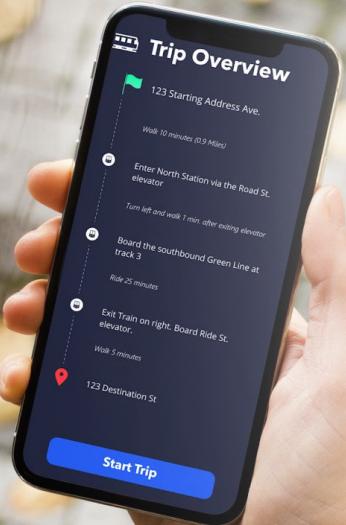




Transportation for everyone

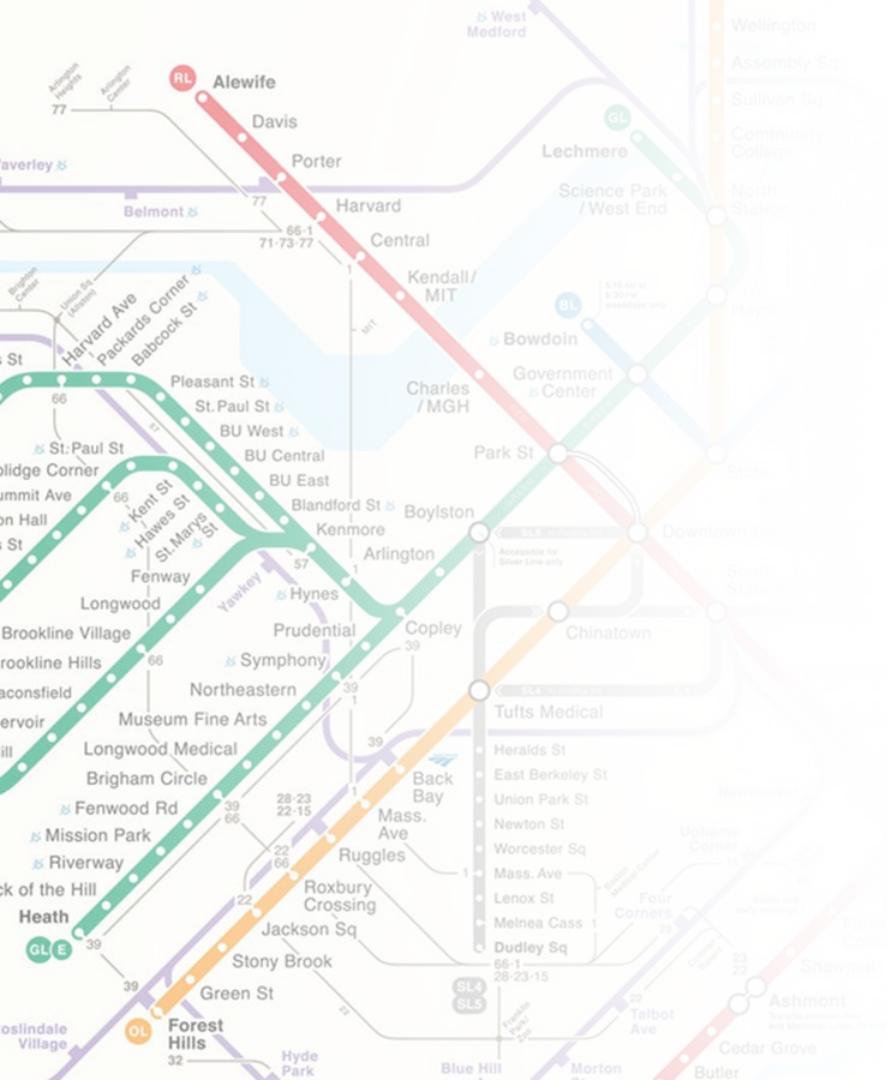
Aaron Taube



The Problem

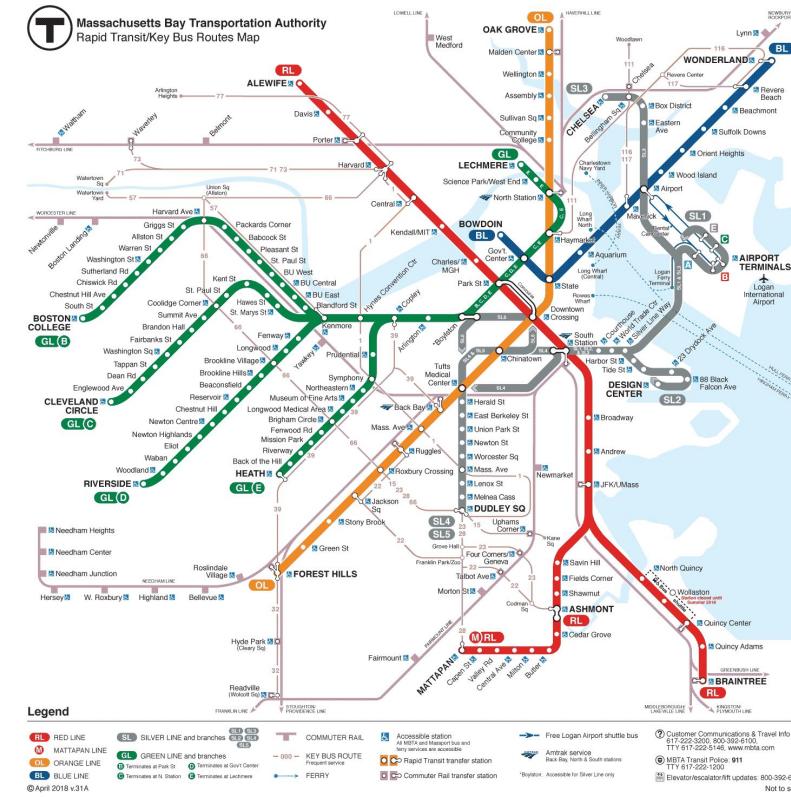
Public transit systems are often confusing and difficult to navigate, as well as inaccessible to potential passengers with disabilities.

How might we **improve the public transportation experience** so that passengers are able to reach their destination **quickly, safely, and without anxiety?**



“I didn’t know what I was looking at. It was just **overwhelming**”

- **Inexperienced Ingrid**
(after trying to navigate Boston's MBTA)



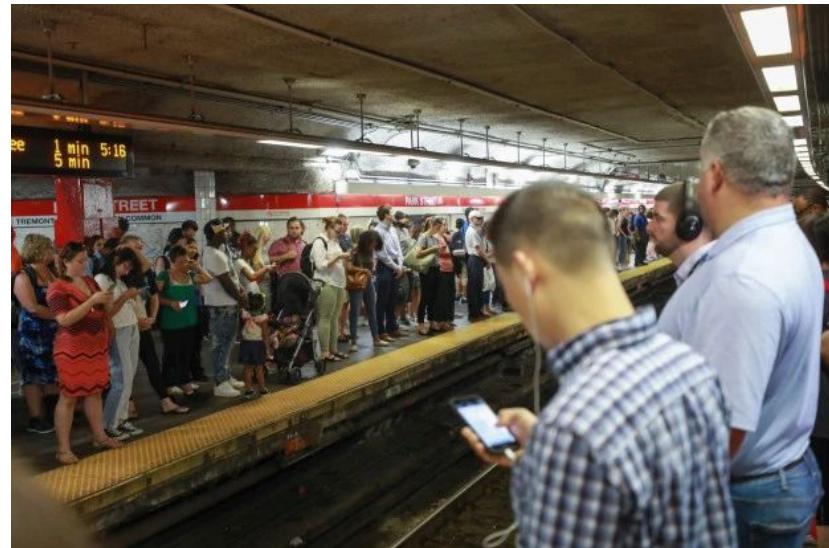
This is what Ingrid used.

Transit maps do not cater to those who do not know understand public transportation. It presented her with too much unfamiliar information, leaving her feeling overwhelmed. The map was basically useless for her, leading to her eventually asking a series of people for directions.



This is Victor the Vet

Victor lives in the city, but recently got a new job that will require him to commute. However, Victor suffers from PTSD and experiences elevated levels of stress and anxiety when he rides the train.



This is what Victor faces.

Seemingly every time he rides the train, Victor fights a surge of crowds which allow no sitting room and barely any standing room onboard. Being crammed into the train with so many people gives Victor [overwhelming anxiety](#) and ruins the rest of the day. He wishes there was a way to avoid these crowds.



This is Greg the Greek

Greg is a foreign exchange student who has some issues with riding the train without a local guide due to instructions being in an unfamiliar language. He has previous experience with public transportation in his home country, but foreign systems can be difficult to grasp. When he stops to try and learn a new system he almost gets knocked over by crowds.



This is what Greg sees.

Greg finds maps that only use the local language to be difficult to understand. To navigate, he has to use the slow process of character-matching and translation. Maps that use symbols and systems that incorporate color consistently are much more useful. Large maps that include visual representations of landmarks helps orient himself and feel safe.

Ingrid, Victor, and Greg all experience anxiety and feel overwhelmed when they try to use public transportation. All three want a way easily, safely and quickly get to their destination. We believe that we have a chance to help all three of them.

GYDE



We believe that a successful solution...

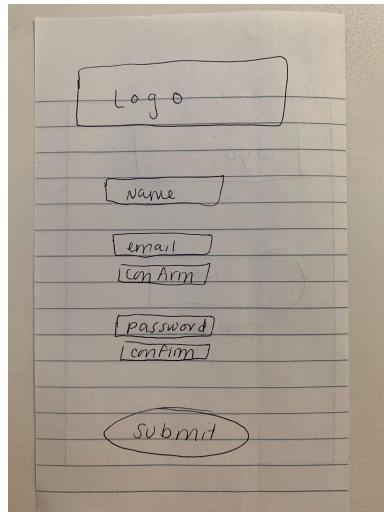
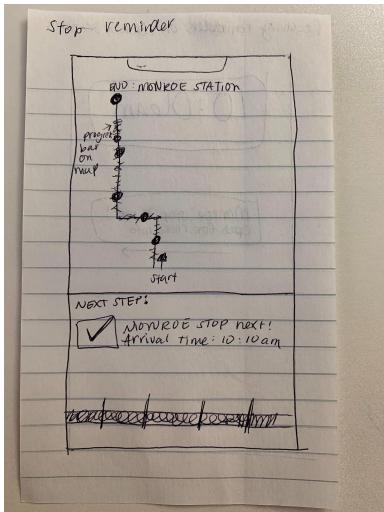
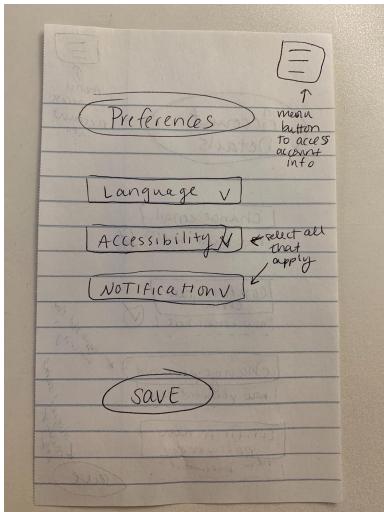
Must

- Be simple and straightforward
- Provide information in ways that allow it to be interpreted by anyone
- Be accessible from anywhere
- Be consistent with established transit information sources

Should

- Use common language
- Allow a passenger to get to their destination quicker than without the solution
- Provide real-time updates
- Allow a user to avoid heavy transit traffic

Sketches



Initial Prototypes

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Account Preferences

Accessibility >

Favorite Cities >

Language >

Save

This screen allows users to manage their account preferences. It includes sections for accessibility settings, favorite cities, and language selection, each with a detailed view option indicated by an arrow icon.

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Most Accessible

123 Washington St.
Arrive at 4:13 pm

Depart at 3:44 pm
Route Congestion Level

Show full overview
Schedule a later departure >

Accessible Features

- Ramps
- Elevators
- Staff Assistance
- Automatic Ticket Kiosks

[View on map >](#)

Start

This screen displays the most accessible route to a destination. It shows the arrival and departure times, a congestion level chart, accessible features, and a start button to begin the trip.

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Trip Overview

123 Starting Address Ave.

Walk 10 minutes (0.9 Miles)

Enter North Station via the Road St. elevator

Turn left and walk 1 min. after exiting elevator

Board the southbound Green Line at track 3

Ride 25 minutes

Exit Train on right. Board Ride St. elevator.

Walk 5 minutes

You've arrived!

Return to Trip

This screen provides a detailed overview of the trip steps, including walking, using an elevator, taking a train, and walking again to reach the final destination.

12:30

My Location

123 Washington St.

START TRIP >

This screen allows users to start their trip. It includes location search fields, a start trip button, and a map interface.

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Possible Routes

Fastest > START >

24 minutes 750 ft 6 stops
[More info >](#)

Most Accessible > START >

29 minutes 150 ft 8 stops
[More info >](#)

Least Transfers > START >

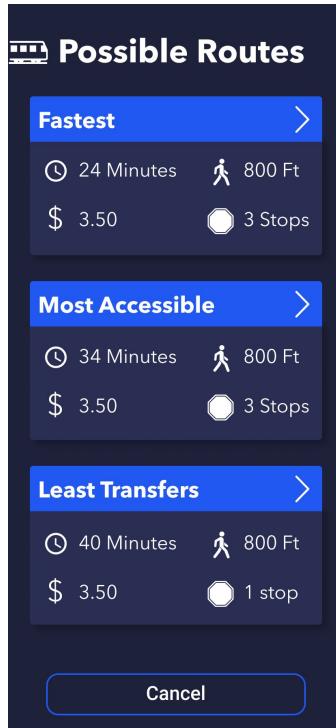
37 minutes 0.9 mi 12 stops
[More info >](#)

This screen lists three alternative routes for the user to choose from, based on different criteria like speed or accessibility.

Pre-trip screen



Route Selection



Trip progress



Route Information



Arrival Screen



Participant 1

Light Experience. Some travel anxiety. 24

Appreciated the straightforward approach of getting to a destination. Actually cared little to explore travel options. "I just want to click and go." Mostly concerned with overcomplicating travel, and so took most direct path to getting directions.

Participant 4

Little Experience. High travel anxiety. 47

Felt that the whole experience of navigation was overwhelming because of the flood of information. Wants everything to be simpler and more understandable.

Participant 2

Little Experience. High travel anxiety. 72

Thought the app was very easy to use, but wanted more information. The information provided by the initial prototypes was not enough to help them feel comfortable navigating.

Participant 5

Little Experience. High travel anxiety. 16

Was able to find and was happy with the "Route Congestion" feature. Due to sensory issues, previously felt that riding subway in peak hours was unmanageable.

Participant 3

Moderate Experience. Some travel anxiety. 27

Generally comfortable with navigating the app, but got tripped up by a few interactions. Needed reassurance to orient self during trip navigation. Didn't respond well to required interaction on "Finish Trip", just wanted to arrive and auto-dismiss.

Participant 6

Moderate Experience. Some travel anxiety. 51

Has not experienced a lot of pain in finding a destination. Primary pain point is in dealing with crowds during busy hours.

What we learned

- Travellers need as much information as possible to help them feel confident that they are on track
- Travellers want confirmation of trip progress
- Travellers want ways to make sure they are in the right place
- Travellers want a safety net in case they get lost or end up in the wrong location
- Travellers need ways to plan a route that caters to their specific needs



What we changed/are changing

- Added information and schedule pages
- Providing more affirmation within trip (step complete notification, next step notification)
- Investigating adding pictures to destinations
- Adding more trip planning capabilities that will allow users to specify criteria for routes and get recommended custom trips
- “Get Help” menu in case the user gets lost or feels that they are in the wrong destination

Next Steps

- Conduct more interviews with users with special needs
- Partner with Transit Agencies
- Develop financial plan
- Partner with existing map/imaging services
- Build out a working app, post on TestFlight to begin testing in a more realistic context

Thank You!