Airbnb and the Denver Housing Market

DSI-822 Capstone Project – Logan Marett

Problem Statement

The city of Denver has seen a dramatic increase in population in recent years, and does not have the supply needed to provide affordable housing to its residents.

Meanwhile, Airbnb has exploded onto the market since its first listing in 2009 where it has roughly 6,000 active listings.

The goal of this project is to analyze the trends and predict future housing costs, and determine if Airbnb needs to reduce its scope here.

Since 2009

2.34M

2009 Population

$891

2009 Average Rent
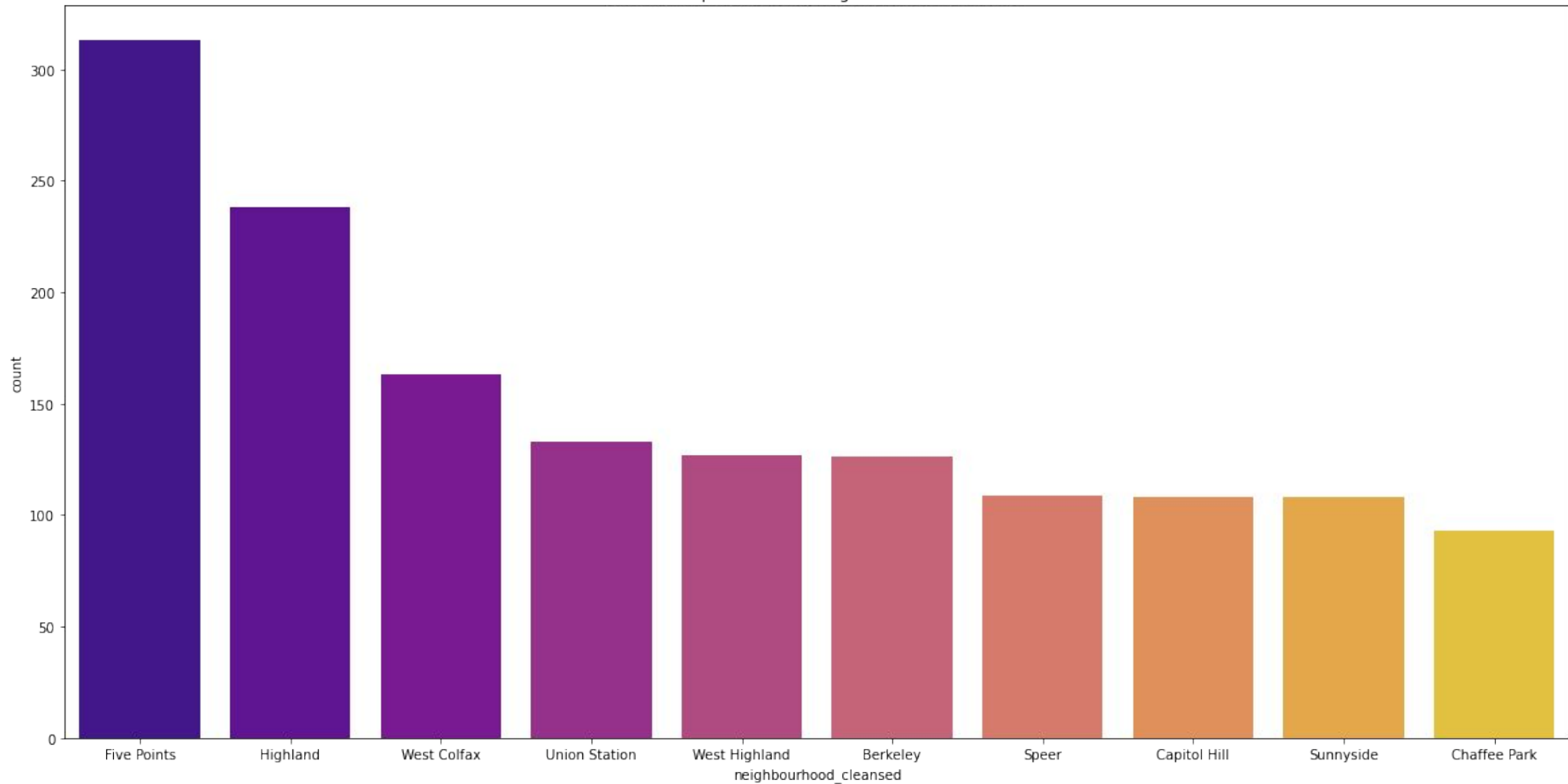
1

Airbnb Listing

2.90M

2022 Population

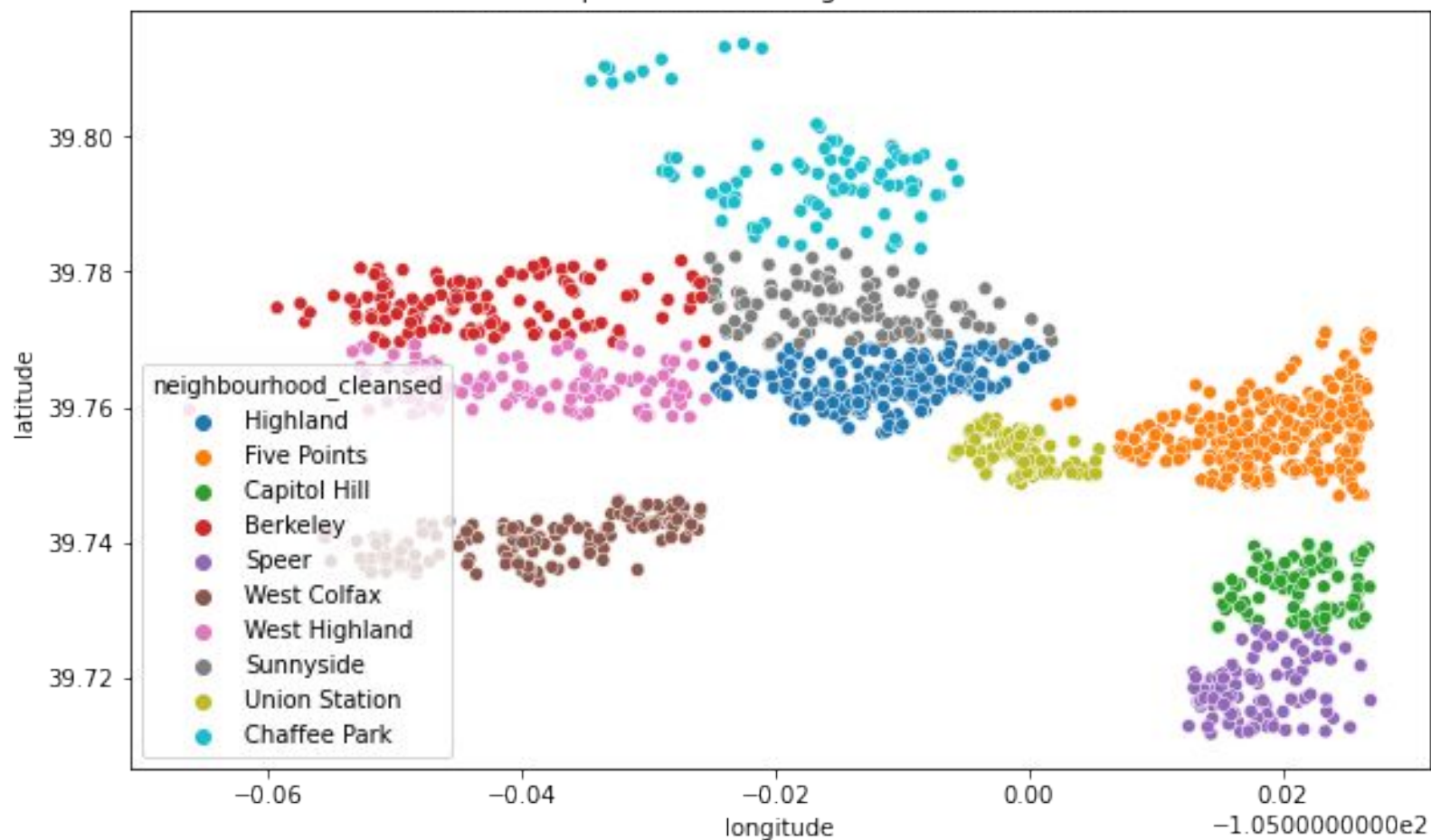**$1,659**

2022 Average Rent

5,836

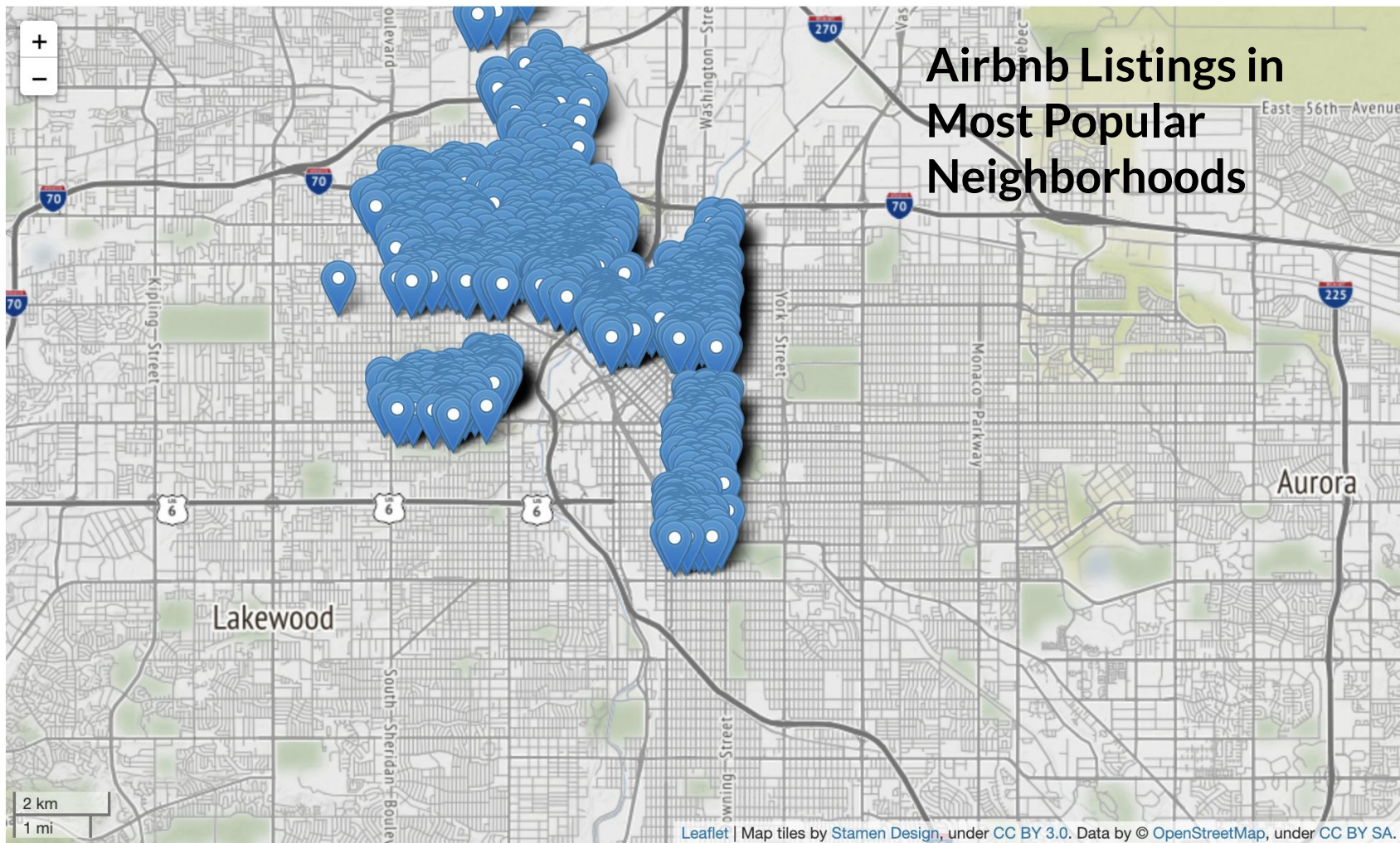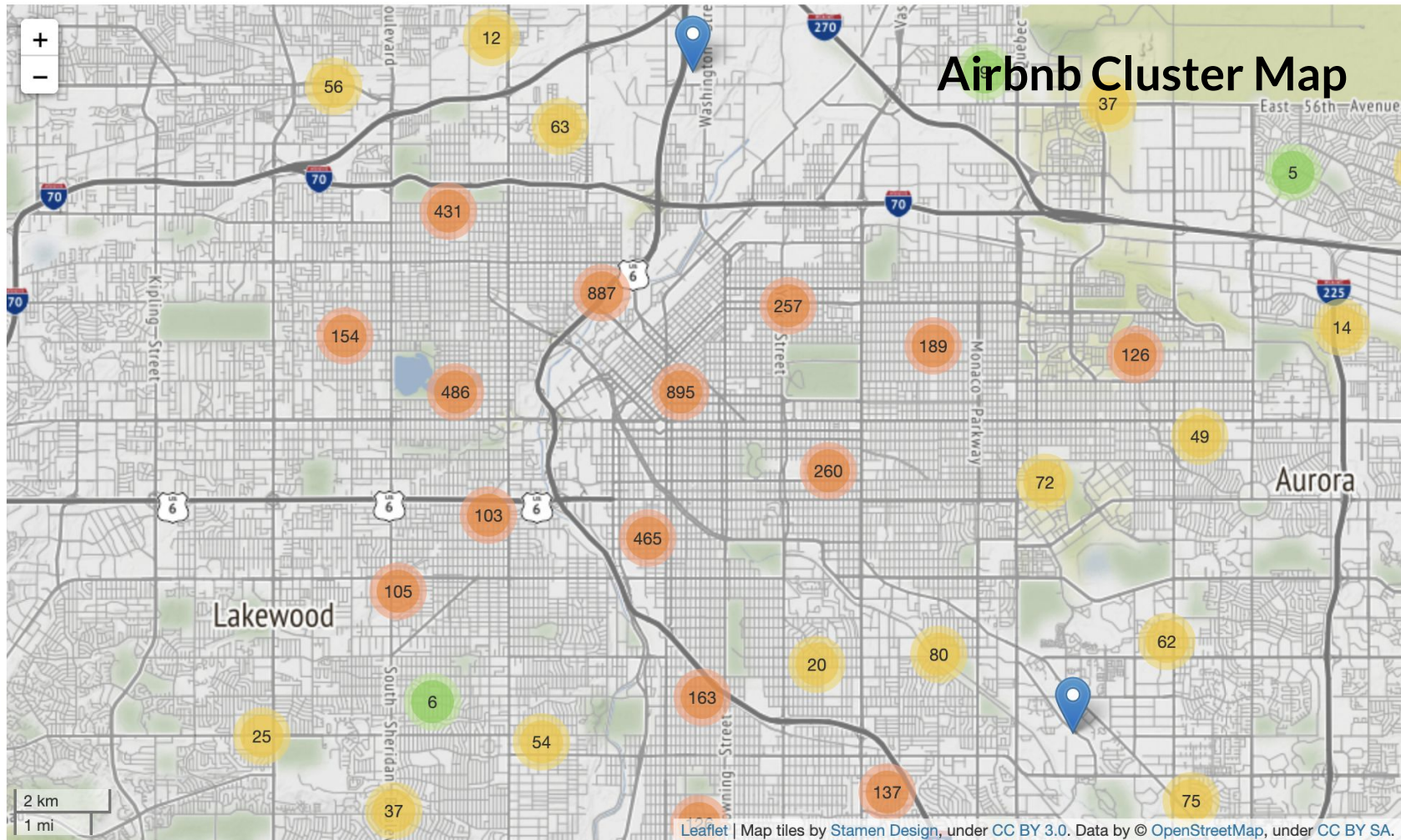Airbnb Listings

10 Most Popular Denver Neighborhoods for Airbnb

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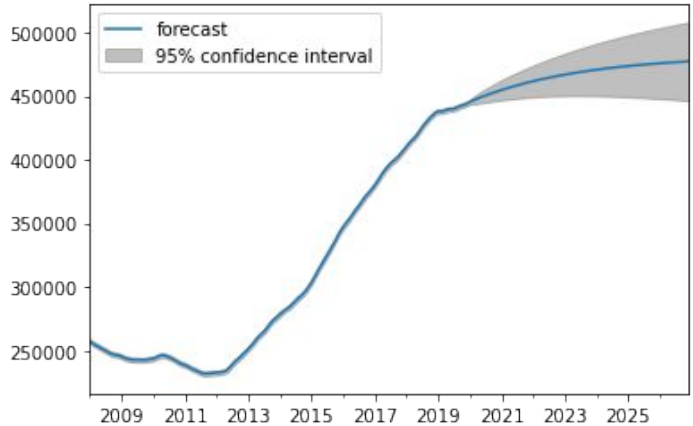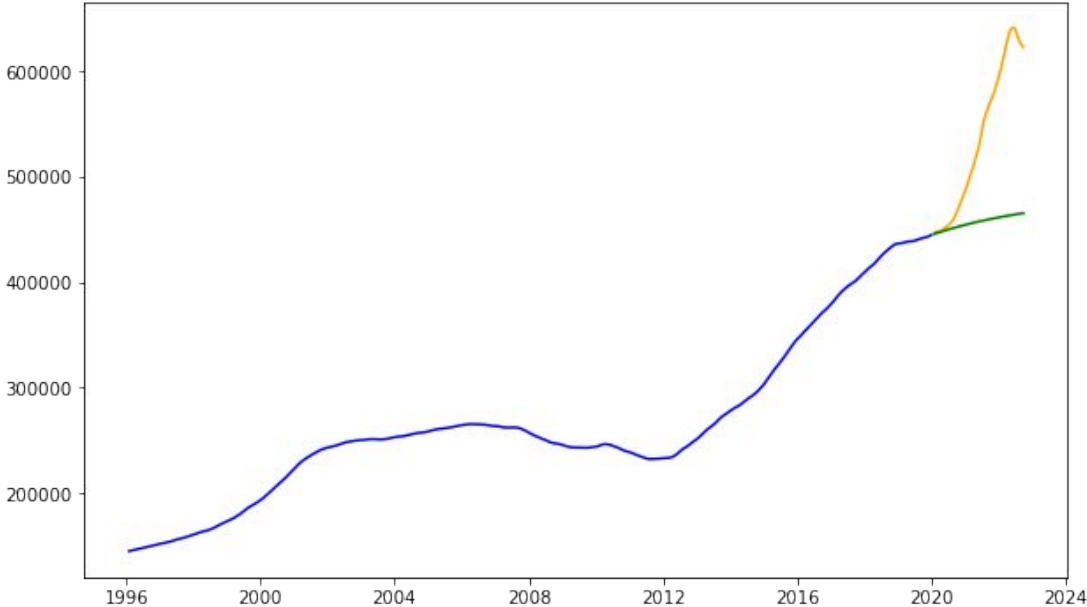Airbnb Listings in Most Popular Neighborhoods
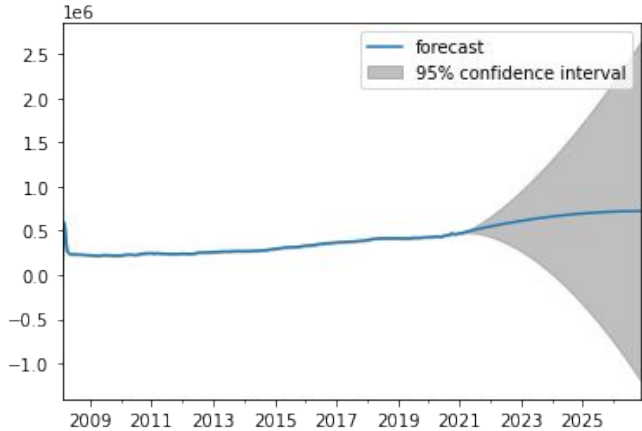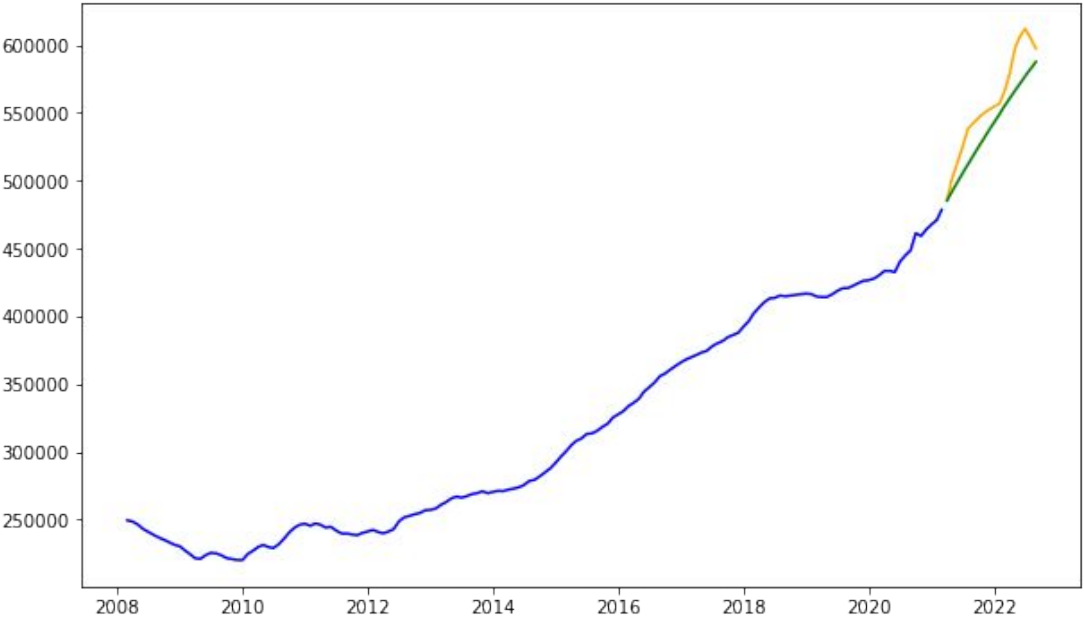
Airbnb Cluster Map

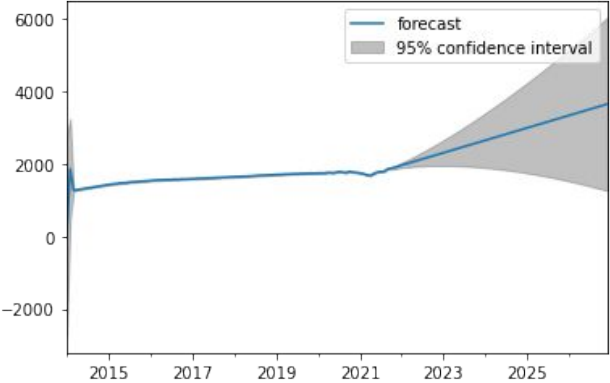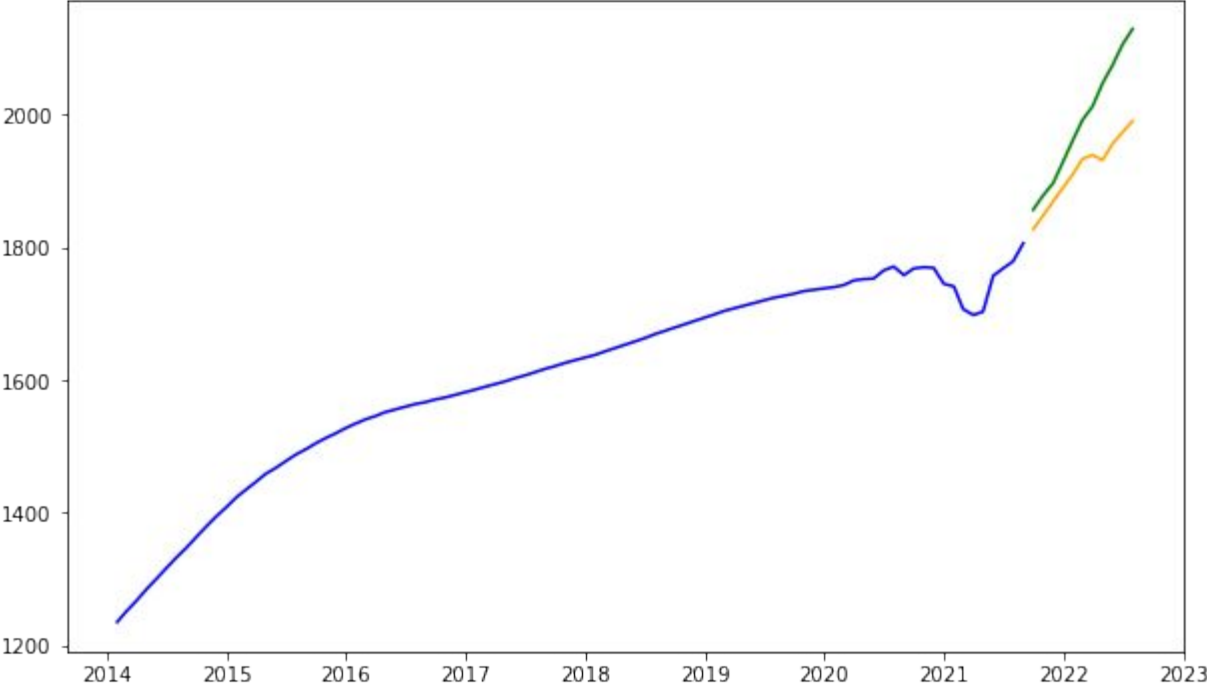Denver Home Values with ARIMA(1, 1, 1) Predictions

Denver Real Estate Median Sale Price with ARIMA(1, 3, 1) Predictions

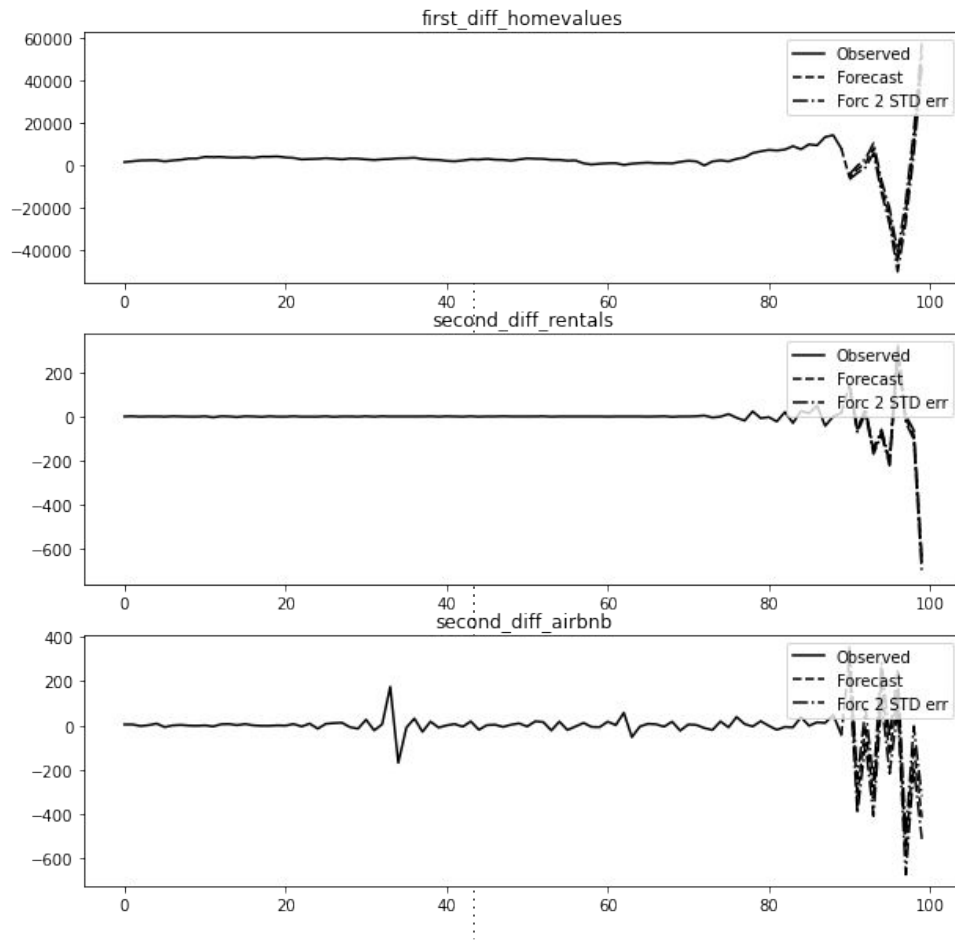Denver Rental Prices with ARIMA(4, 2, 2) Predictions

VAR Model

0.045

Airbnb Correlation with Home Values

-0.105

Airbnb Correlation with Rental Prices

Next Steps

- Incorporate more data
- Statistical analysis
- Other Time Series models

Thank you.