ARIMA Model Results
Wesley Stanis

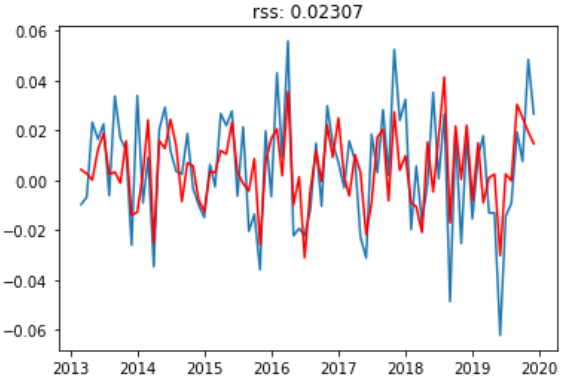
INTRODUCTION

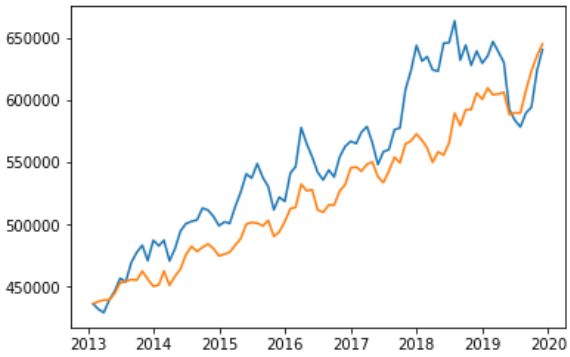
This report is the direct results regarding an ARIMA model build to predict housing prices involving six different zip codes across Ventura county. It includes three visualizations for each zip code of the outputs produced from the model. These three visualizations are graphs that include the residual sum of squared value (amount of error in the model), a comparison of the model with the actual values, and a forecast of up to three years.

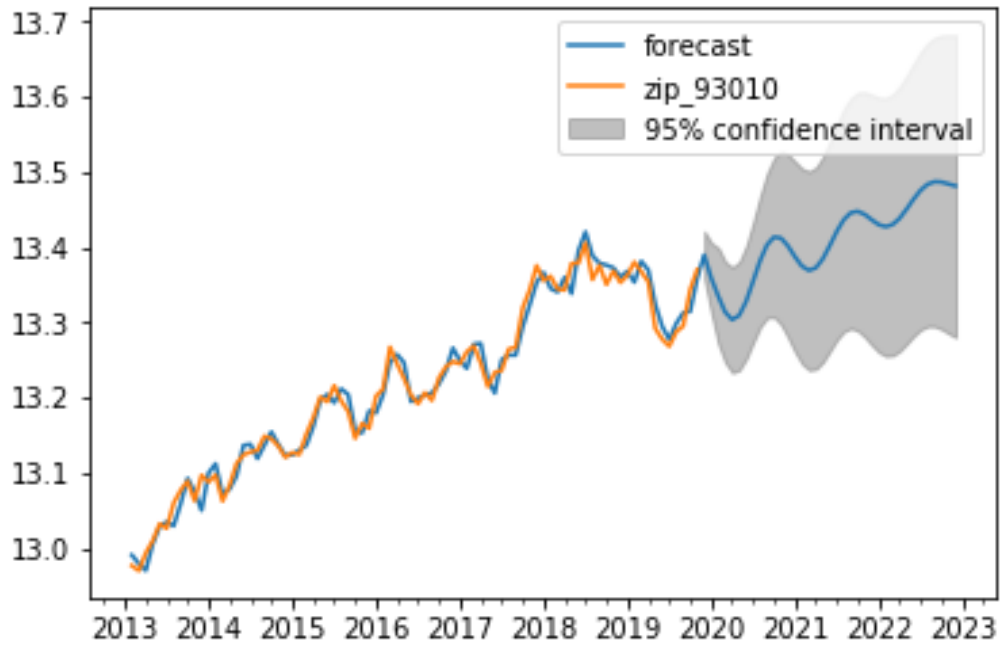
The data from this report comes from the website Zillow. The analysis involved many aspects regarding the data to produce these outputs such as checking for stationarity. Many other graphs and visualizations were involved creating the ARIMA model.

This model was build using Python. The code and entirety of the analysis can be found here.

West Camarillo

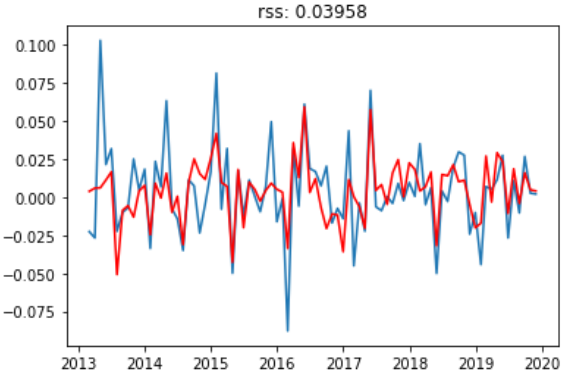


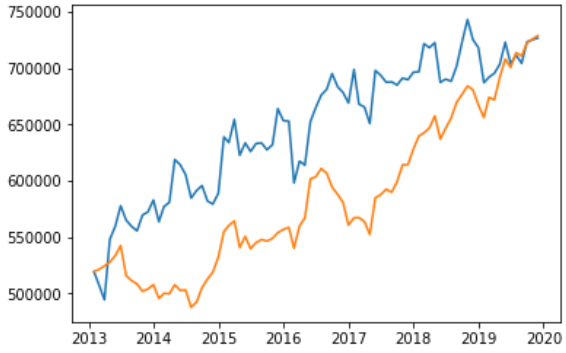


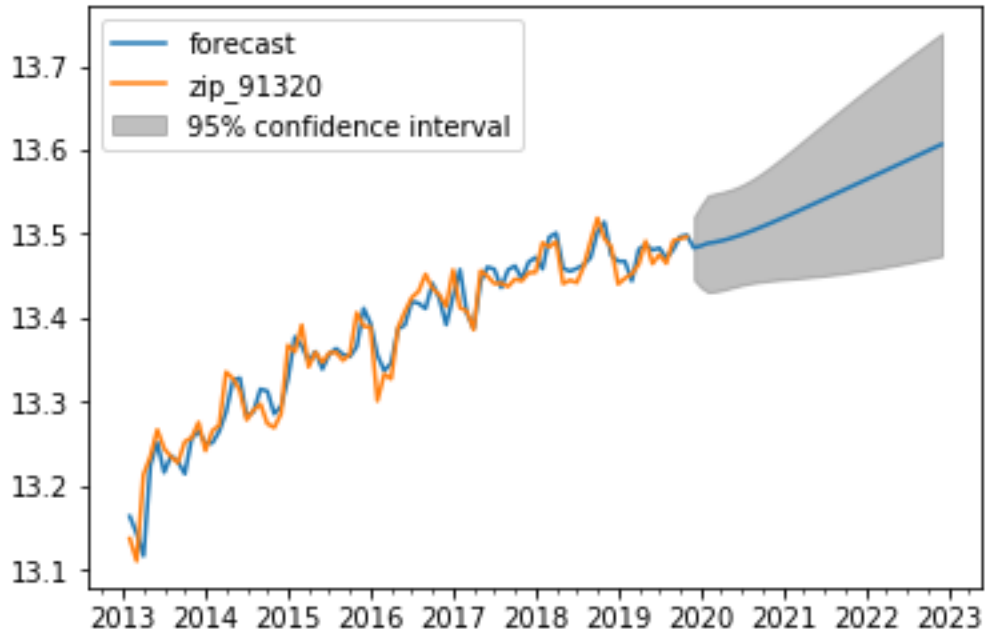


Appears to be an upward trend although higher volatility. Residual Sum of Squares value of .023 on the ARIMA model.

Newbury Park area

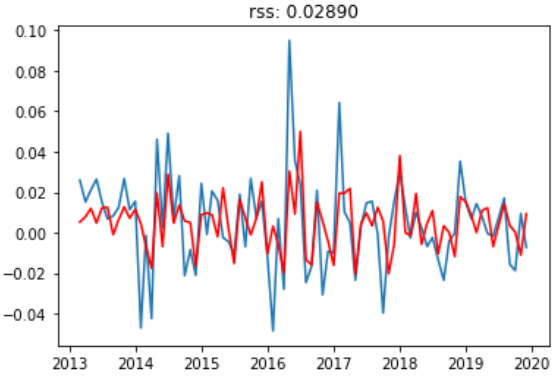


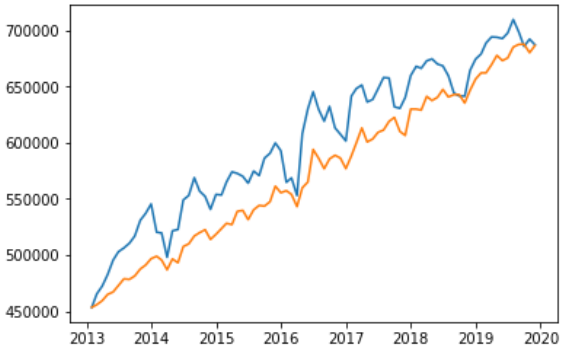


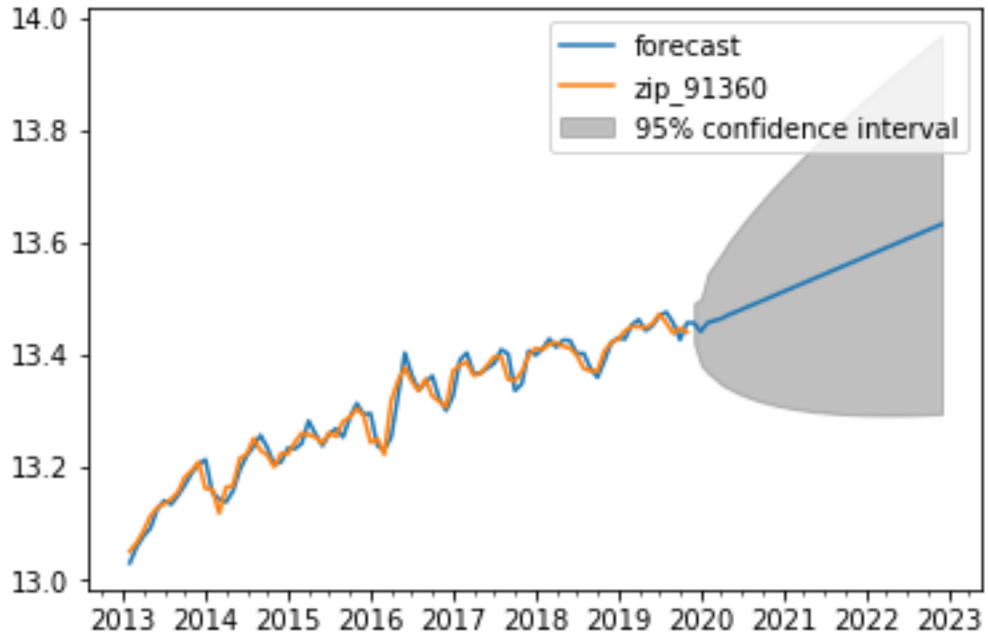


Appears to be another upward trend with more volatility as time increases. Residual Sum of Squares value of .04 on the ARIMA model.

North East Thousand Oaks

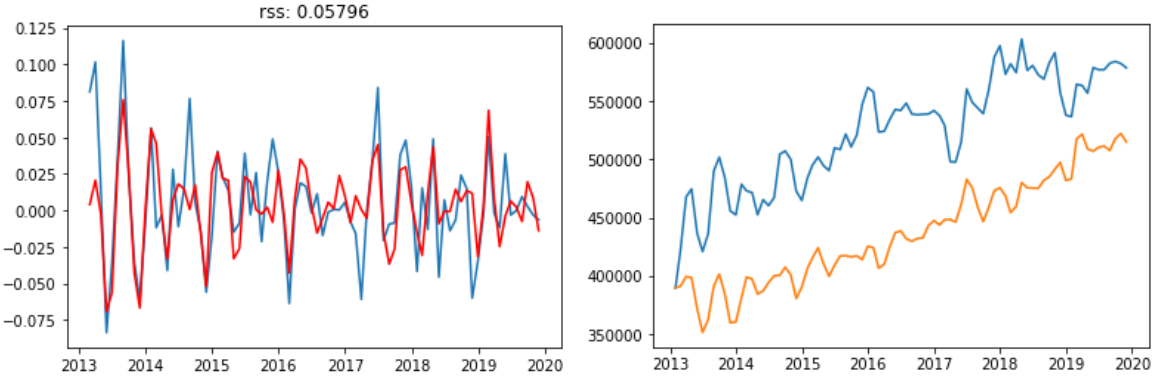


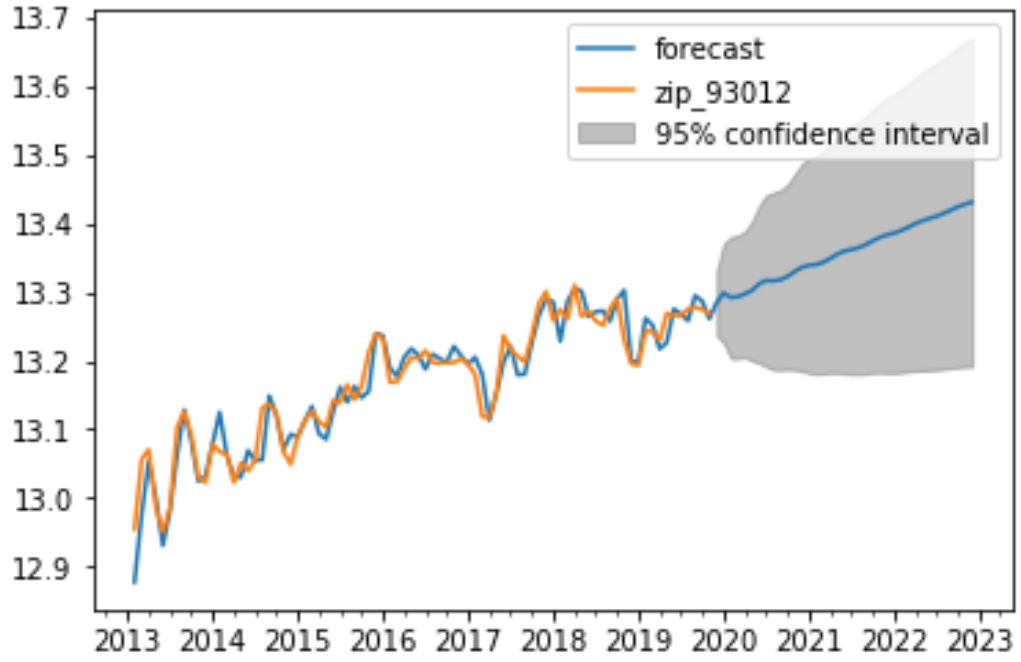




Appears to be a possible upward trend, although a decent possibility of a downward or stationary trend. Residual Sum of Squares value of .029 on the ARIMA model.

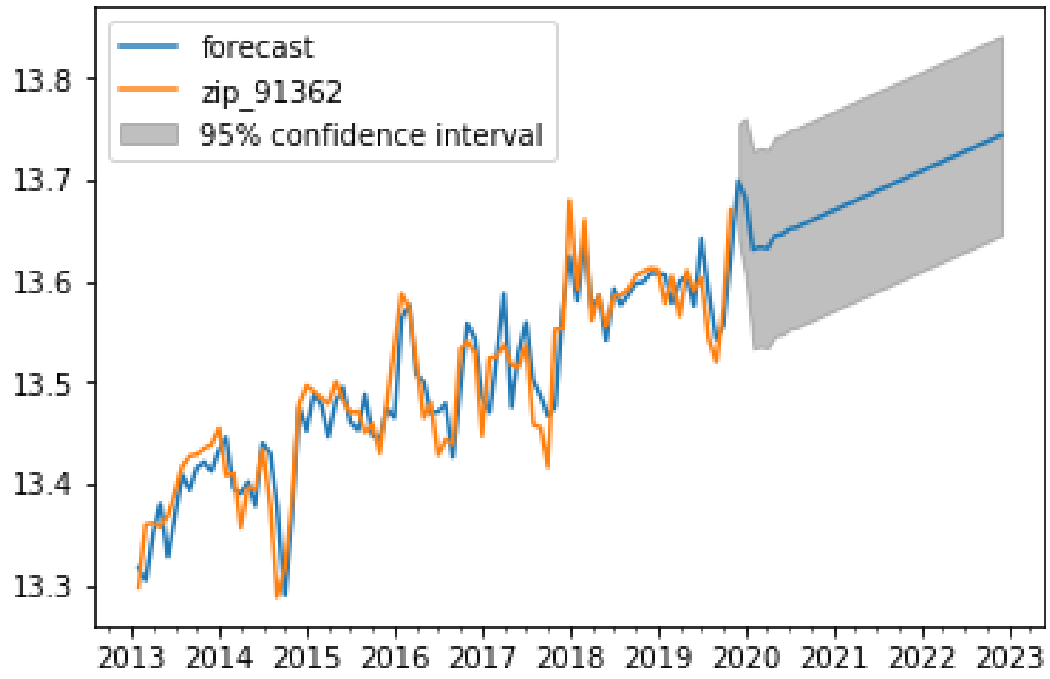
East Camarillo





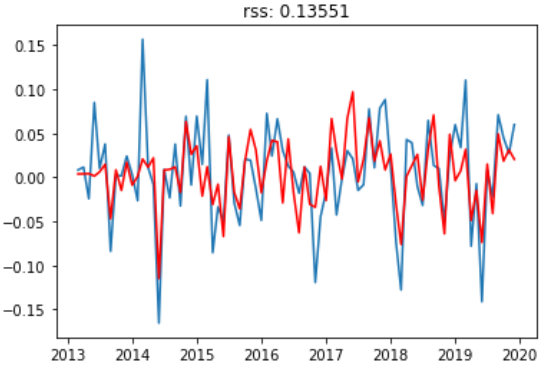
Appears to be another upward trend, again with a good possibility of no trend, or a downward trend. Residual Sum of Squares value of .058 on the ARIMA model.

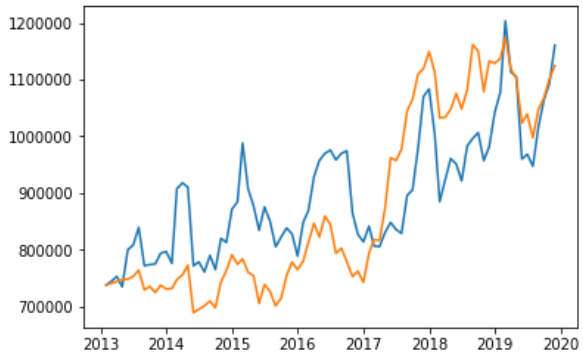
West TO and Westlake

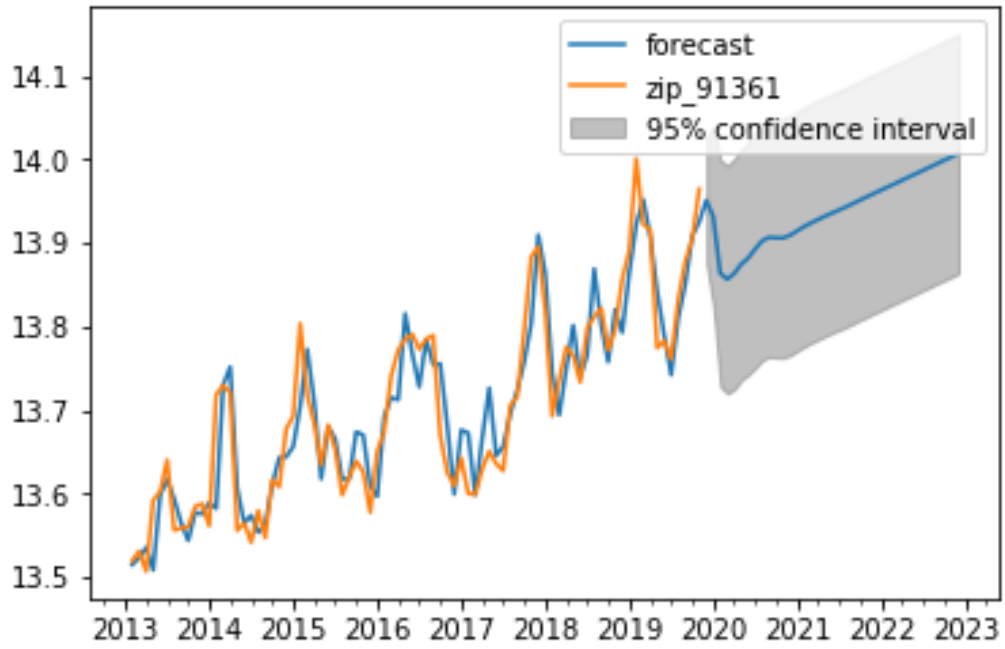


Appears to be an upward trend. Lower boundary of 95% confidence interval appears to also have an upward trend. Residual Sum of Squares value of .077 on the ARIMA model.

Southern TO and Westlake







Appears to be an upward trend. Confidence interval is greater than West TO and Westlake, but the lower boundary of 95% confidence interval also appears to also have an upward trend. Residual Sum of Squares value of .136 on the ARIMA model. This model had the highest RSS value, indicating that it had the most errors.

Although the two models that included Westlake Village had higher RSS values than the others, Westlake may be a good investment. It does have the highest volatility amongst the areas and may be due to the high home values. Newbury Park appears to be the safest investment due to the forecasting and lower volatility.

These investment concepts are based only on the existing data from Zillow regarding past housing sales, and do not take into consideration any external factors that may increase or decrease residential real estate values.