How to improve the low income community's last mile by bike sharing?
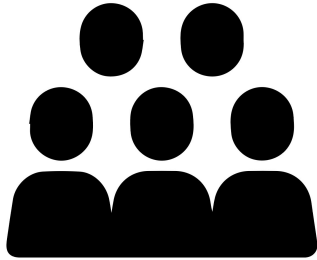
Ziyu Ran, Yanchao Li, Zhifei Xu

Issue
A large part of NYC is not served by Citibike

Where are Low-Income Neighborhoods?

Next, identify the neighborhoods that belong to the low transport accessibility ones. We plan to overlap three public transport layers(in dots) and their service buffers(in areas).

Most of the neighborhoods that experience extreme poverty lie outside Citi Bikes service area, and this is the issue we want to bring up in this visualization.

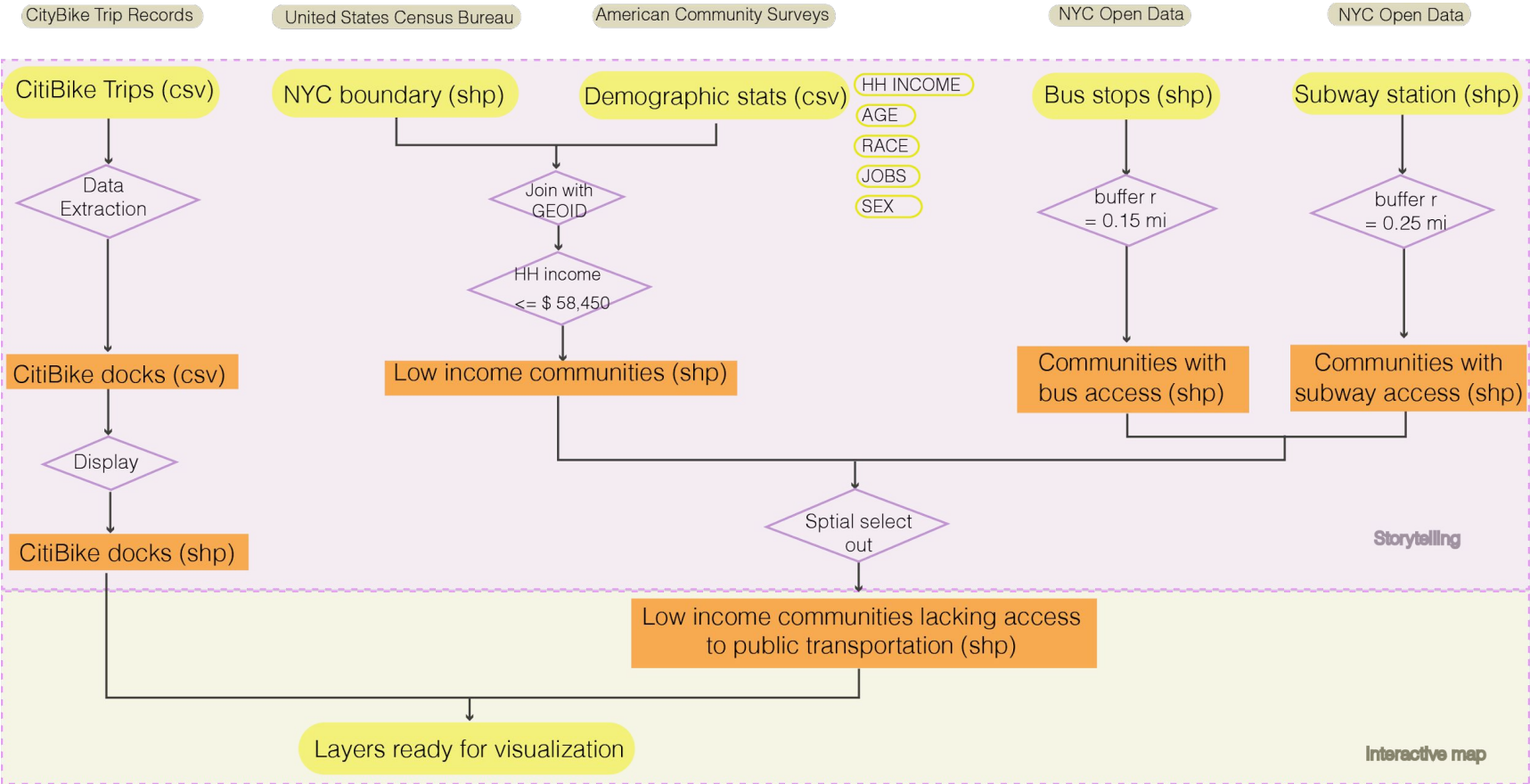# Intended Audience

New York Citizens

Policy Makers
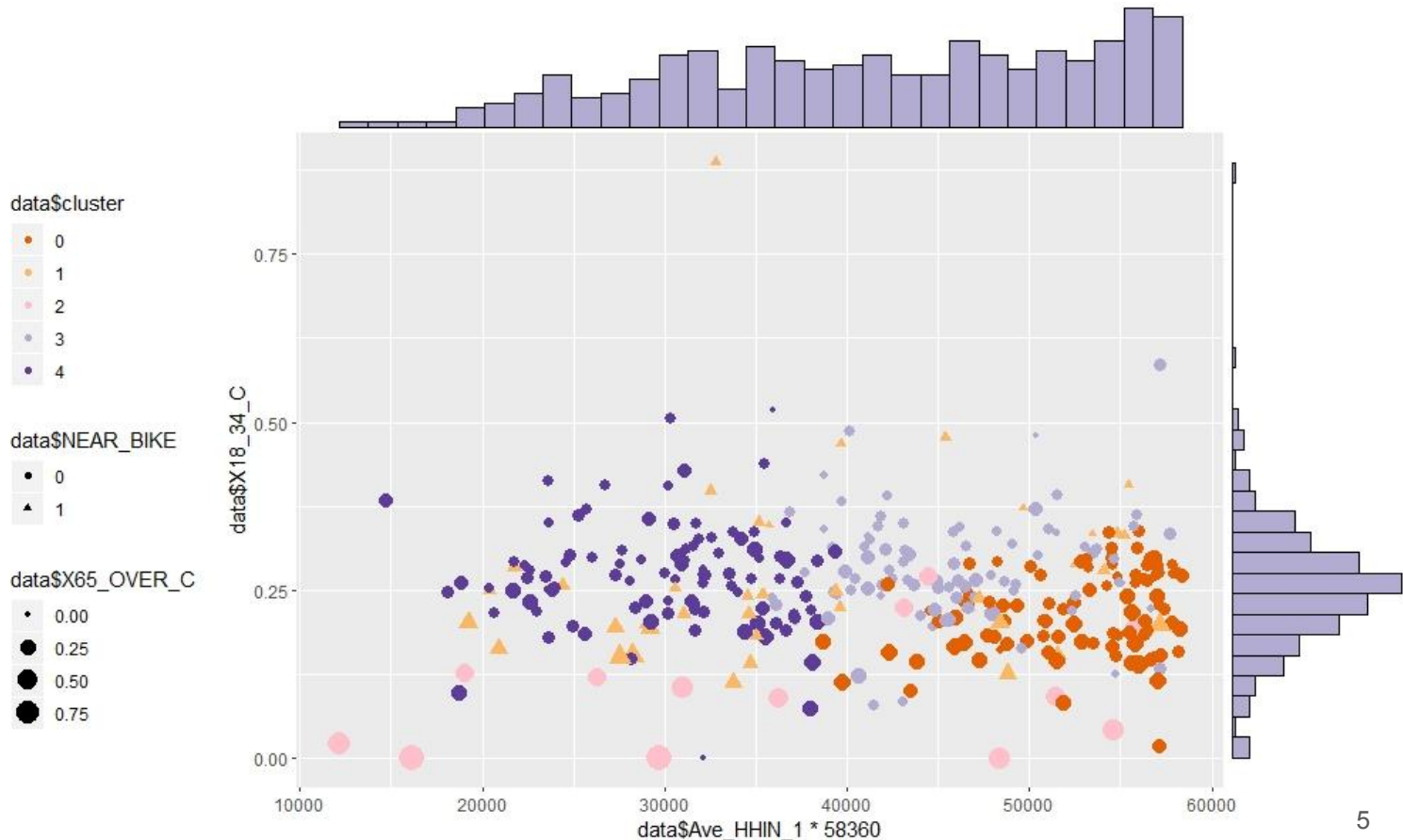

Investors

Data Processing

Communities Clustering Method

Model:
K-means clustering

5 Clusters:
Lack of Bikeshare Stations
Near Existing Stations
Elderly Community
Young Commnuity
High Unemployment

Variables:
Average Household Income
Male %
Female %
Less than 18 %
18-34 %
35-64%
Over 65 %
Unemployment %
Whether near bikeshare
stations

How Well Does New York Bike Sharing System Serve New Yorkers?

Author: Ziyu Ran, Yanchao Li, Zhifei Xu

Intro

Citi Bikes are proliferating. It not only tends to arrive at their Manhattan destinations faster than cabs but also represents a greener lifestyle. Besides, with the current condition of the coronavirus crisis, although being a private company, Citi Bike has gained an even more important weight in public transportation services. Since then, we would like to see, how well does Citi Bike serve New Yorkers, especially those who most in need of such an option? This website aims to uses spatial analysis to visualize and examine how well Citi Bike is doing now and give the direction of improvement.

Limitation / Future Ideas

1. In order to give more specific policy suggestions on improving bikeshare access in different community clusters, we need to explore more why people are not able to/ not willing to use bikeshare.

2. After we know more about cultural reasons behind bike sharing access, we can include race characteristic data in the community clustering model and give more specific suggestions.

3. Improve the methods of detecting the communities with access to transportation (e.g. based on the real road networks instead of based on a circle buffer; taking consideration of the arrival frequency).