# Inclusive Public Transit Toolkit to Assess Quality of Service Across Socioeconomic Status in Baltimore City
## NSF 1951924

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## Community-Inspired Research

Access to reliable and efficient public transit is one of the most significant needs in Baltimore City. Our NSF planning grant revealed West Baltimore residents' frustration with the perceived low-quality of public transit that limited access to work and educational opportunities.

## Approach: BALTO: Be and Advocate for public TransportatiOn

Design, development and evaluation of a privacy- respectful toolkit to identify and characterize the challenges typical of complex trips endured by low-income residents; and to drive crowdsourced-informed actionable solutions via community conversations.
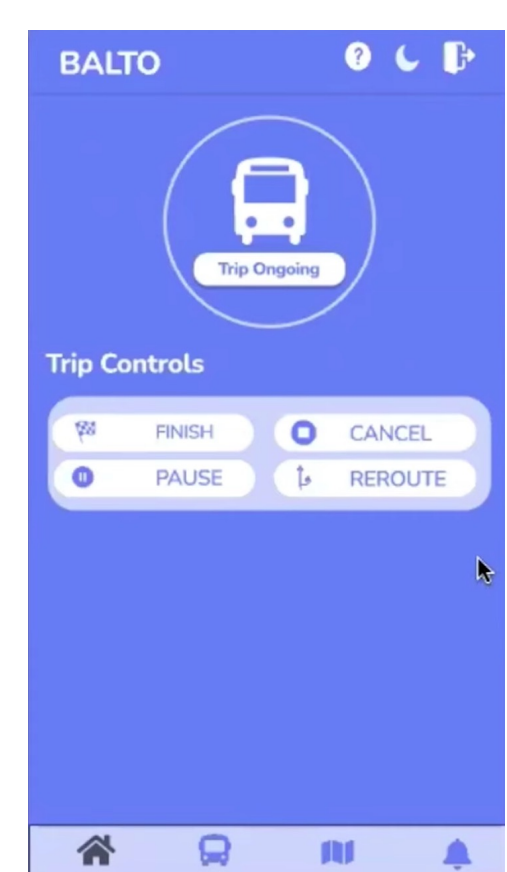*Partners: HABC, CMTA, BTEC, MTA and BCDOT*

## Project Activities and Next Steps

### 1. Analysis of privacy barriers in location data collection

- 10 focus groups with 45 participants from 3 HABC locations
- Next: working on analysis of insights to inform app design

### 2. Mobile app development



- Beta version:
    - usability testing with 10 participants for 1 week
    - onboarding, data collection, surveys
- Next: further testing in Baltimore; incorporate privacy barriers findings and usability testing insights

### 3. Survey Design

- Design of pilot study to analyze two survey approaches: in-trip vs end of trip, with two types of incentives
- Next: Carry out pilot to assess participant engagement and survey quality information

## Intellectual Merit

- Understand residents' privacy barriers with cell phone location data
- Design and evaluation of survey methodology for effective surveys
- ML methods to identify transit challenges via app-collected data
- Identify solutions via data-driven community conversations
- A decision support system to understand city-wide solution impact

## Broader Impacts

**Society:** Design of tools and processes to crowdsource the identification of public transit barriers in complex trips

**Sustainability:** Low-cost tools that require minimal resources, processes built with local organizations that should be able to sustain efforts after project is finalized