

TOP 5

What are the best zipcode areas to invest in real estate?



Resources

Zillow Home Value Index (ZHVI)

April 1996 – April 2018

A measure of the typical home value and market changes across a given region and housing type. It reflects the typical value for homes in the 35th to 65th percentile range. Available as a smoothed, seasonally adjusted measure and as a raw measure



What does best mean?

1. Long-Term Trends

Areas with the most consistent median house price growth over a data set period



2. Volatility

Less volatile option means less risks



3. Recent Growth

Areas showing recent growth may offer good investment opportunities



Dataset details



14723 Rows of data



272 Columns



265 Columns as
monthly Median
house price



Ranging April 1996 –
April 2018



RegionName is the Zip
Code



DATASET

Determining Top 5 Region Names

1. Calculate Return on Investment ROI

$$\text{ROI} = \left(\frac{(\text{Return} - \text{Investment})}{\text{Investment}} \right) \times 100$$

Return on Investment (%)

2. Calculate Volatility

$$\sigma = \sqrt{\frac{\sum_{i=1}^n (r_i - m)^2}{n - 1}} \quad (1)$$

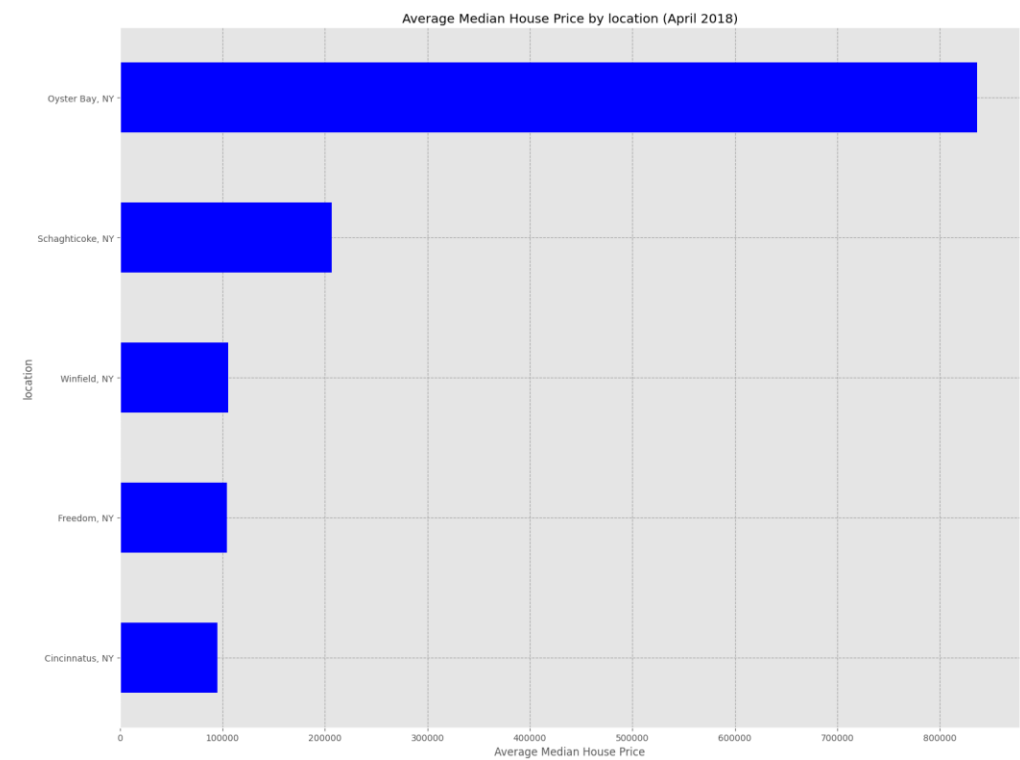
3. Select top 5 RegionName with highest ROI and Lowest Volatility

Selected Zipcodes / Region Names

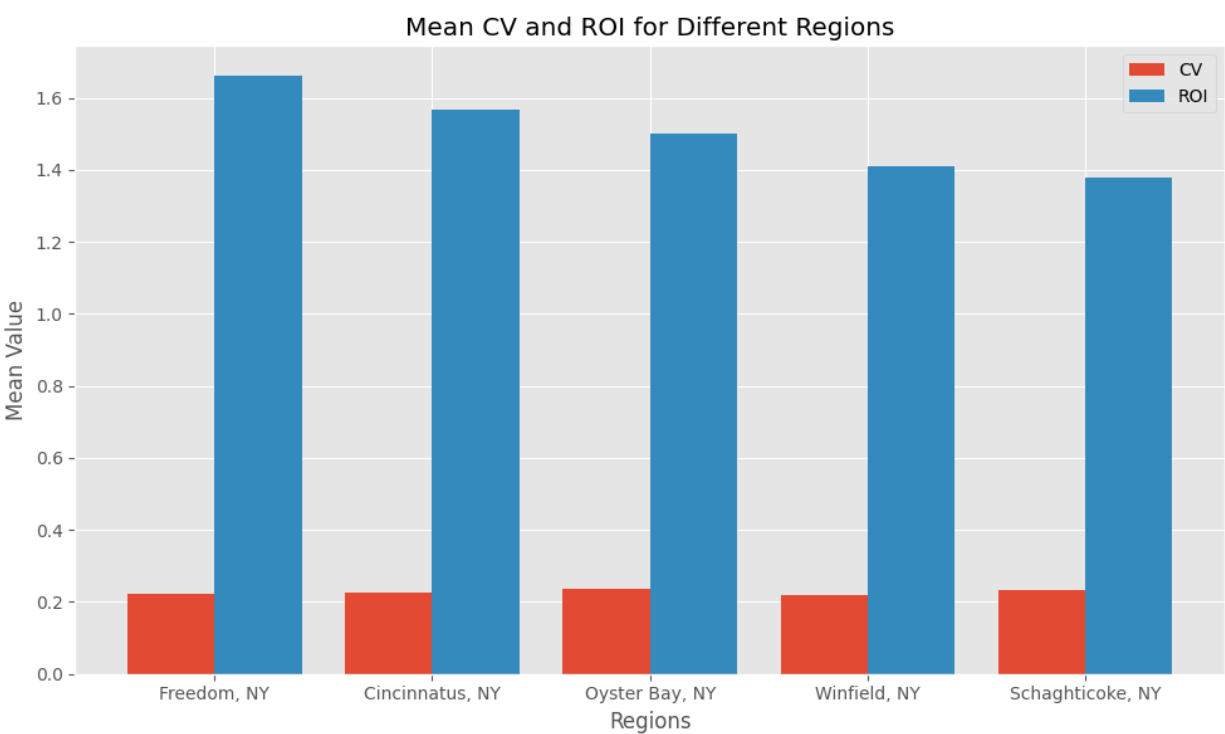
Region Names

Cincinnati, NY
Freedom, NY
Oyster Bay, NY
Winfield, NY
Schaghticoke, NY

Location and Median Prices

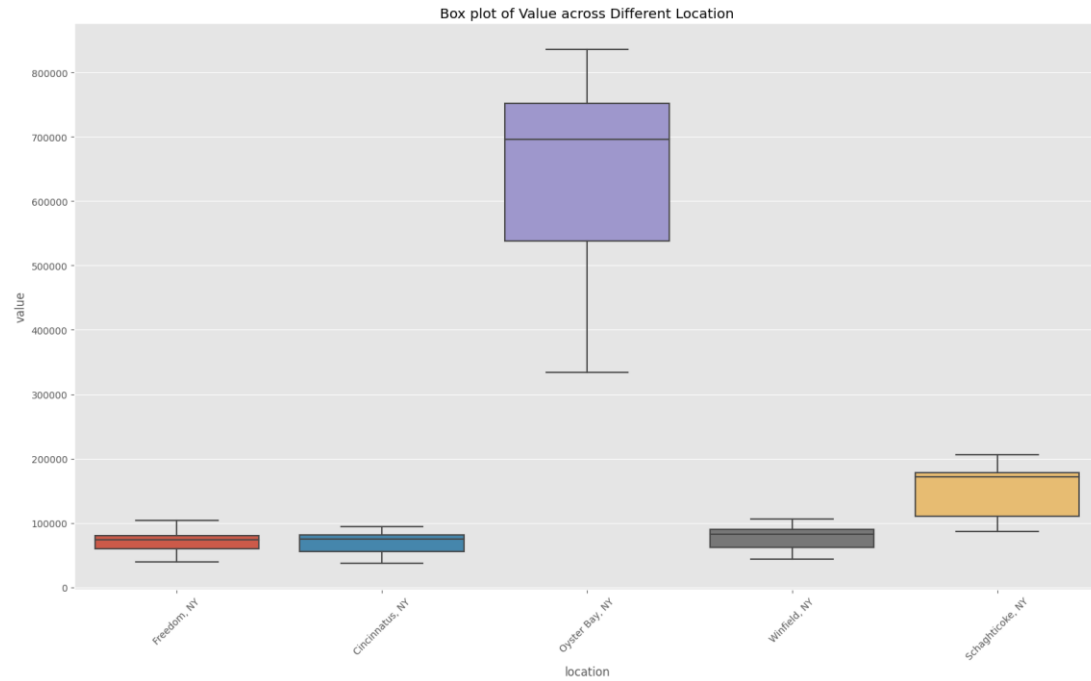


Volatility and ROI

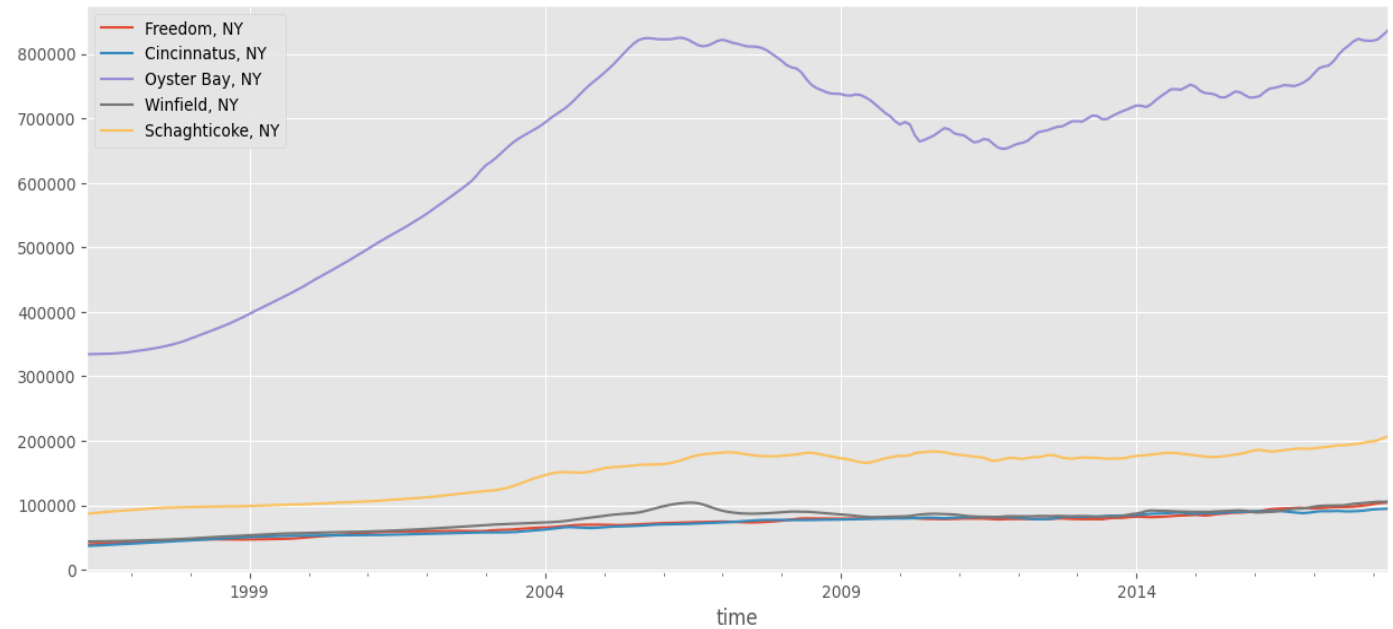


Selected Zipcodes / Region Names

Box plot of values



Time series 1996 - 2018



CONCLUSION

- SARIMA Success: Leveraging SARIMA, our project uncovered housing trends and seasonality, yielding precise forecasts.
- **Key Points:**
 1. Visualization: April 2018 price histogram aids investor decisions.
 2. Decomposition: Extracted seasonality, trend, residual insights.
 3. Model Quality: Low MSE (1.5479, 1.7155, 2.0511) proves SARIMA effectiveness.
 4. Future Insight: Forecasts plus confidence intervals guide investors.
 5. Conclusion: SARIMA-driven insights drive housing decisions. Data-driven strategies hold promise for impactful choices.

RECOMENDATIONS

- **Diversify:** Spread investments across analyzed states (Oyster Bay, Freedom, Winfield, Cincinnatus, Schaghticoke) for risk management and market exposure.
- **Explore Oyster Bay:** With stable data, Oyster Bay is a solid investment prospect.
- **Prioritize ROI:** Target cities with high Return on Investment (ROI) for profitability.
- **Evaluate Risk:** Assess risk with Coefficient of Variation (CV); lower CV (e.g., Winfield) means stability.
- **Consider Location:** Assess attributes, growth, amenities, and demand in location decisions.