



CYCLE ATLANTA

Mapping the Ride to a Better Atlanta



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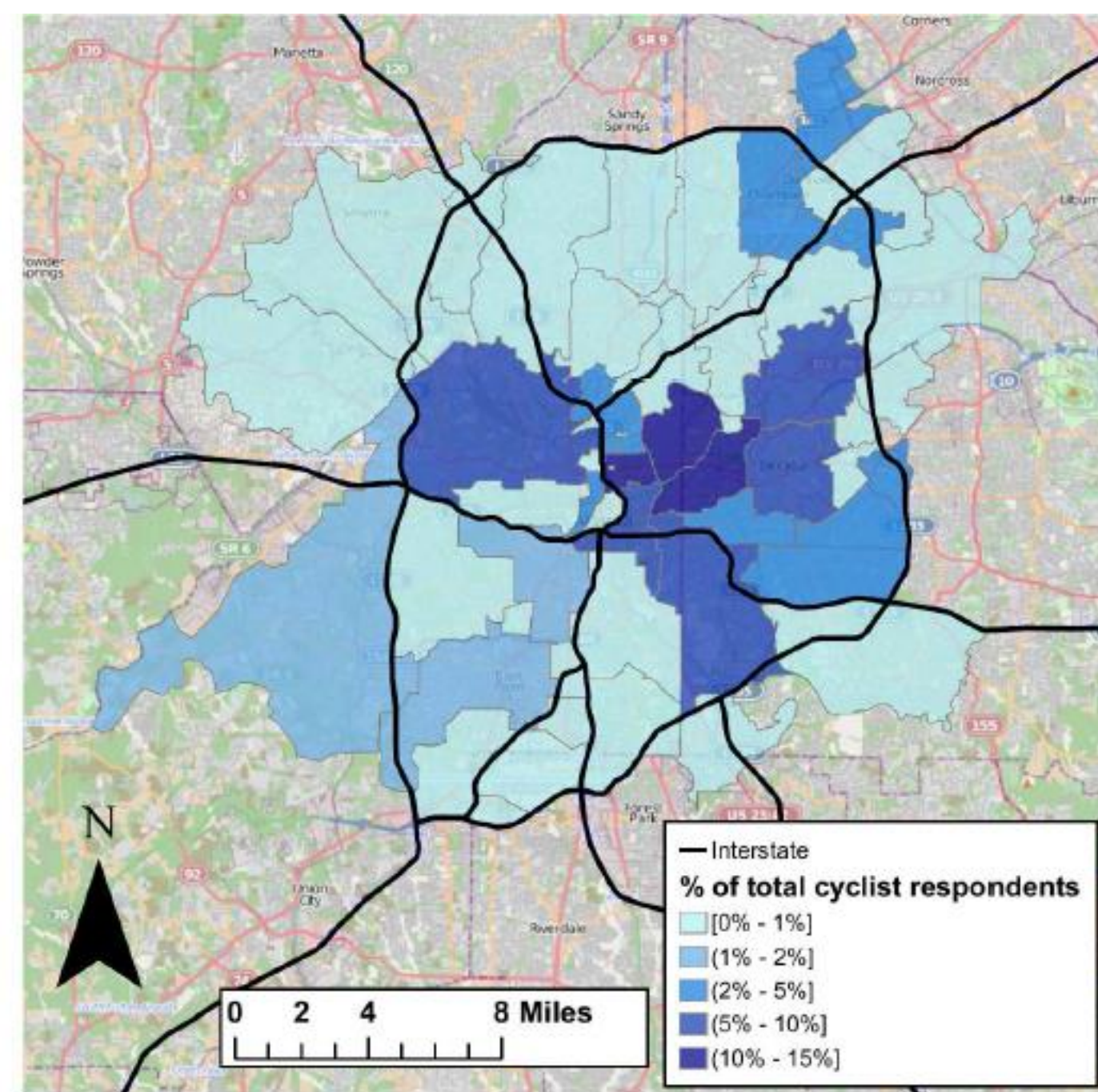
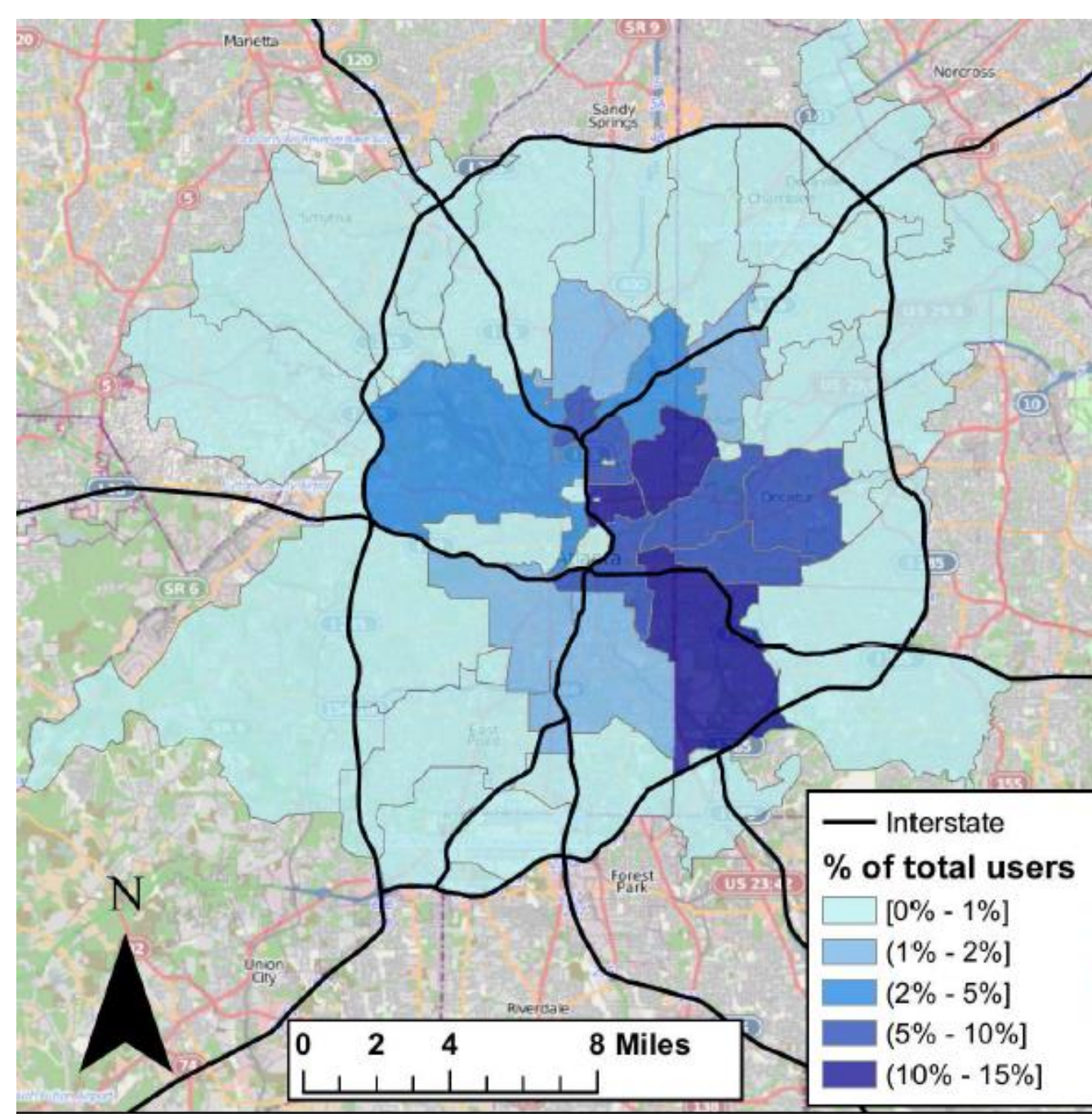
Cycle Atlanta Project Motivation

- Cycling is a non polluting and healthy mode of transportation compared to automobiles
- However, only 1.2 percent of total trips in US are bike trips
- Major reasons for not bicycling are safety concerns and lack of facilities
- To address these issues cities, regions and states need to know what the cyclists need and where they prefer to bike

This research will provide the City and Atlanta Regional Commission with information on where the cyclists in Atlanta bike and their preferred road characteristics to help make strategic improvements to bicycle

Initial Analysis

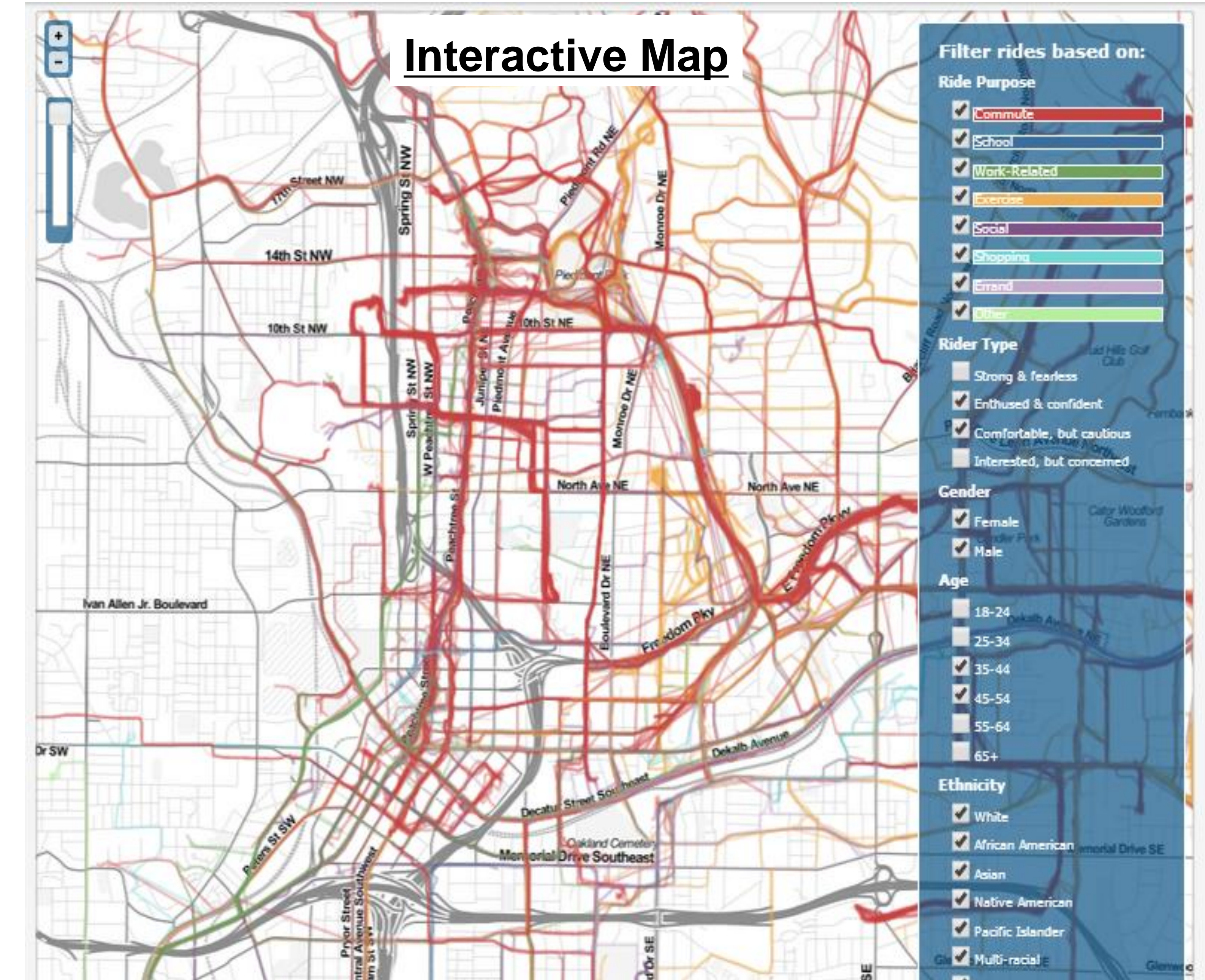
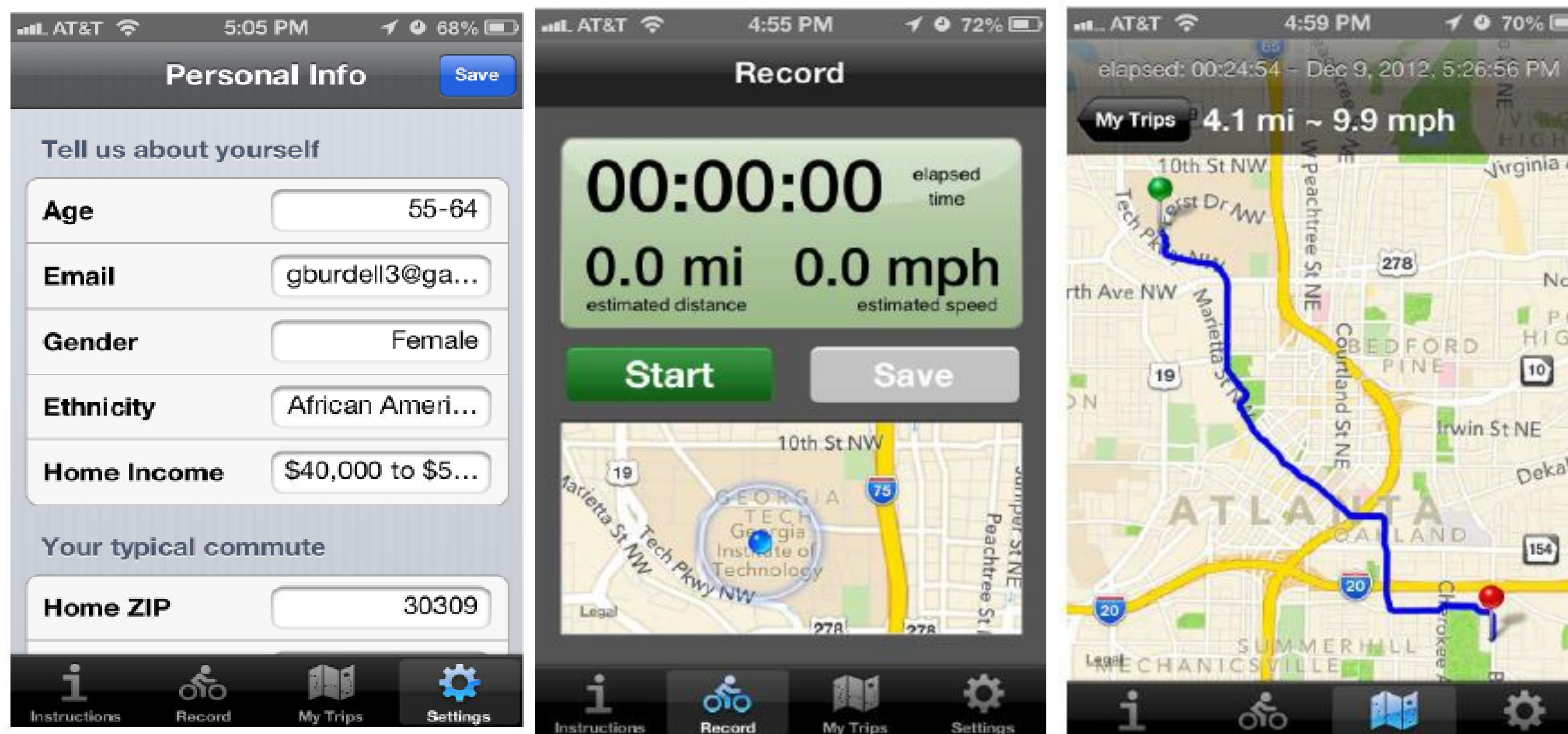
- Three datasets compared : National Household Survey, Cycle Atlanta and Bike to Work Challenge
- Results show Cycle Atlanta has more users from high income and below 35 years age group
- Different geographical coverage than NHTS
- Outreach efforts initiated to cover areas not covered earlier



Cycle Atlanta App

- Cycle Atlanta is a GPS based smartphone application that collects real time route information from bicyclists who use the app.
- Cycle Atlanta app is an ongoing project being conducted by a team of researchers at Georgia Tech under the leadership of Dr. Kari Edison Watkins, P.E. of the School of Civil and Environmental Engineering, and Dr. Christopher Le Dantec from the Digital Media program in the School of Literature, Media and Communication.
- Cycle Atlanta is a joint project between the City of Atlanta Department of Planning & Community Development, Georgia Institute of Technology, Atlanta Bicycle Coalition and Atlanta Regional Commission (ARC). It is funded through a contribution from the Atlanta Bicycle Coalition and the Atlanta Regional Commission's Livable Centers Initiative planning program.

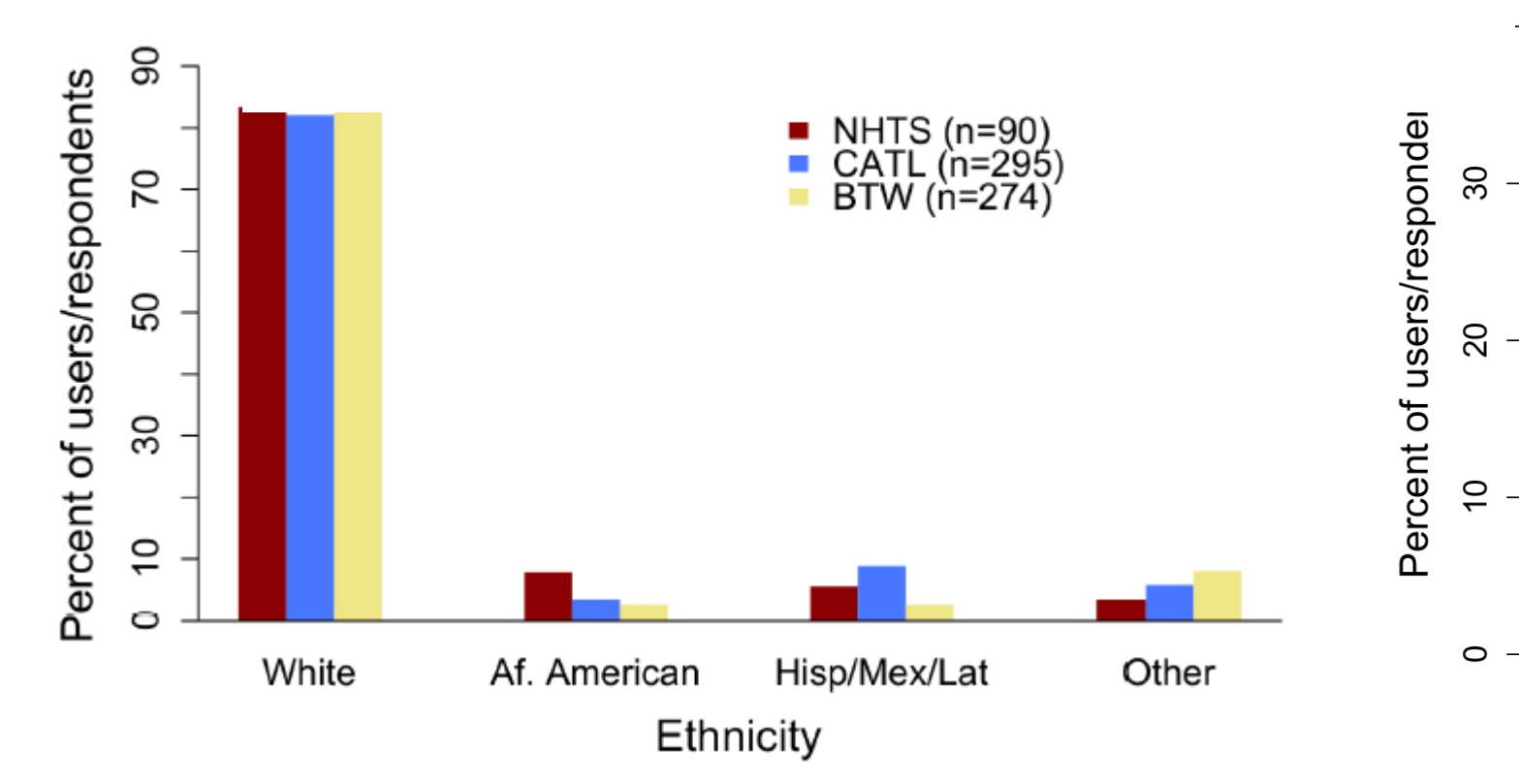
User Interface



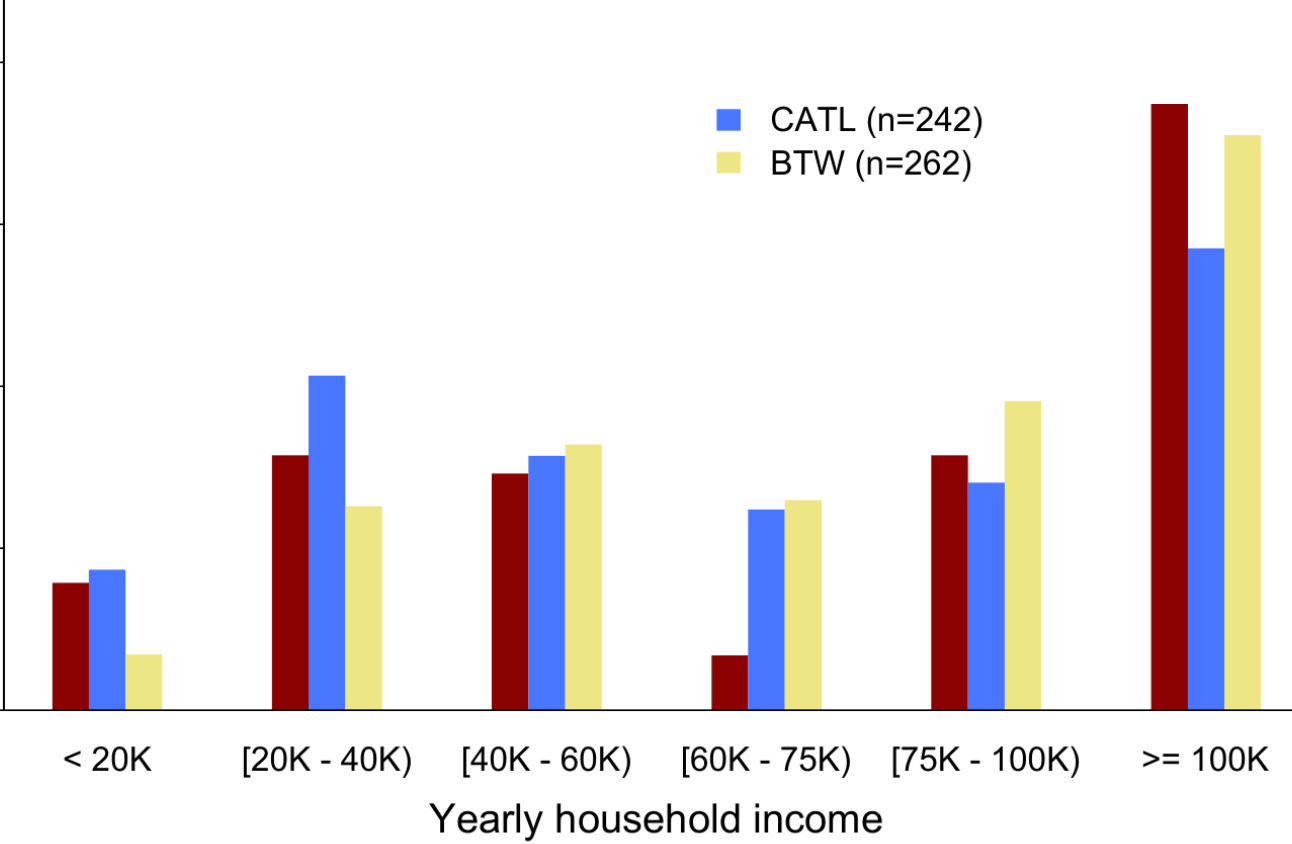
Future Research

- Creating user input based interactive map
 - Data Cleaning for duplicate trip record and GPS noise
 - Matching the routes to City road network and facilities
 - Manually remapping routes that are by-lanes and bypasses
 - Developing a bicycle facilities network map by rider type
- Modeling preferred bicycle route choice based on the collected data
 - How route choice differs between 'strong and fearless' riders vs. 'interested but concerned' riders
 - How presence of infrastructure can influence route choice
 - What facilities make new and infrequent cyclists feel comfortable and safe
 - Methodology: Discrete choice analysis will be used to compare between chosen route and shortest route between origin and destination to understand relative infrastructure preferences. Set of alternative shortest routes will be generated using doubly stochastic method
- Analyzing the cost-benefit aspect of proposed bicycle infrastructure
- Creating a continuously updated database of assets and issues on frequently used bicycling routes

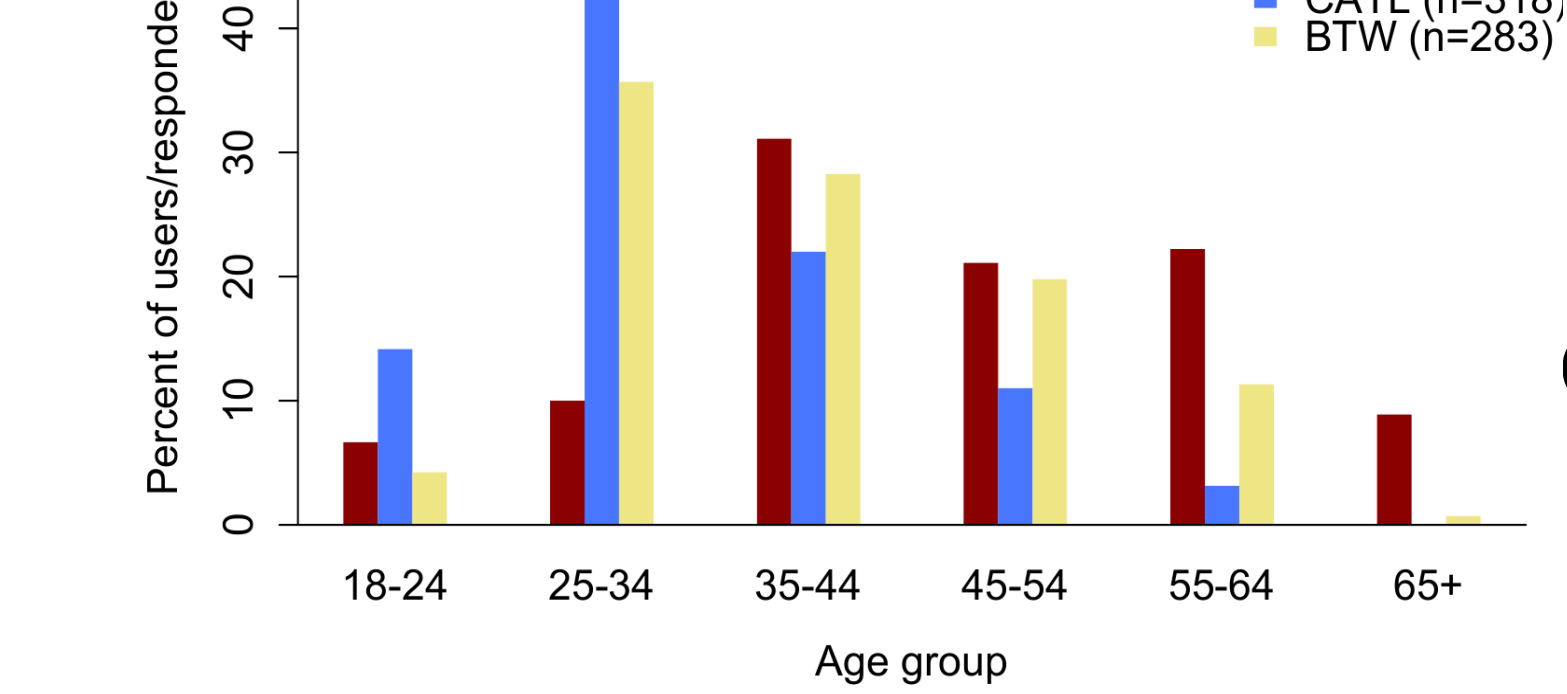
Cycling by Ethnicity



Cycling by Household Income



Cycling by Age Group



Geographical Distribution of Cycle Atlanta Users

Geographical Distribution of ACS Respondents

