

# Determining Bay Area Bike Share rider patterns and station growth impact

This project will be a study of the usage patterns in the Bay Area Bike Share network in and around San Francisco, California. In this project I will delve into the trends in usage of the program by customer type and when amiable home location to asses utilization patterns and identify areas for expansion of the program. The key client of this project is Bay Area Bike Share itself and will provided a basis of analysis techniques that can be applied to other cities and transit sharing companies in other cities as well. These clients and programs will gain important insight into their customer base and provide better quality service to current customers as well as identify potential growth areas to gain more customers.

The data which will be used in this project is publicly available through The Bay Area Bike Share Open Data site [1], supplemental weather data will be gathered from DarkSky [2], and additional event information will be gathered from several athletic sports schedules[3][4][5].

Initial exploratory analysis will be to first find patterns in ride data by city and then by ride connected stations. Then, I will focus on finding growth and utilization trends of new stations both incoming and outgoing rides to determine how effective new station locations are and give insight into how quickly the viability of a new station could be determined. Lastly, I will cross the ride data with weather patterns and local events to see how and if they play any role in ridership. For events, I am most interested to see if there is any concentration of ridership around the events or if ridership to mass transit stops is impacted.

All of my analysis will be done using Python packages and delivered in a Jupiter Notebook hosted in a Github repository.

## References

- [1] <http://www.bayareabikeshare.com/open-data>
- [2] <https://darksky.net/>
- [3] <https://www.baseball-reference.com/>
- [4] <http://www.fbschedules.com/>
- [5] <https://www.hockey-reference.com>