Real Estate Investment Strategy

Using Zillow Dataset of home sales from1996-2017

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E|R|I|S|E

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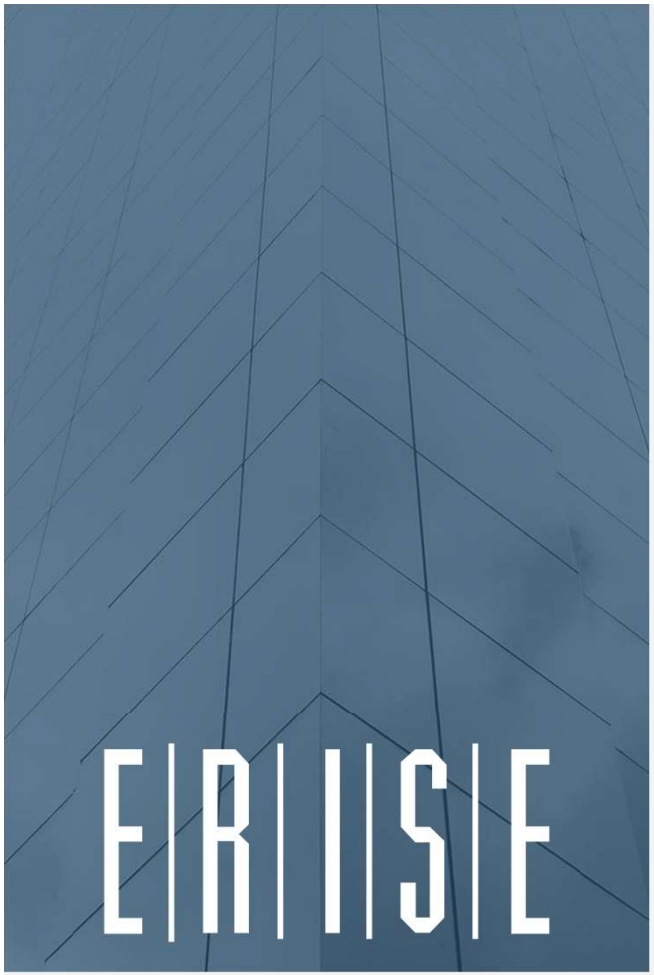
Mission Statement

eRise Consulting is a consulting firm that uses AI applications to ensure Real Estate firms have a competitive edge. We ensure our partners positive ROI strategies that are data driven.



Our Company

In a competetive market such as the Real Estate Industry we provide the competitive edge to make data driven decisions to meet your Buiness goals. Our expertise focuses on using AI applications that drives investment strategies within the Real Estate market focusing in the tri-state area.

01 Business Overview

Problem

Growing demand from residents in NYC and their ever-growing desire to leave and head to New Jersey. The Investment firm reached out to my Consultant company to provide them direction into specific areas in Hudson County. The proximity to NYC is hard to beat and a transportation system already established makes this county the perfect location to explore. We are task to explore this area and determine the best zip codes in Hudson County to invest in.

Solution

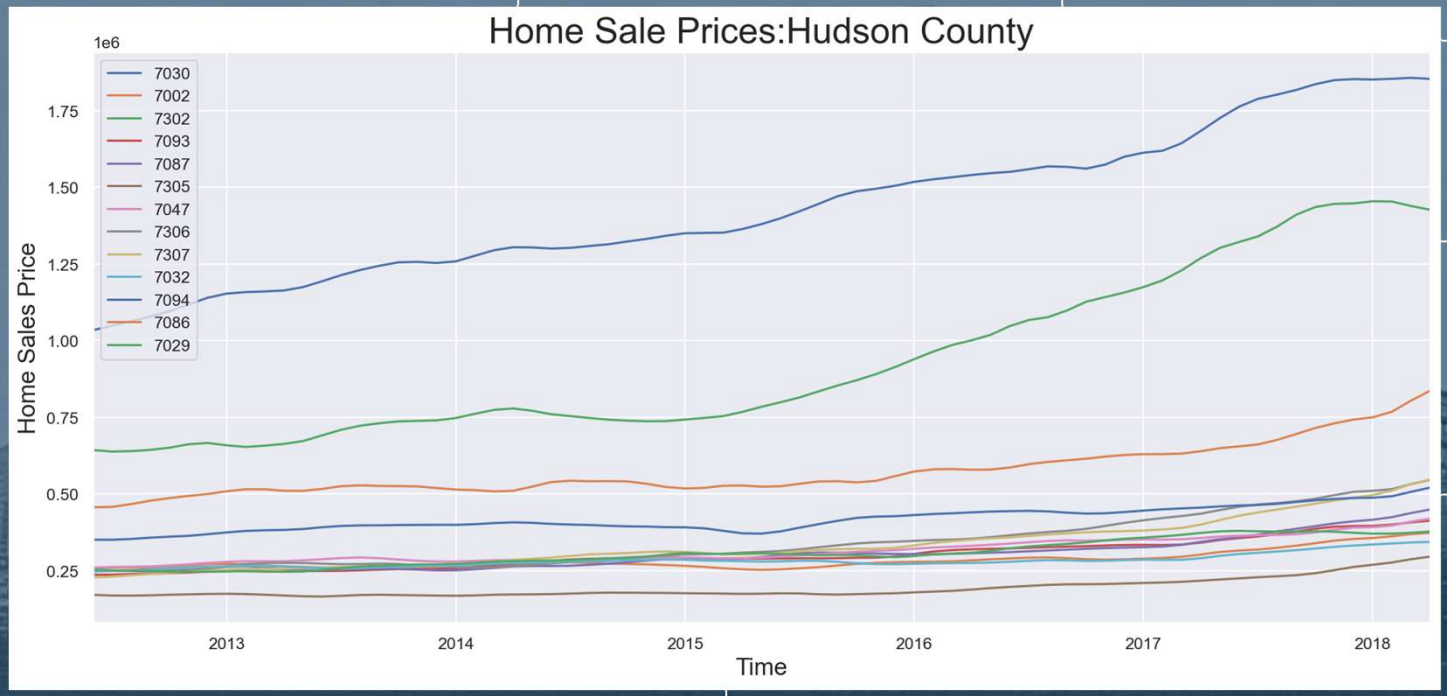
By using AI application we will analysis home sales prices to make predictions on the home sales price until the end of 2018. This will allow you the opportunity to focus your marketing and business strategies to 5 zipcodes.

Market Analysis

02

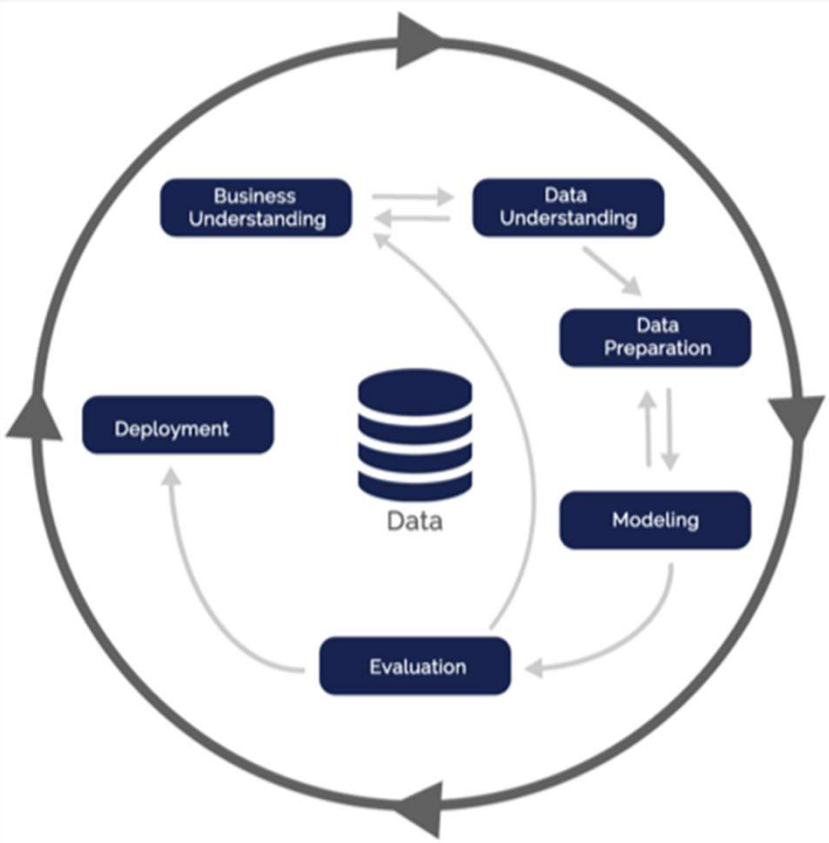
Home Sales Price

Trend: Timezone



03 Model Development

Method:Crisp-dm



Data Understanding & Prep

- Establish timeline
- Make timeseries stationary

Modeling

- Try AR models, MA models, ARIMA models
- AutoARIMA model to stream line process

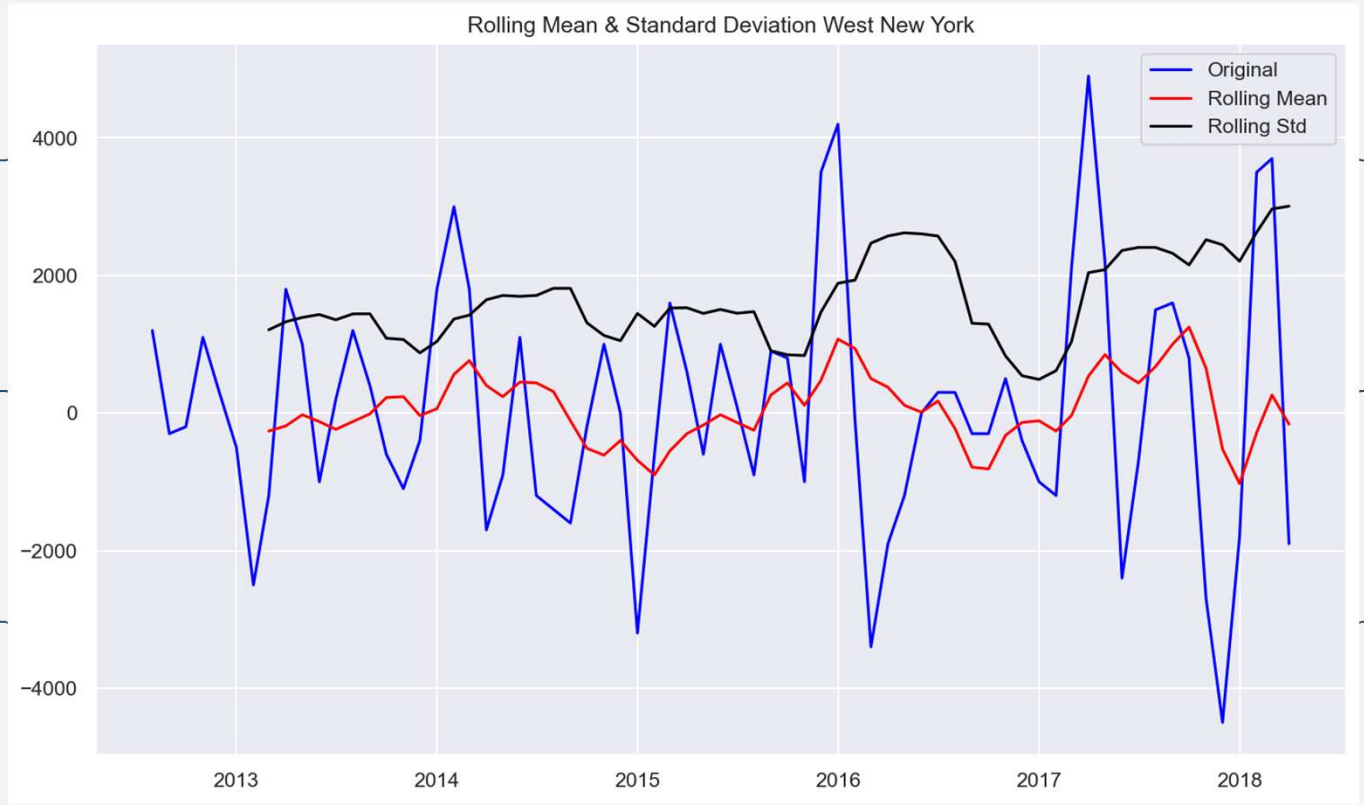
Evaluation

- Cost & benefit analysis
- LLR test
- RMSE

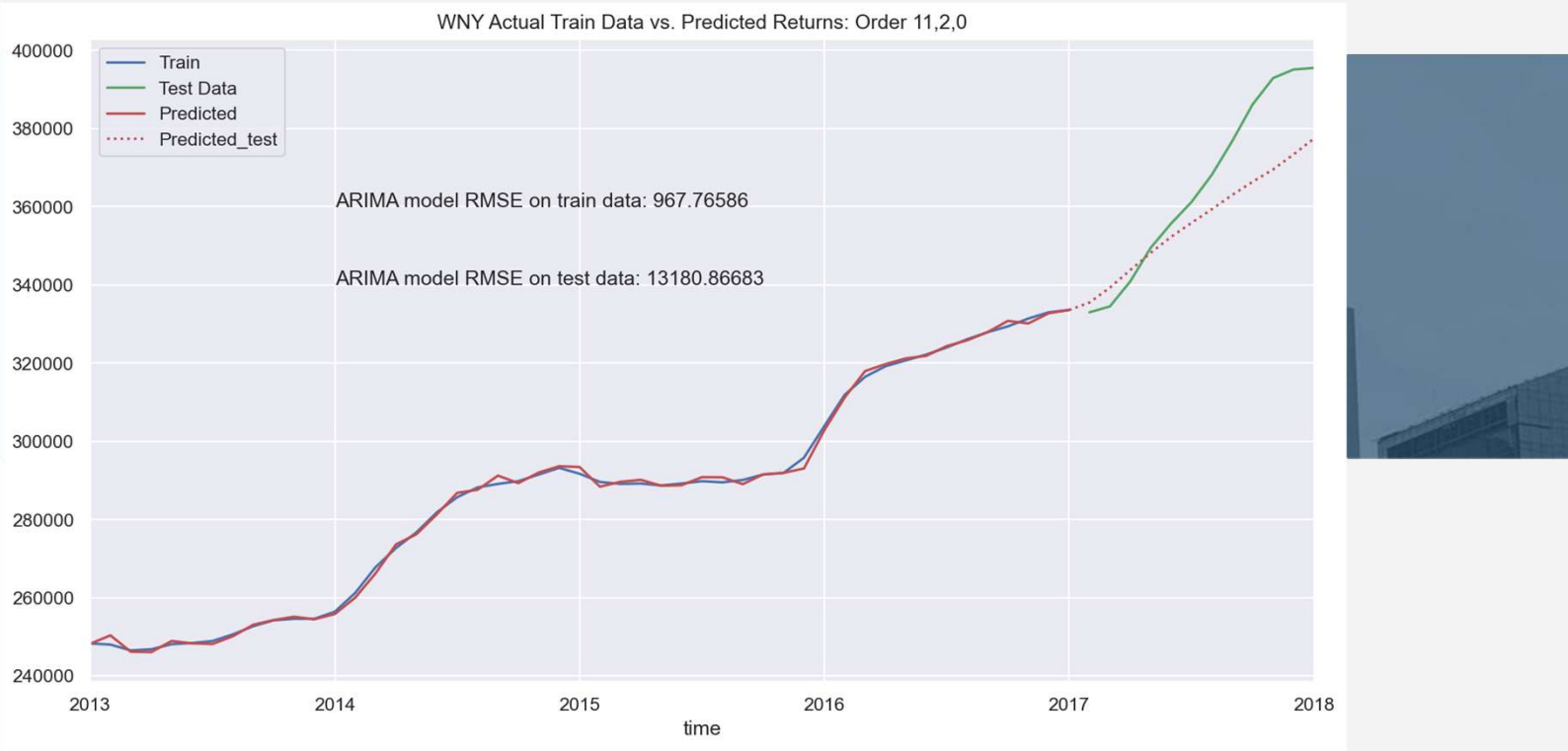
Deployment

- Deploy the most effective but simple model through out all Zip codes

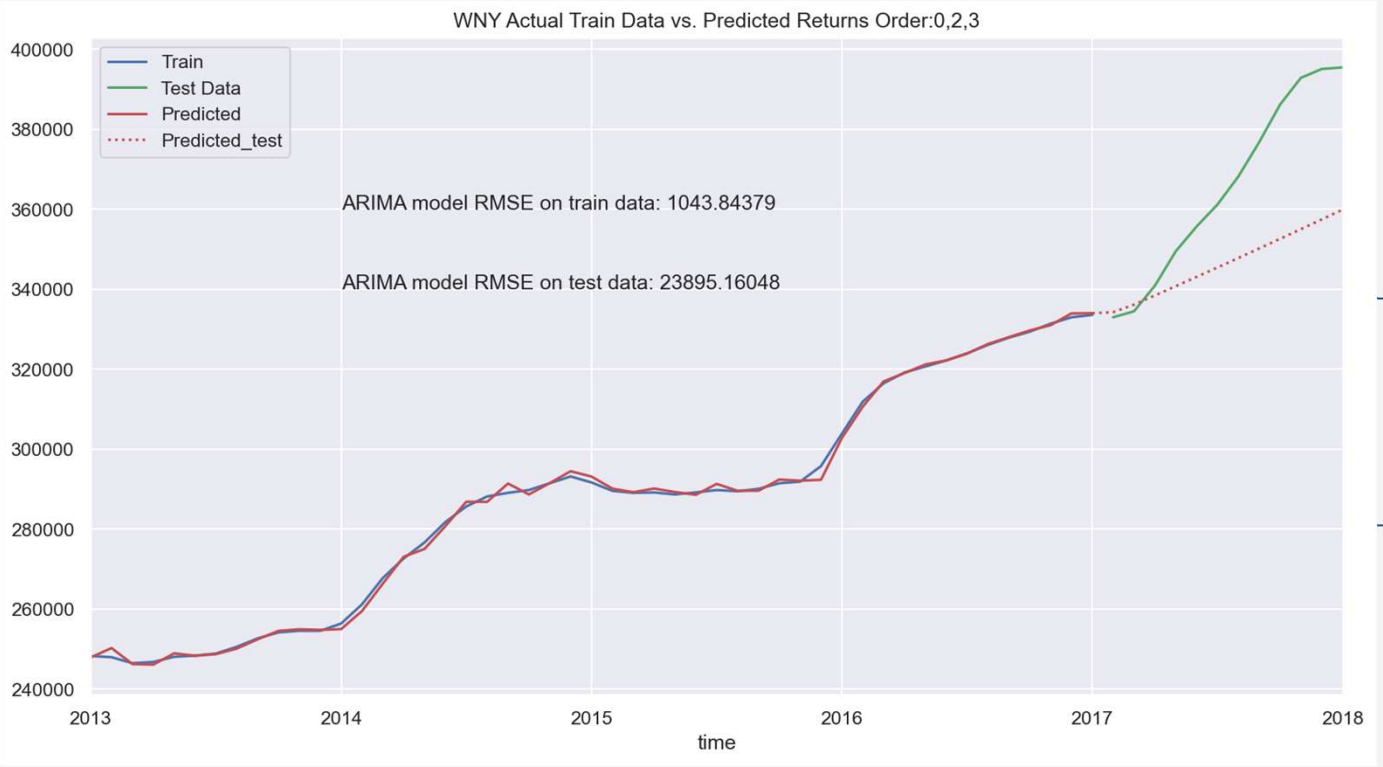
Data Prep : Differencing Twice



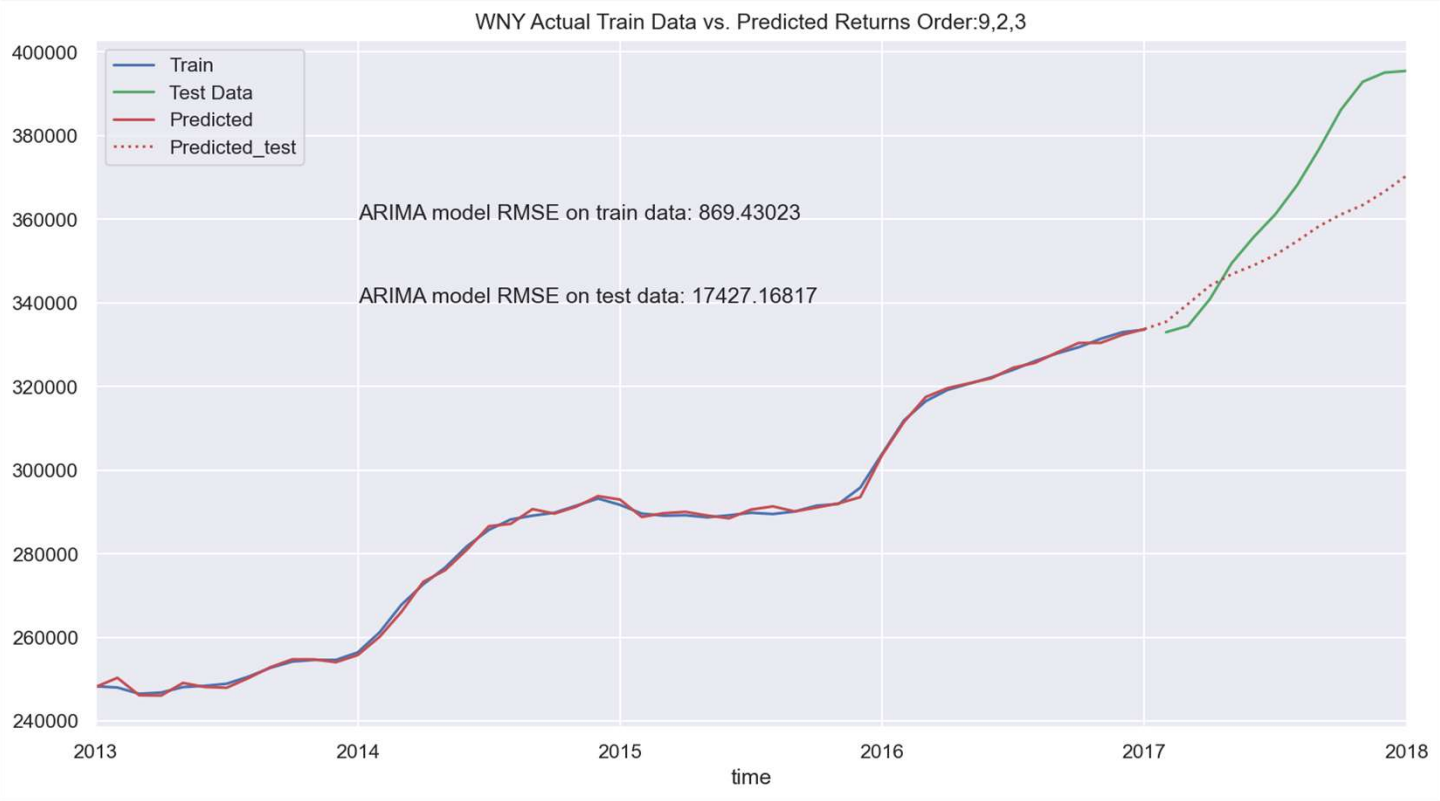
AR model: Order 11,2,0 | Complex



MA Model: Order 0,2,3 | Less complex but worse RMSE

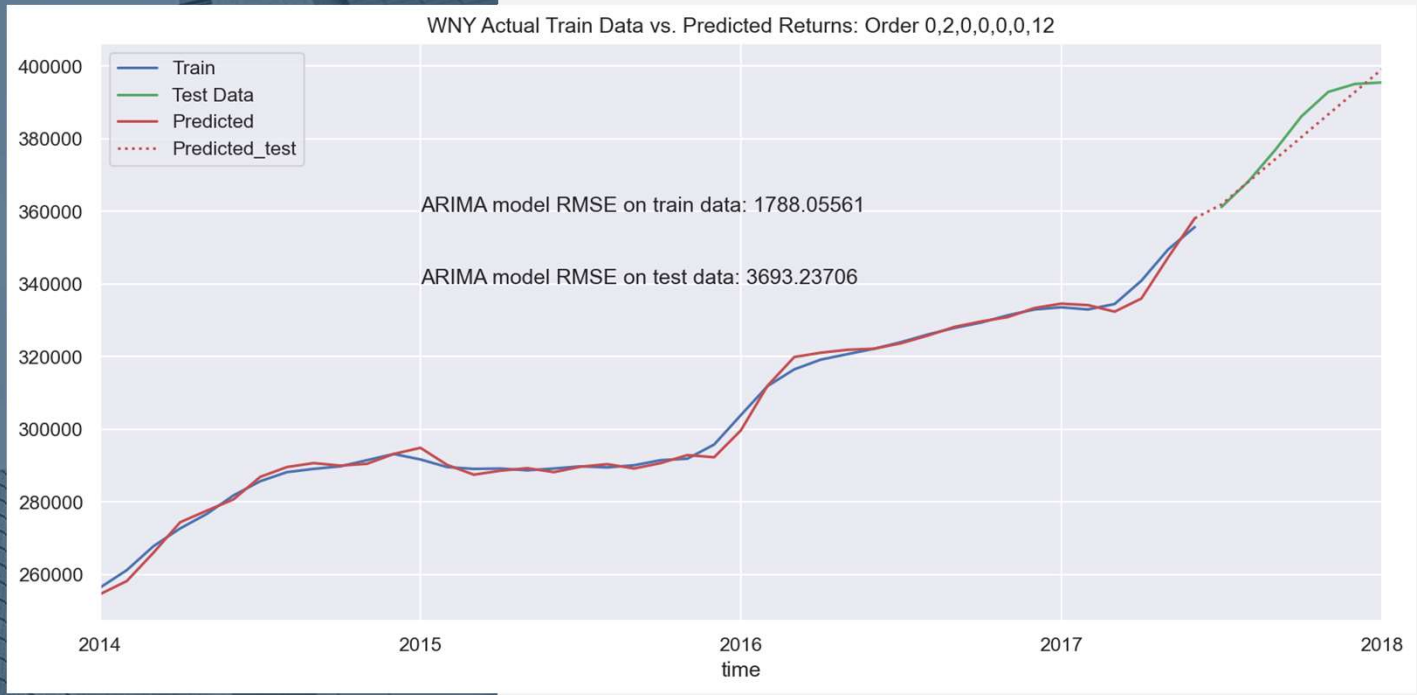


ARIMA Model: Order 9,2,3 | More Complex but more reliable



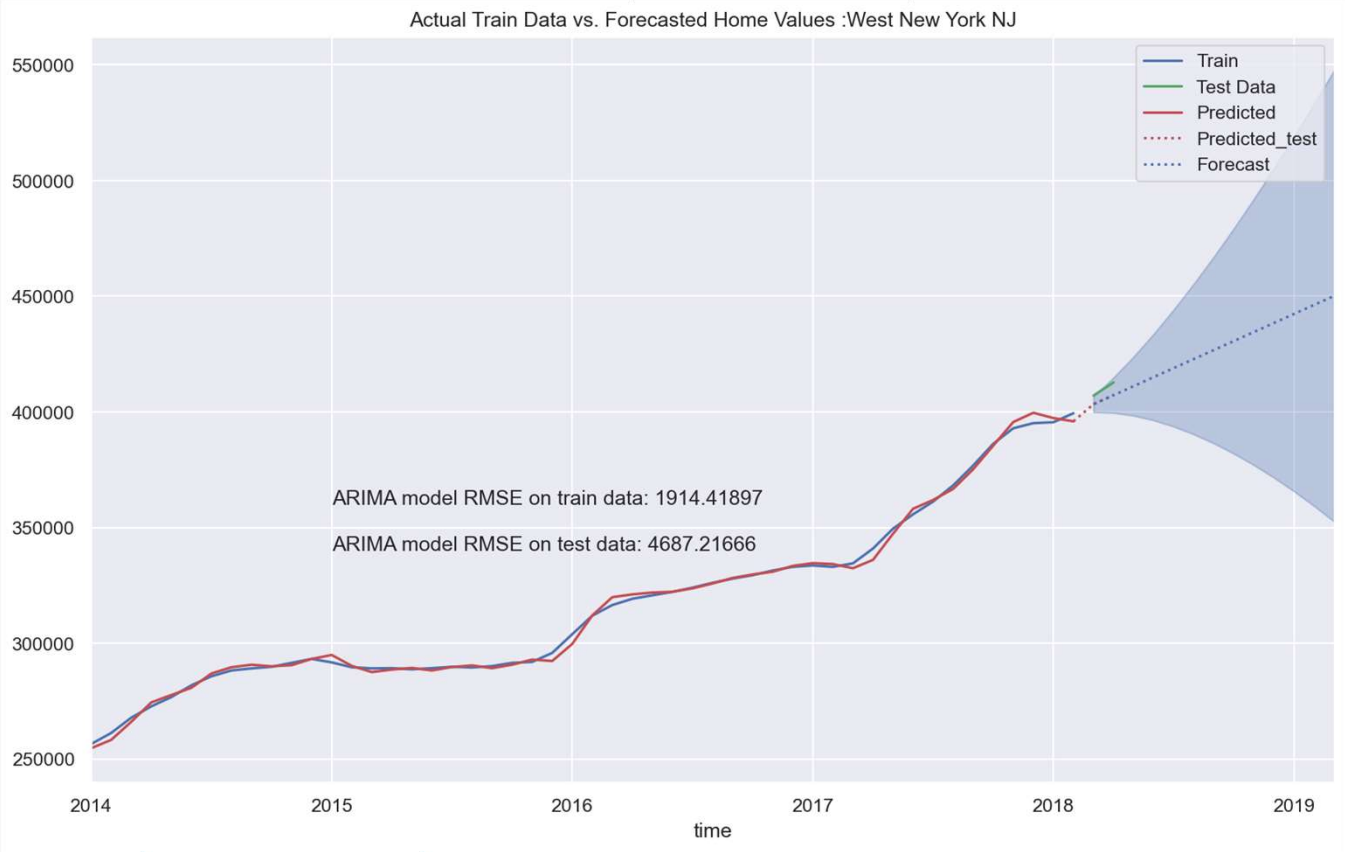
Cost & Benefit Analysis

- Less complex, more reliable
- Less computation ally heavy, reduce cost
- Reduce time by being applicable to all markets in Hudson County

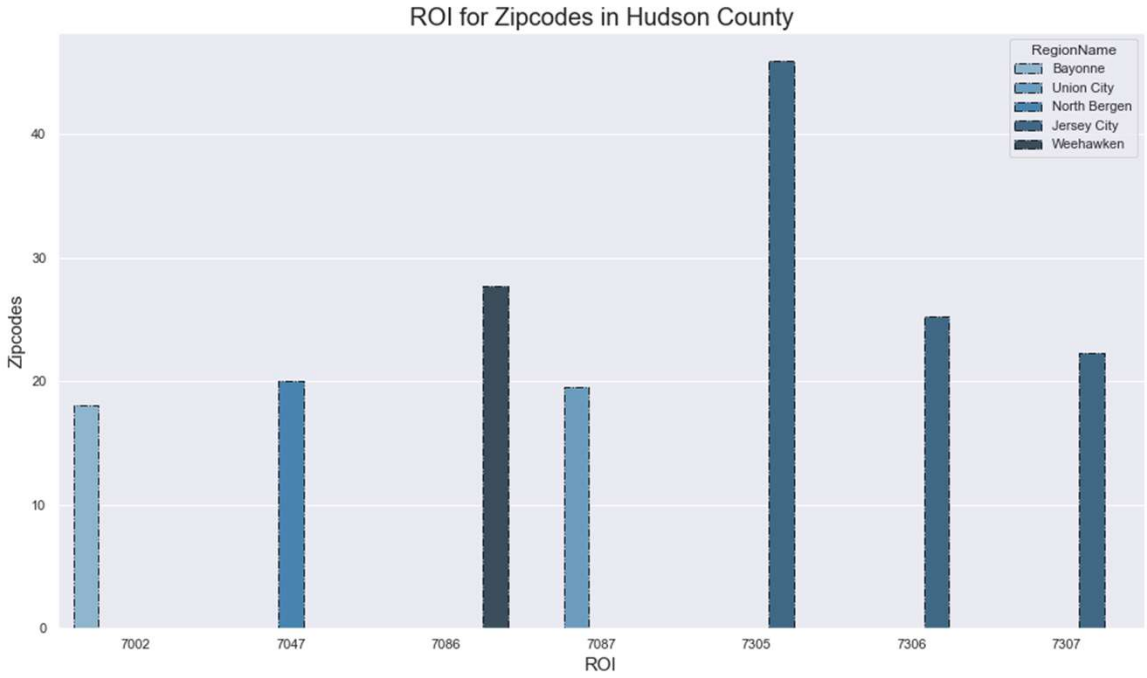


04 Deployment & Results

Deployment of Model



Results


ROI for Zipcodes in Hudson County
RegionName
Bayonne
Union City
North Bergen
Jersey City
Weehawken
Zipcodes
0
10
20
30
40
7002
7047
7086
7087
7305
7306
7307
ROI

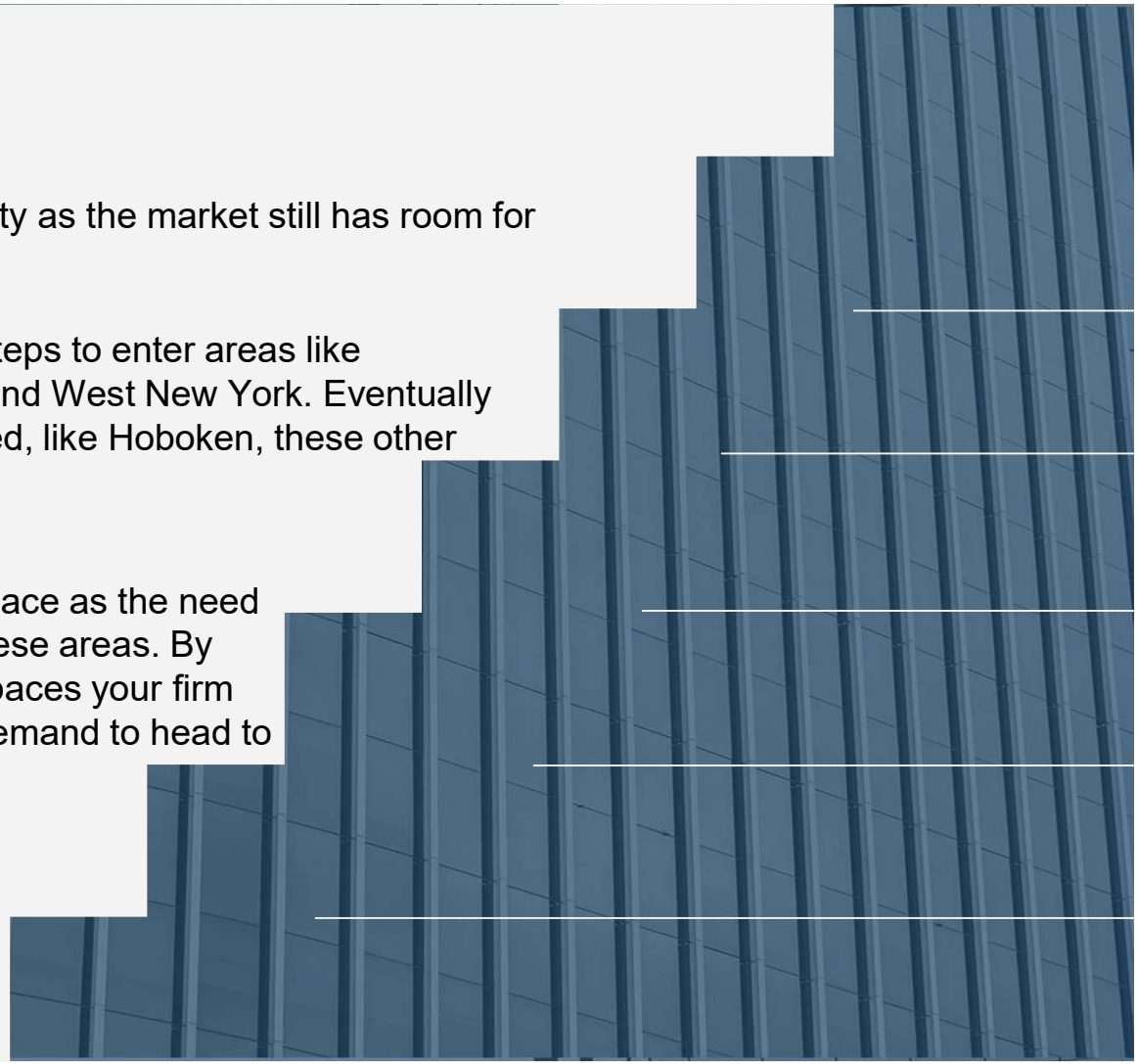
05 Recommendations

Recommendations

1. Continue to invest heavily in Jersey City as the market still has room for potential returns

2. I would also begin to make strategic steps to enter areas like Weehawken, North Bergen, Union City and West New York. Eventually when Jersey City becomes over saturated, like Hoboken, these other towns provide promising returns

3. Consider entering the development space as the need for parking spaces is a problem for all these areas. By building studio apartment with parking spaces your firm would surely capitalize on the growing demand to head to North Jersey



06

Future Work

Future Work

Better Model Development
Inability to adjust to unique events, will include exogenous data.
Create Interactive Dashboards
Explore more areas other than Hudson County
Search for Motivated Sellers
Search for motivated sellers by creating a classification model that located individuals that are sitting on equity

Questions

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Thanks
Does anyone have any questions?
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