

# Brooklyn Neighborhoods

Time Series Forecasting



© Can Stock Photo - csp1172926

# Background

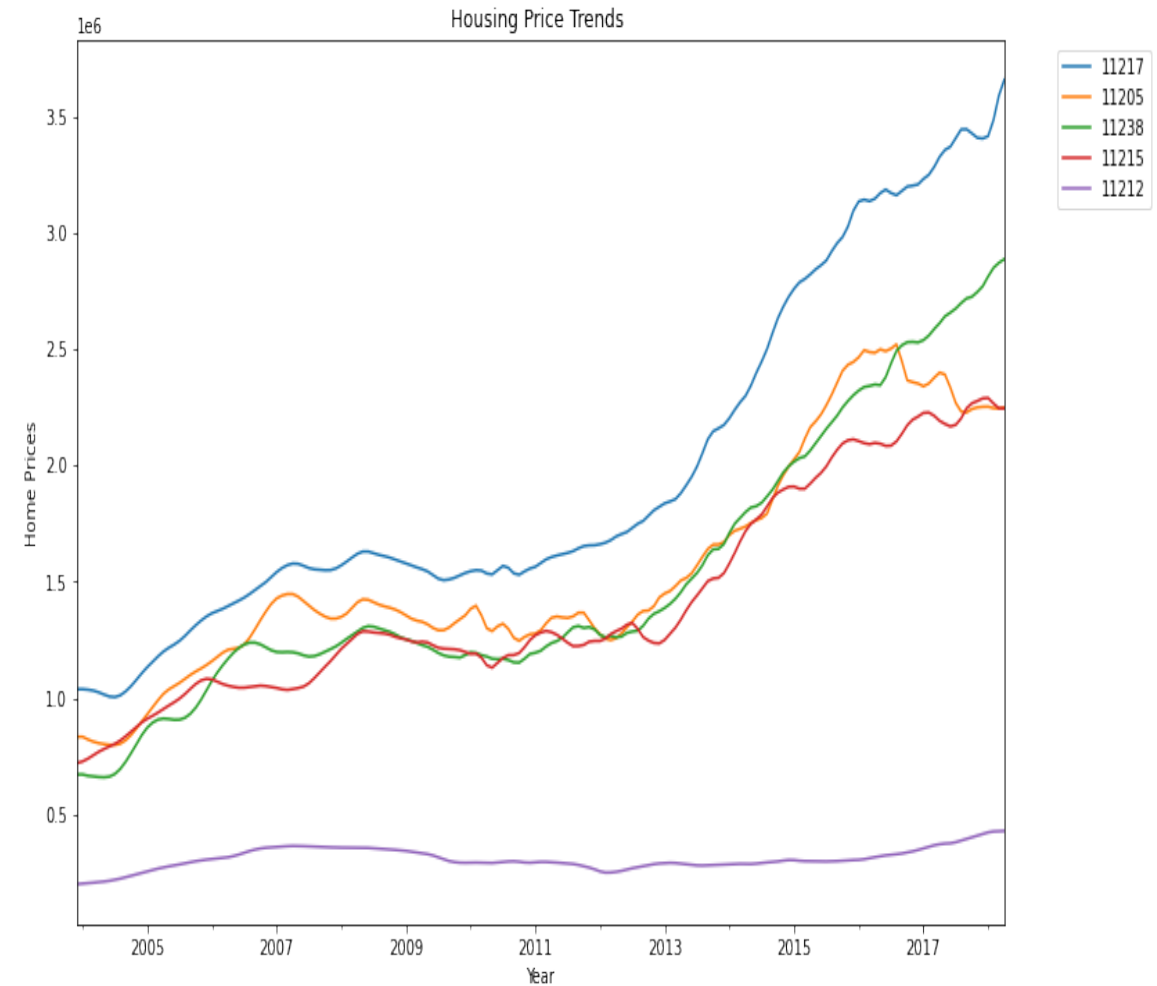
- Top 5 zipcodes to invest in Brooklyn, NY based on investment time of 1 to 3 years.
- Analysis based on data from Zillow.com 4/1/1996 – 4/1/2018
- Forecasting period is 4/1/2018 to 4/1/2021

# Problem Statement

- Investment time period of 1 to 3 years.
- Which are the top 5 zipcodes in Brooklyn with highest return on investment (ROI )for the investment period?

# Trends in Housing Prices up to 4-1-2018

- Housing market crash in 2008
- 11217 (blue) \$3.66 million
- 11238 (green) \$2.8 million
- 11215 (green) \$2.2 million
- 11212 (purple) \$428,400



# Zipcodes w/Top 5 highest ROIs

- Top 5 ROIs:

11223

11210

11230

11224

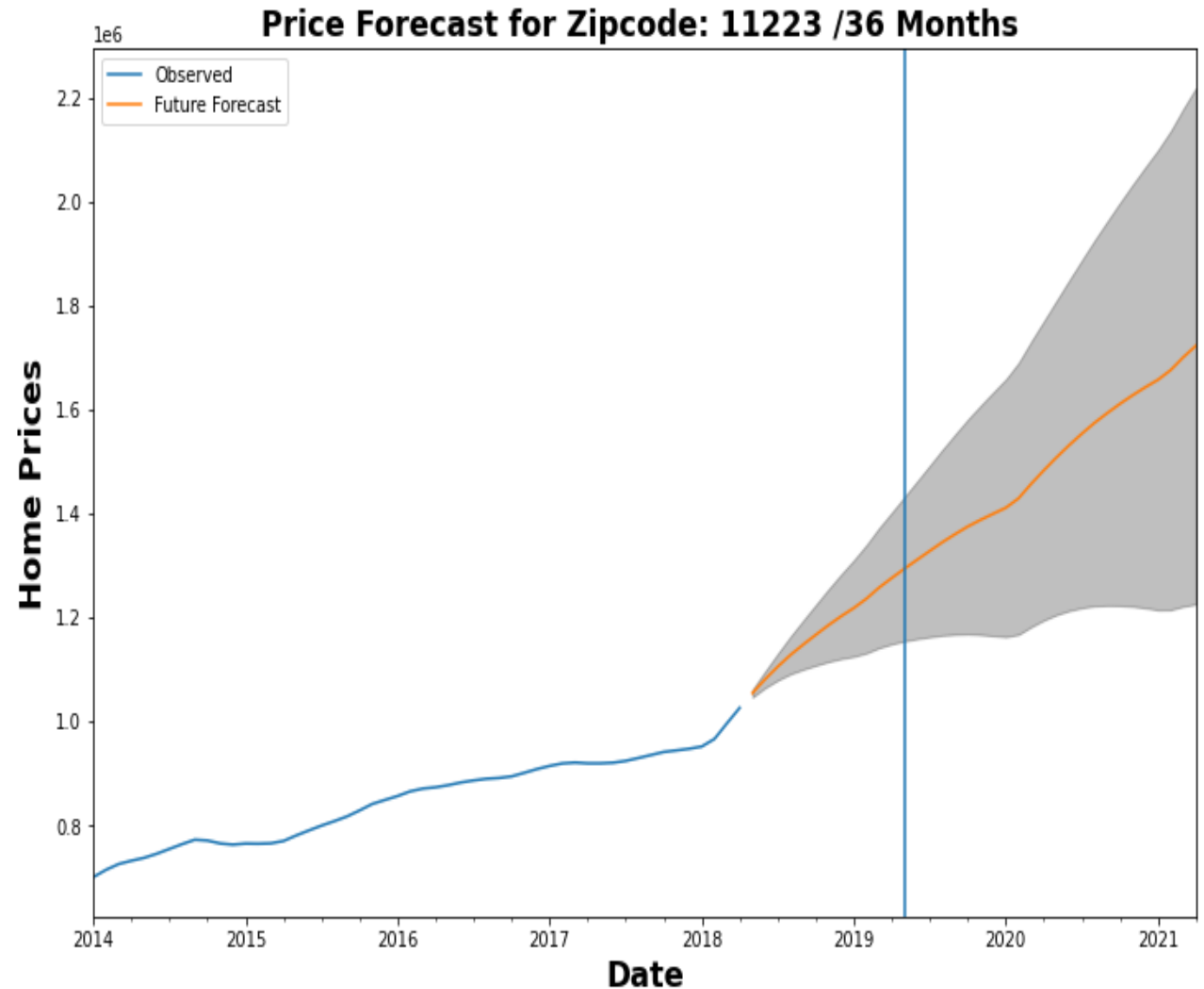
11233

	zipcode	roi	roi_lower	roi_upper
14	11223	0.632870	0.162432	1.103308
21	11210	0.595686	-3.707680	4.899052
2	11230	0.467780	0.120491	0.815069
22	11224	0.456346	-0.574688	1.487380
11	11233	0.426736	0.053068	0.800404

# Zipcode: 11223

ROI	low	high
0.63287	0.162432	1.103308

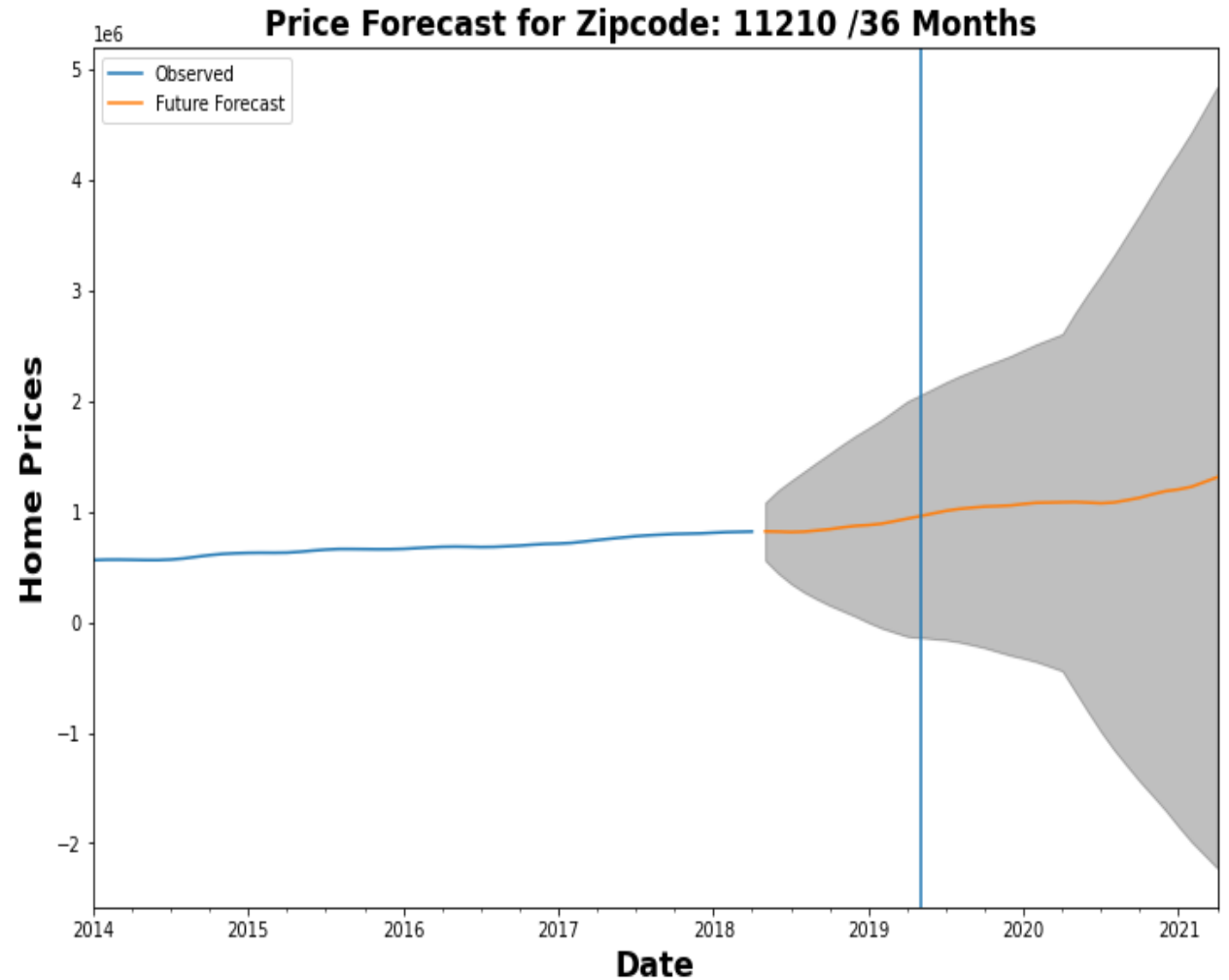
- Model Predicted ROI: 63%
- ROI forecast w/ 3yrs period:  
range 16% to 110.3%



# Zipcode: 11210

ROI	low	high
0.595686	-3.70768	4.899052

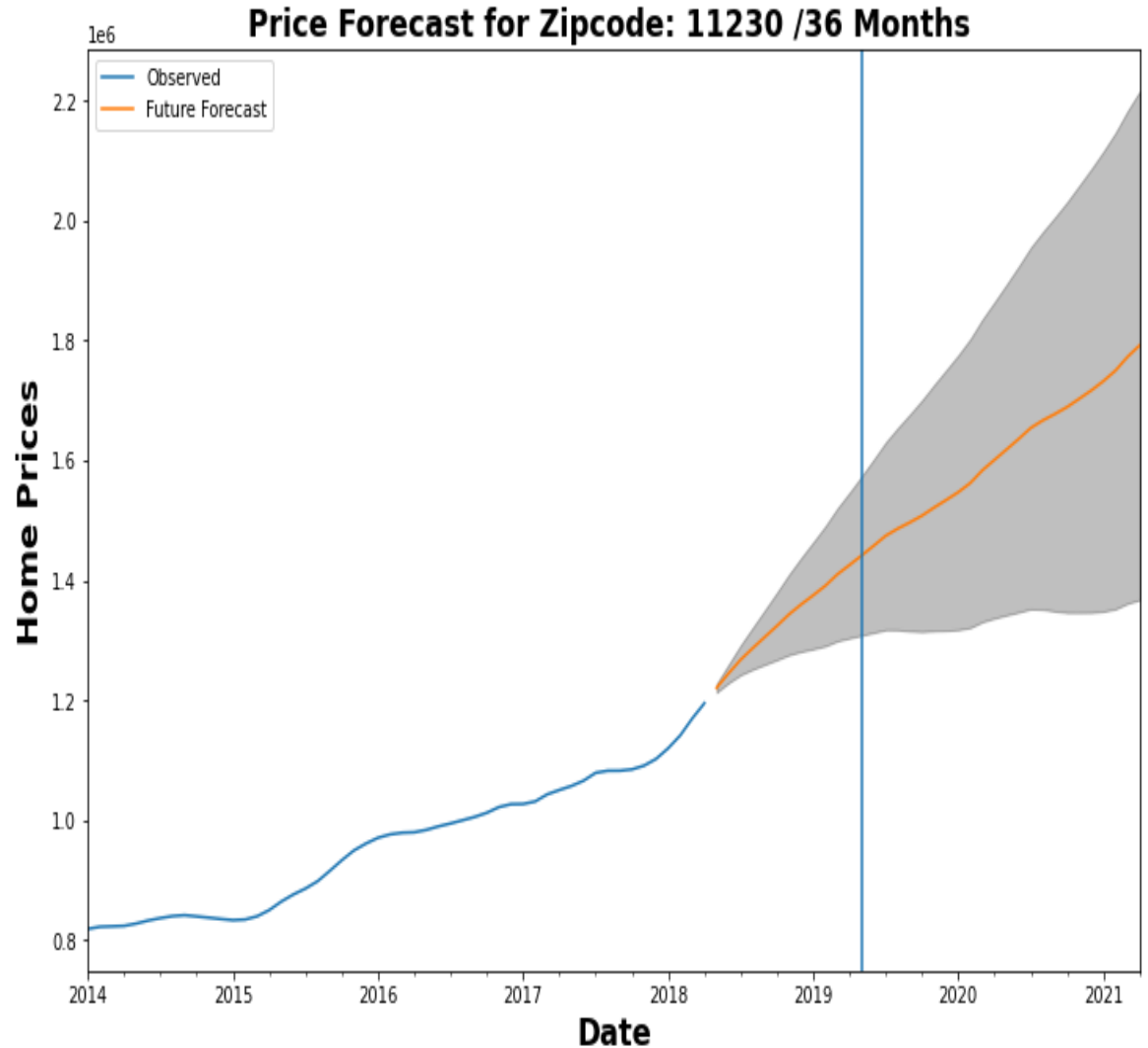
- Predicted ROI 59%
- W/ forecast of 3 yrs.  
ROI range of -370% to 489%



# Zipcode: 11230

ROI	low	high
0.46778	0.120491	0.815069

- Predicted ROI 46%
- W/ forecast of 3 yrs. ROI range of 12% to 81%

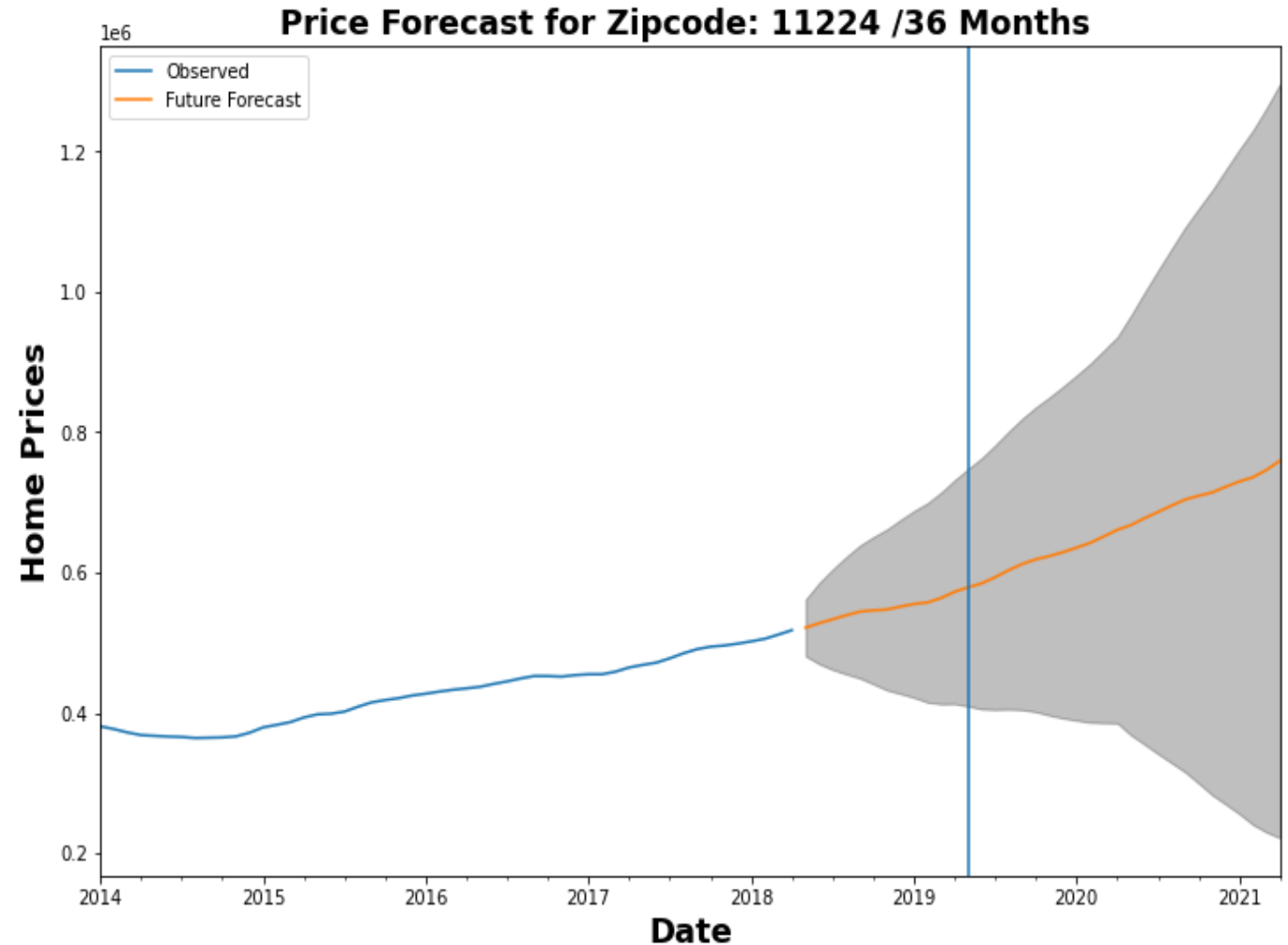




# Zipcode: 11224

ROI	low	high
0.456346	-0.574688	1.48738

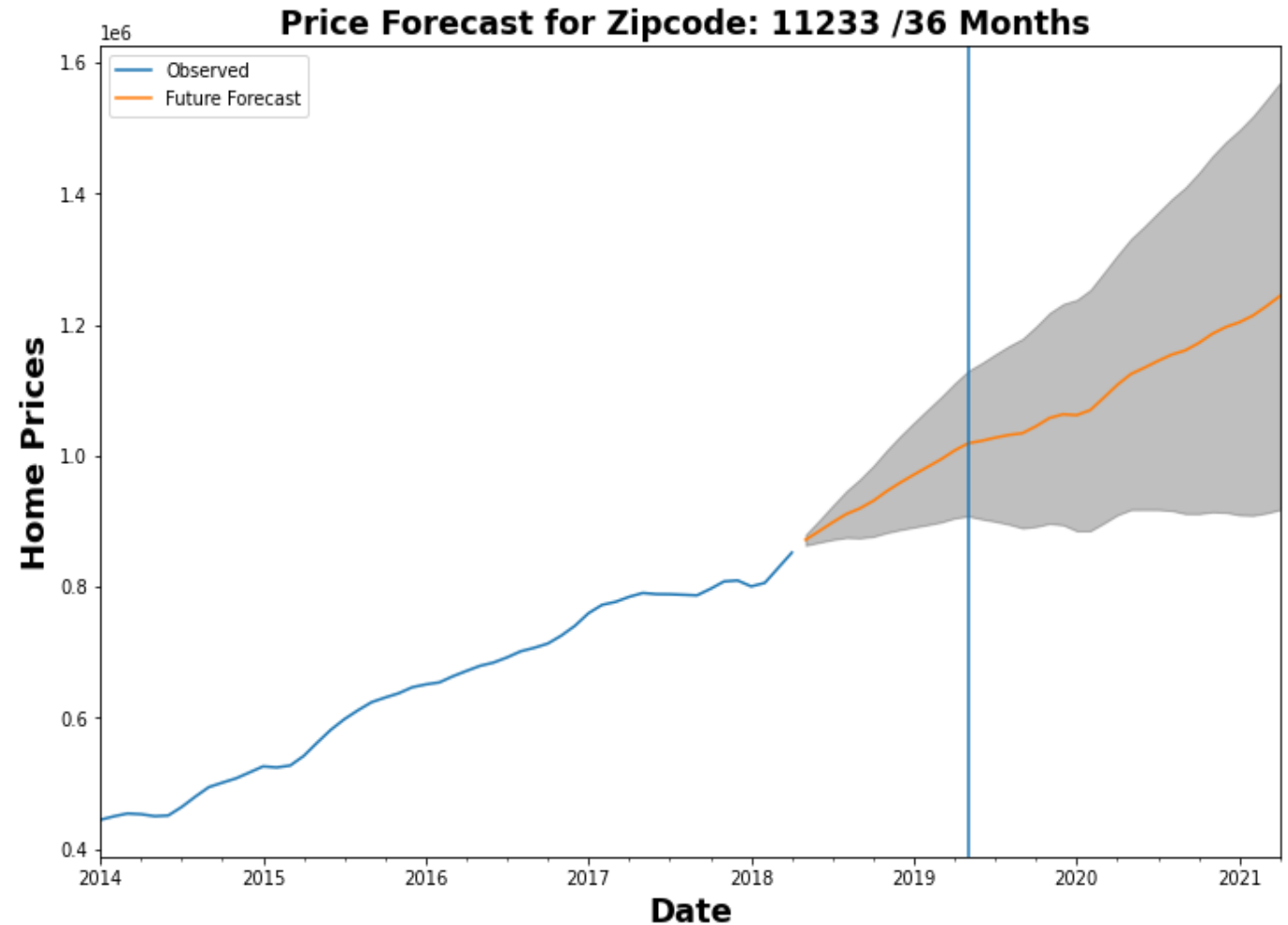
- Predicted ROI 45%
- W/ forecast of 3 yrs. ROI range of -57% to 148%



# Zipcode: 11233

ROI	Low	High
0.426736	0.053068	0.800404

- Predicted ROI 42%
- W/ forecast of 3 yrs. ROI range of 5% to 80%



# Recommendations

## Mean ROI

Zipcodes with Top 5 highest Predicted ROIs:

- 11223 (63%)
- 11210 (59%)
- 11230 (46%)
- 11224 (45%)
- 11233 (42%)

# Thank You

Thank you for taking the time to listen to my presentation today. Hopefully, you found it helpful. If you have any questions, please don't hesitate to reach out to me. I can be reached via email or my cell

If I had more time I would work on the following parts to the model:

1. I would add plotly or dashboard to my model. It needs to be interactive where user can adjust the time period for forecasting moving a bar.
2. Need to explore what the risk aspects are to investing in these zipcodes.
3. Want to create models that consider other features besides average monthly sales price.