**City Bikes (March 2016)**

My “City Bikes Dashboard” contains two charts: the first, a map that shows “median trip duration vs income”; the second, a line chart displaying the most popular bike rental times.

**Median Trip Duration vs. Income**

My first visualization is a map that portrays the median trip duration across NYC. In addition I have included a layer that compares per capita income for unique census tracts, the most granular income statistic that Tableau census data provides. Per capita income is a better indicator than household income because many unrelated individuals in the Big Apple share living quarters or cohabitate. Unfortunately city bike locations are almost universally located in high income areas, so little can be deduced from the PCI data.

Longer trips tend to be concentrated in the northern and southern tips of Manhattan or Northwest Brooklyn. Employment is concentrated in central Manhattan. Folks who work in midtown (as I once did) may prefer bicycles to public transport. As bicycles are a mainstay of hipster culture, Brooklynites may likewise prefer commuting to their jobs on bike.

**Trip Times**

As expected the times when people commute to and from work are the most common times for renting a bicycle: 8:00-10:00 and 17:00-19:00.

**Questions**

\* **How many trips have been recorded total during the chosen period?**

- 919,921 trips were taken in the given period March 2016.

\* **By what percentage has total ridership grown?**

- Impossible to say. The dataset lacks longitudinal evidence. All trips taken in March 2016.

\* **How has the proportion of short-term customers and annual subscribers changed?**

- Impossible to say. The dataset lacks longitudinal evidence.

- There are more than 800,000 subscribers, and 100,000 customers.

\* **What are the peak hours in which bikes are used during summer months?**

- Impossible to say. The dataset lacks monthly evidence. All trips taken in March 2016.

\* **What are the peak hours in which bikes are used during winter months?**

- Impossible to say. The dataset lacks monthly evidence. All trips taken in March 2016.

\* **Today, what are the top 10 stations in the city for starting a journey? (Based on data, why do you hypothesize these are the top locations?)**

- Pershing Square North, Lafayette & East 8th St., W. 21st & 6th Avenue ...

- Close to schools, no public transport close by.

\* **Today, what are the top 10 stations in the city for ending a journey? (Based on data, why?)**

- Pershing Square North, Lafayette & East 8th St., W. 21st & 6th Avenue ...

- Close to schools, no public transport close by.

\* **Today, what are the bottom 10 stations in the city for starting a journey? (Based on data, why?)**

- East 58 St. & 1st Ave., Railroad Ave. & Kay Ave., Putnam Ave. & Nostrand Avenue …

- Perhaps these stations somewhat unsafe or near easy public transport.

\* **Today, what are the bottom 10 stations in the city for ending a journey (Based on data, why?)**

- 5 Corners Library, City Hall, Grove St. PATH, Newport PATH

- The PATH train is right there, so easy public transport

\* **Today, what is the gender breakdown of active participants (Male v. Female)?**

- 640,000 Male, and 190,000 female

\* **How effective has gender outreach been in increasing female ridership over the timespan?**

**-** One cannot draw any conclusions over a tiny 30 day timespan. But there is no evidence that female ridership has increased (see gender breakdown by day chart).

\* **How does the average trip duration change by age?**

**-** Average trip duration varies little by age except in case of riders over the age of 85 (almost certainly bad data)

\* **What is the average distance in miles that a bike is ridden?**

- 15 minutes. Women ride longer on average (17 min) vs. 13 min for males

\* **Which bikes (by ID) are most likely due for repair or inspection in the timespan?**

- 24726, 24620, 24017 have been utilized the most assuming the average distance ridden will not vary much by bike. Thereby one would expect they have the most wear and tear.

\* **How variable is the utilization by bike ID?**

- Highly variable. Utilization ranges from 0-380 rides for a bike.