King County Housing Project

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Agenda

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Problem Statement & Business Value

What is our business case here?

For this project we are looking to maximize the profit when selling a home in King County.

We are primarily concerned with:

1. What influences the housing prices in King County?
2. If we built a new home how accurately could we predict the sale price?

Value: Creating a model with high predictive ability will allow us to improve our original asking price for the homes we sell (so we can sell more profitably) and allow buyers to forecast what they will spend to enter this market.

Data Used:

KC Housing Prices

Methodology

What was the Methodology?

For this project I evaluated the KC Housing Data Set and reviewed the factors that could potentially influence the prices of the homes in King County. After exploring the data, a few highly correlated factors were selected.

Analysis was performed on:

- Square Footage of the Home
- # Of Bedrooms
- # Times viewed
- Waterfront View
- Grade of Home
- Condition of Home
- Location

The Housing Model

Quick King County Data

Avg. Price: ~$540,000

Max Price: $7,700,000

Low Price: $78000

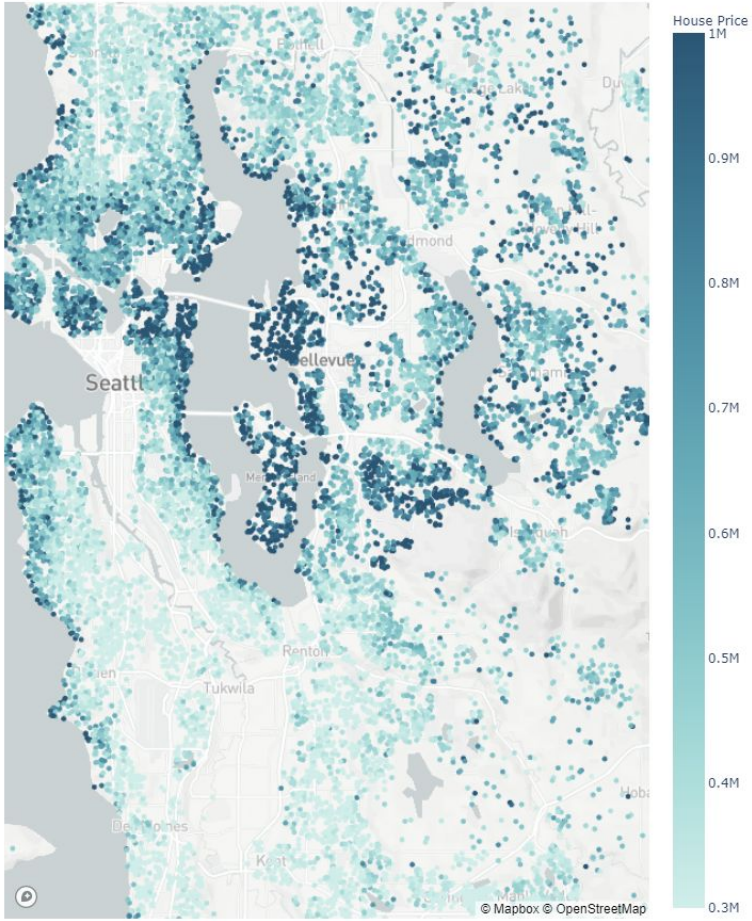
21597

Homes evaluated

Grade 7

Average Grade of Homes

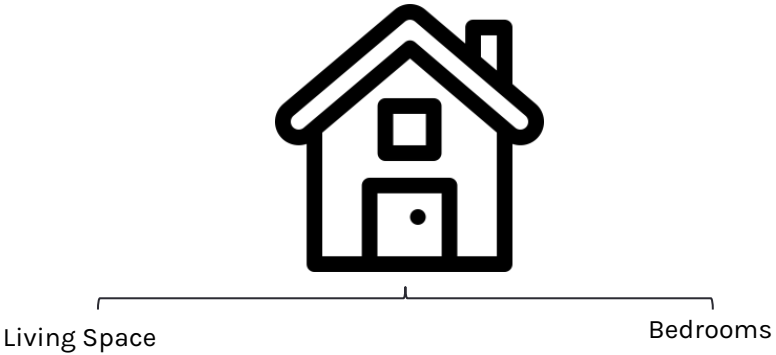
King County Housing Prices



The Housing Model

Test #1

Hypothesis: The items needed to predict the housing prices in King County are the size of the living space, number of bedrooms.



What was the end result?

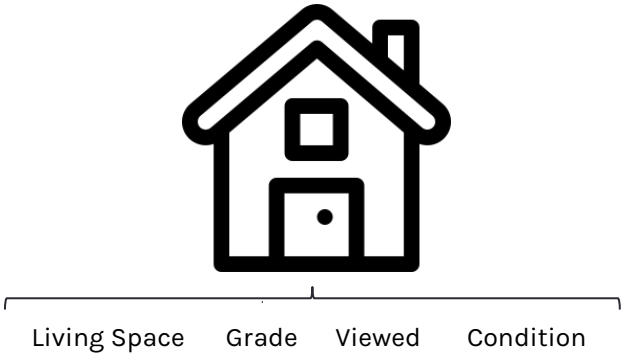
This Model's Accuracy is:

~47%

The Housing Model

Test #2

Hypothesis: The items needed to predict the housing prices in King County are the size of the living space, the grade of the home, how many times it has been viewed, and the condition.



What was the end result?

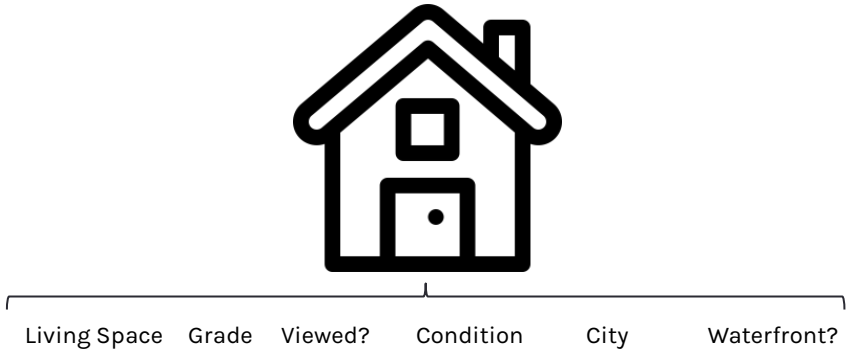
This Model's Accuracy is:

~58%

The Housing Model

Test #3

Hypothesis: The items needed to predict the housing prices in King County are the size of the Living Space, the home grade, how many time it's been viewed, the condition of the home, the city, and whether or not it has a water view.



What was the end result?

This Model's Accuracy is:

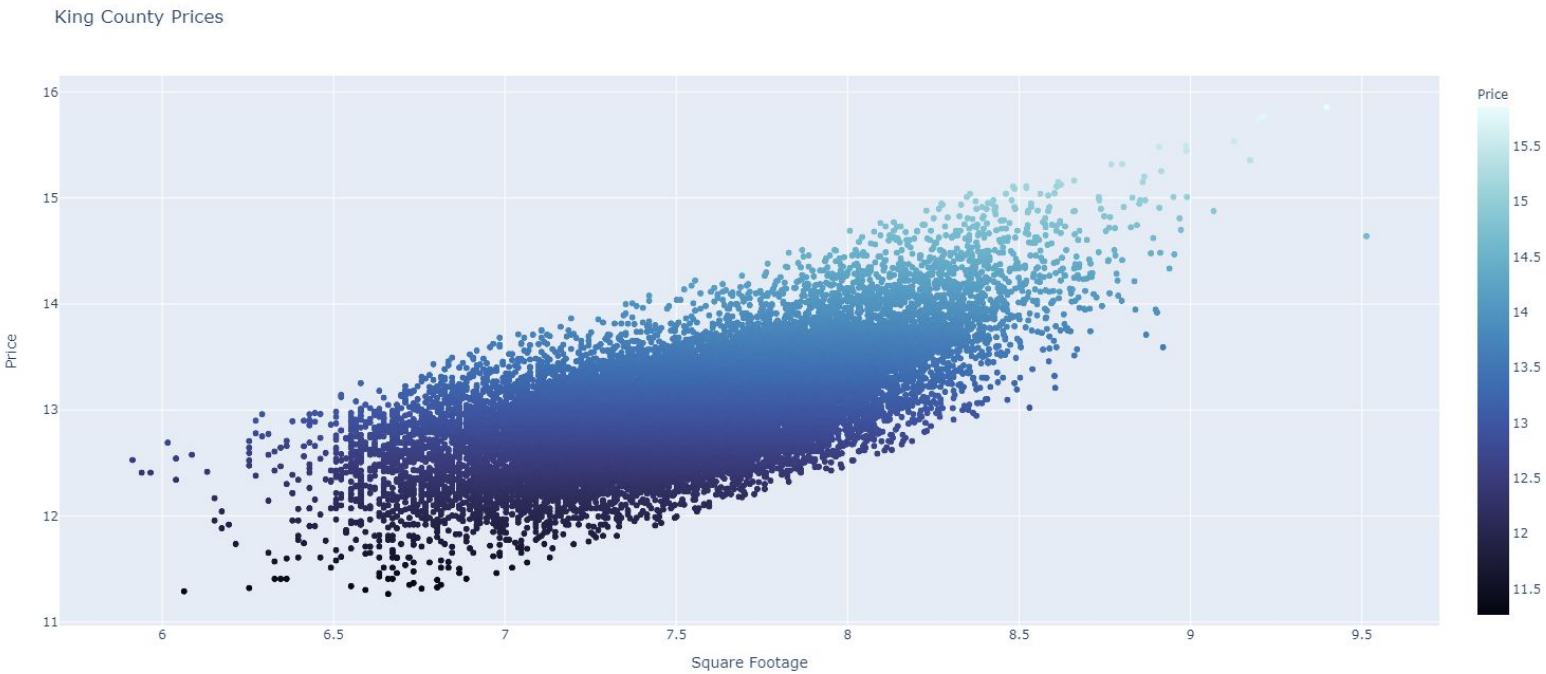
~84%

This is selected as our final model.

Recommendations

Big House, Big Profits

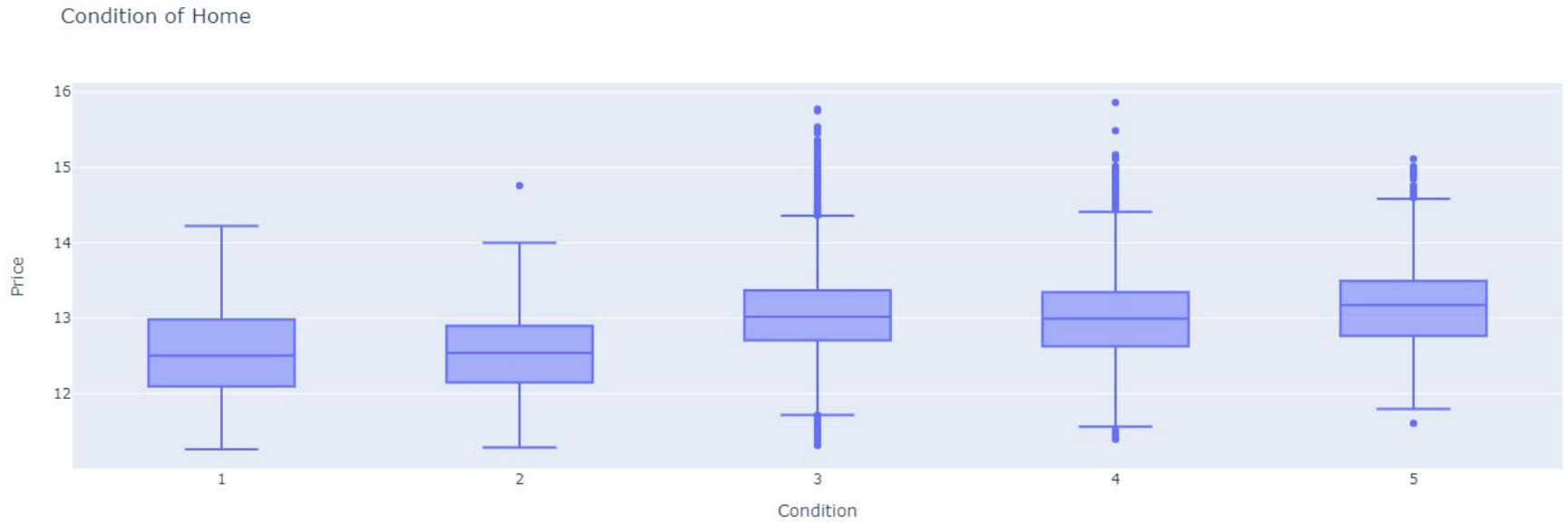
Takeaway: The larger the home we build, the higher the price. Adding on extra square feet can improve the total value of the home.



Recommendations

Keep It Classy

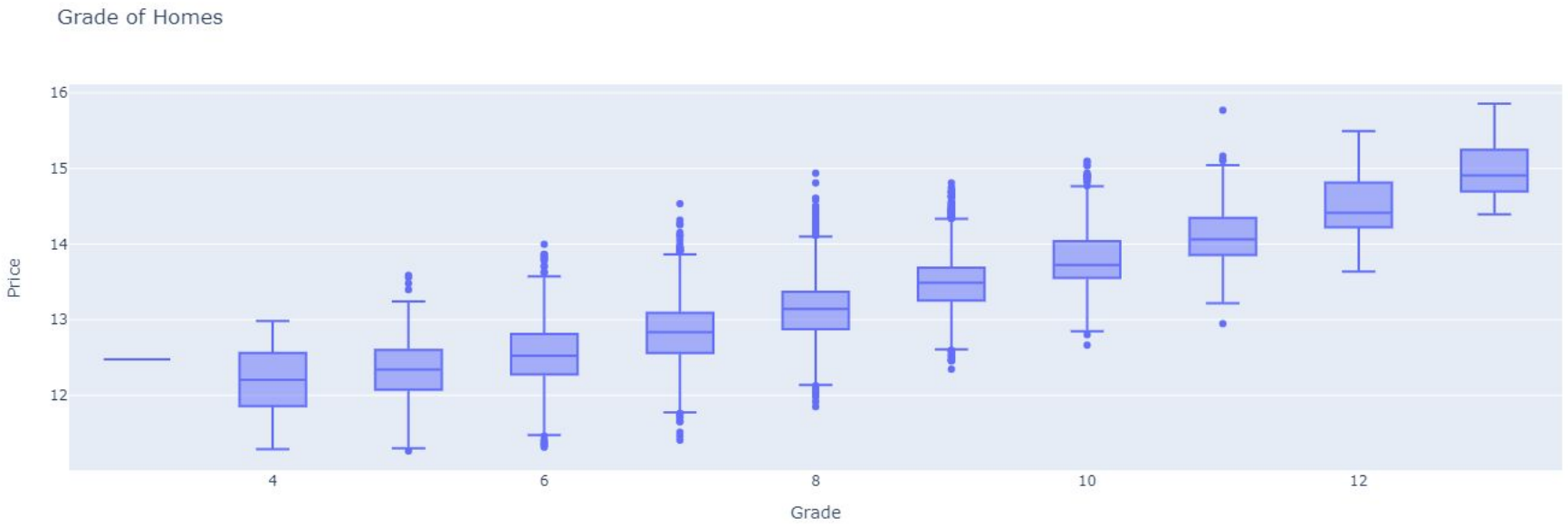
Takeaway: Improving or maintaining the condition of the home through repairs or upkeep will maintain and increase the value of your home.



Recommendations

Make It Fancy

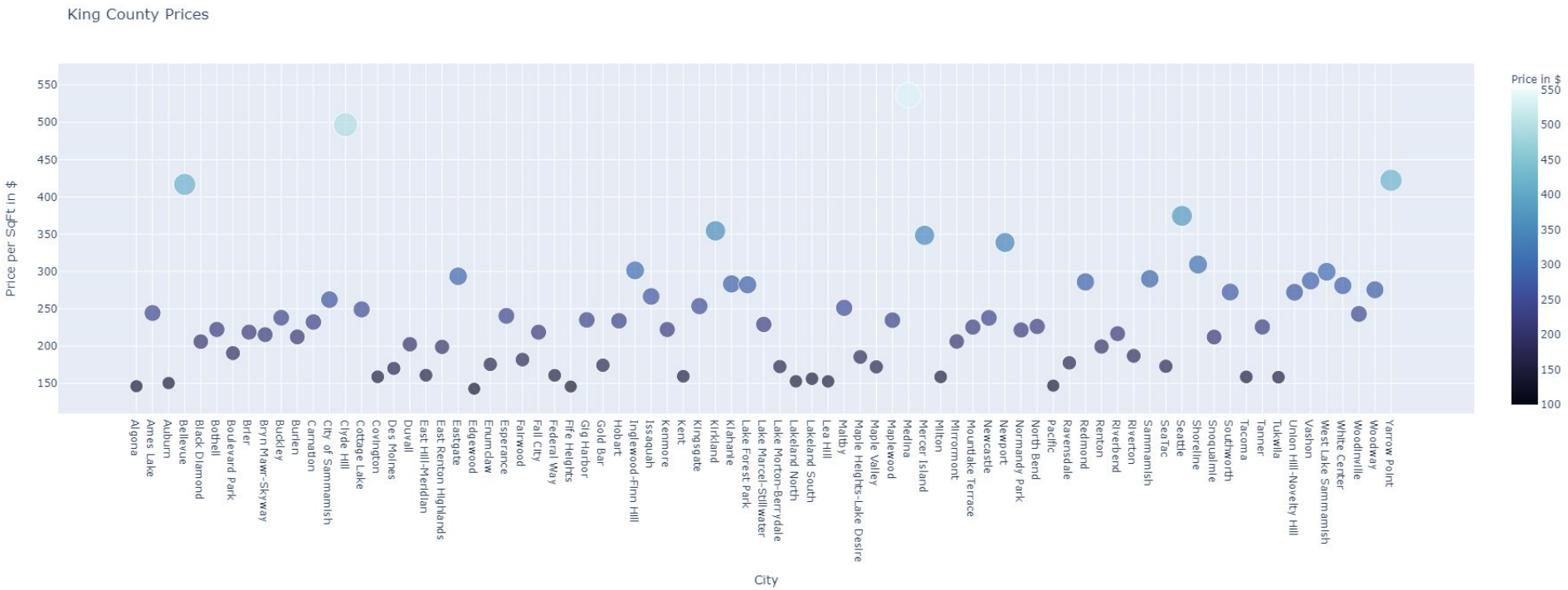
Takeaway: The grade of the home is very important when it comes to maintaining the price, consider adding newer materials or improving construction quality.



Recommendations

Location Matters

Takeaway: Make sure you're aware of the housing prices in your city.



Future Work

Where do we go from here?

The future of this project would involve adding more information to the model to better improve the accuracy which would in turn better improve our predictive ability for buyers and sellers looking at the KC housing market..

Some potential factors that might influence the price would be:

- Does the age of the home have an influence?
- How often should you renovate a home to maintain the value?
- Should we build homes taller to improve value or keep them flat?
- Would different models yield higher predictive power?

Additionally, other data sets that would be worthy of evaluation:

- Crime Data
- Public and Private School Locations
- Local Food Options
- Distance to Employers

Thank you!