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Family Matters Program

Finding homes for financially
struggling families in King County





3 – 4

The U.S Census for 2015 estimate for the average family size in King County



\$20,090 – \$24,250

The 2015 poverty guideline for a 3 person and 4 person family



28/36 Rule

Housing payment - 28% of monthly income

All debt - 36% of monthly income

Outline



King County



Business Case

What are houses are we looking for?



Data & Methods

Our process of understanding the data



Analysis

Findings derived from our data analysis



Conclusion

Closing statement and recommendations

Business Case



King County Housing Authority is looking to buy 3-4 bedroom homes for financially struggling families, but need insight on:

- The features that are the most important contributors to price
- Where should we buy homes
- Searching for the best fit home

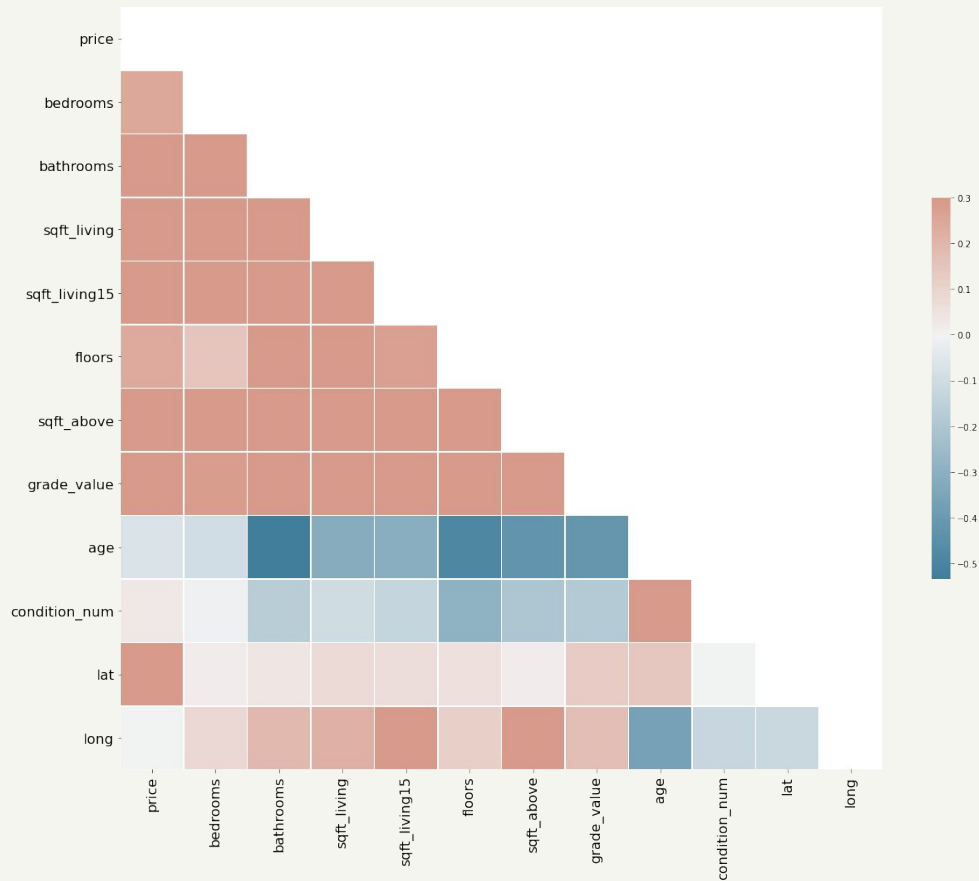
Data & Methods



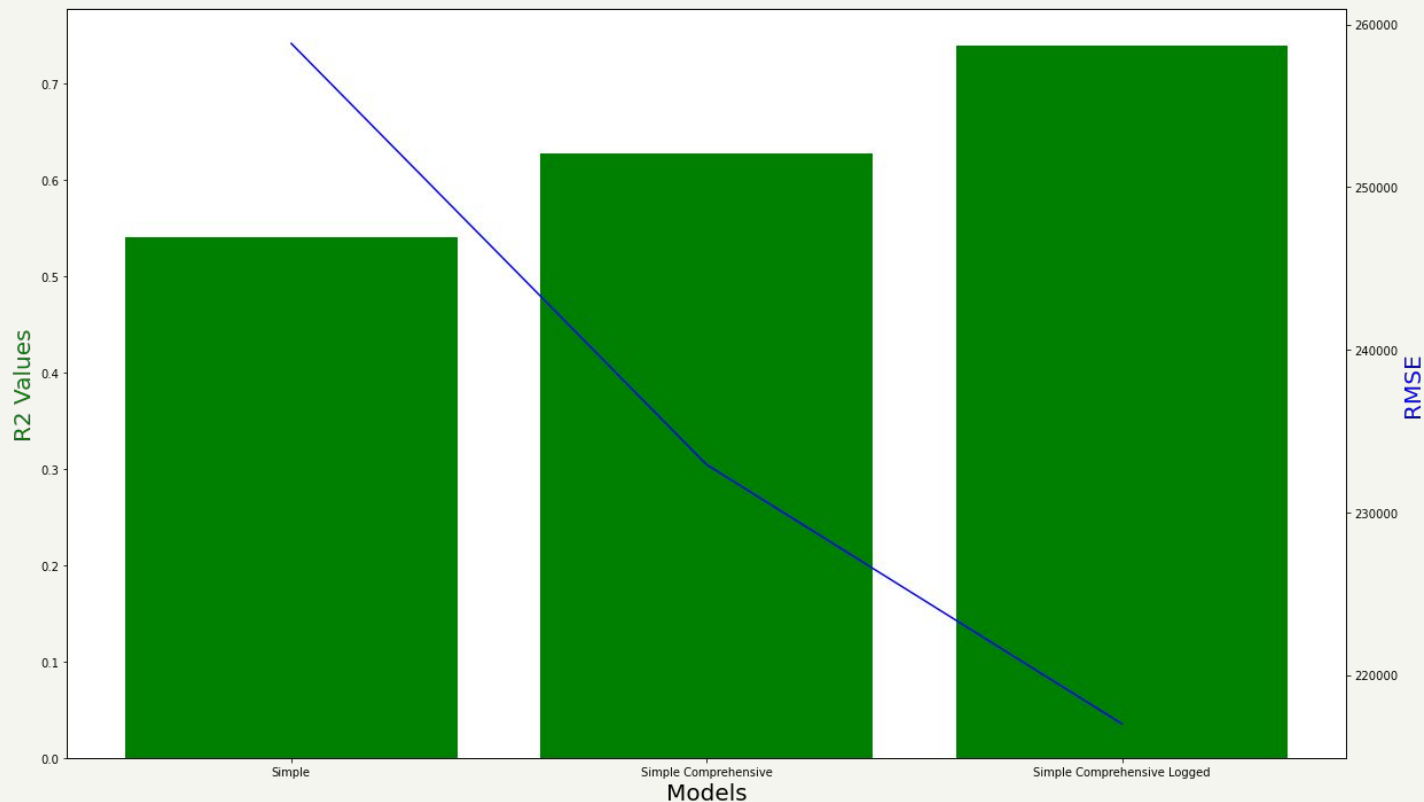
Our data comes from the 2014 - 2015 King County house sales of 22,000+ homes and our methods used to analyze the database are:

- Data Collection and Cleaning
- Descriptive and Inferential Analysis
- Linear Regression Modeling & Predictions

Relationships of Features and Price



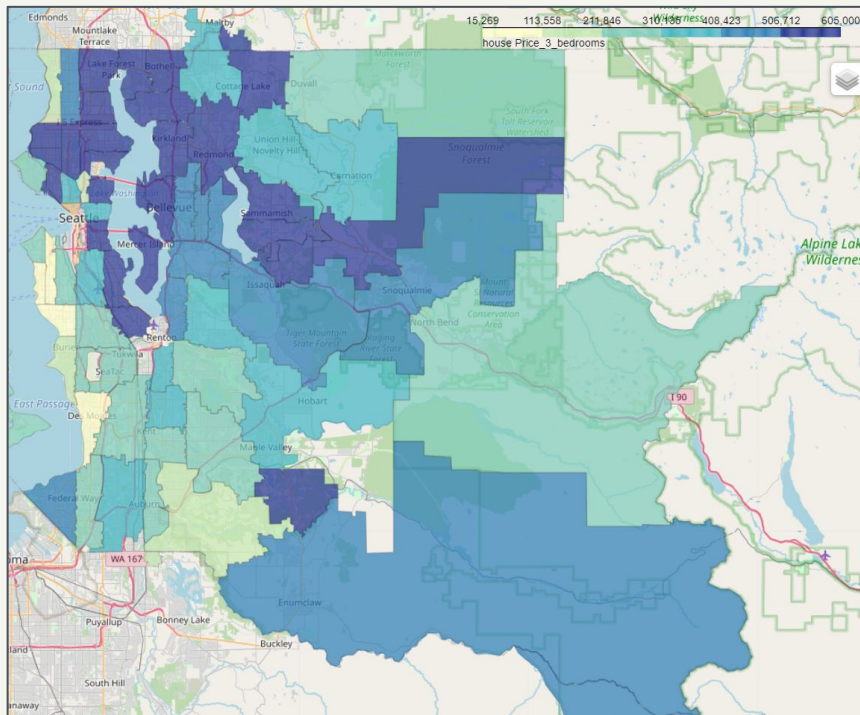
If at first you don't succeed, try, try again



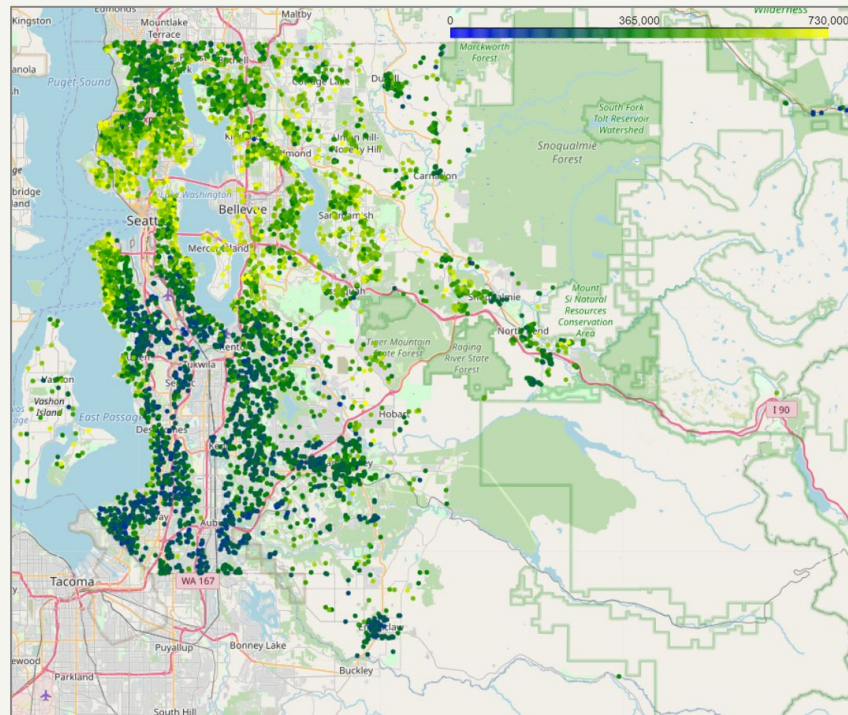
Features of Home



Three Bedroom Homes

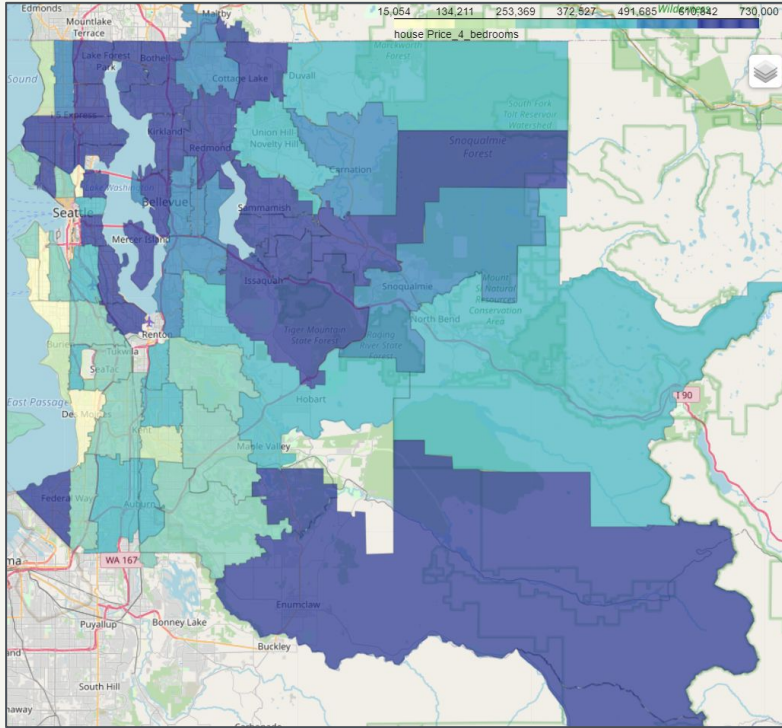


Map of Average Prices by Zipcode

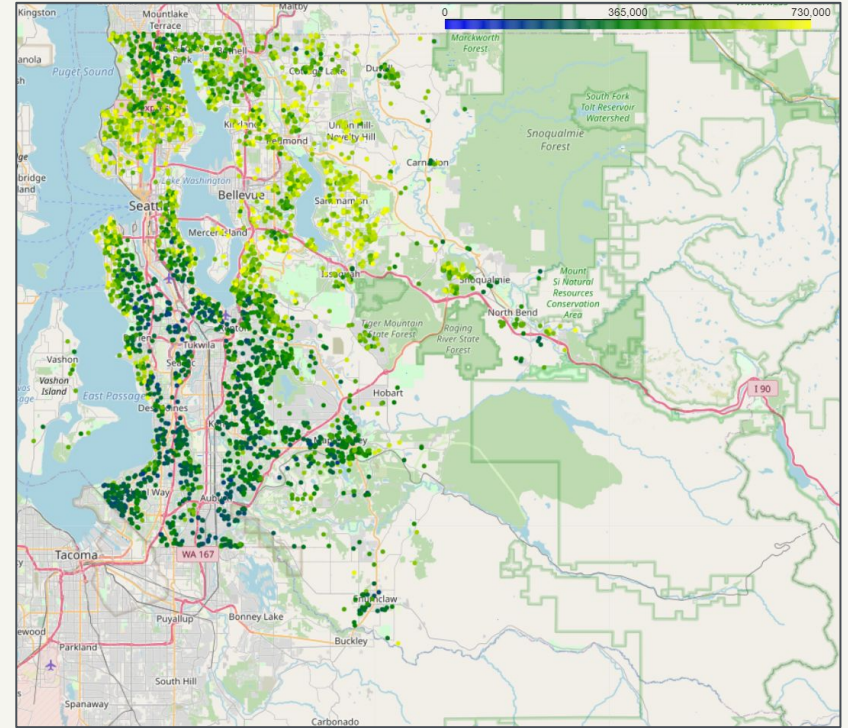


Map of Home Prices in King County

Four Bedroom Homes

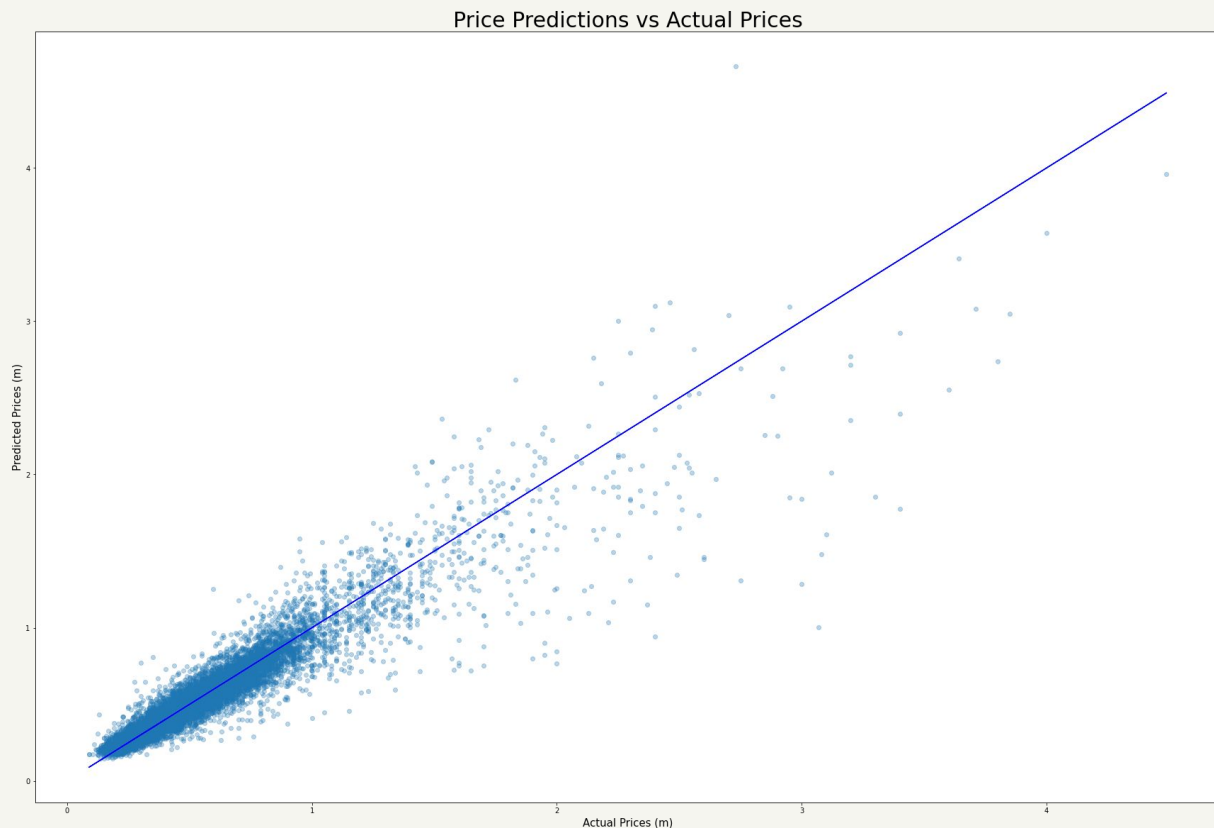


Map of Average Prices by Zipcode



Map of Home Prices in King County

Linear Regression Model



R^2 : 74%

RMSE : \$186084.69

Robin Hood Algorithm™

```
price_calculator_zipcode_log(98023)
```

How many SQFT is the house?

2000

What grade is the house? From 1-Fair to 7-Excellent

3

How many bedrooms does the house have?

3

How many bathrooms does the house have?

2

How many floors does the house have?

2

What condition is the house in? 1-Fair to 4-Very Good

3

How many years passed after last renovation? If never renovated put age of the house.

20

What is the average sqft of 15 closest neighbors?

1850

How many SQFT is the house excluding the basement?

2000

What is the latitude?

47

What is the longitude?

-121

For given specifications expected price range for a house in 98023 zipcode would be \$85917 - 143195.

For given specifications expected price range for a house in King County would be \$126417 - 210695.

This zipcode is underpriced with average \$114556.47615101683 compared to King County market average of \$168556.43749921498

Conclusion

Our finding recommendations:



Where should we buy homes?

To buy the most amount of homes, target the lighter areas on the zip code map.



What feature is most important for prices of homes?

Grade and square feet living are the most prominent factors in price



How to search for the best fit home?

Use the Robin Hood Algorithm™ to decide whether a specific house is a good buy compared to the KC area.

Next Steps...

Following our recommendations, our next steps would include:



Where should we buy homes?

More location data:

- School District
- Crime Rate
- Zip Code area vs socioeconomic status



What other feature contribute to prices of homes?

Additional feature data such as garage, size of rooms, or if the home is furnished or not



How to search for the best fit home?

More engineering to streamline the input process

Questions?

Let's connect!



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