
King County Market Report



King County Real Estate
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Why Are We Here Today ?

Strong buyer demand

Limited inventory

Low interest rates





Data and Method

The Kings County Housing dataset:

- 21597 houses sold during May 2014 to May 2015
- 20 features including price, size of the houses, location, grade and others
- Median price of the houses: \$450,000
- Mean price of the houses: \$ 540,296



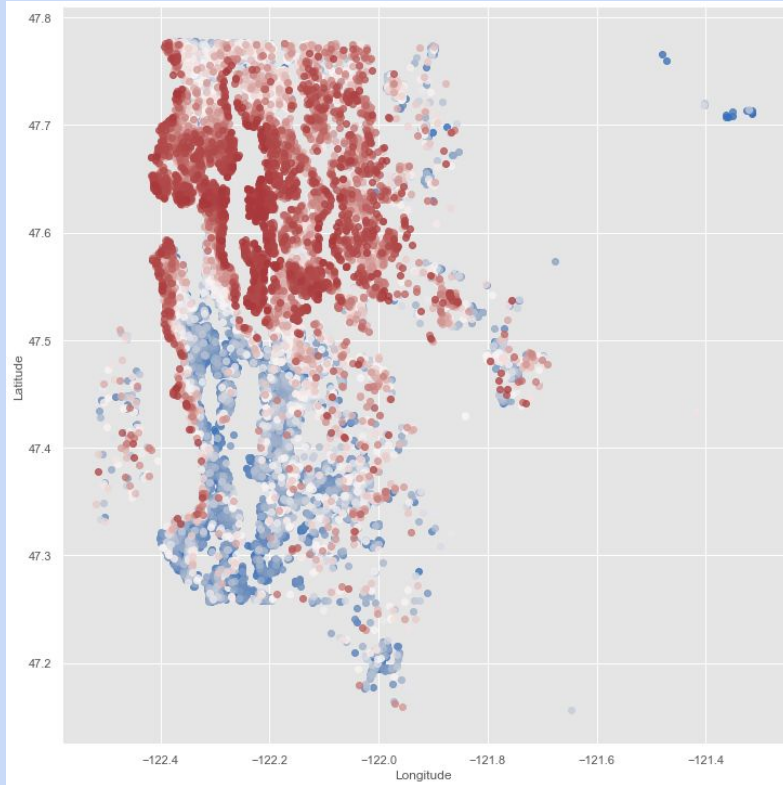


Methods

- An exploratory data analysis was performed
- 4 Linear Regression models have been built and refined
- The models with predictors were trained and tested
- Find out the important features of predicting housing prices in King County



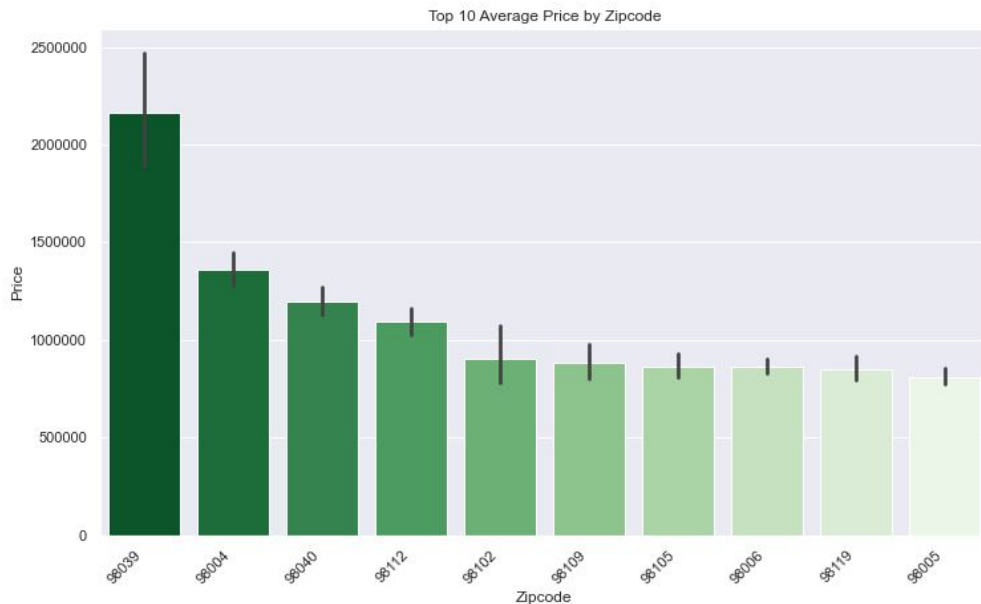
EDA - Housing Prices Heatmap



Higher price homes are located in North King County.

More dark red dots are located on waterfront.

EDA - Top 10 Housing Prices by Zip Code



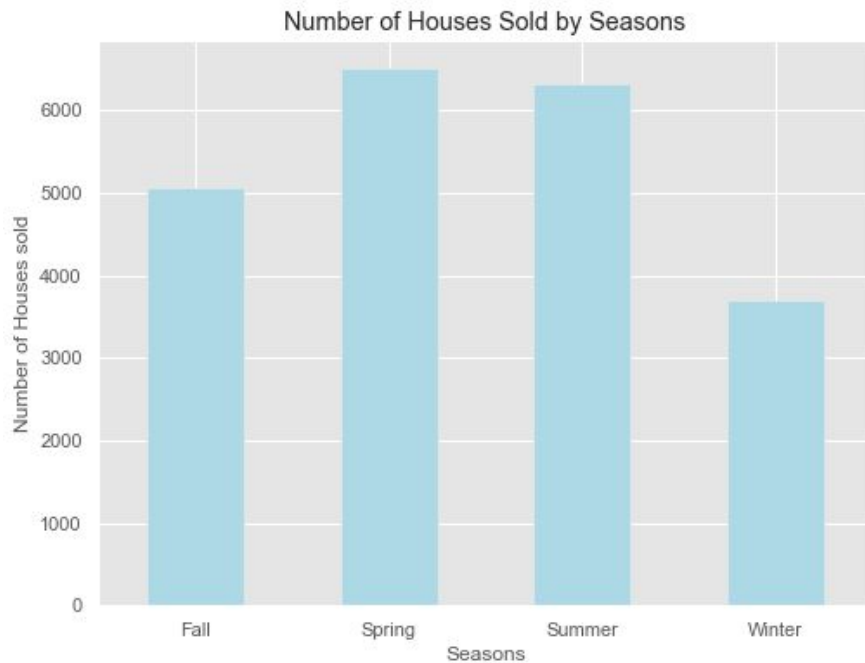
Except zip code 98039 , housing prices in other top 10 zip code are not spread out.

EDA - Average Price by Season



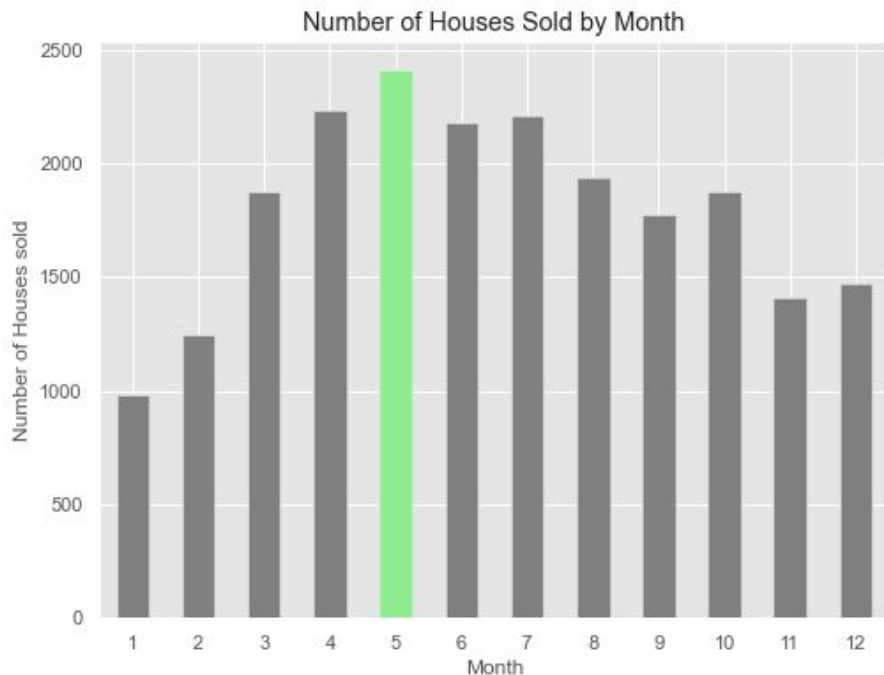
Spring and Summer are the seasons with higher average housing prices.

EDA - Houses Sold by Season



More houses are sold during Spring and Summer.

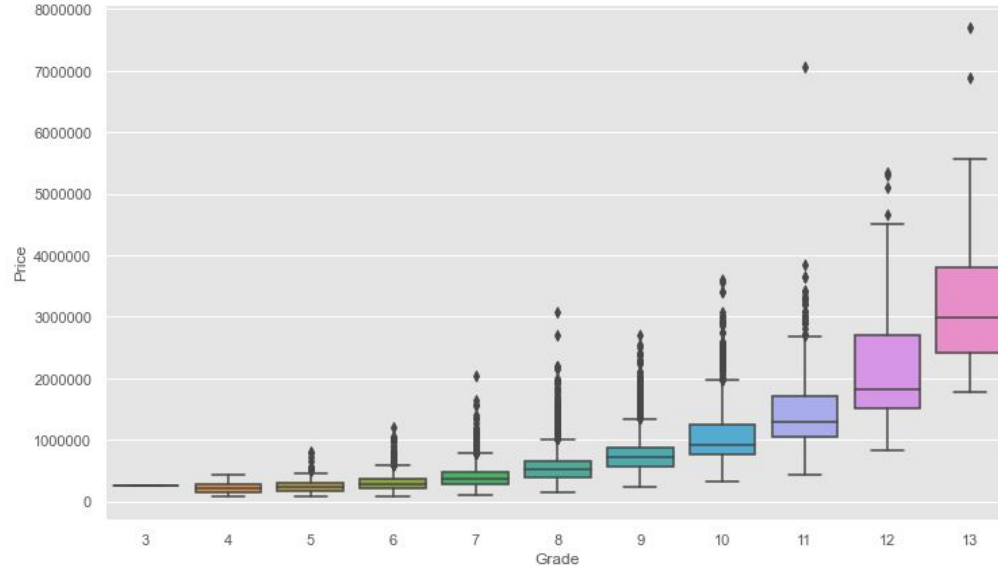
EDA - Houses Sold by Month



More houses are sold from March to August than other months.

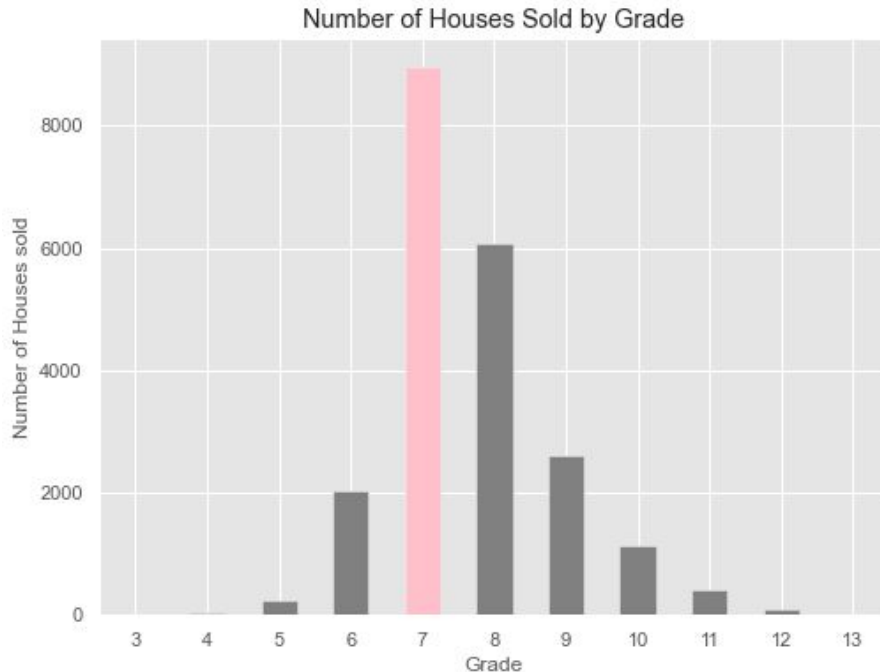
Buyers should expect to see more inventory starting from March.

Average Housing Price by Grade



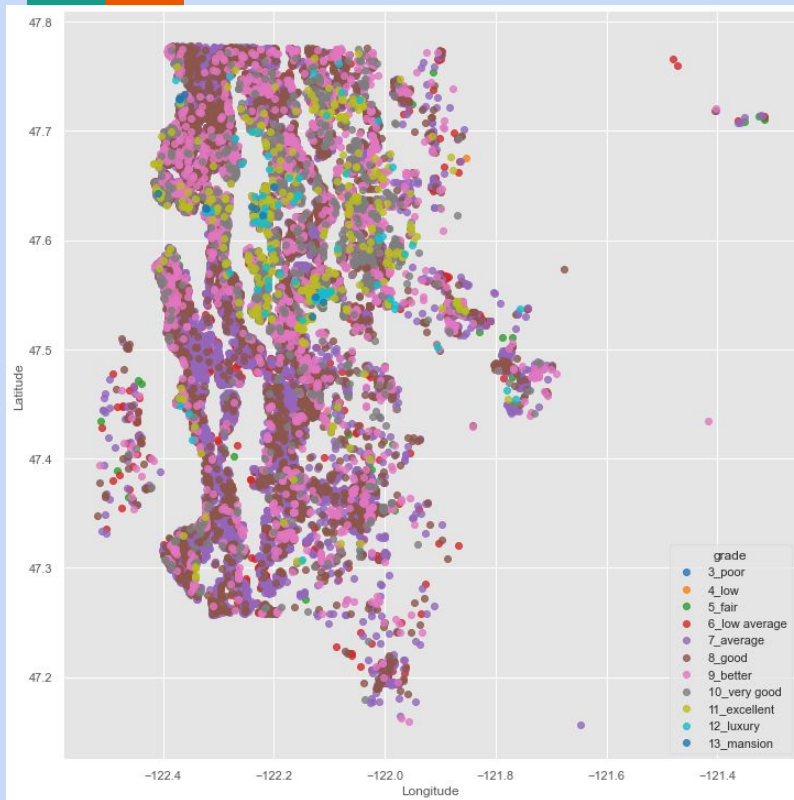
Housing prices to increase with a higher grade.

Houses Sold by Grade



Average grade houses are most available followed by good and better.

EDA - Houses Grade Heatmap



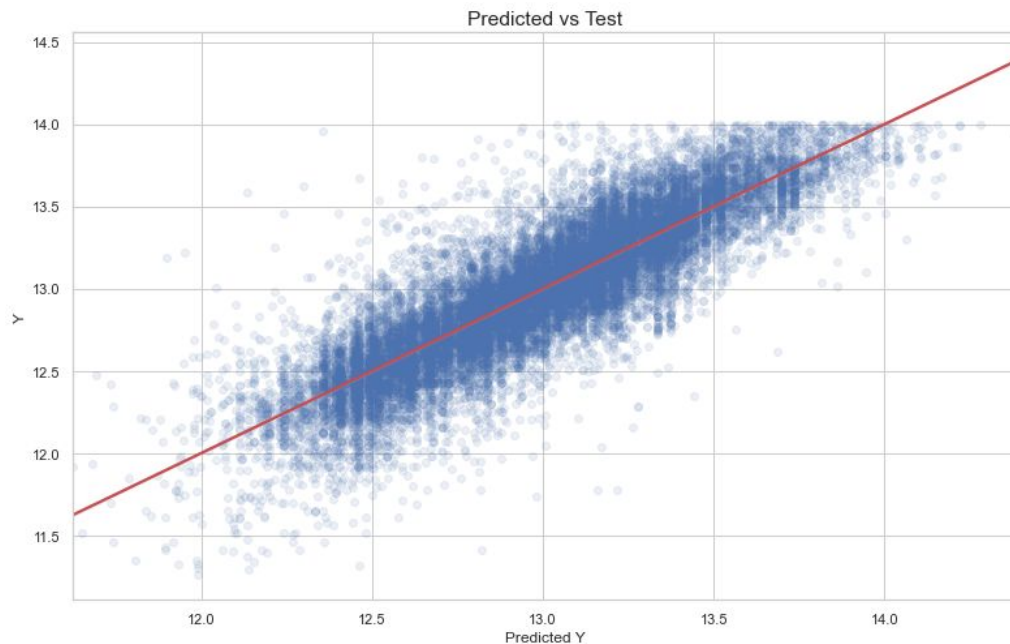
- Average grade houses are the most available
- Excellent or luxury homes on waterfront



Price Prediction Model

	Model A	Model B	Model C	Additional Refinements	Final Model
R-squared (accuracy)	53%	58%	77%	82%	74%
Features	3 features Baseline Model	More categorical variables added	Zip Code variable added	Remove outliers and log transformation	Feature ranking with recursive feature elimination

Price Prediction Model



- Excluded housing prices more than \$1.6M
- The final model can explain 74% of variants in price to predict housing prices in King County

Conclusions

- Construction quality, design, living space, condition, and bathroom impact housing prices greatly
- Location, location, location ! Where the house is located determines the price most !
- Crime rate, household income, school district, public transportation, inventory on the market and mortgage interest rates were not considered in this research



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Any Questions ?