Final Project Milestone #4

CIS 9440 - Data Warehousing for Analytics
Final Project Milestone 4
Group Number - 17
Student(s) – Kwang Heum Yeon

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1) List your final set of 5 KPI's.

   - Bicycle service key locations
   - Bicycle counts per key location
   - Bicycle counts per month
   - Linear regression between bicycle counts and population
   - Population per a bicycle by location

2) Short description of Visualization that will be used for each KPI. Why will you use that type of visualization?

   - Bicycle service key locations: **Map**
     Because we have an altitude and longitude in our location dimension, we can plot the exact location on the map, which will visually aid this KPI.

   - Bicycle counts per key location: **Map**
     We will adjust the size of the circle pointing at each location per the number of counts because we can deliver a piece of combined information for those two KPI's; the location and bicycle counts.

   - Bicycle counts per month: **Area Chart**
     I would like to understand the seasonal fluctuations that might have at each location to balance it with the overall demand for bike usage. I believe an area chart will depict this purpose enough.

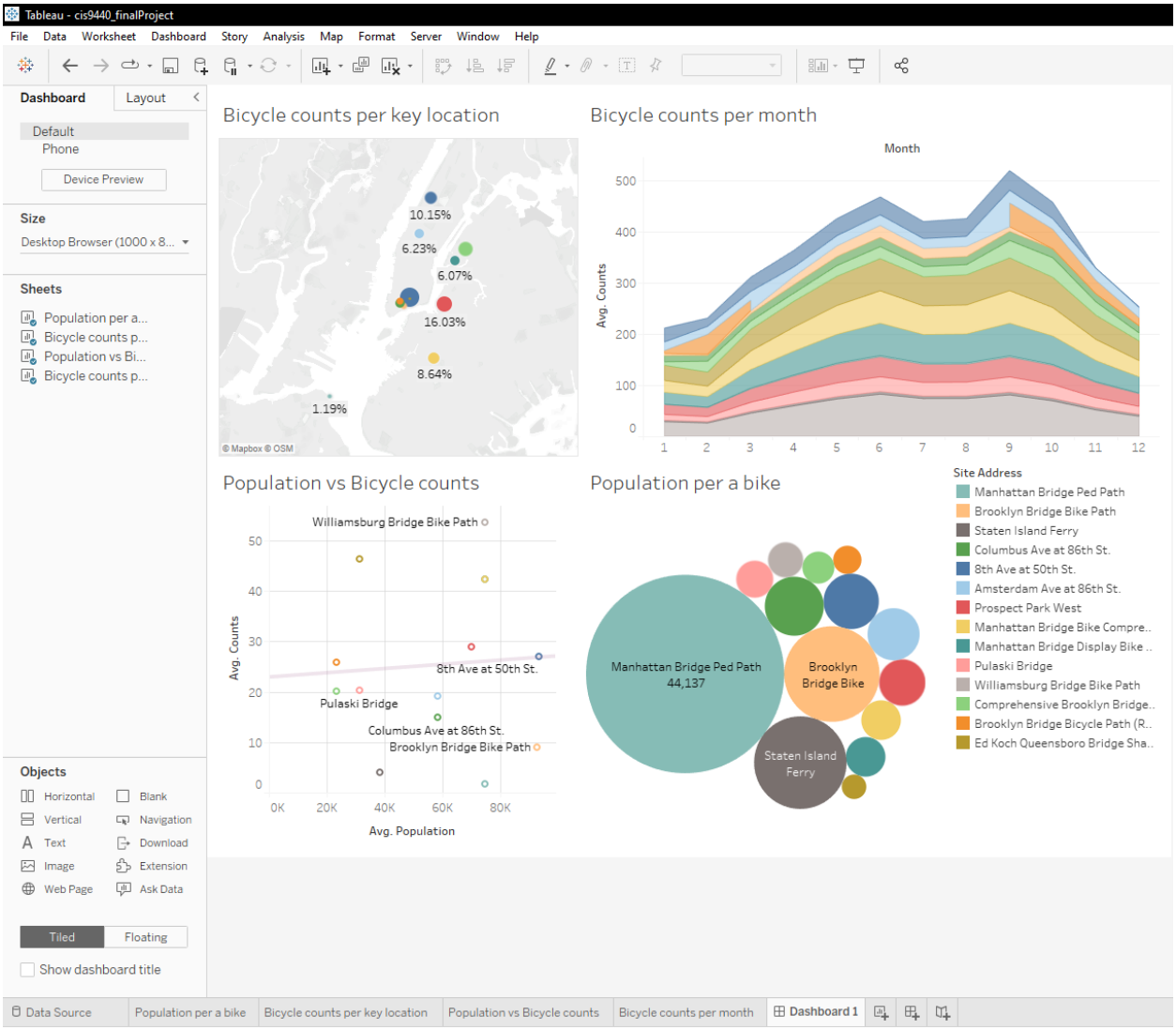
   - Linear regression between bicycle counts and population: **Scatter chart**
     We will draw a trend line on the scatterplot between the population and the bicycle counts each per location. We believe the trend line containing coefficient, p-value, and r-squared, can be well depicted on the scatterplot.

   - Population per a bicycle by location: **Bubble chart**

This is the main KPI we'd like to deliver. As an idea of how to efficiently manage the NYC bicycle system, the bubble chart will highlight the importance of balancing the number of bicycles in real-time. The bigger the circle is, the more it's required to increase the number of bicycles.

3) Paste a picture of your BI Application Wireframe (hand drawn image, google draw, any other format).

Wireframe(tentative)



Data source: BigQuery

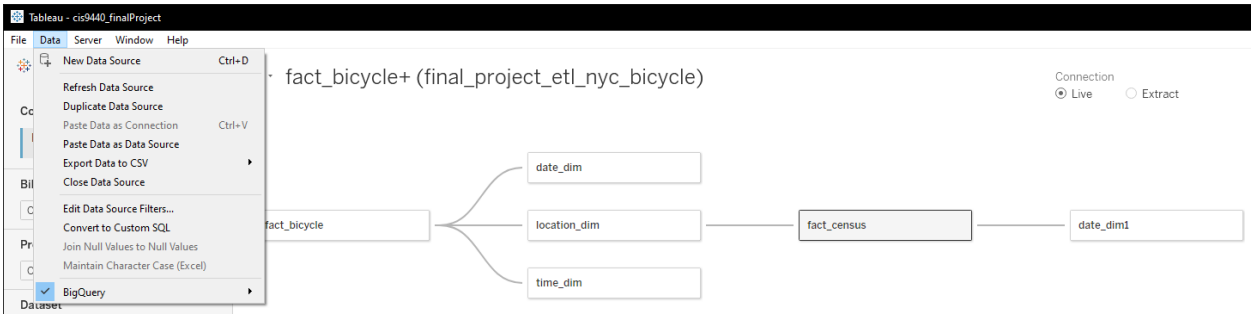
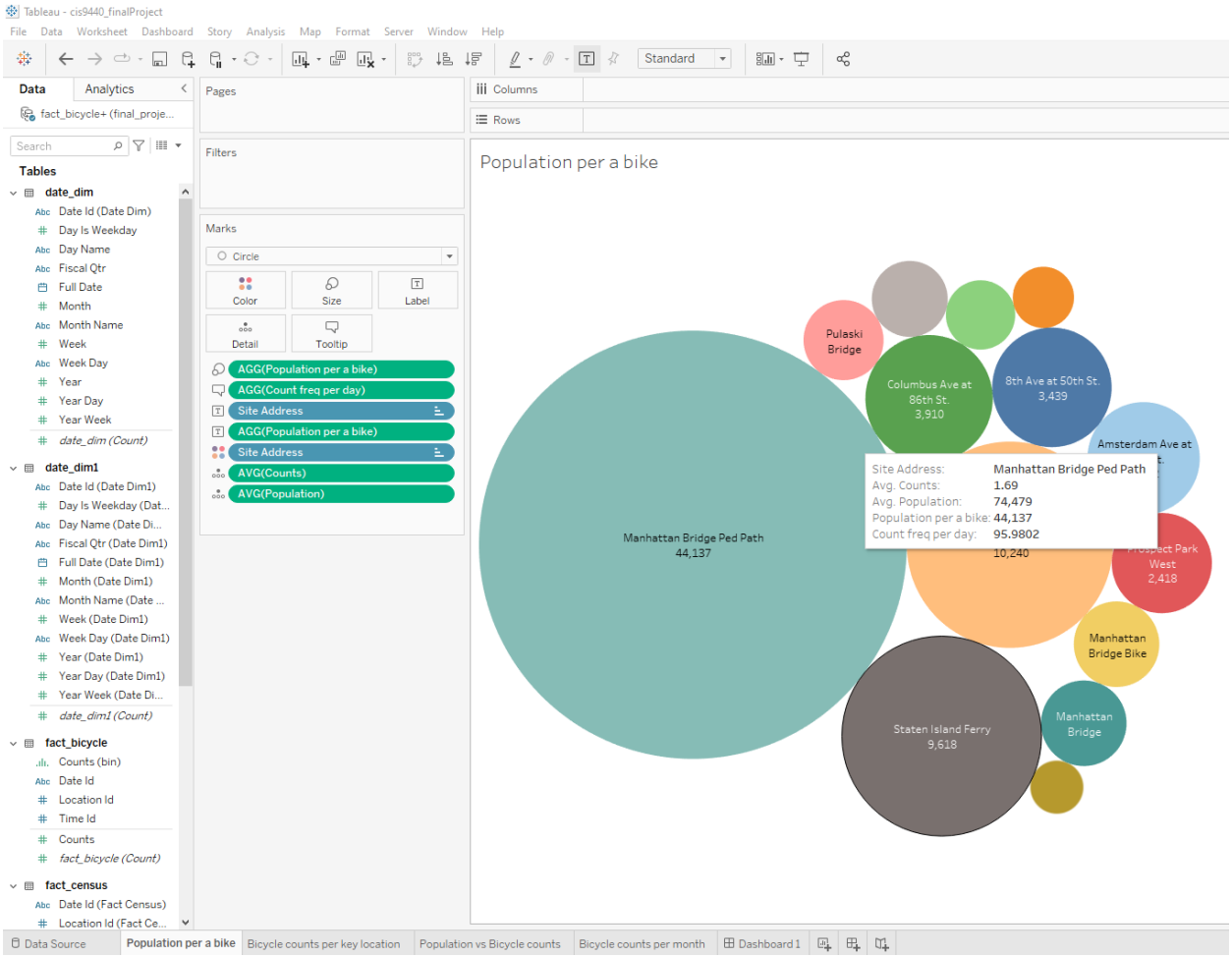


Tableau Worksheets



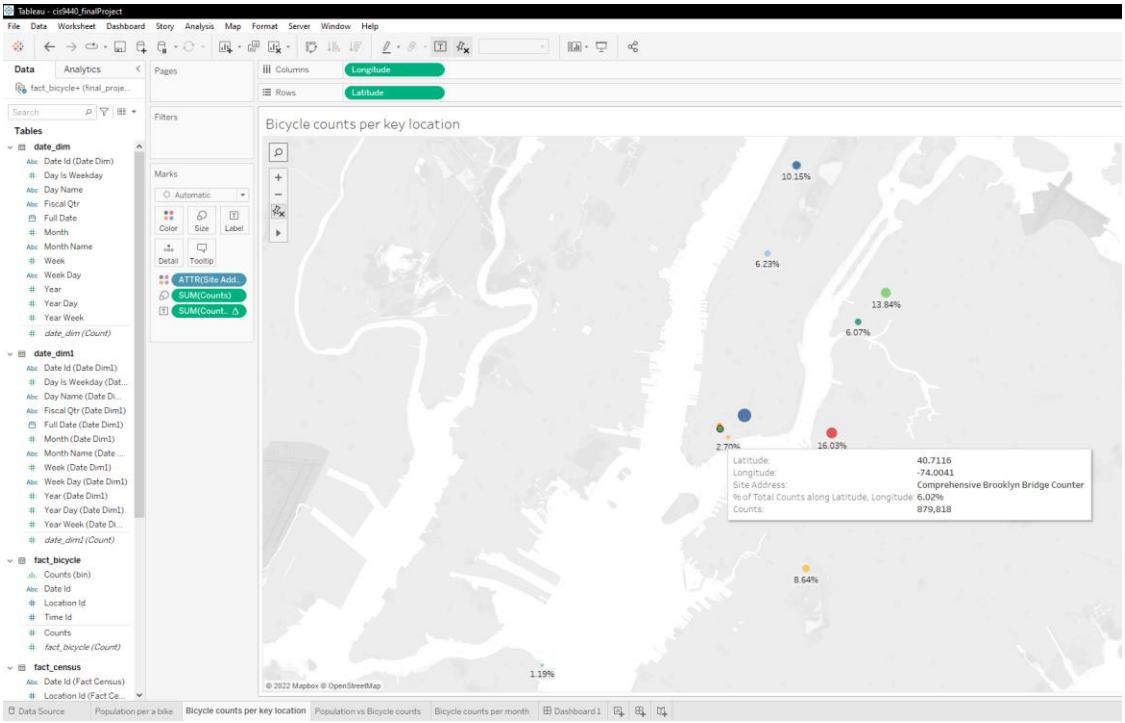


Tableau - cis9440_finalProject
Bicycle counts per key location
Columns
Longitude
Rows
Latitude
10.15%
6.23%
13.84%
6.07%
2.70%
16.03%
8.64%
1.19%
Latitude: 40.7116
Longitude: -74.0041
Site Address: Comprehensive Brooklyn Bridge Counter
% of Total Counts along Latitude, Longitude: 6.02%
Counts: 879,818
© 2022 Mapbox © OpenStreetMap
Data Source
Population per a bike
Bicycle counts per key location
Population vs Bicycle counts
Bicycle counts per month
Dashboard 1

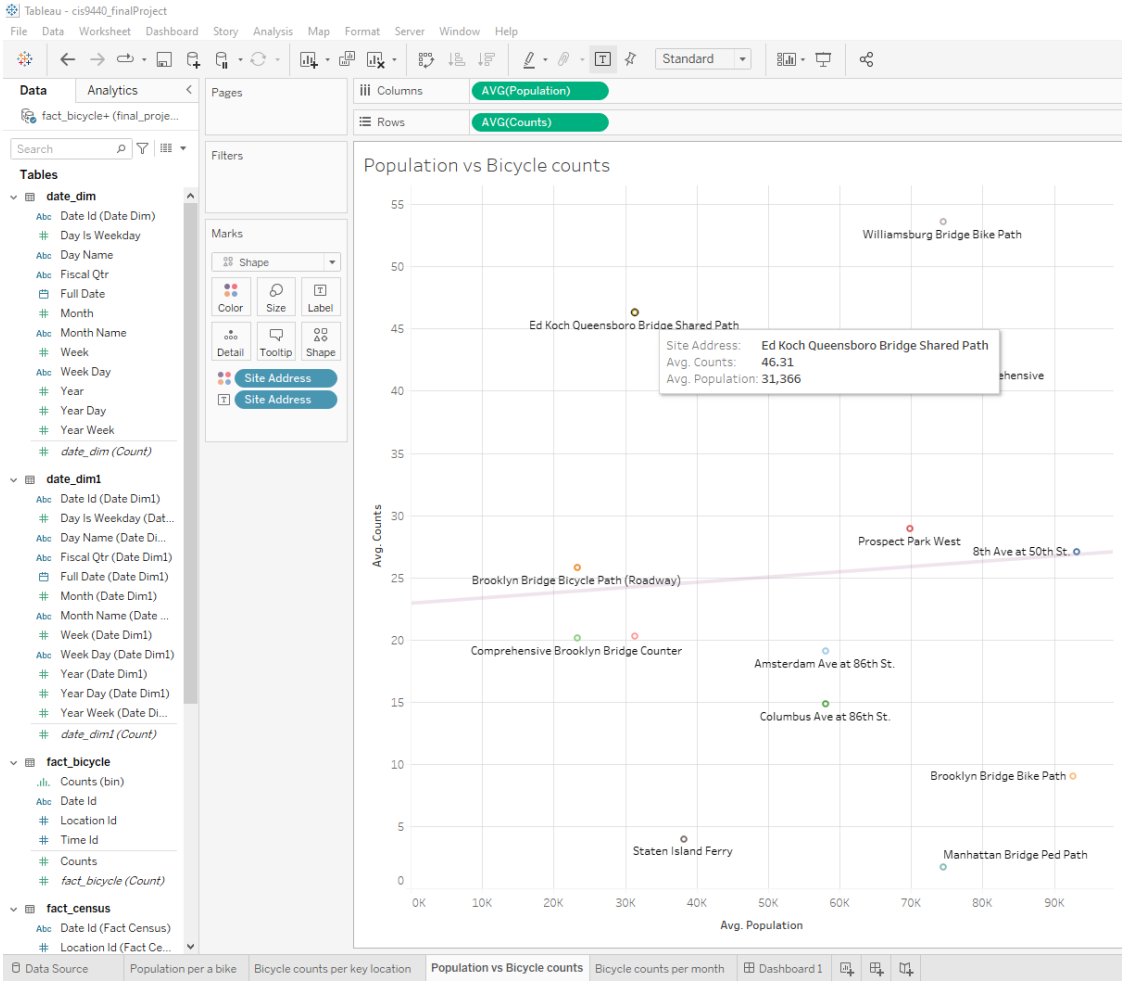
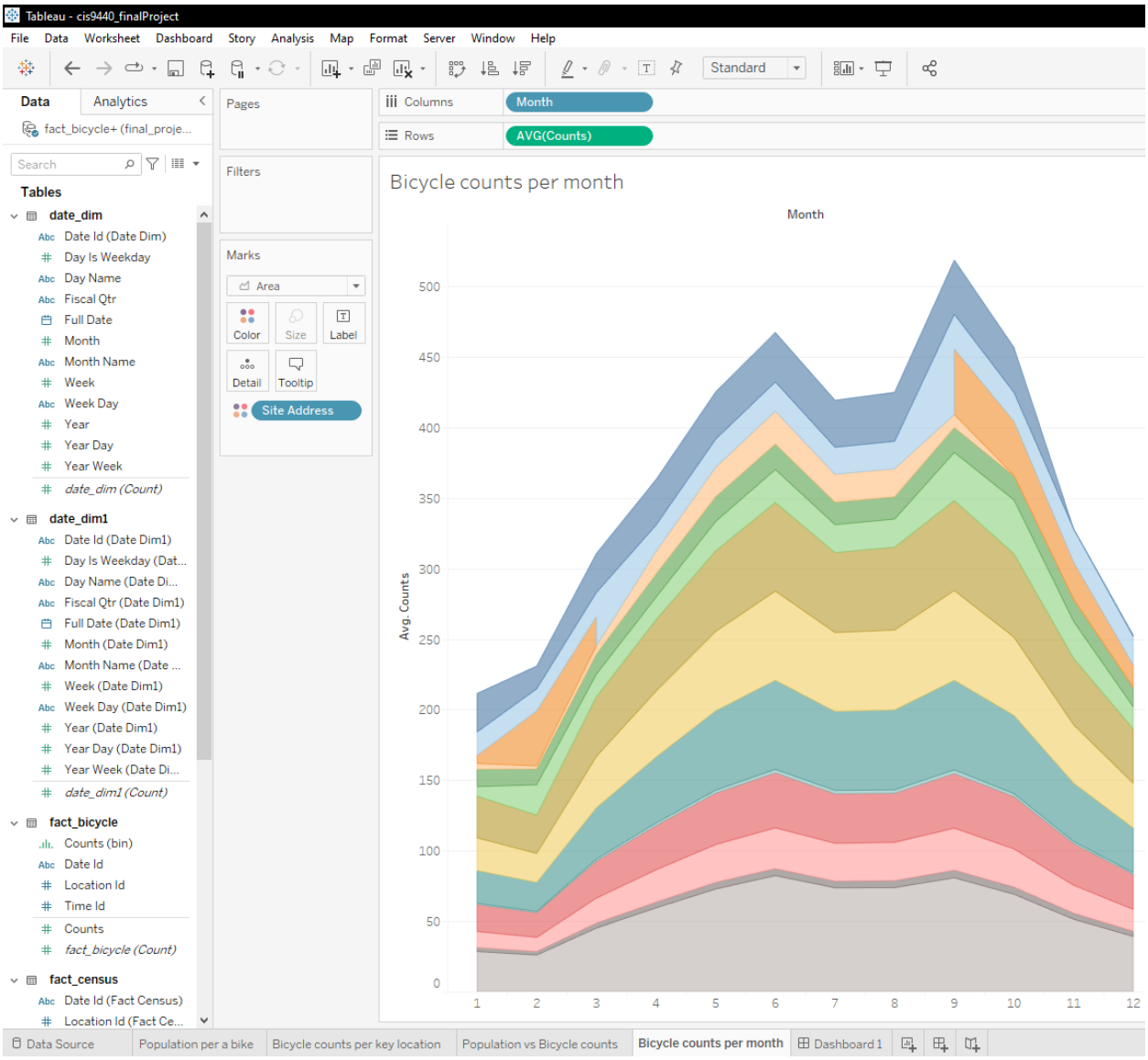
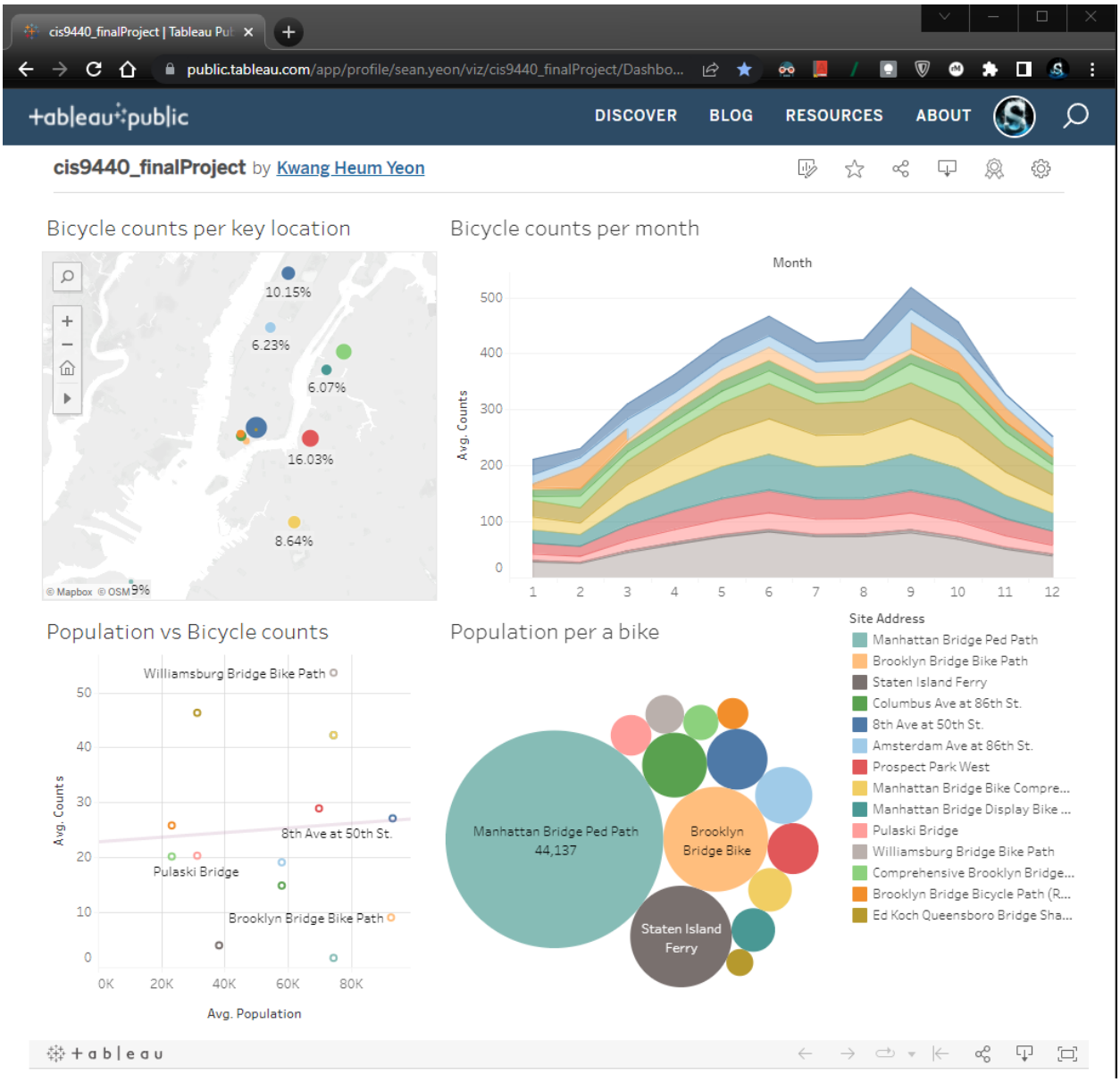


Tableau - cis9440_finalProject
Columns
AVG(Population)
Rows
AVG(Counts)
Population vs Bicycle counts
Williamsburg Bridge Bike Path
Ed Koch Queensboro Bridge Shared Path
Site Address: Ed Koch Queensboro Bridge Shared Path
Avg. Counts: 46.31
Avg. Population: 31,366
Prospect Park West
8th Ave at 50th St.
Brooklyn Bridge Bicycle Path (Roadway)
Comprehensive Brooklyn Bridge Counter
Amsterdam Ave at 86th St.
Columbus Ave at 86th St.
Brooklyn Bridge Bike Path
Staten Island Ferry
Manhattan Bridge Ped Path
Avg. Counts
Avg. Population
Data Source
Population per a bike
Bicycle counts per key location
Population vs Bicycle counts
Bicycle counts per month
Dashboard 1



4) Link to your Tableau Public dashboard. (ensure this link works!)

Site link:
https://public.tableau.com/app/profile/sean.yeon/viz/cis9440_finalProject/Dashboard1?publish=yes



(Optional, 5) Any notes for the professor about your visualization or template submission.

Dear Professor, thank you for helping us as always. The wireframe I attached in this milestone is not the final version, but still working on it so to come up with the best layout. Thank you so much.