

A decorative graphic on the left side of the slide consisting of two overlapping parallelograms. The front one is blue and the back one is a light green. They are positioned diagonally, with the blue one partially covering the green one.

# Maximizing the value of Residential Homes in King County, WA

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# Project Overview and Goals


- How to Maximize sale price of a Home you will build:
  - How to Choose where to Build Homes
  - Deciding home layout, construction quality and features
  - How to Present Home for Sale
- Build a Prediction Model for the Sale Price of Homes
  - How various features of the home impact price
  - What features are essential
  - What features should be avoided
  - How to Maximize home value by manipulating these features





# Data Sources for Predictive Model

- A database from of 30,155 building sales within King County during 2021-22 with 25 home features was sourced from KingCounty.gov .
- To Make this database relevant to residential home builders
  - Removed homes without a bedroom or bathroom
  - Homes with construction not up to code
  - Homes above \$2.3 Million
  - Removed Features outside of your control
- Data set used to train model had over 23,500 homes and 17 features in total



# What Features Were Most Highly Correlated With Sale Price?

In order of rank:

1. Square Footage of a Space inside Home
2. Number of Bathrooms
3. Price per Square Foot
4. Number of Bedrooms
5. Construction Grade

These Factors as they increase have highest correlation for Home Value increase



# Our Sale Price Prediction Model

- An Ordinary least squares multilinear regression model was produced
  - A Model that takes all features into consideration at once to make predictions
- In the end, 9 home features were found to be the best predictors of Price
  - Home Placement
    - View Quality
    - Greenbelt Adjacency
    - Neighborhood Nuisances
  - Home Construction
    - Number of Bedrooms
    - Construction Grade
    - Living Space
    - Garage Size
  - Home Presentation and Sale
    - Month Sold
    - Condition of home



# The Power of the Prediction model

## Model Power

- When combined all Features included in the model have a significant relationship to over price
- The Amount of Variance in sales price explained is 55%
- The Average Error in a predicting Specific home's price is about \$200,000

## What can this Model tell us?

- This model can show us trends for how features affect Price
- What features in combination will increase the value of the home
- This model should will not produce exact sales price estimates



# Recommendations from Maximizing Home Value

## Choosing locations to Build Upon

Find a plot with a Fair rated view, any better isn't worth it - \$106,000

Adjacent to a Greenbelt - \$126,000

## Home Construction

Use Construction grade of "Good", "Better" or "Very Good" - Each of step up adds about \$200,000

## Home Presentation and Sale

Condition of Home (Home Maintenance)- Each of step up adds about \$50,000

Sell Home during April or May - \$80,000



# Contact Info

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Github Repository: [https://github.com/LayFish21/KC Housing Price Prediction/](https://github.com/LayFish21/KC_Housing_Price_Prediction/)

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