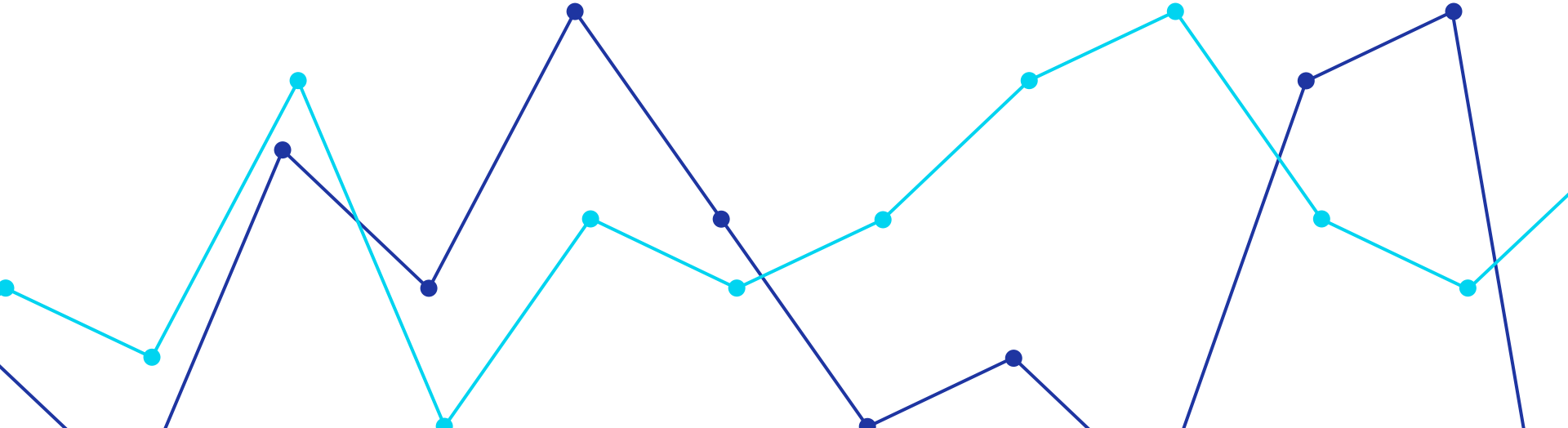
Helsinki City Bikes

Mid Bootcamp Project

Heloisa Bal



Helsinki City Bikes

What?

Helsinki City Bikes is a public bicycle system in Helsinki.

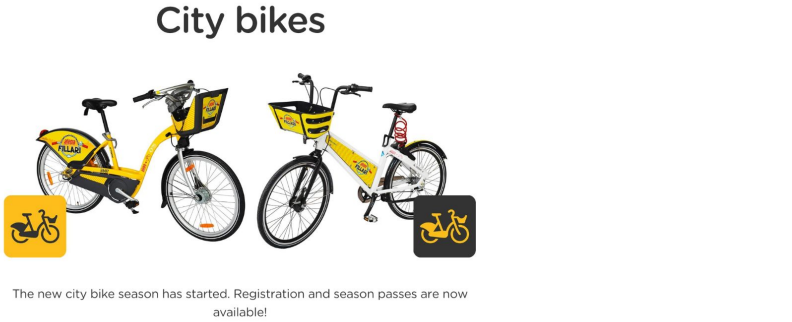
Why?

Operations background & interest in biking and micro mobility in general.

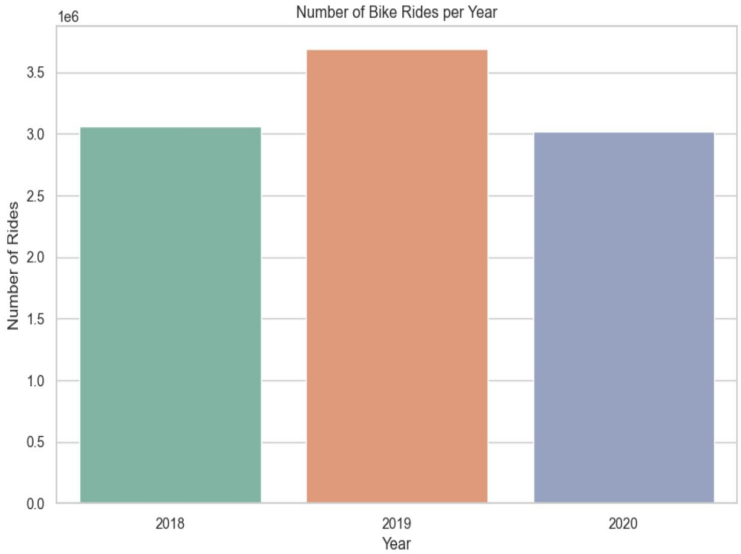
Data sets

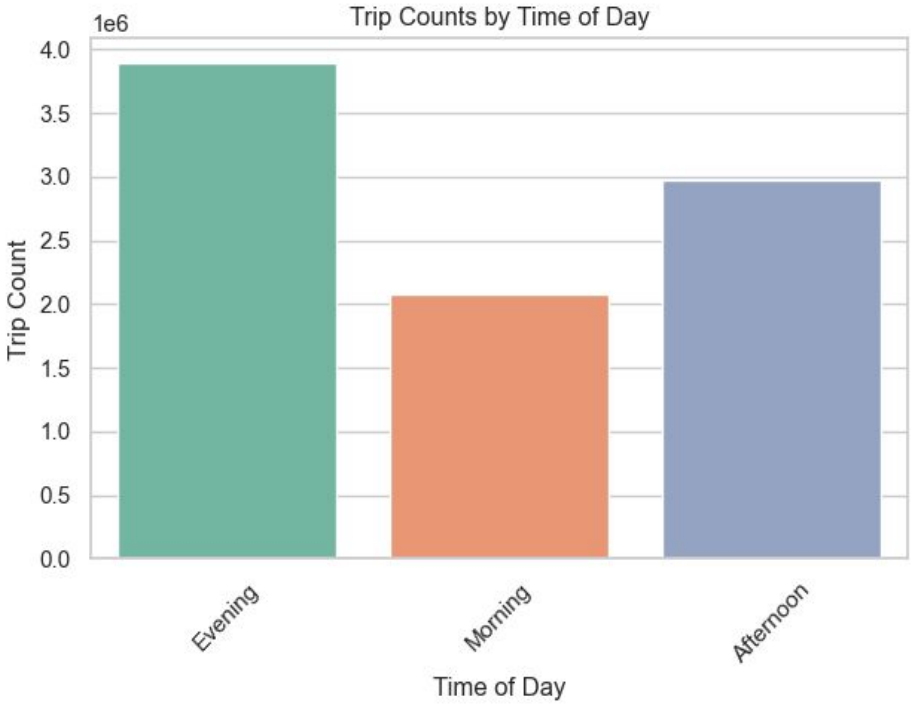
Kaggle Dataset
2018 - 2020 (3 years)

Meteorological data
2018 - 2020 (3years)

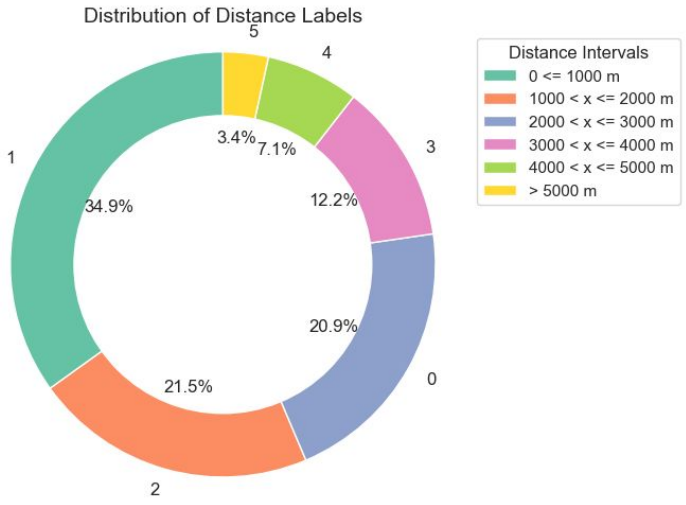


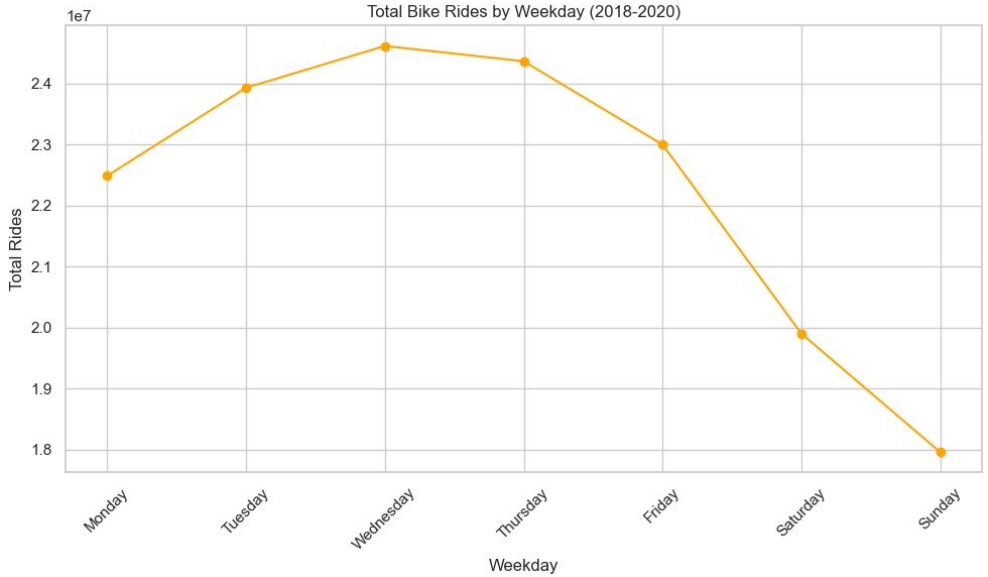
General Overview



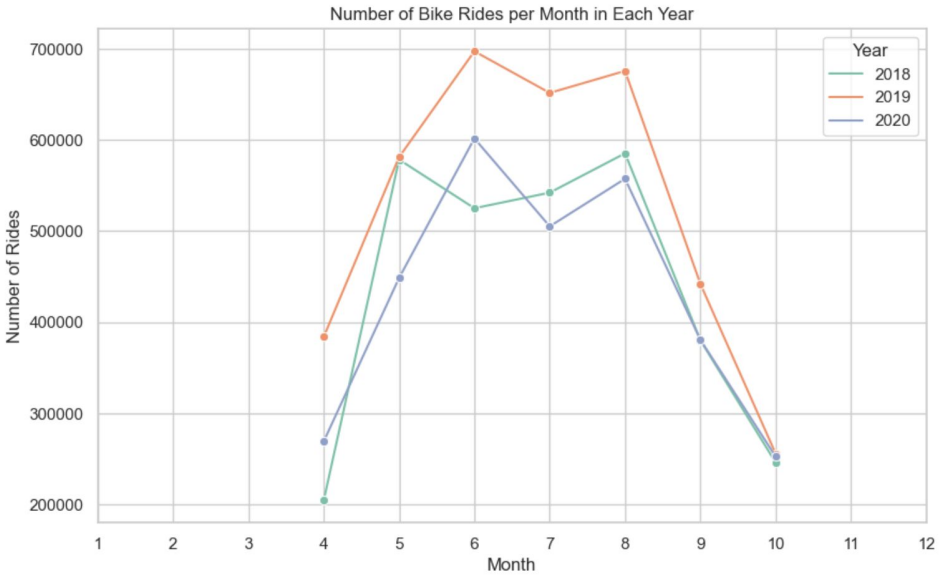


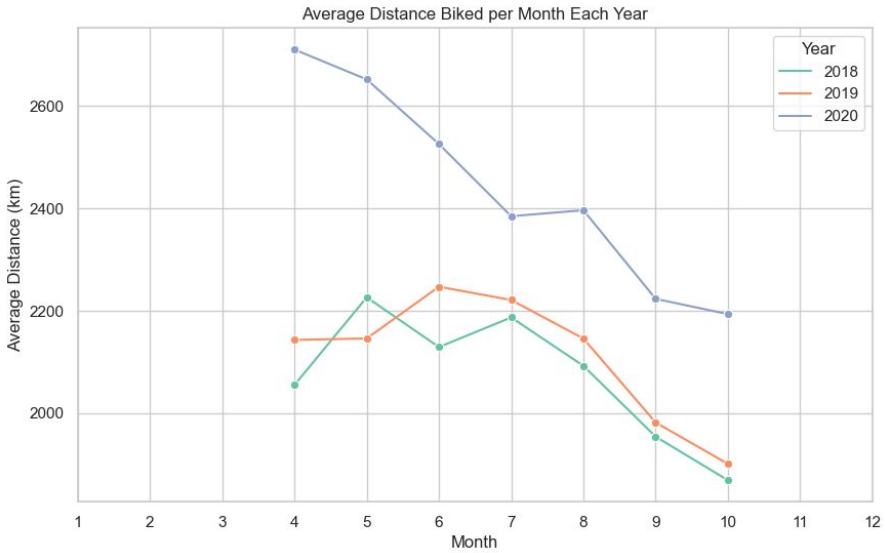
General Overview

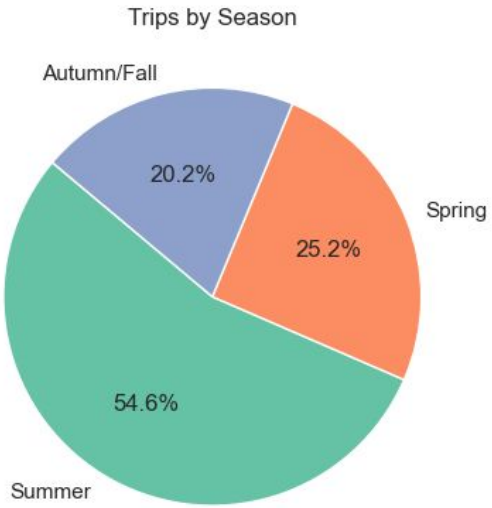


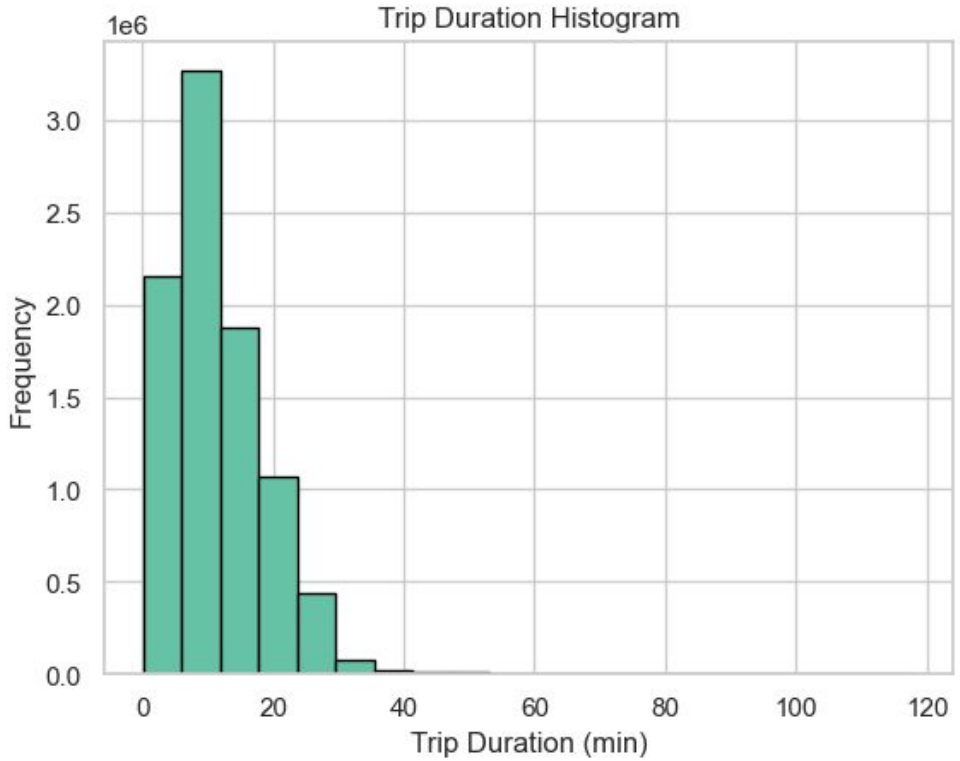


Monthly bike rides & Monthly average bike distance

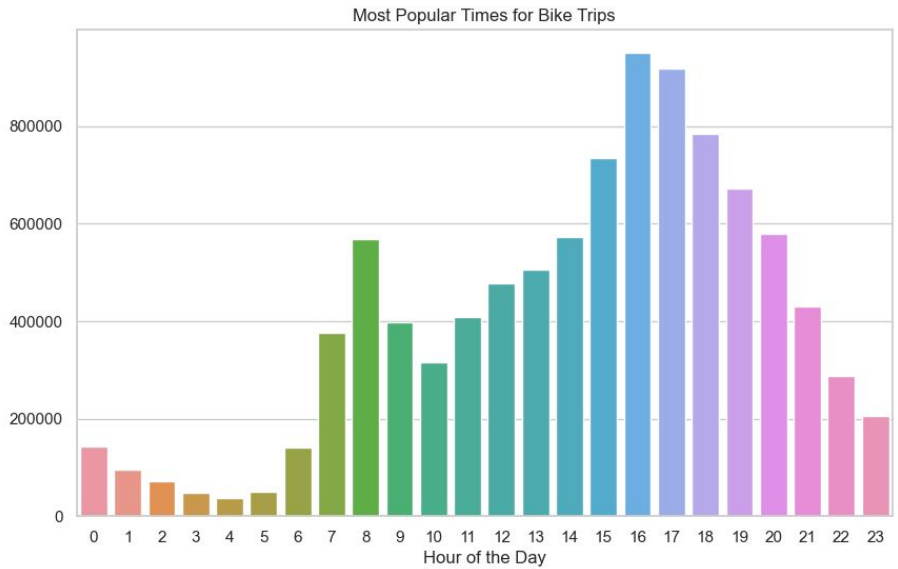


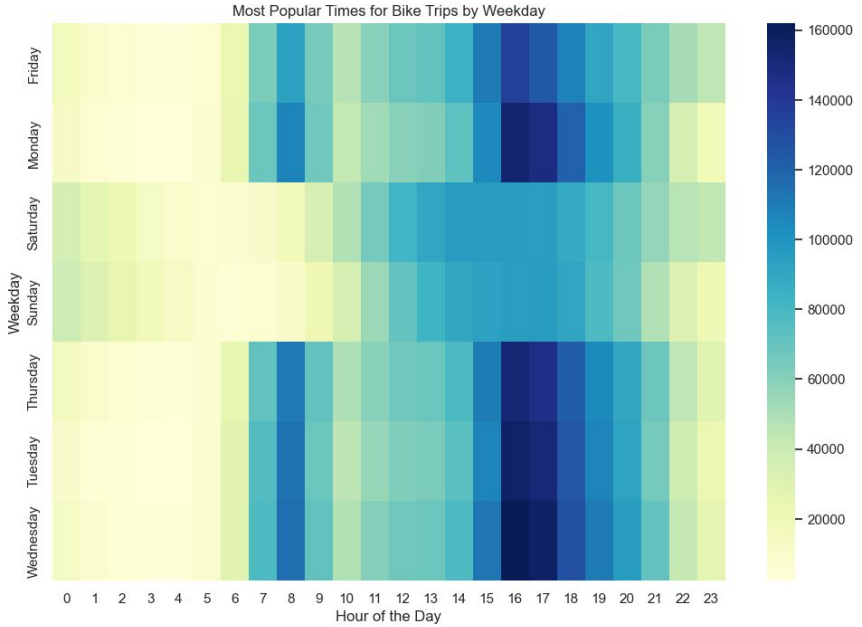



Trips by Season
Autumn/Fall
20.2%
Spring
25.2%
54.6%
Summer

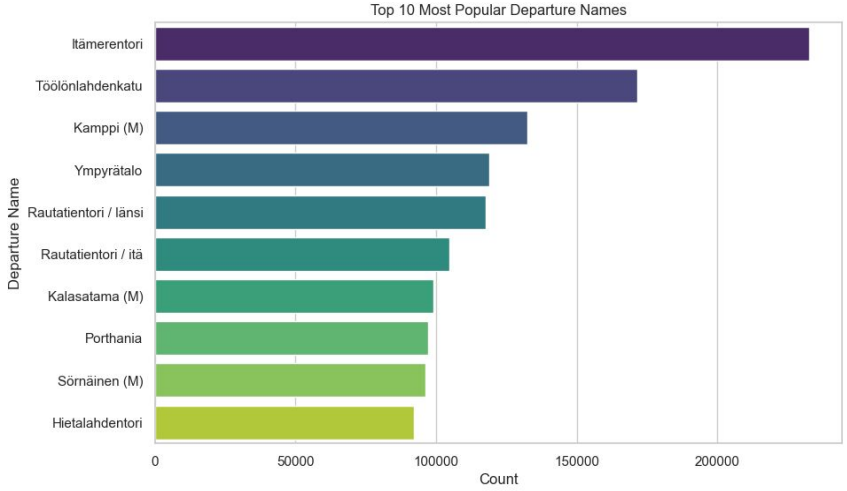

Trip Duration Histogram
1e6
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Frequency
0
20
40
60
80
100
120
Trip Duration (min)

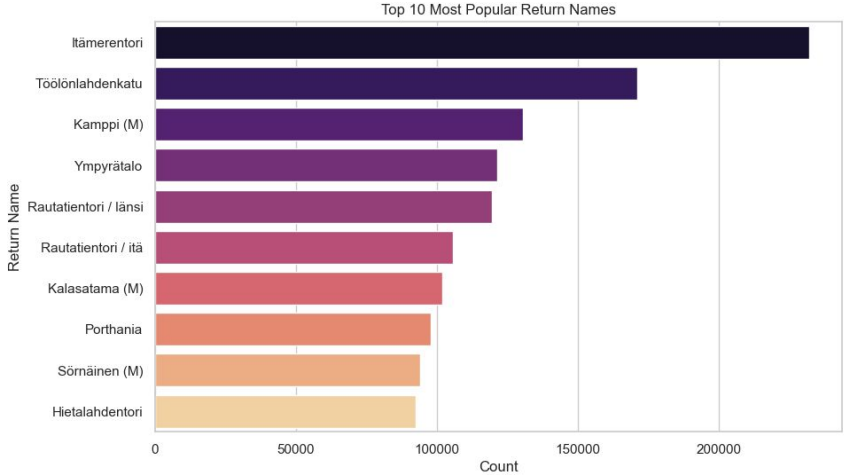
Most popular biking hours

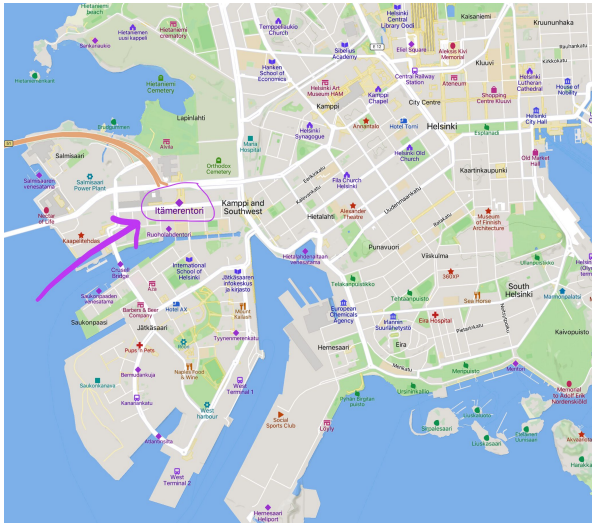


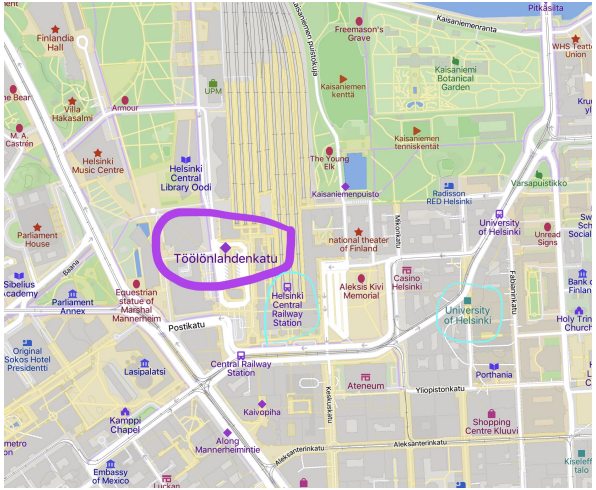


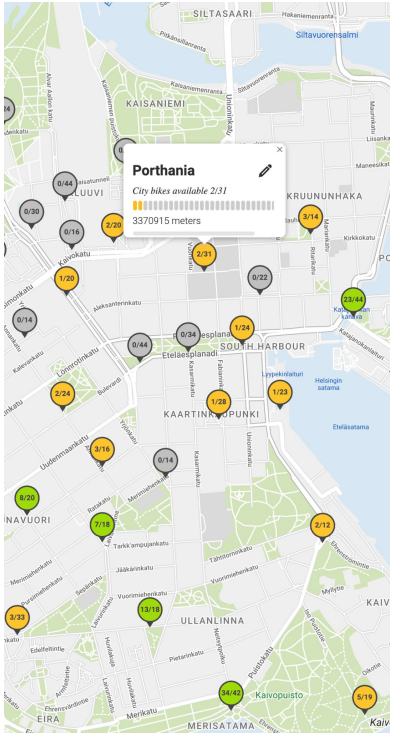
Popular Docks



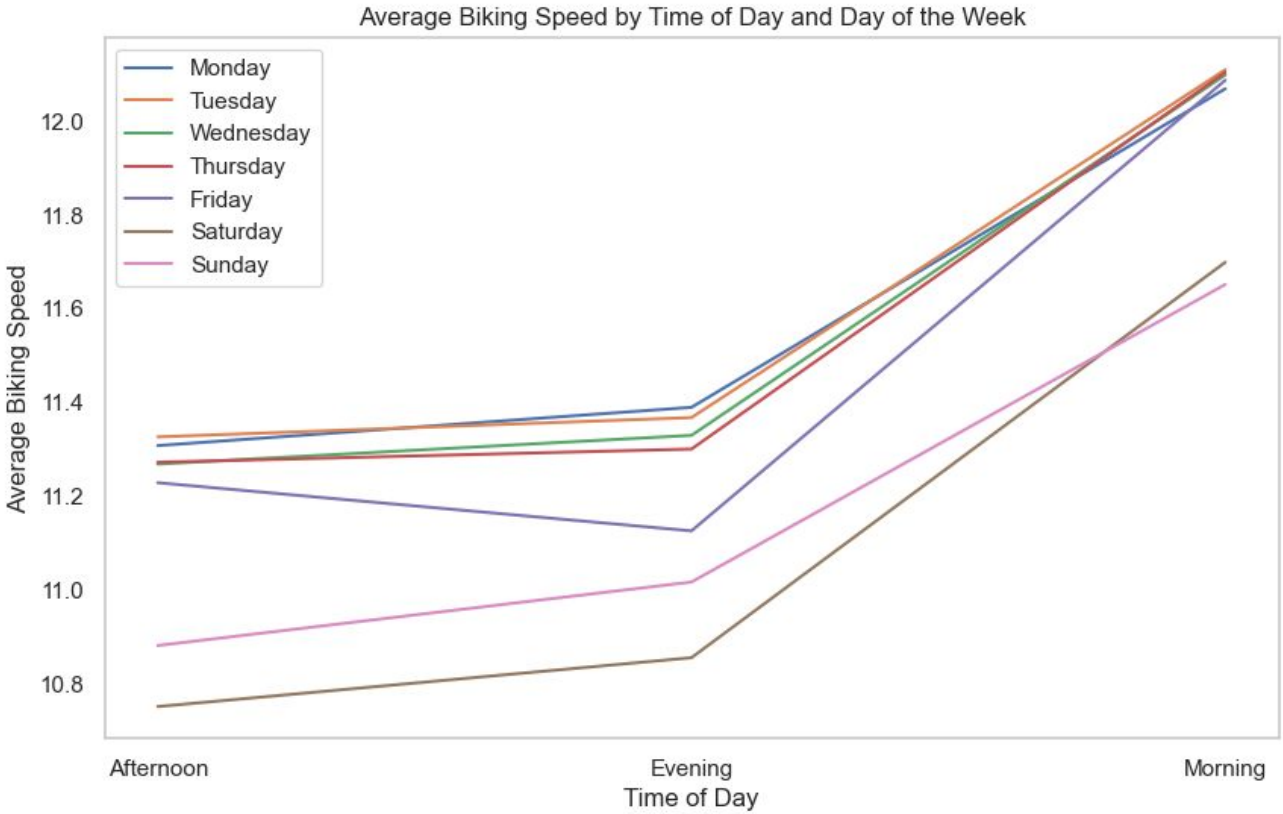




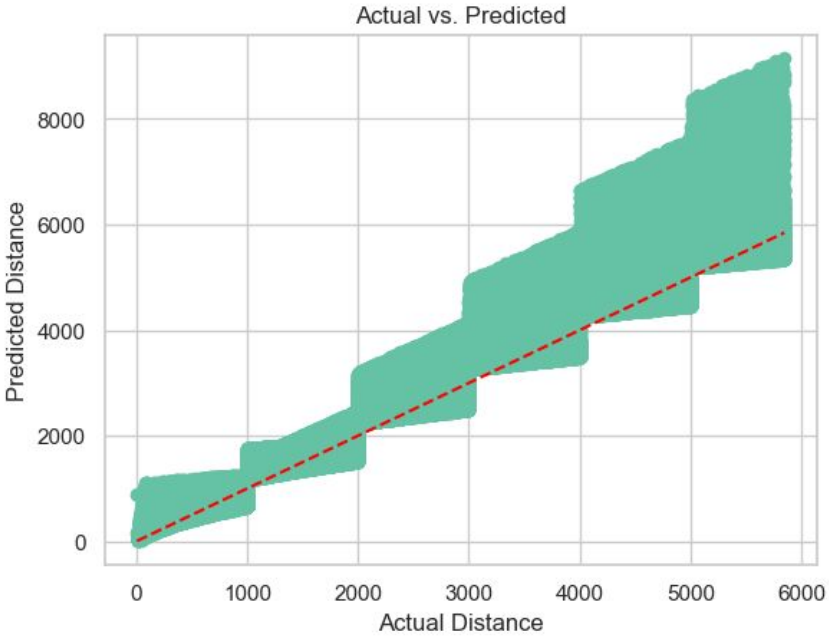




Most interesting insight!



Model Building

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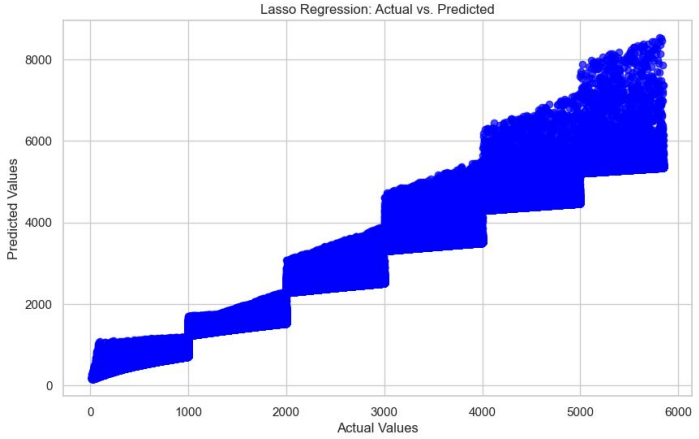
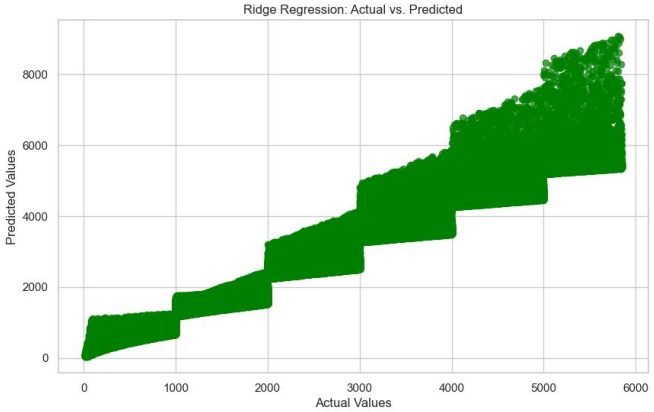
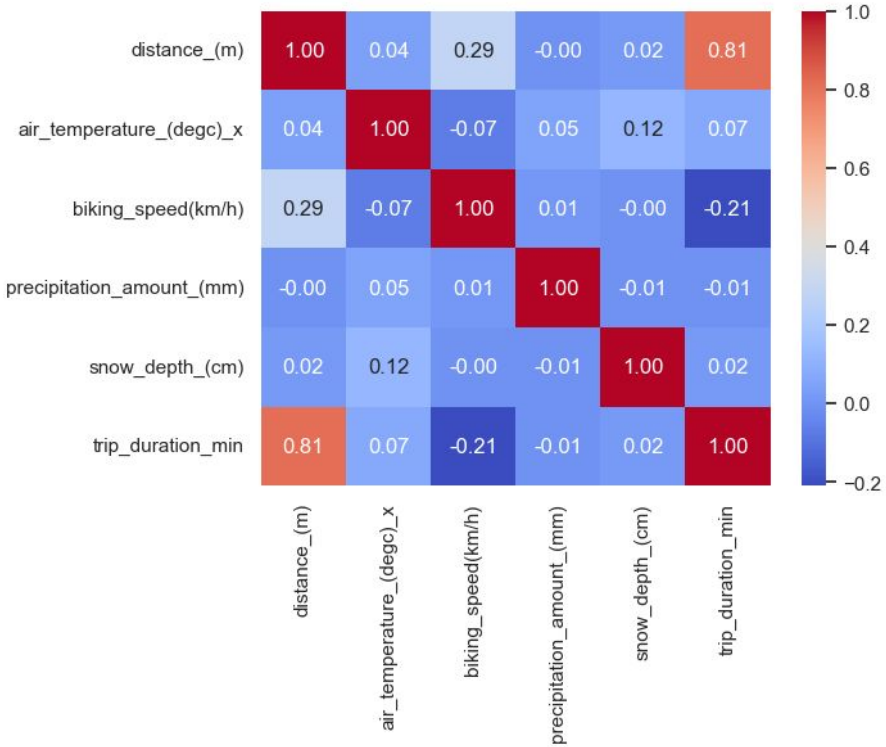
R-squared: 0.9687
Mean Squared Error: 51149.9066
Root Mean Squared Error: 226.1635
```

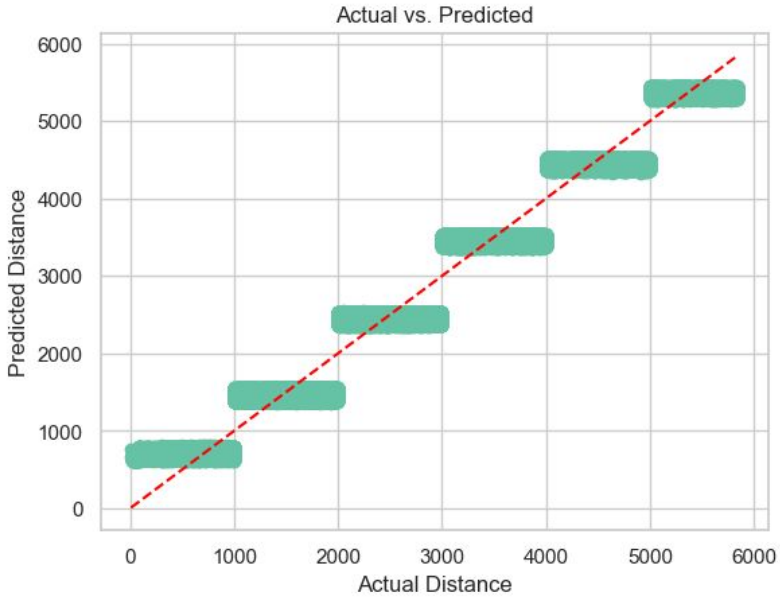



```
Model: lasso, train R2: 0.9682949228117823 -- test R2: 0.9682393998914398
Model: ridge, train R2: 0.9686873425868942 -- test R2: 0.9686433169378844
Model: elastic, train R2: 0.21608410810857315 -- test R2: 0.21614102981897487
```



Removing variable based on colinearity






```
R-squared: 0.9563
Mean Squared Error: 71338.1096
Root Mean Squared Error: 267.0919
```

Thank you!

Questions?