- Cost - we are unsure about the cost of implementing MBACAS. We are looking to

² <https://www.bostonusa.com/media/statistics-reports/>

partner with agencies that perform background checks and identity verification.

- Availability of required 3rd-party complements- we need the supports from Massachusetts Bay Transportation Authority and government

Strategic Considerations

The solutions proposed by MBTA Charlie App are very consistent with organizational strategy. Our main goal is to help the customer travel conveniently. We wish to provide them services just in one click. Our main aim is to make travelling from one place to another more organized and provide all the necessary information at one place.

There are currently products available in the market to compete with MBTA Charlie App. One of the competitors is M-Ticket App. This app provides the customer with certain same features as online ticketing or online pass. It also provides servicing like reloading of the Charlie card and maps. While all this sounds similar to MBTA Charlie App, our research has shown that M-Ticket does not offer a ticket for people travelling by Subway and by Bus. There is no real time tracking of the transit at every station. This M-Ticket app appears to target those who want to use a commuter rail or ferry once a while and not daily or frequently. The other one in market is Transit app. This app provides quite a lot of good features similar to our product. It provides good map service from one station to other. It also provides proper schedules and up-to-date arrival time for transits at every station. But it lacks behind in providing customers with the convenience of purchasing tickets online. There is no ticket service provided by Transit app.

This is clearly not a product for mass appeal and it does not match up to MBTA Charlie app goals of expanding the market. The MBTA Charlie app also have a chat bot to help the travelers get a clear idea of the crowd in a train which they want to board. They can do this by having a chat with a traveler on board. M-Ticket and Transit falls short on certain critical areas which are the main factors of growth of MBTA Charlie card.

Go Recommendation

Based on all the information provided and the data we collected from interviews and surveys, Our team is recommending a **GO!** There is definitely an unmet need regarding this service and the market size supports our plan.