Using Zillow Housing Data to Forecast Home Values in Washington State

By Salome "Sam" Grasland

Business Problem

Our client Steady, is a real estate development group, looking to develop a new housing community.

They want the community to be:

- In Washington
- Affordable to first time home owners

They want to know the best zip codes to invest in with homes that are 500,000 USD or less in value

The Solution

Data: Data from April 1996 to April 2018 from Zillow was used to predict the best zip codes to build in.

Model: A SARIMAX Time Series Model was chosen based on RMSE to predict the best zip codes to invest in
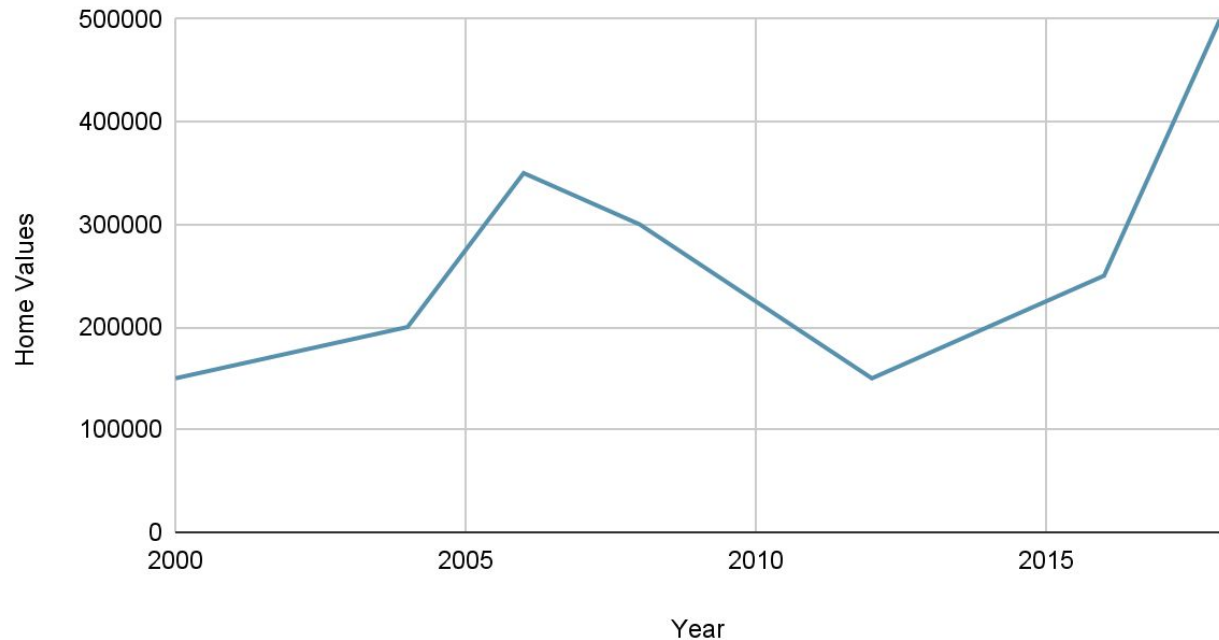
Metric: Return on investment (ROI) was used to find the top 5 zip codes to train our models. The top 3 zip codes with the best predicted ROI were recommended.
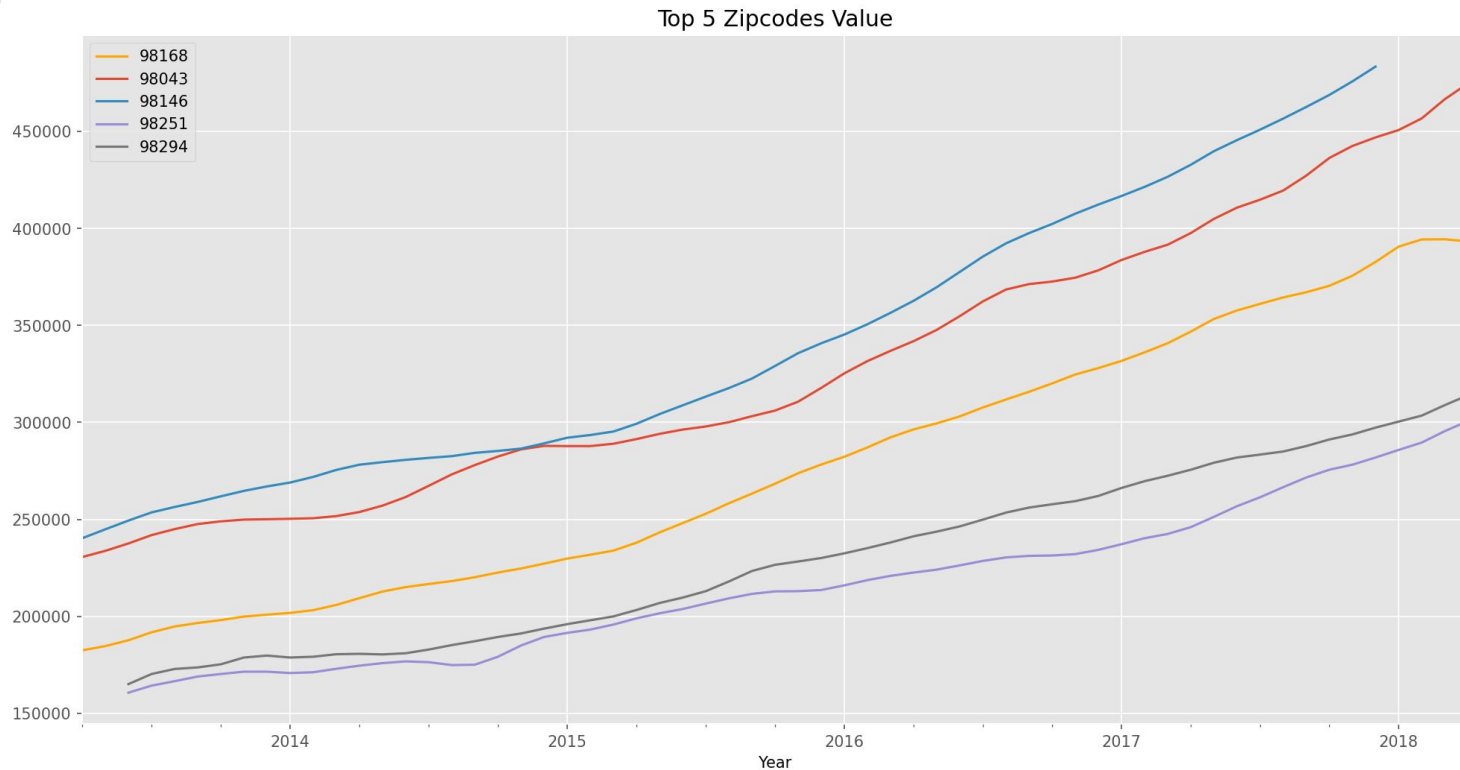
The Data

- The 2008 housing crisis severely impacted the price of homes.
- Our data is limited to 2013 onwards to adjust for the housing crisis impact on home value
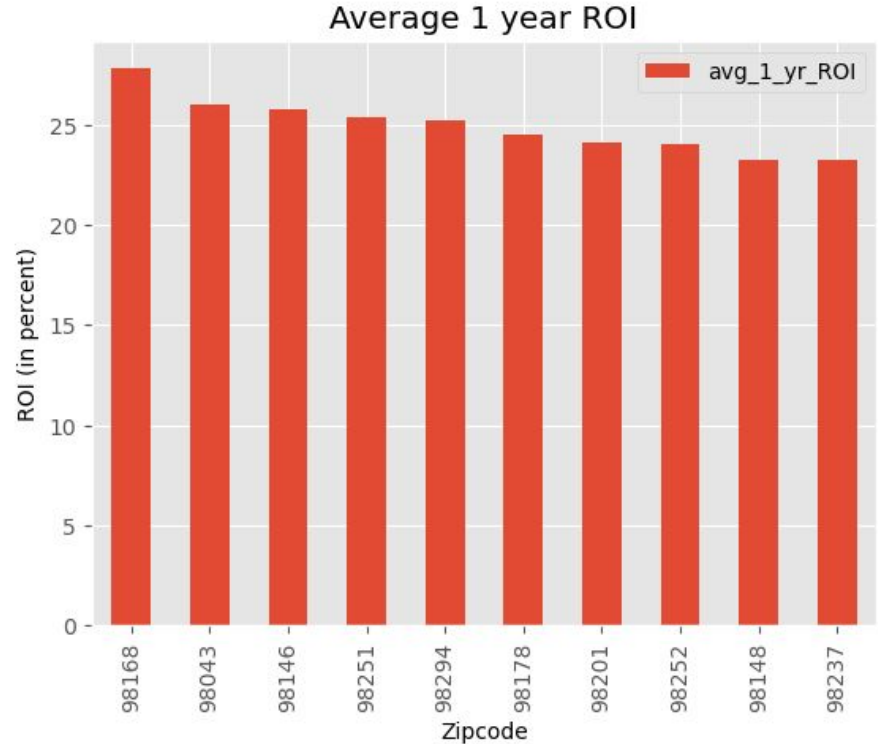

Home Values

Zip Code Price Changes Since 2013

Top 5 Zipcodes Value

Legend:
- 98168
- 98043
- 98146
- 98251
- 98294

Zip Codes with the best ROI in Washington

Top 5 Zipcode

- 98168 = 27.78%
- 98146 = 25.96%
- 98043 = 25.77%
- 98294 = 25.35%
- 98251 = 25.20%

Average 1 year ROI

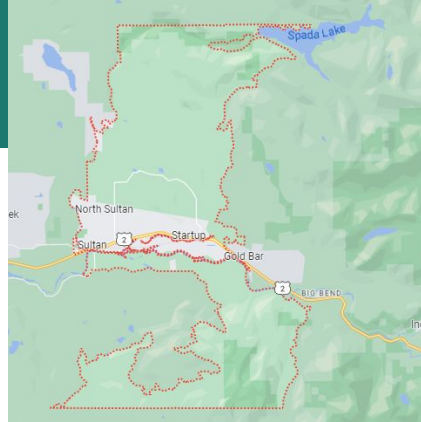# Zip Codes with The Best Predicted ROI

18.63%
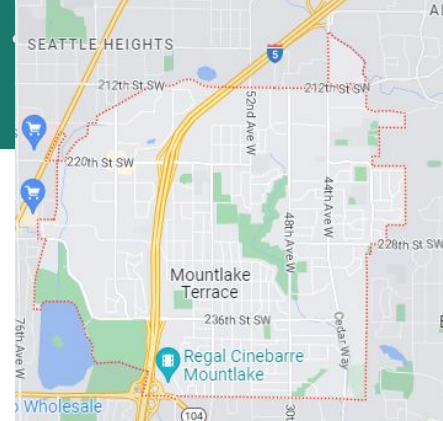98146: Seattle, WA

-0.09%
98294: Sultan, WA

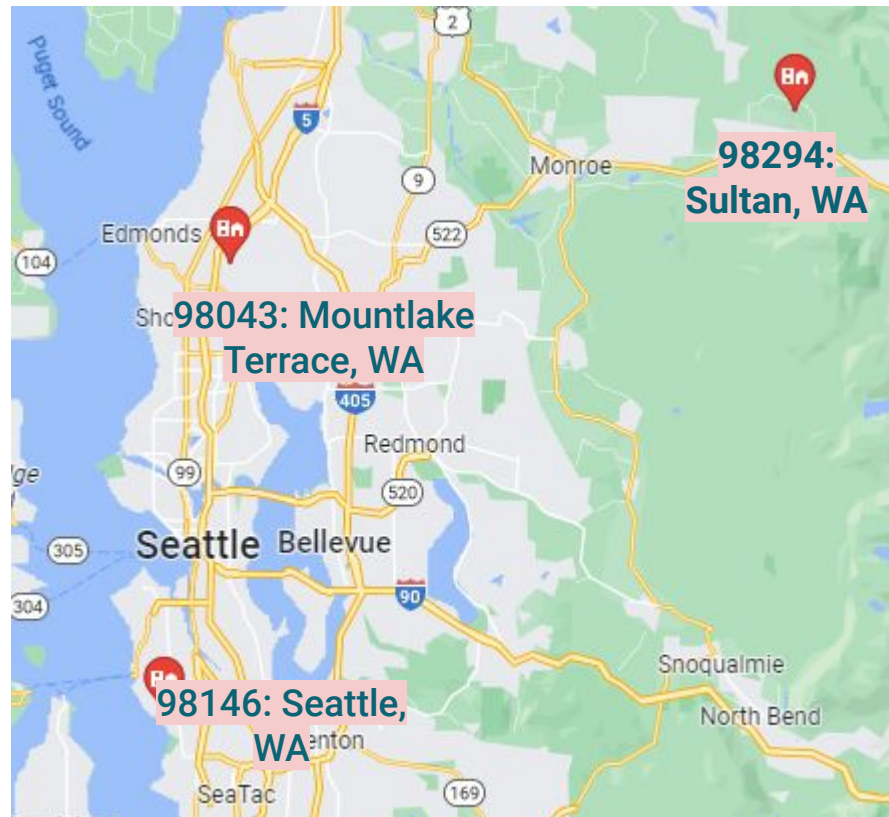**-22.7**%
98043: Mountlake Terrace, WA

Further Considerations

Urban vs Rural?

The top 3 zip codes are identified by the place markers on the map

Steady should consider if they would like their community to be more urban or rural

98294: Sultan, WA

98043: Mountlake Terrace, WA

98146: Seattle, WA

Thank you!

If you have any further questions please contact Salome "Sam" Graland at samgrasland@gmail.com