

Chapel Hill

Rental Property Investment

488 Section 1 Team Zillow-E



Question:

Is Chapel Hill a profitable location for rental property investment based on cash flow?

Stakeholders:

Investors seeking to purchase real estate in the Triangle area

Our Approach

1

Data Cleaning and Exploratory Data Analysis

2

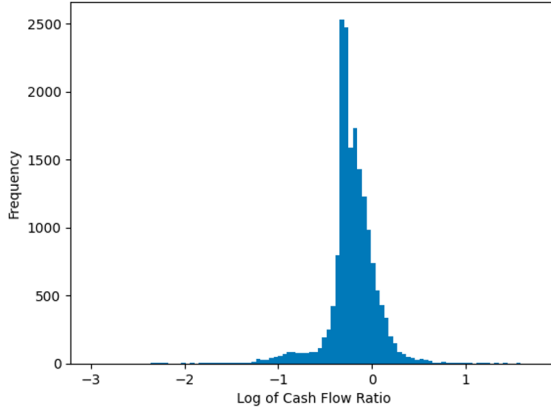
Cash Flow Predictive Analysis (Revenue-Expenses)

3

Cluster Analysis to identify target areas

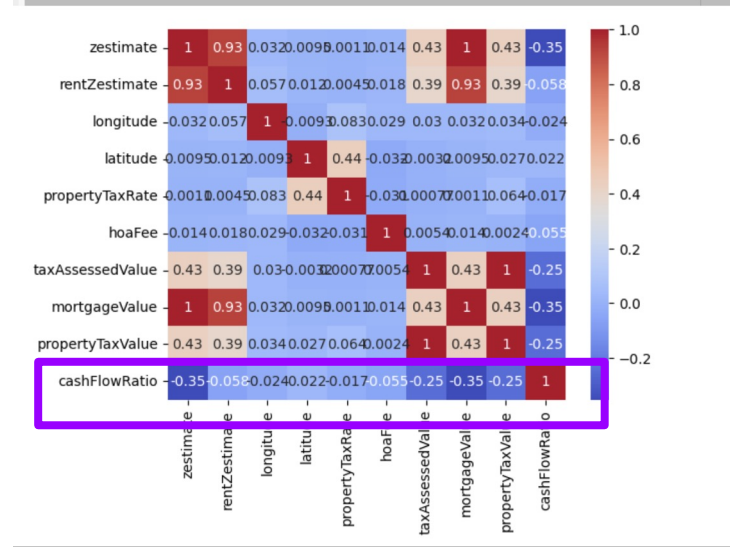
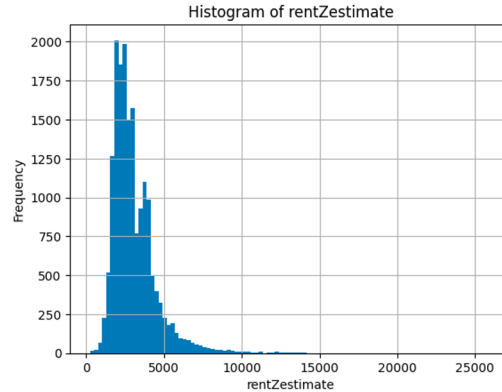
Exploratory Data Analysis

Histogram of Log of Cash Flow Ratio



Normal distribution
for cash flow ratio

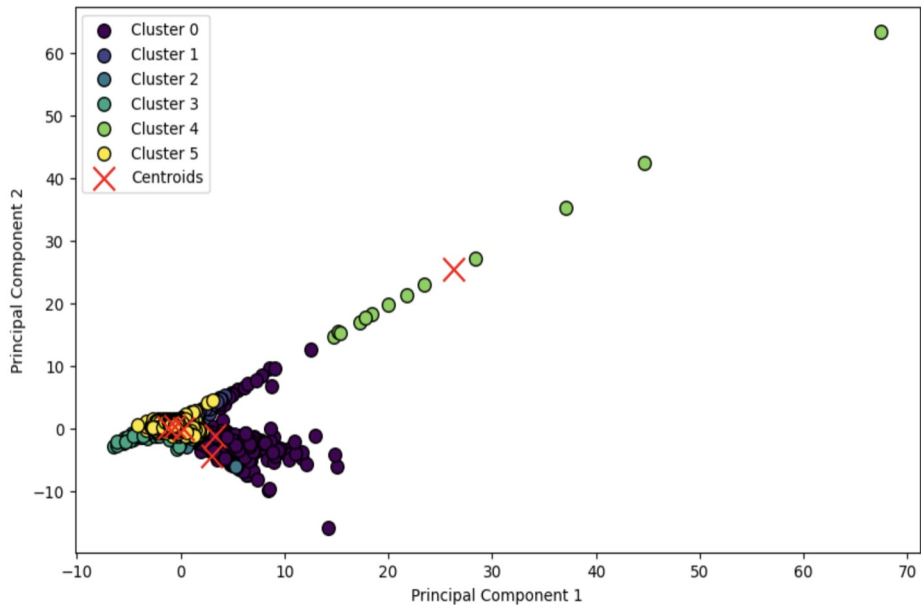
Histogram for
rentZestimate



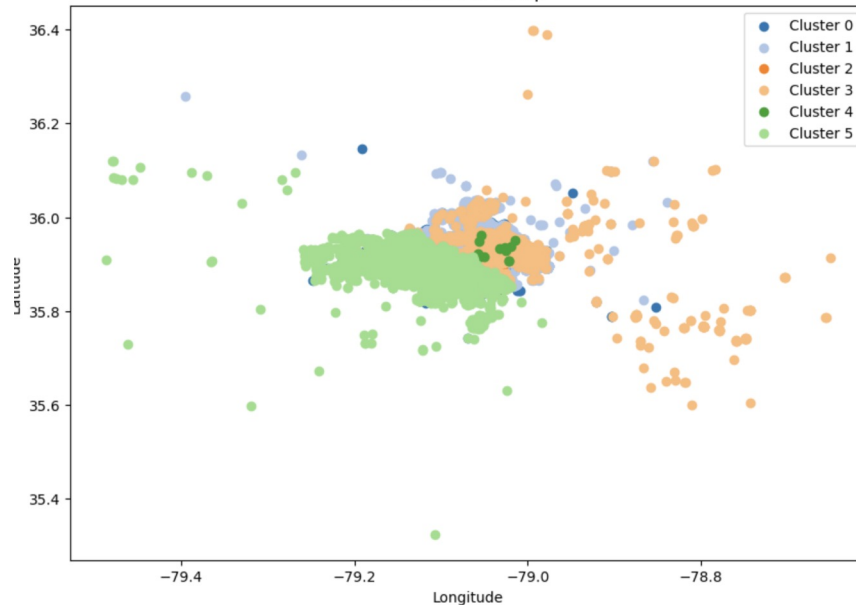
Correlation
heatmap

K-Means on a Graph

Clusters Visualization with PCA



Clusters on a Map



Observations

0.96

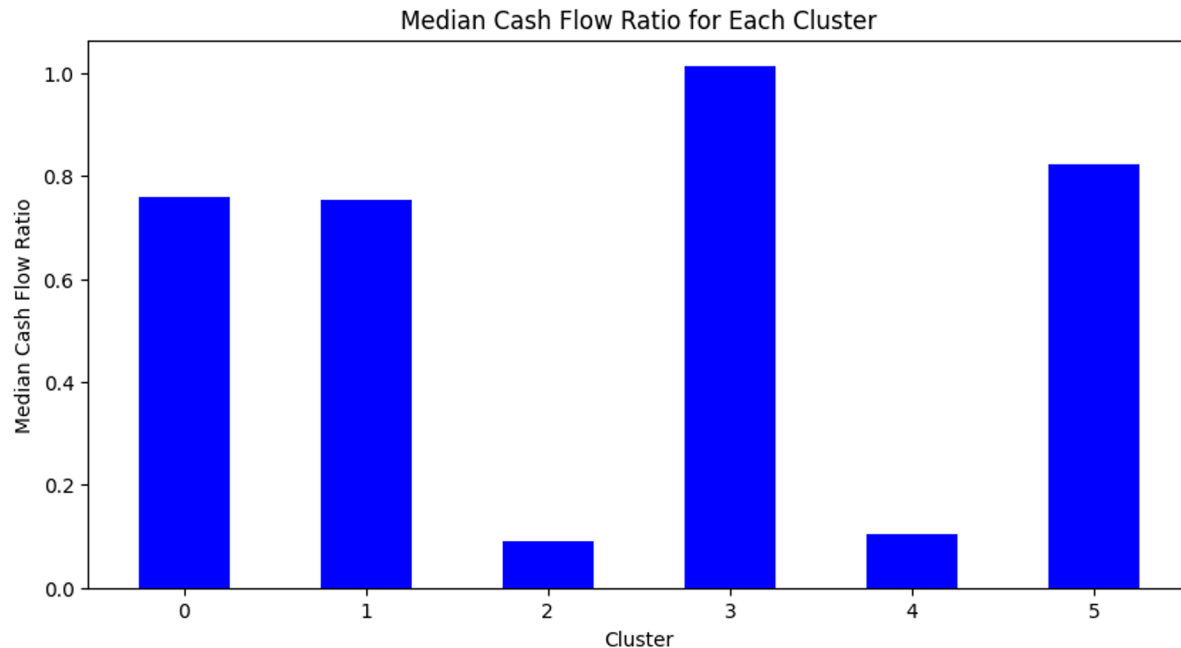
Cluster 3

Highest median cash flow ratio & lowest initial investment

Anomaly

Cluster 4

Price and tax assessed value don't align



Anomaly Detection

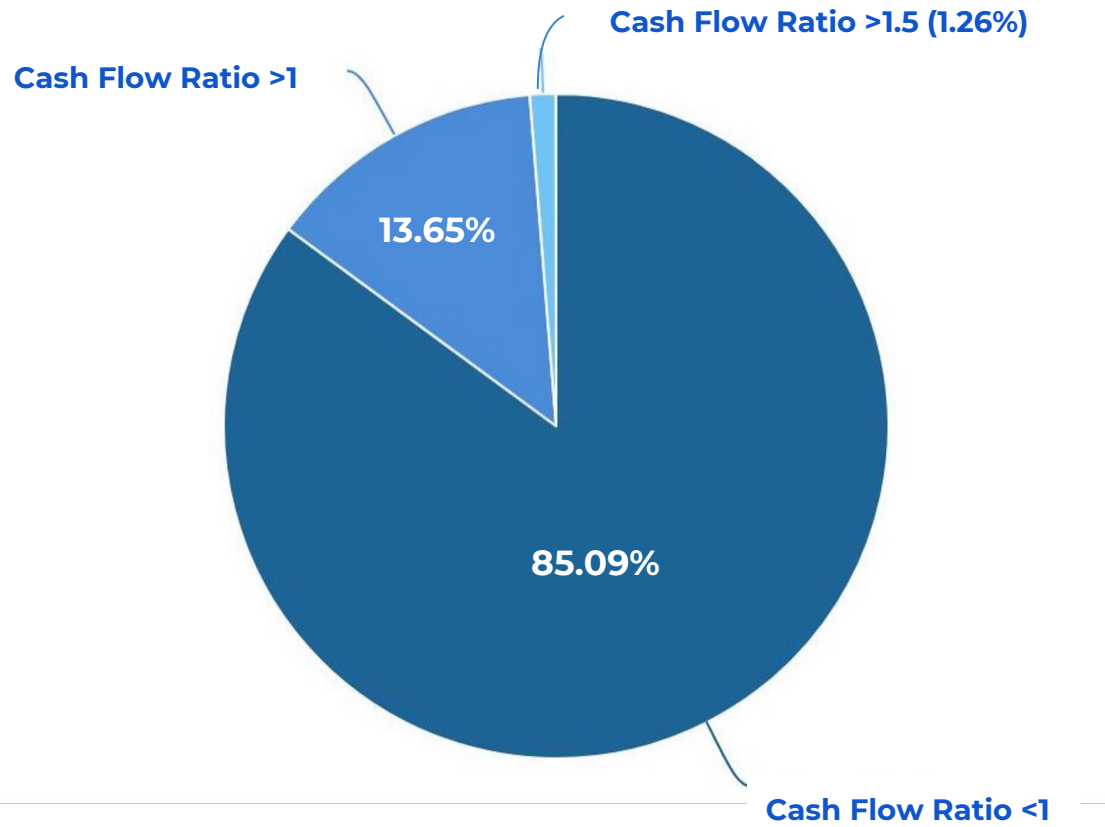
-15.3%

Cash flow ratio difference
between anomalies and non-
anomaly observations



The properties that had
vastly different
components tended to
have **lower negative cash
flow**

Better to **not take risks on property investments** in Chapel Hill



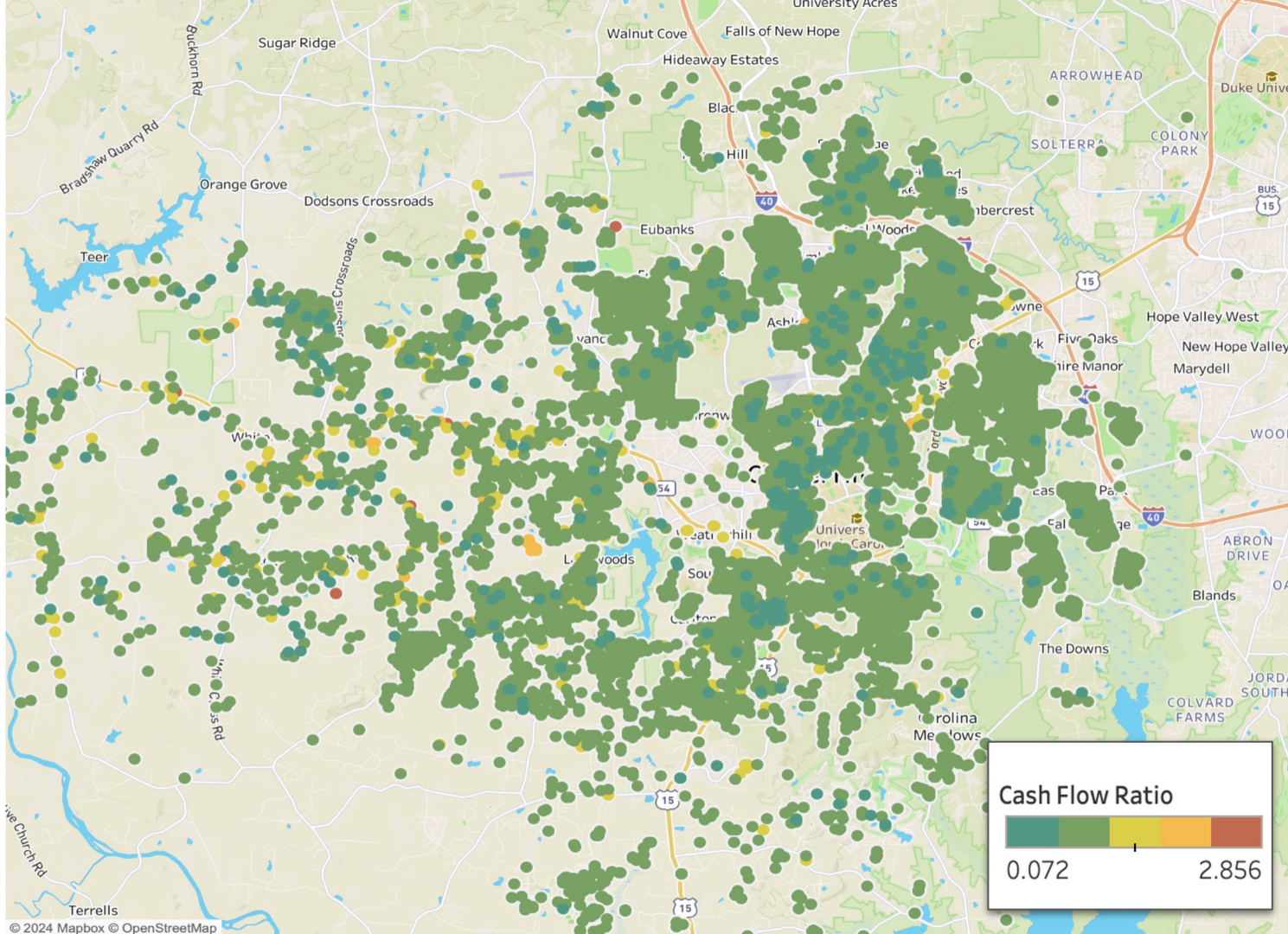
15%

**of Properties Project
Positive Cash Flow**

***Over 2,600 Properties**

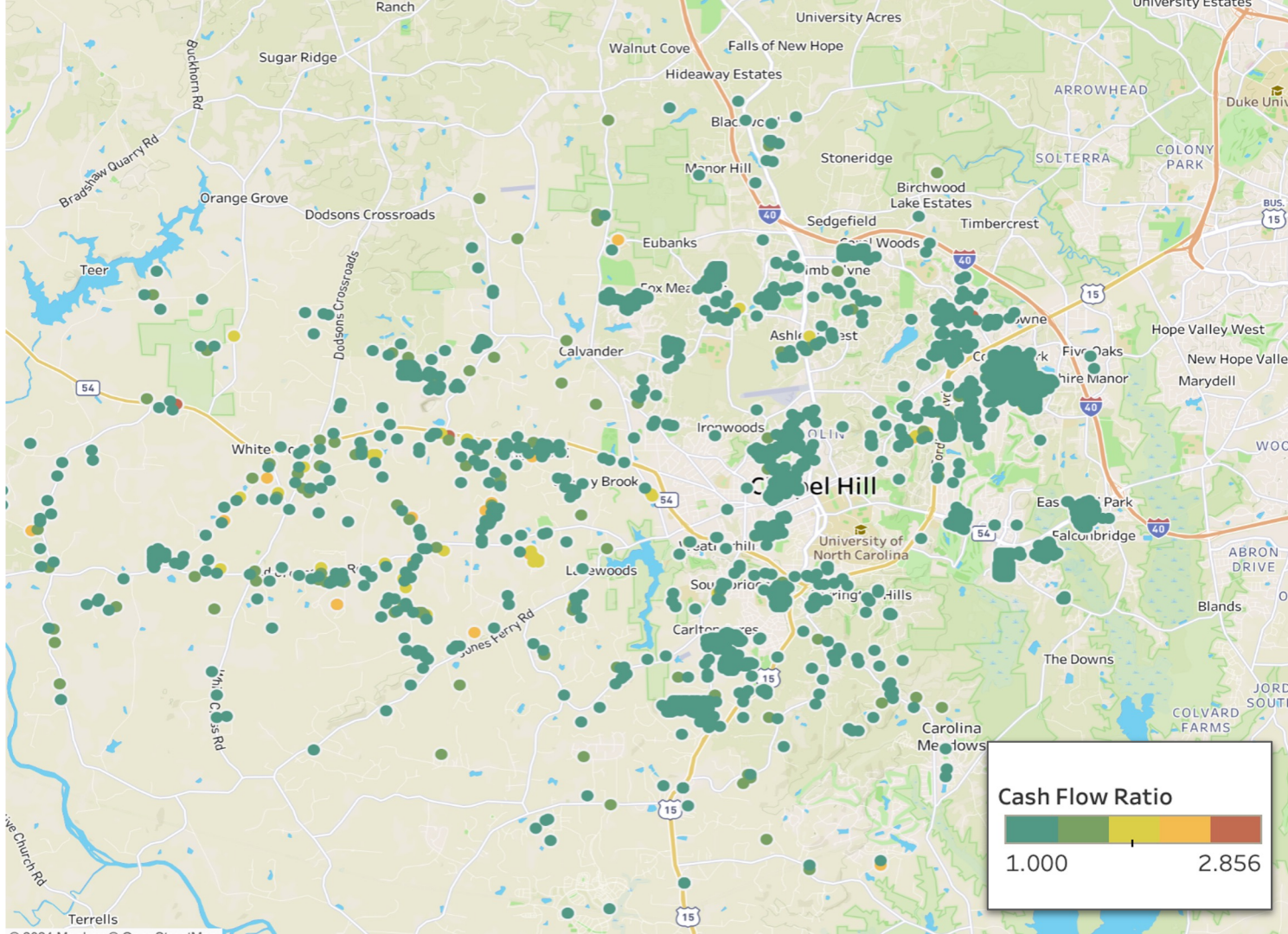
Chapel Hill Listing's cash flow ratio

All Properties



Chapel Hill Listing's cash flow ratio

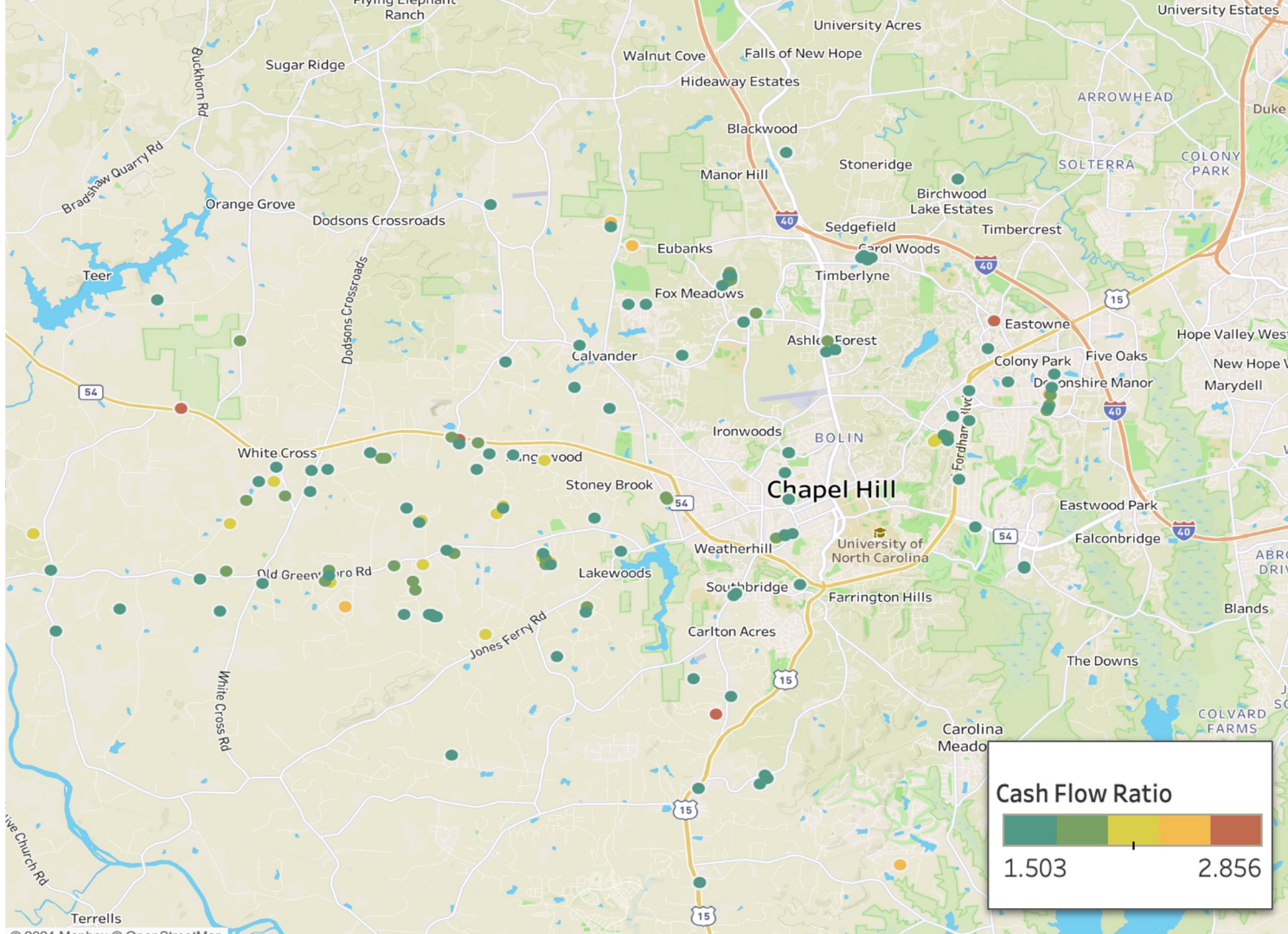
*Cash Flow Positive
Properties*



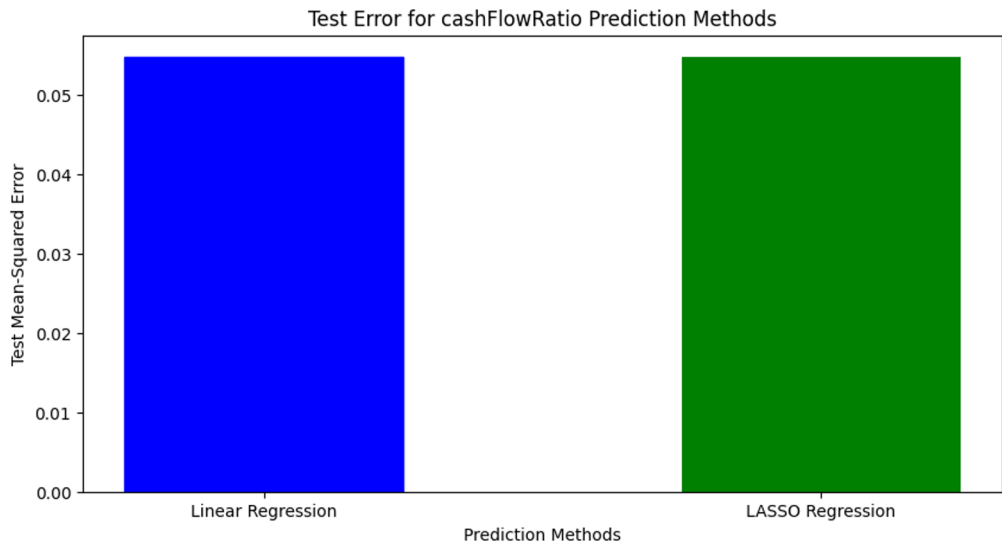
Chapel Hill Listing's cash flow ratio

The Gems

*Profit from at least
30% rent each
month*



How can we predict positive cash flow in properties with little information?

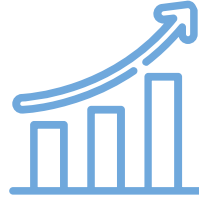


- Many properties are missing a *taxAssessedValue* and *zestimate* value
- Regression can provide a viable solution for forecasting cash flow in these cases
- Using a regression model with *rentZestimate*, *hoaFee*, and *price*, we find penalization is not needed

Key Findings



15% of Chapel Hill properties would result in a **positive cash flow** for investors



Predicting cash flow is possible with a **simple linear regression**



Investors should look for Zillow listings that have features similar to **cluster 3**

Recommendation

Investors should...

1

Invest in properties with
low initial investment &
high rental estimates

2

Be risk-averse when
investing in Chapel Hill
Property

Thank You

Any Questions?

