

A modern, two-story white house with large glass windows and doors. The house is surrounded by a paved patio area and a swimming pool. A palm tree is visible in the background, and a large green bush is in the foreground on the right. The sky is blue with some clouds.

ZILLOW HOME SALES FORECASTING TIMES SERIES MODELING

By Heather McLauren

My client, ABC Reality Investment Group, wants to know what areas in the Houston area are the best to invest in.

Is it better to invest in fast flips, under 1 year, or hold property for a few years to gain equity before selling?

1.

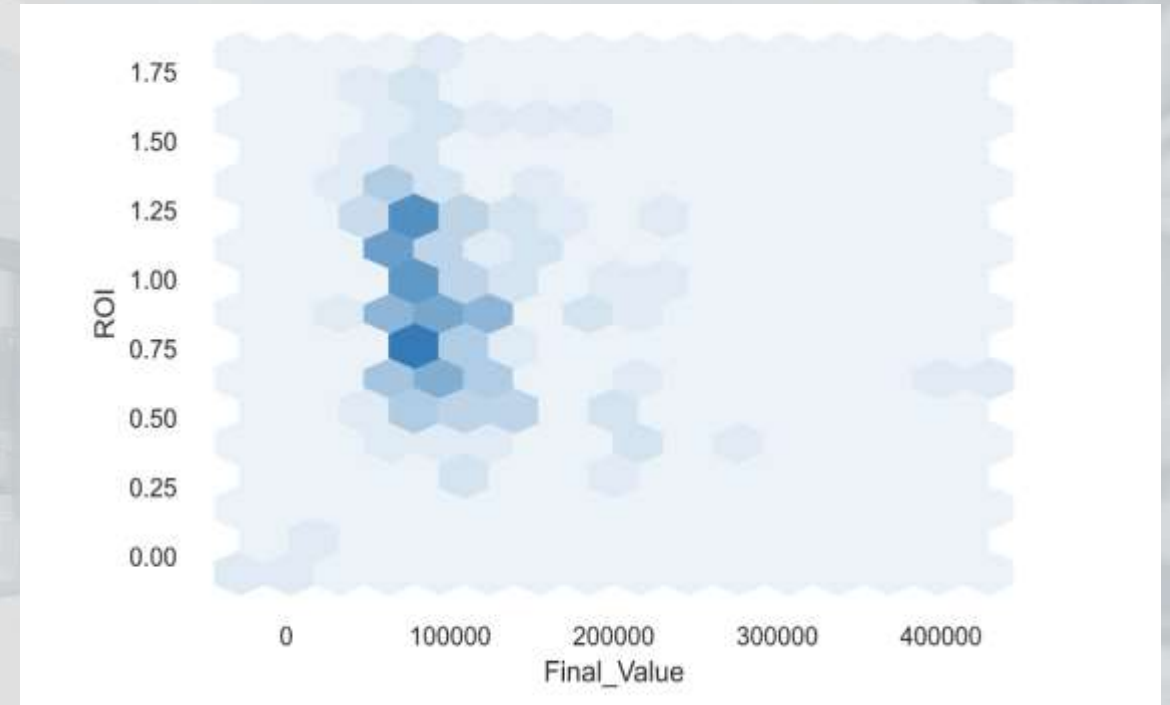
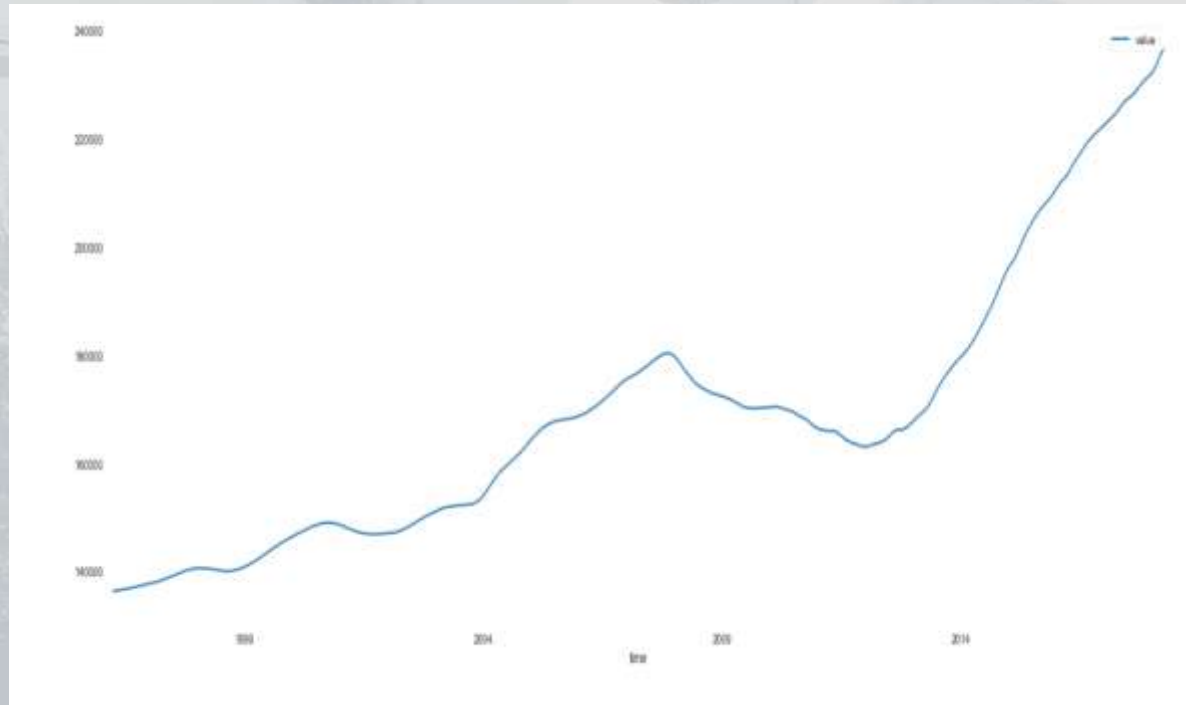
2.

3.

Is it better to concentrate on investing in one particular area or allocate investing evenly throughout?

What is the best areas in Houston to invest in?

Historical average growth of home values in Houston between 1996-2018



Profitable metric used: ROI of 10% a year. This mimics the S&P 500 annual average return and is the industry standard norm.

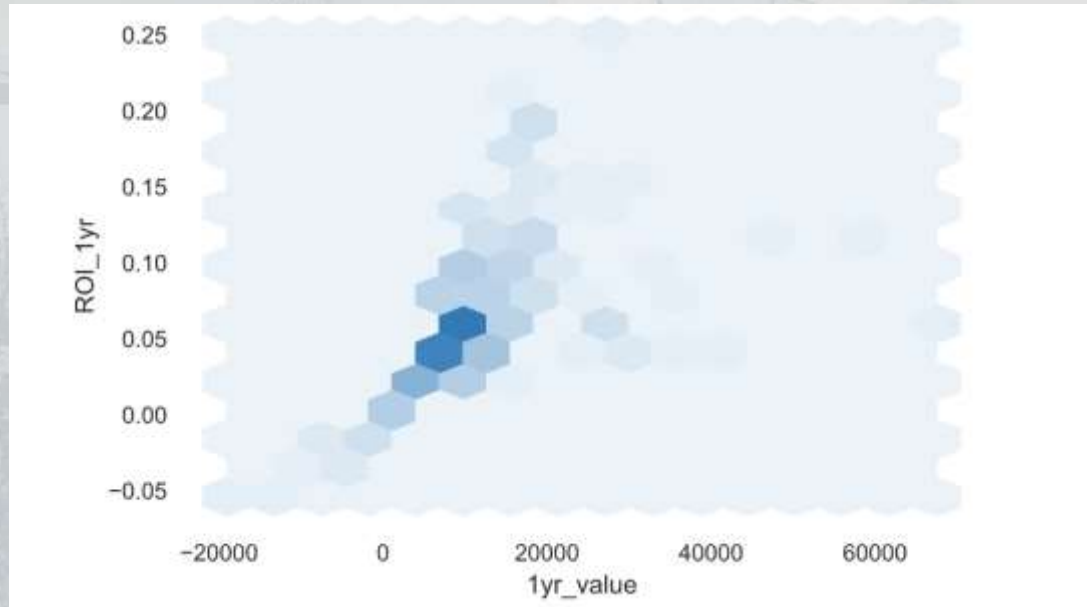
Historical ROI : Between 6.25%- 10.4%

Historical Returns: \$8,333 annual

A modern, multi-story house with a mix of light-colored stone and brickwork. The house features large glass windows and a prominent white balcony on the upper floor. In the foreground, there is a rectangular swimming pool with clear blue water, surrounded by a concrete deck and some greenery. The sky is blue with some clouds.

QUESTION 1

Is it better to invest in fast flips, under 1 year, or hold property for a few years to gain equity before selling?



Overall:

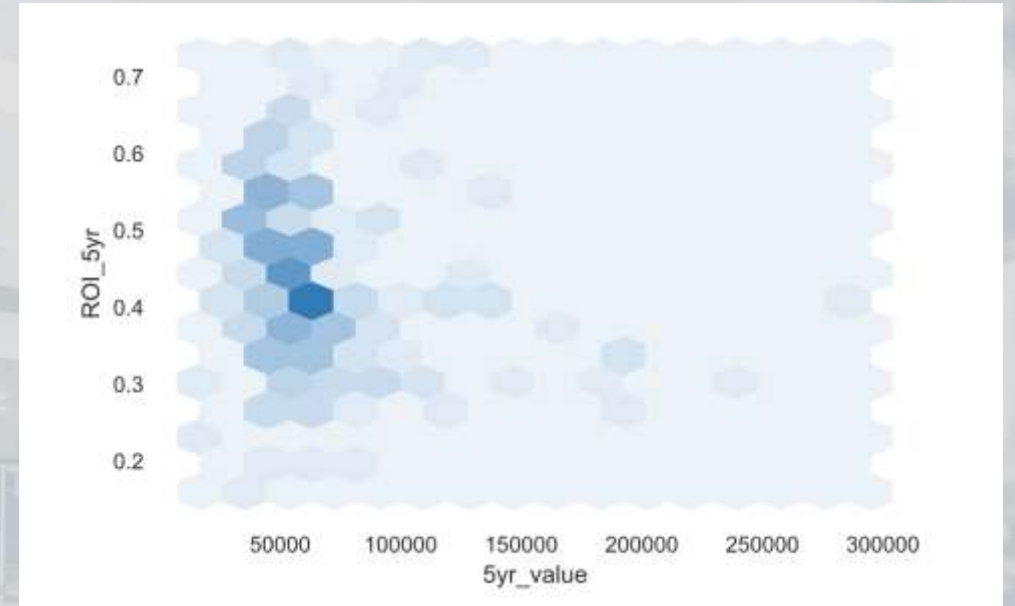
1 Year ROI: 6.4%

1 Year Return: \$11,898

1 Year Breakdown @ 10% ROI

1 Year ROI: 13.7%

1 Year Return: \$19,223



Overall:

5 Year ROI: 43.3%

5 Year Return: \$66,807

5 Year Breakdown @ 10% ROI

1 Year ROI: 11.5%

1 Year Return: \$11,804

5 Year Breakdown:

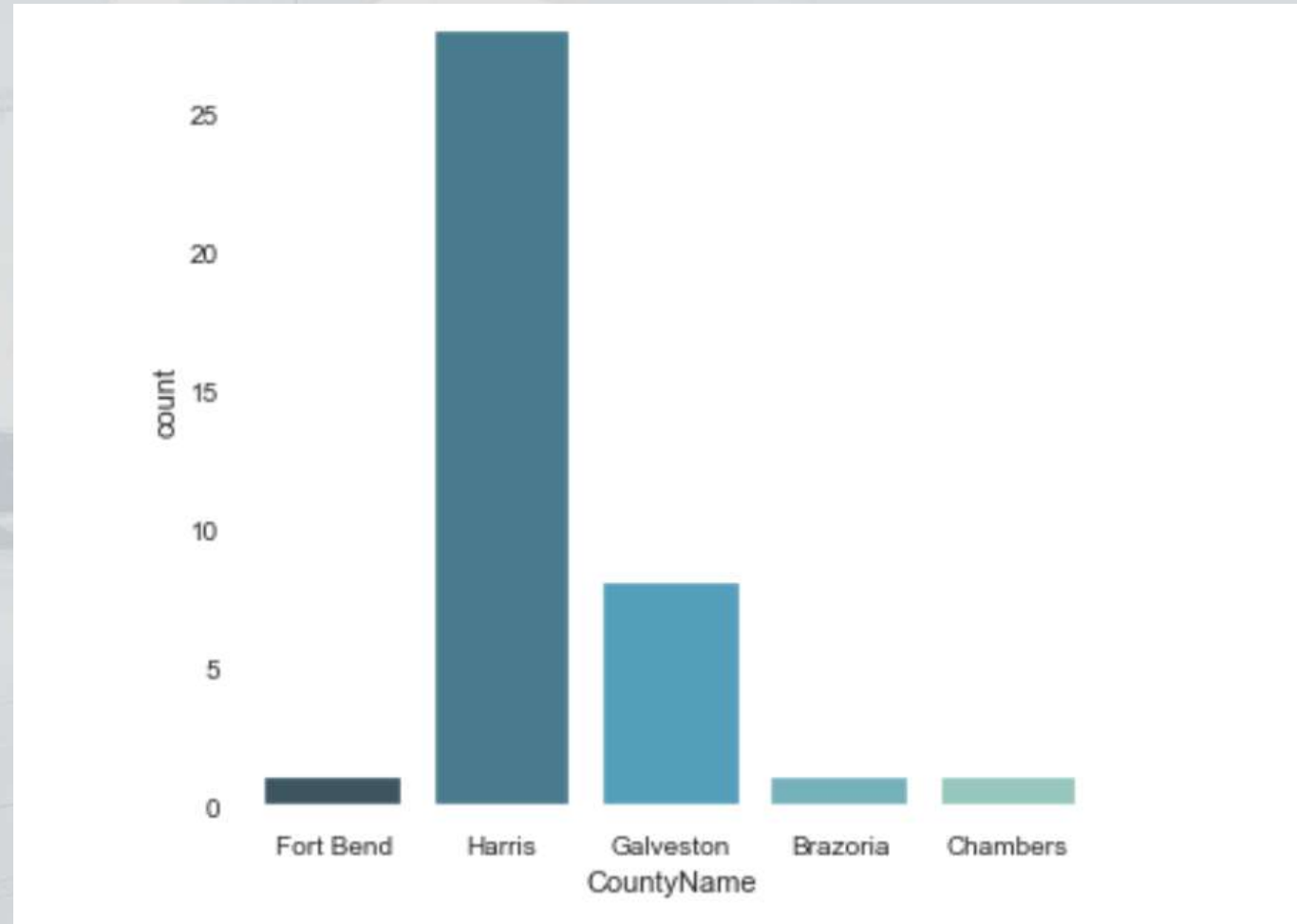
8.66% Annual ROI

\$13,361 Annual Return

A photograph of a dark green house with a white door and windows, covered in ivy. The text "QUESTION 2" is overlaid in the center. The house has a white door with a diamond-shaped decorative element above it and the number "106" on the left. There are two white-framed windows with flower boxes underneath. A tree is on the right, and some outdoor furniture is visible in the foreground.


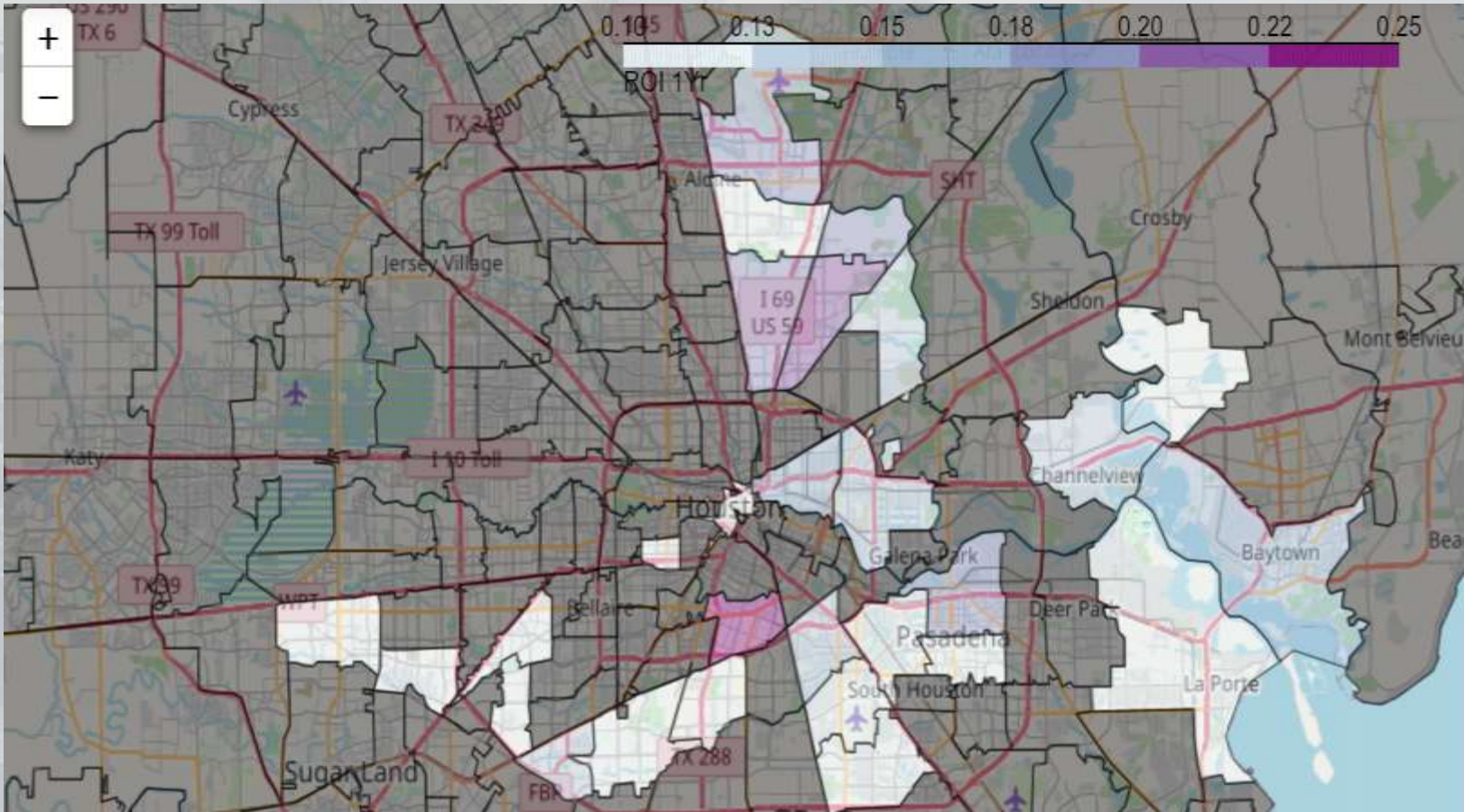
QUESTION 2

What is the best areas in Houston to invest in?

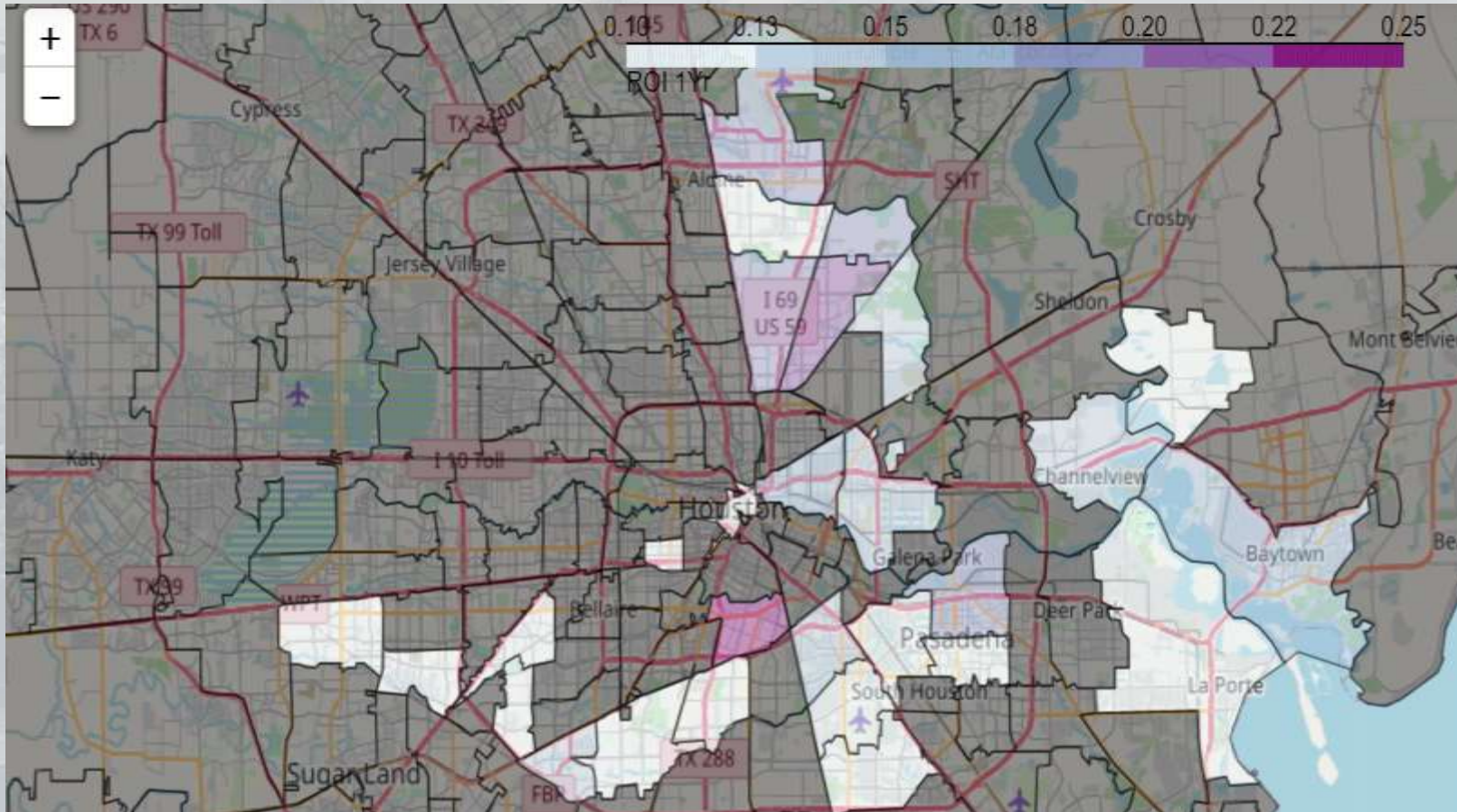


Took this sample from the ROI 1-year homes that produced 10% or more a year.

What is the best areas in Houston to invest in?



Took this sample from the ROI 1-year homes that produced 10% or more a year.

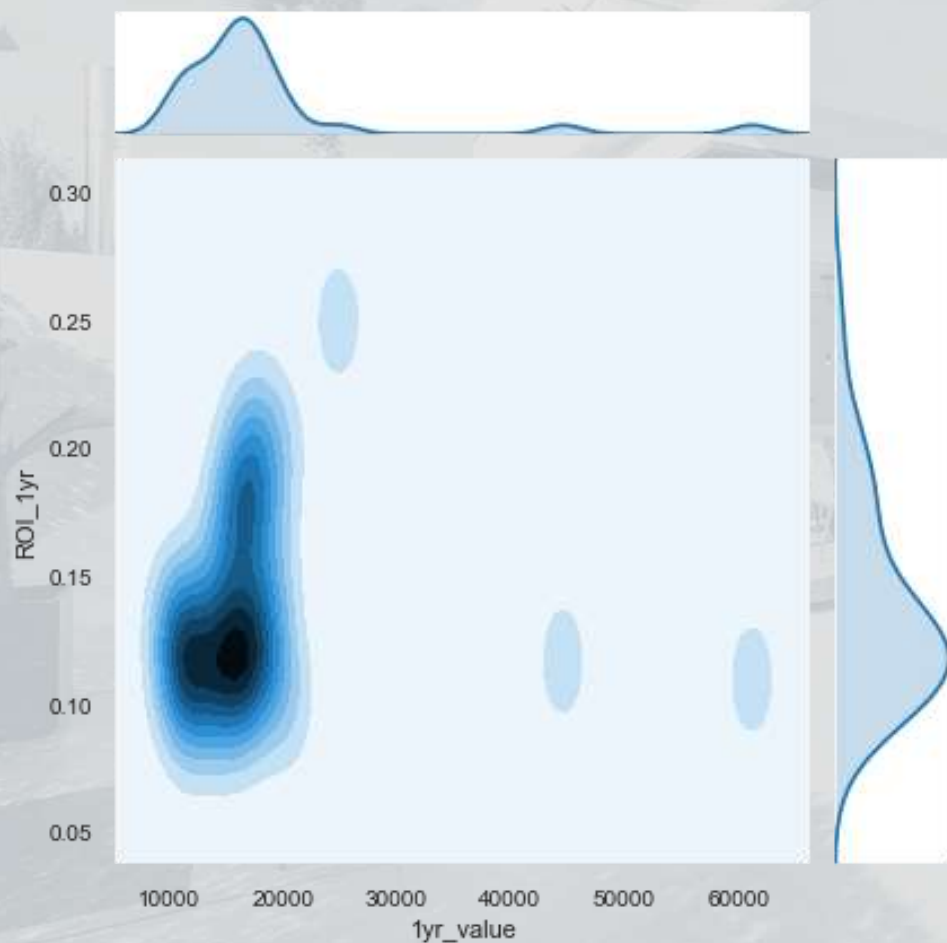


Took this sample from the ROI 1-year homes that produced 10% or more a year.

QUESTION 3



Is it better to concentrate on investing in one particular area or allocate investing evenly throughout?



Invest in Harris County Alone?

Harris County 1 Year ROI: 13.9%
Harris County 1 Year Return: \$18,460

1 Year ROI: 13.7%
1 Year Return: \$19,223

Harris County Investment Alone:
ROI increase: 0.98%
Return loss: \$763



FORECAST RESULTS

TIME SERIES FORECASTING RESULTS

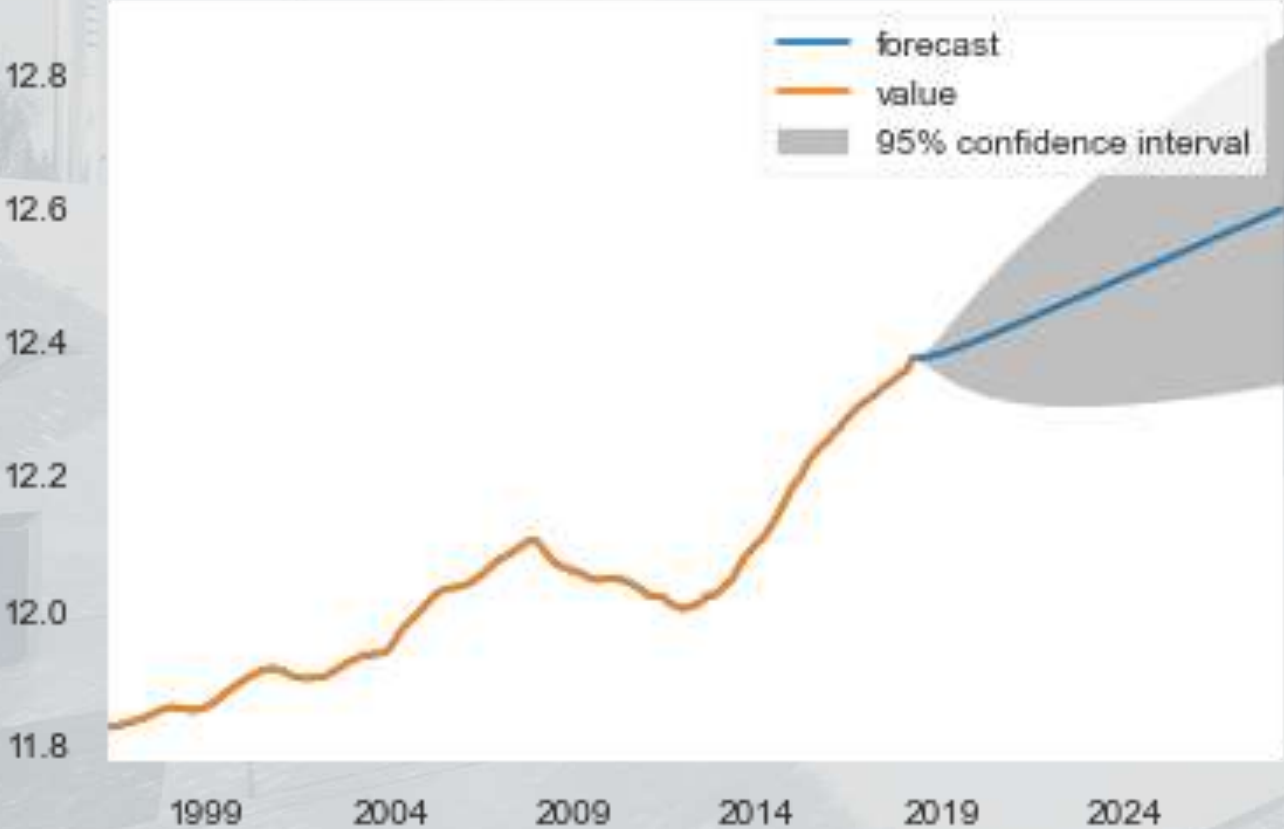
Predictions

time	
2017-12-01	231288.124285
2018-01-01	232065.261273
2018-02-01	232611.139082
2018-03-01	234599.334635
2018-04-01	236632.766481

Original Values

value	
time	
2017-12-01	231393.048128
2018-01-01	232050.267380
2018-02-01	233325.668449
2018-03-01	235267.914439
2018-04-01	236575.401070

RSS: 0.0001



A modern two-story house with a white balcony and a wooden extension, featuring a swimming pool and tropical landscaping. The house has a white exterior with a prominent balcony on the upper floor. To the right, there is a section with horizontal wood siding and large glass windows. In the foreground, a swimming pool is visible, surrounded by a paved deck and lush tropical plants, including palm trees and various potted plants. The sky is blue with some clouds.

RECOMMENDATIONS

Recommendations

1.

Invest in fast flips of 1 year instead of holding on to properties for 5 years to gain equity.

2.

Invest in the top 5 counties in the Houston area for the best ROI, but be selective of which homes because they are scattered all over. Conduct further analysis on each individual home to ensure profitability.

3.

There is a slight decrease in investing in Harris County alone, but there is some freedom due to the closeness in overall returns.

Future Work

1.

Look into the remodeling costs associated with investing

2.

What is the minimum amount needed to invest to maximize profits?

3.

How does the housing profitability increase in Houston compare to other cities in Texas? Does it make sense?

A low-angle, upward-looking photograph of a modern multi-story apartment building. The building features a mix of blue and orange exterior panels. Numerous balconies with dark metal railings are visible, some with plants or items on them. The sky is a clear, pale blue. The text "THANK YOU" is centered over the middle of the image.

THANK YOU