



BASILISK ANALYTICS

2018 Austin Zip Code Housing Analysis

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Presentation Layout



PART 1:

Business Understanding

PART 2:

Data Understanding/Preparation

PART 3:

Modeling

PART 4:

Results/Recommendations

BUSINESS UNDERSTANDING

Top 5 ATX zip codes for real estate investors

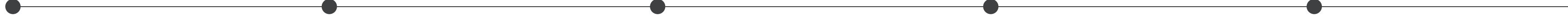
Highest predicted net profit & ROI

Forecasting for the upcoming year

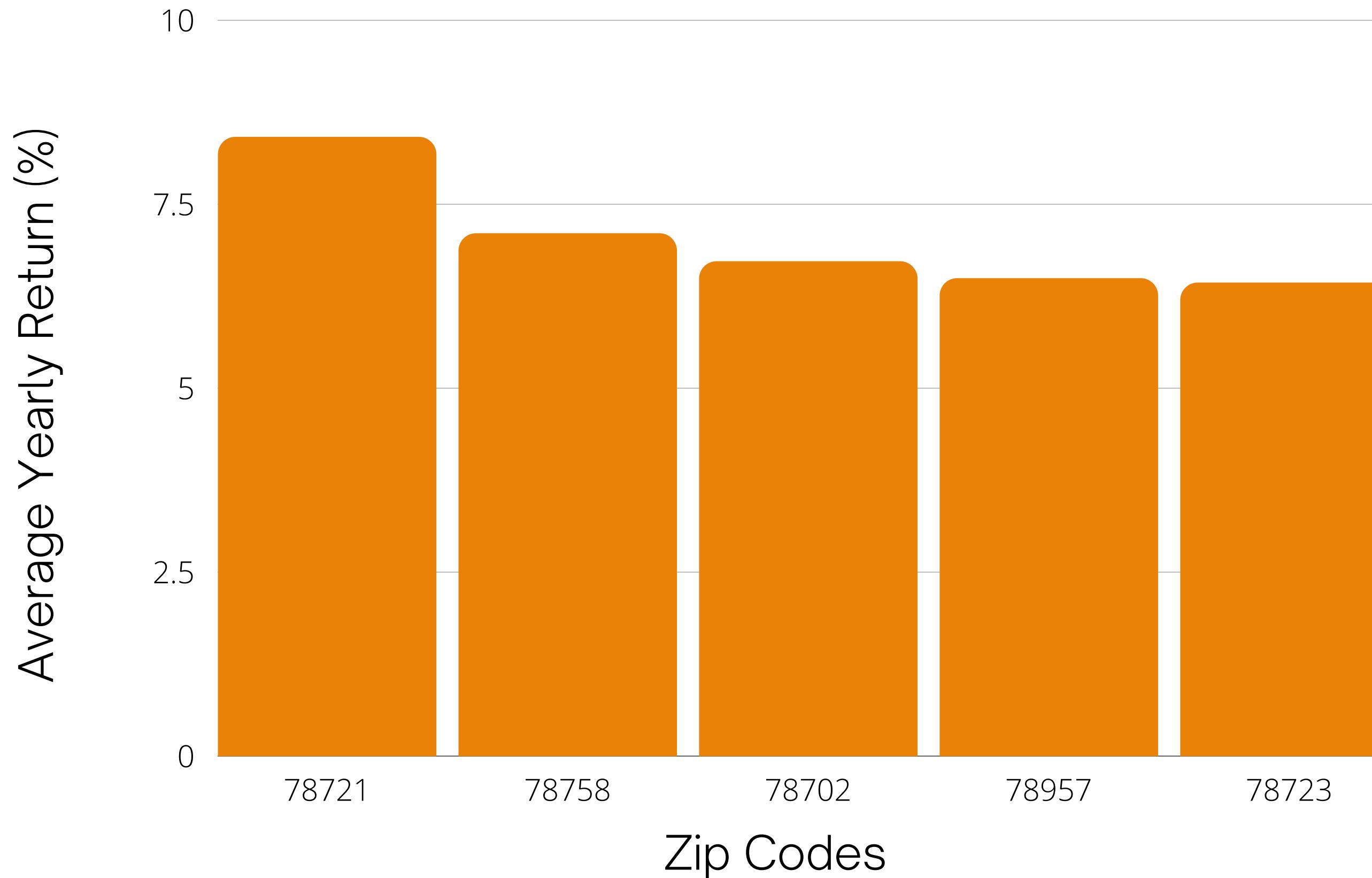


DATA & PREPARATION

Zillow Housing Data Monthly Median Housing Prices Filtered by ATX Zip Codes January 2009–April 2018 73 zip codes & 112 months

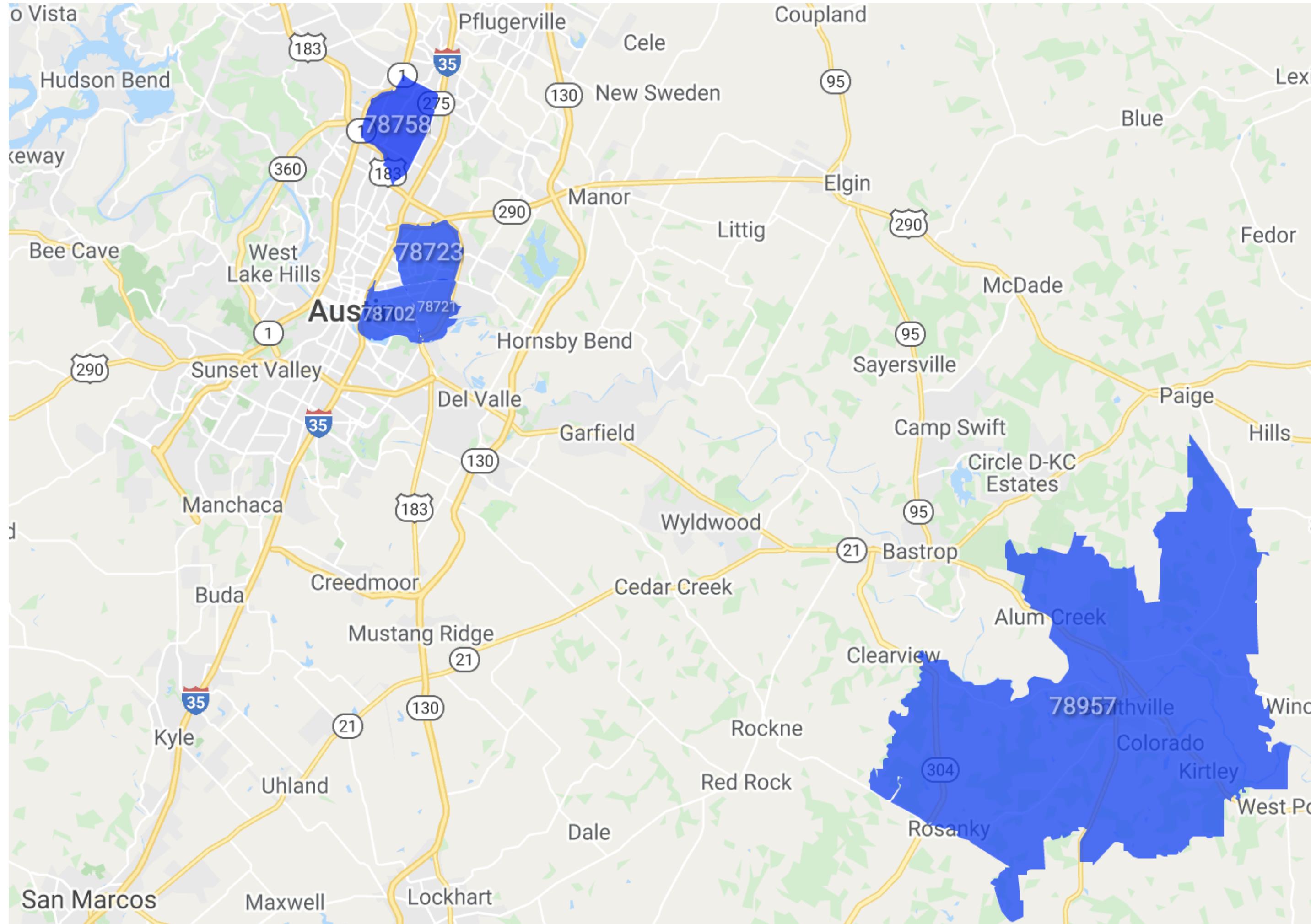


Top 5 Zip Codes with Average Yearly Return Prior to Modeling



Top 5 ATX Zip Codes (Prior to Modeling)

Visualization Courtesy
of ZeeMaps



Modeling

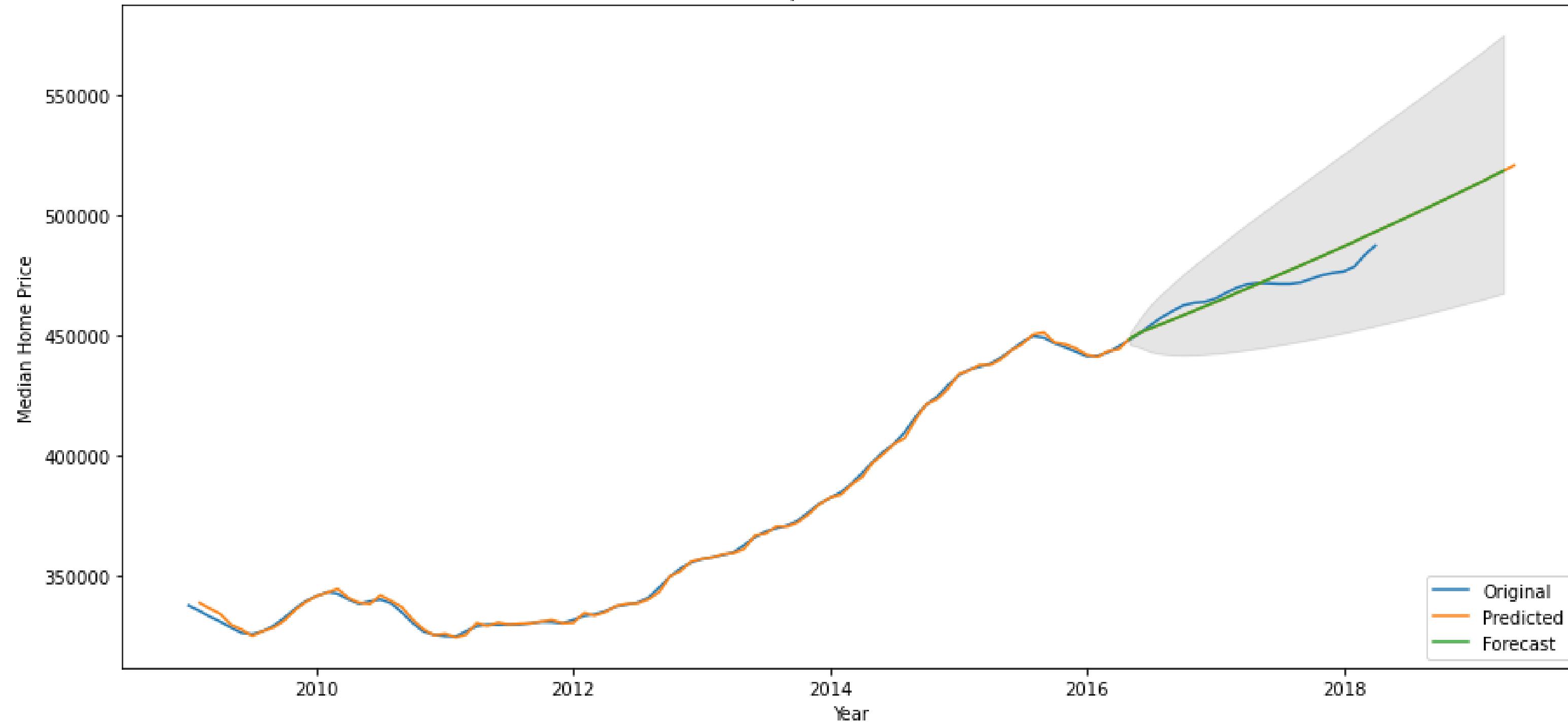
Time Series
Forecasting

73 Models

Grid Search ARIMA

Explained Variance
Root Mean Squared Error

Zipcode: 78756



RESULTS

EXPLAINED VARIANCE
≥ 99%

73 Models --> 13 Models

TOP 5 ZIP CODES
sorted by highest
expected ROI

Investment Suggestions

Based on Expected ROI and Profit for 1-year

1

78748

12% - \$35,181

2

78620

12% - \$54,155

3

78634

9.6% - \$21,542

4

78626

7.1% - \$16,826

5

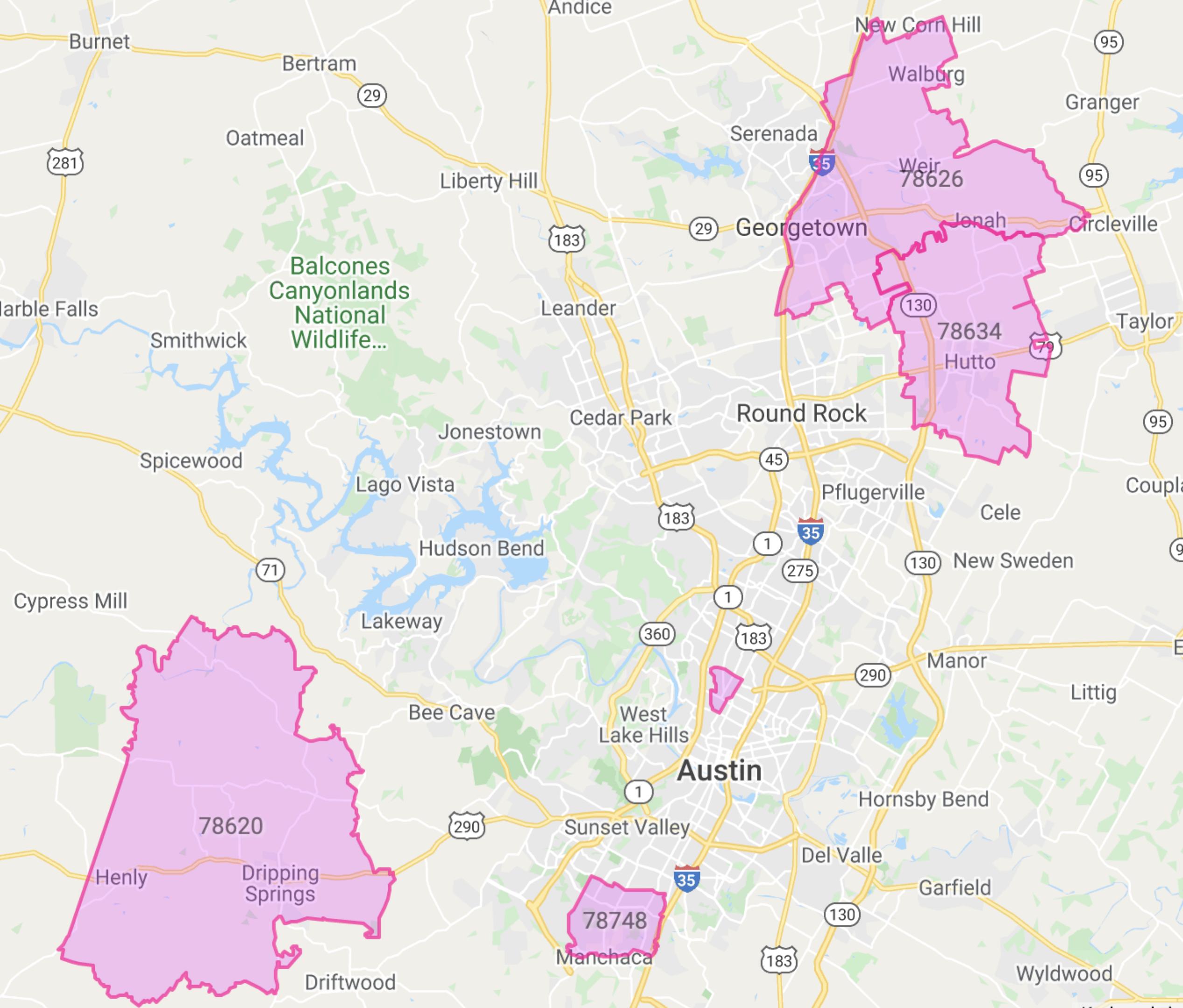
78756

6.3% - \$31,101

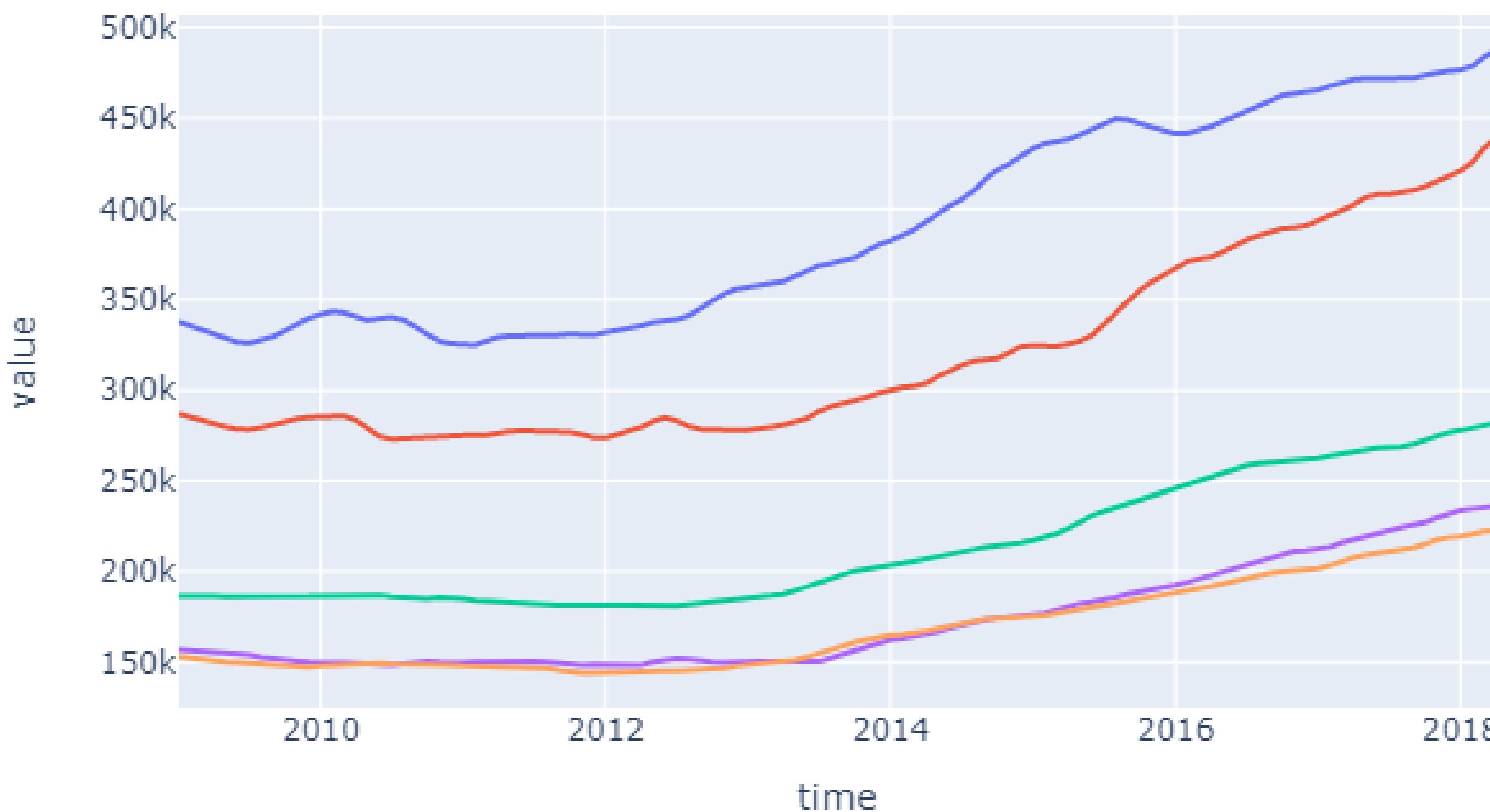
Top 5 ATX Zip Codes

Visualization

Courtesy of ZeeMaps



Median House Prices



Zip Code | Net Profit | ROI

78756 | **\$31,101** | **6.3%**

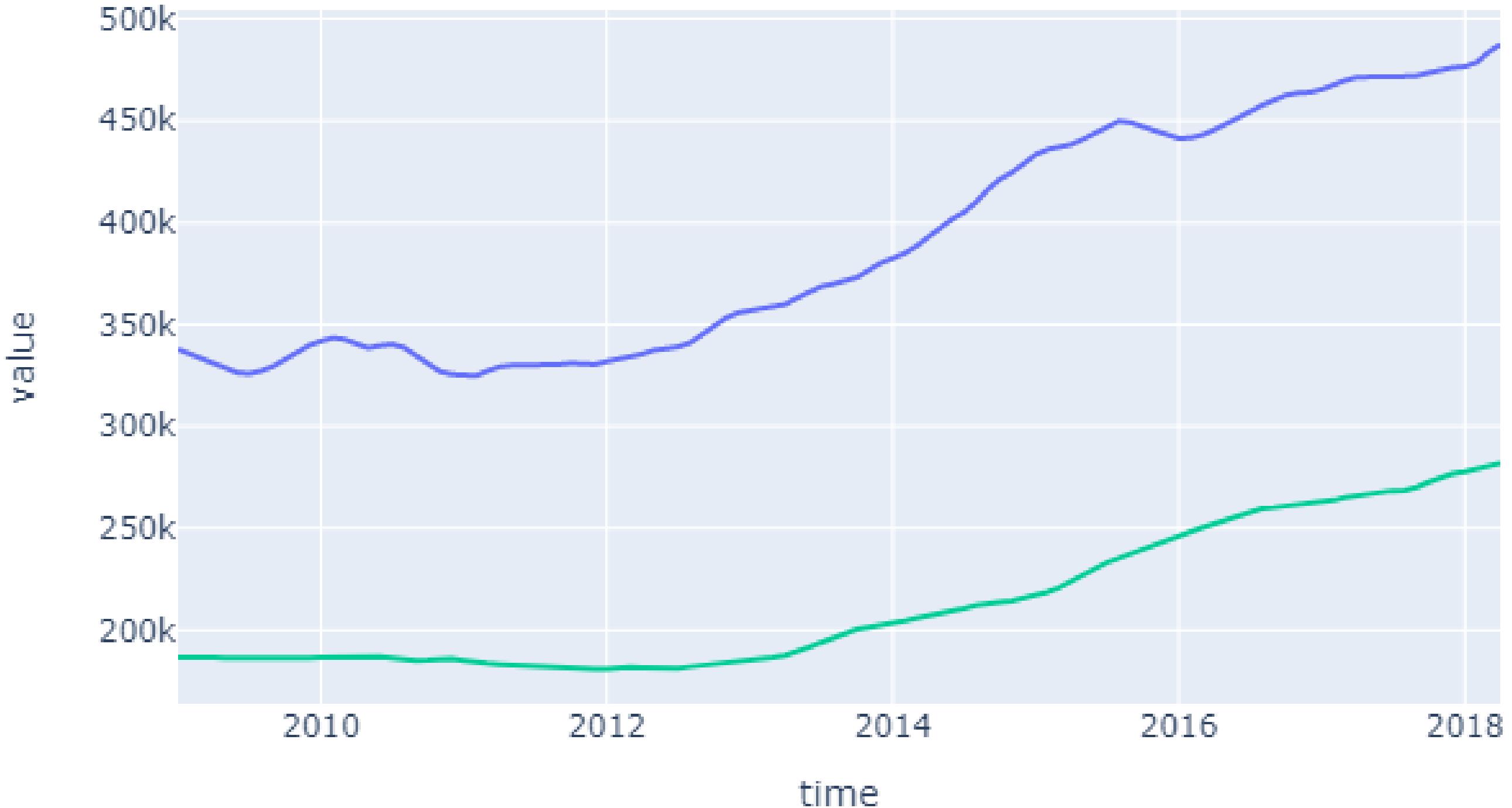
78620 | **\$54,155** | **12%**

78748 | **\$35,181** | **12%**

78626 | **\$16,826** | **7.1%**

78634 | **\$21,542** | **9.6%**

Median House Prices



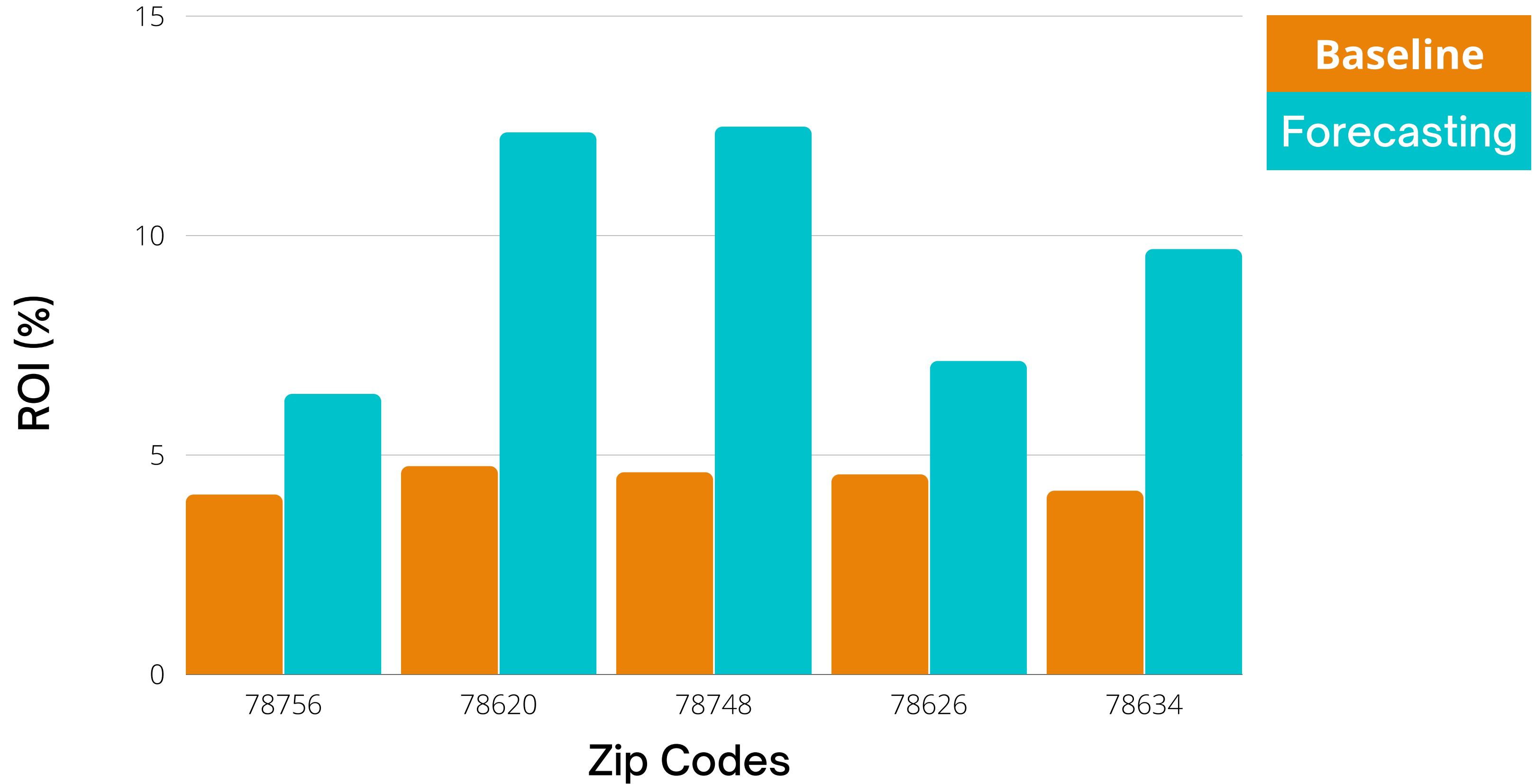
Zip Code | Net Profit | ROI

78756 | \$31,101 | 6.3%

78748 | \$35,181 | 12%

Top 5 Zip Codes

Baseline vs. Time Series Forecasting



NEXT STEPS

Forecast with Long Short-Term Memory networks, **LSTM**

To capture 99% variance for all 73 zip codes

Add Exogeneous Variables

School Ratings, Crime Rates, etc...



The background of the slide is a vibrant aerial photograph of the Austin, Texas skyline. The city's dense urban core is visible in the distance, featuring numerous skyscrapers and modern buildings. In the foreground, a large, lush green park with many trees and open grassy areas stretches across the frame. A winding river or canal is visible at the bottom left, with a small boat docked near a wooden pier. The sky above is a clear blue with scattered white clouds.

Thank you!

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