



King County House Pricing Analysis

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Introduction

- I have been tasked with analyzing the data of houses in King County. My goal is to make predictions about the sale price of houses based on certain variables or features, so that they can be used to make profitable decisions by a housing development company. This project provides actionable insights with respect to what kind of home renovations the home owners might make with the goal of maximizing the sale price of their home.

Business Problem

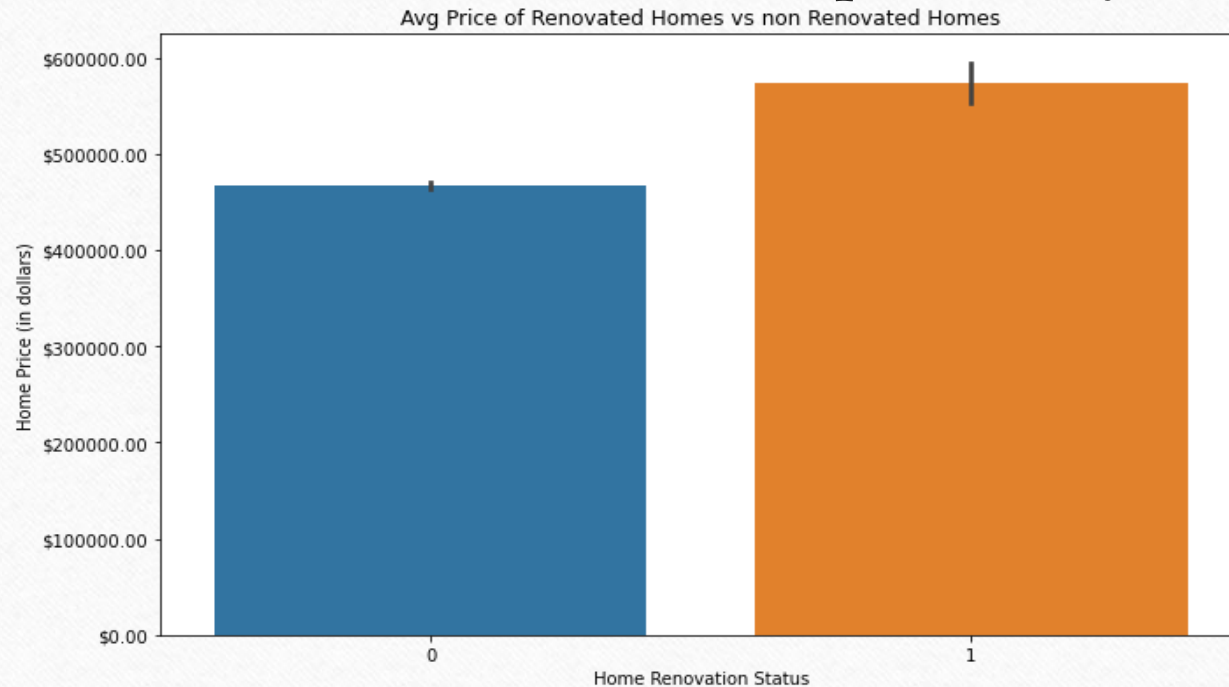
- Home owners in King County want to renovate and sell home
- Home owners don't know what factors are important for determining a home's value
- Need to determine what type of renovations to complete in order to maximize home sale price

Data and methods

- Data sourced from King County Housing dataset
- Data included information on home price, date built, square footage, grade, condition, renovation date, zip code, number of bed/bathrooms, and various other features
- Dataset consisted of data from 2014-2015
- Conducted multiple linear regression analysis leveraging these data
- Resulting model had an adjusted R squared value of 0.807, meaning model explains almost 80% of home price

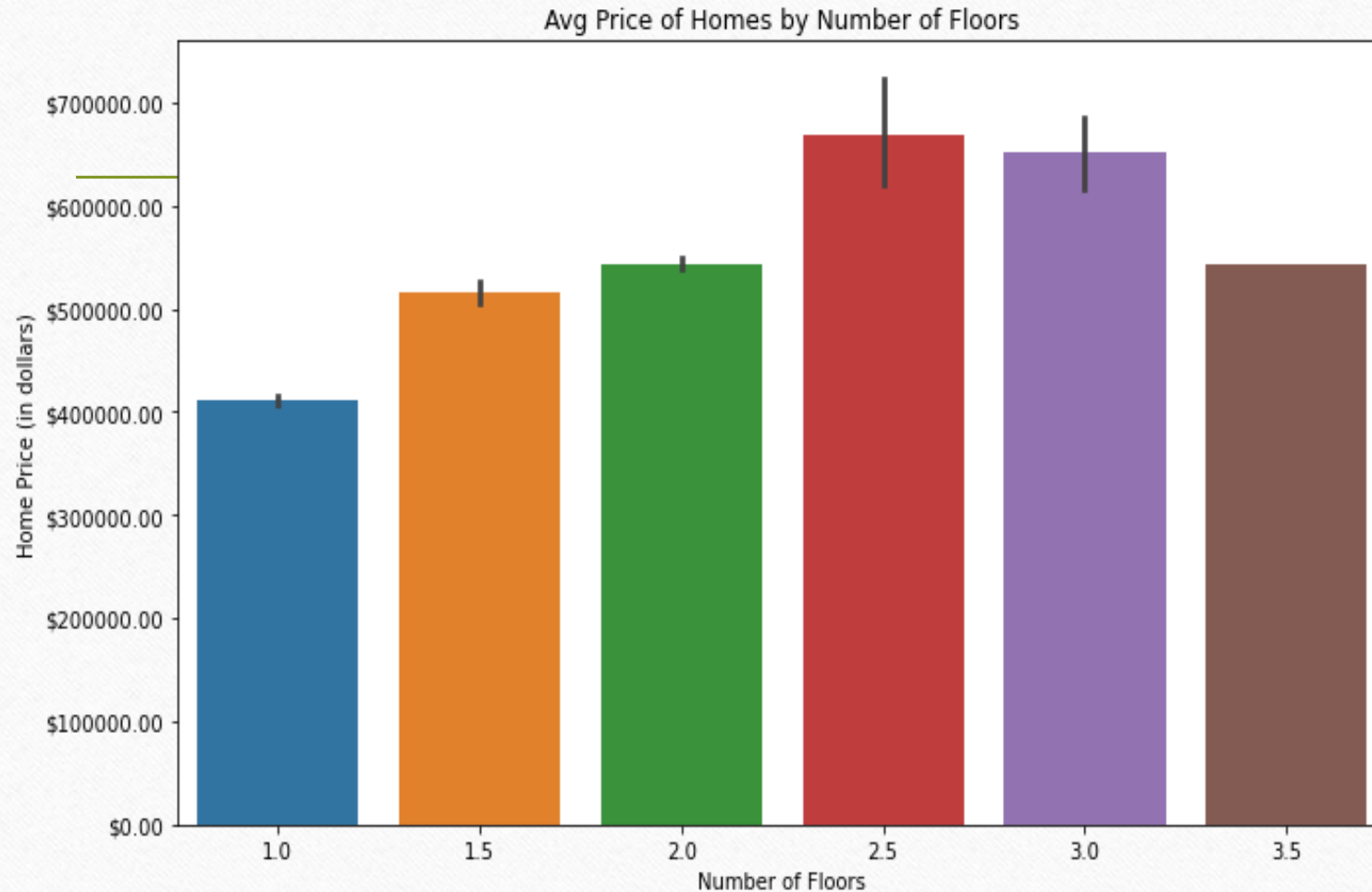
Results

Renovated Home vs Home price analysis



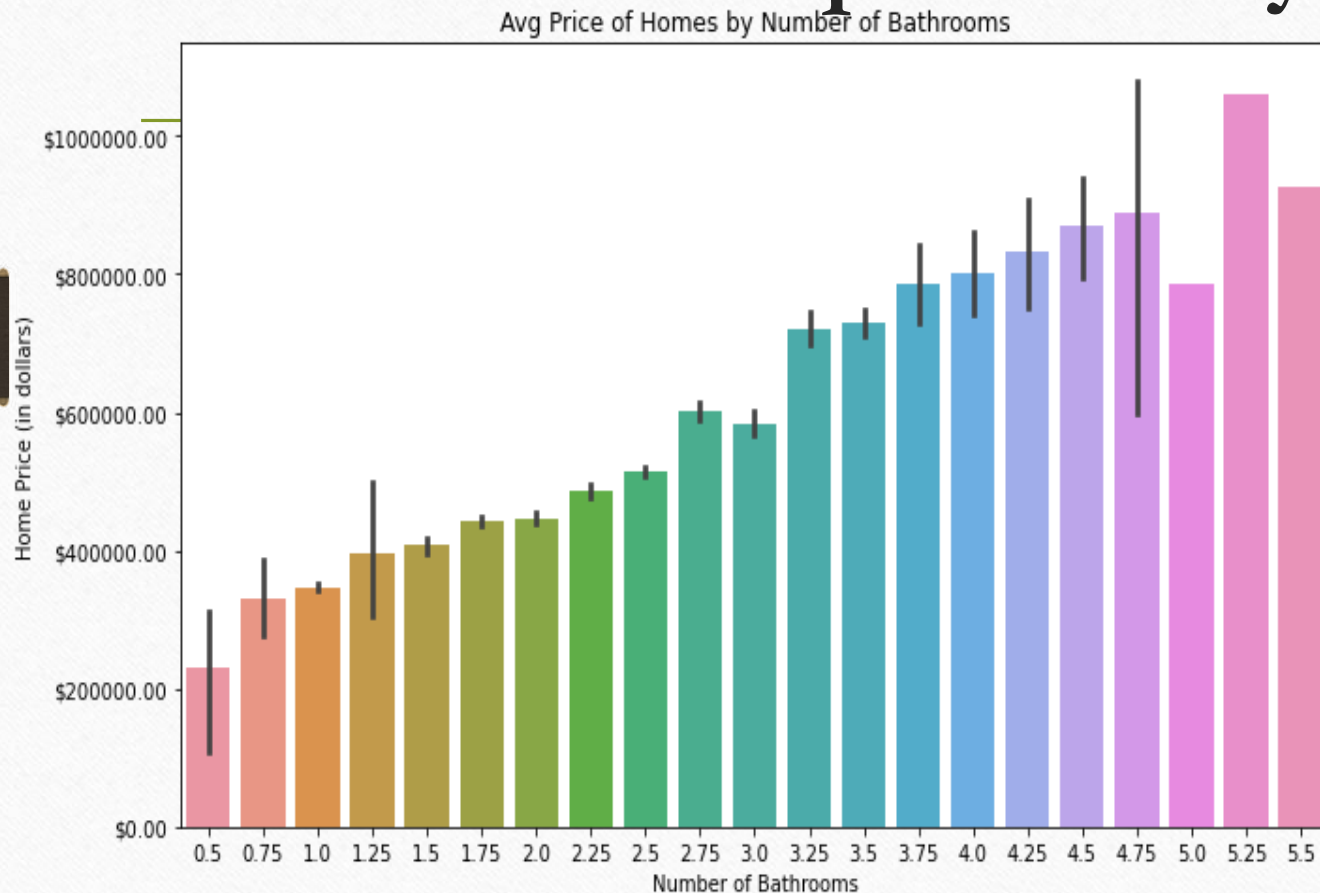
the price of renovated house are higher than the prices of non renovated houses. A renovated house will lead to an increase of price by \$27897.36.

Number of floors in a home Vs Home Price



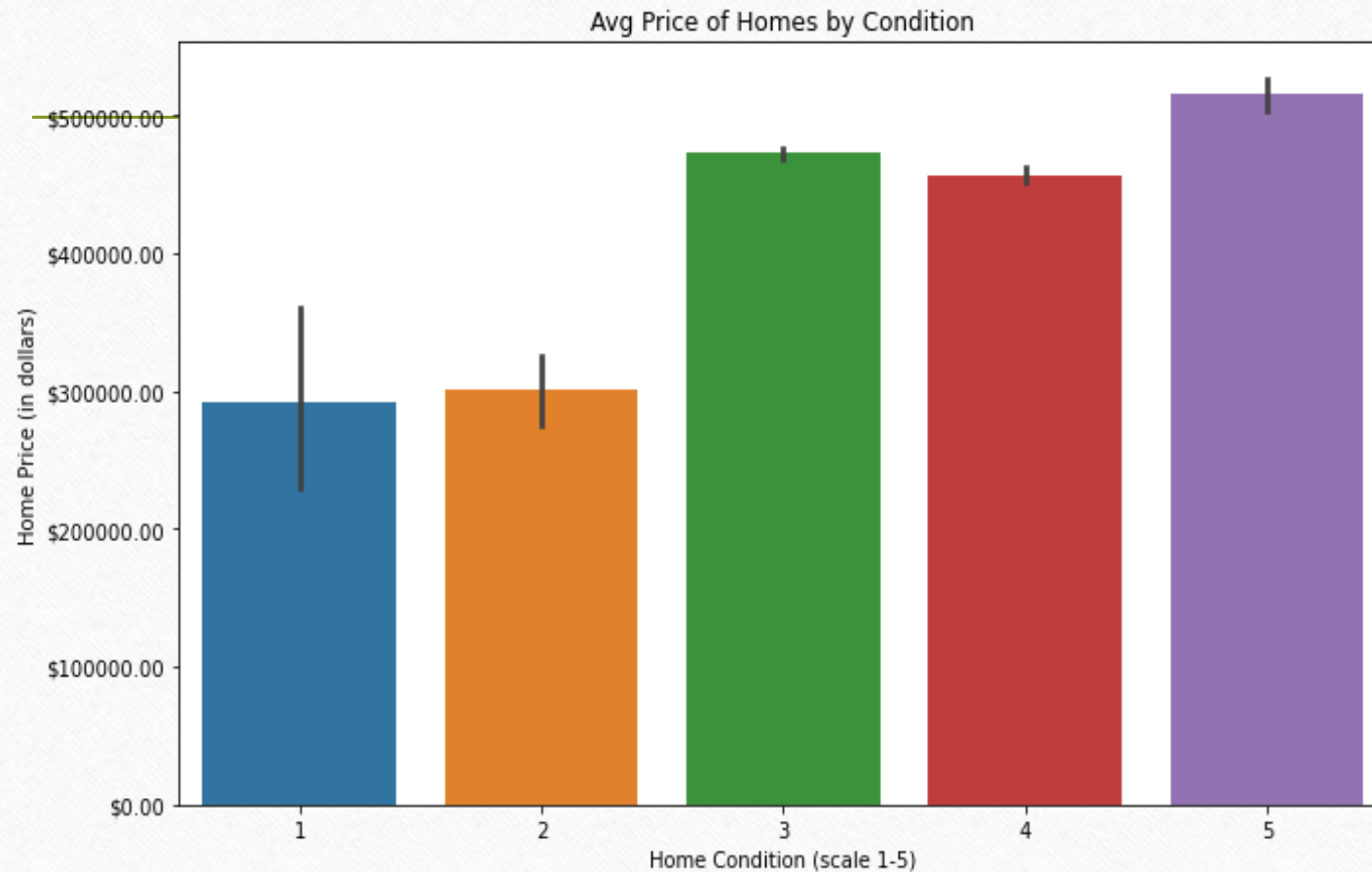
increasing the number of floors in a home by one could result in increasing the sale price of the home by over \$40,000

Number of Bathrooms in a home vs home price analysis



- Homes with more bathrooms sold for higher price
- An additional bathroom could increase home price by \$22,000

Home condition vs Home price analysis



Homes in better condition sold for higher price
An increase in condition of one level could result in increase in price of over \$15,000

Findings

- Multiple linear regression analysis of King County home sale data identifies actions homeowners can take to renovate their homes to ensure highest home price:
 - Renovating the home no matter how small it is which will increase the home price.
 - Adding more floors.
 - Increasing the condition of the home can increase the price
 - Add bathrooms

Conclusion

- Home renovation. As evidenced by a positive coefficient of 27897.36, means that renovating a home could result in an increase in home price of over \$20,000. Based on the results, I would recommend that homeowners should renovate their homes.
- Home condition has a positive coefficient of 16290.82, increasing the condition of a home by one level on a scale from 1-5, could result in an increase in home price of over \$10,000. Condition is defined by King County as an index from 1 to 5 based on the overall condition of the home. Homeowners should focus on improving the condition of the home, potentially by replacing appliances and features of the home.
- Home bathrooms. Evidenced by a positive coefficient of 22999.71, increasing the number of bathrooms in a home by one could result in an increase in home price of over \$20,000. Homeowners should consider adding bathrooms as a tangible way of increasing their homes sale price.
- Home Floors. Represented by a coefficient of 40326.13, adding floors to a home could potentially have a positive impact on sale price. home owners should consider adding more floors to increase their home sale price.

Recommendation

- the model can be made more perfect by acquiring more data on other features related to housing that could help better predict home prices.