

## Project Description:

I developed a functional low-to-mid fidelity prototype of an **accessible public transport mobile app** named **Access+**, focusing on assisting commuters with disabilities to navigate transportation systems with ease.

I used **Figma** to create clickable wireframes for core features, including:

- **Real-time route planning with accessibility filters** (e.g., elevators, ramps, audio announcements)
- **Voice command input** for those with limited hand mobility
- **Color contrast mode** and **text resizing** options for the visually impaired
- **Step-by-step audio-assisted navigation**
- **Report-a-barrier** feature to flag inaccessible stops

The prototype allows users to plan a route, preview station accessibility, get notified about barriers, and simulate booking an accessible ride.

## Implementation Challenges

- Some screen readers misread map elements—solved with better ARIA labels in Figma.
- We intended to prototype push notifications but had to simulate this due to tool limitations.
- Incorporating voice recognition features required us to use placeholders instead of real-time audio processing.

## Design Justification

We chose this design based on user research with individuals who use wheelchairs, the visually impaired, and elderly commuters. The feedback emphasized the importance of **simplicity**, **customizability**, and **predictability**. The Access+ app stands out because it combines **real-time transit data** with **accessibility intelligence**, enabling disabled users to feel empowered and confident in using public transport.

We incorporated feedback from our **Part 2 poster session**, where participants praised the voice command, high-contrast UI, and barrier-reporting tool. One user noted, “This app feels like it actually listens to our day-to-day struggles.”

## Usability Specifications

Metric	Target specifications
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Task completion time	Plan a trip in <b>&lt; 2 minutes</b>
Accessibility toggle usage	<b>90%+</b> of users identify and use settings
Error rate	<b>&lt; 10%</b> incorrect button presses or confusions
Voice command recognition	<b>85% success</b> rate during trip planning
Report-a-barrier form time	Submit in <b>&lt; 1 minute</b>

## Initial Evaluation Plan

### Benchmark Tasks:

1. Plan a trip from Station A to Station B using voice input.
2. Enable high-contrast mode and adjust text size.
3. Preview accessibility details of Station C.
4. Simulate ride navigation using "Trip Progress" mode.
5. Submit a report about a blocked ramp at Station D.

### Subjective Questionnaire:

- Rate ease of navigating between screens (1–5)
- Did the accessibility settings help you? Why/why not?
- What feature did you find most useful?
- Did you experience any confusion while planning your route?
- Open-ended: Suggestions to improve the interface?

## Summary

This prototype focuses on enabling **independence** for users with disabilities in navigating complex transport systems. Our usability benchmarks and evaluation plan are designed to ensure that this prototype can lead to an intuitive, efficient, and inclusive digital experience.