PROBLEM:

Citibike initiated in 2013 in New York, and since then has expanded yearly with new stations, more bikes, and more subscribers. Citibike started new operations in Jersey City in 2015. This project will explore the return in investment of the Citibike project and how that will project moving forward into 2018. This will also explore other benefits such as tourism.

SHAREHOLDERS:

The shareholders will not only be Jersey City council members but also transportation council members. The project care is to see the return in investment in a bike sharing program in Jersey City and whether more hubs are needed. As of September 2017, there are 50 stations, of which 15 are new. This will explore the sustainability of growth and usage in Jersey City.

DATA:

The data used will come from Citibike’s system data. The observation is a trip, while the attributes contain time, date, start station, end station, and customer info (for subscribers). Please visit <https://s3.amazonaws.com/tripdata/index.html> for system data. Please visit <http://gbfs.citibikenyc.com/gbfs/gbfs.json> to obtain real-time data via JSON.

APPROACH:

The approach to the project will consider the following:

* **Descriptive analytics** about the Citibike system, focusing on Jersey City’s Citibike usage
* Qualitative inference about the Citibike system usage, focusing on outliers and trends
* Declaring a hypothesis about Citibike’s system (focusing on subscriber growth)

Hypothesis testing for 2018 subscriber growth (subject to change):

* + Linear regression
  + Poisson Distribution
  + Quasi-Poisson Distribution
  + Shapiro-Wilk
  + Anderson-Darling
  + Kolmogorov-Smirnov.
* Recommendations from hypothesis tests

**DELIVERABLES:**

The final deliverables for the Citibike Predictive Analytics Project are:

* **Jupyter notebook** detailing the story of the problem and what it shows at the end. This will include problem, research, execution, and recommendation.
* **Slide deck** to present to the Springboard class (no more than 10 slides) breaking down the story of the problem, with research, execution, and recommendation.
* **Github repository** that details the code, the milestones reported to the mentor and Springboard, and previous submissions.