FLATIRON SCHOOL

Module 2 Project: Exploring King County Housing Prices for Future Price Prediction

Graham Wilson

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Outline

- Introduction
- Methodology
- Data Exploration
  - Predictions
  - Is there an ideal location for home investing?
  - What are the ideal months to buy/sell a home?
  - How much do renovations affect home values?
- Conclusion and Recommendations

Introduction

Project –

- Perform data analysis on the King County real estate dataset and generate a regression model for predicting future sale prices.

Dataset –

- kc_house_data.csv

Goal –

- Provide management with an accurate predictive model of King County house values based on provided data
- Deliver insight into the local real estate market for future investment opportunities

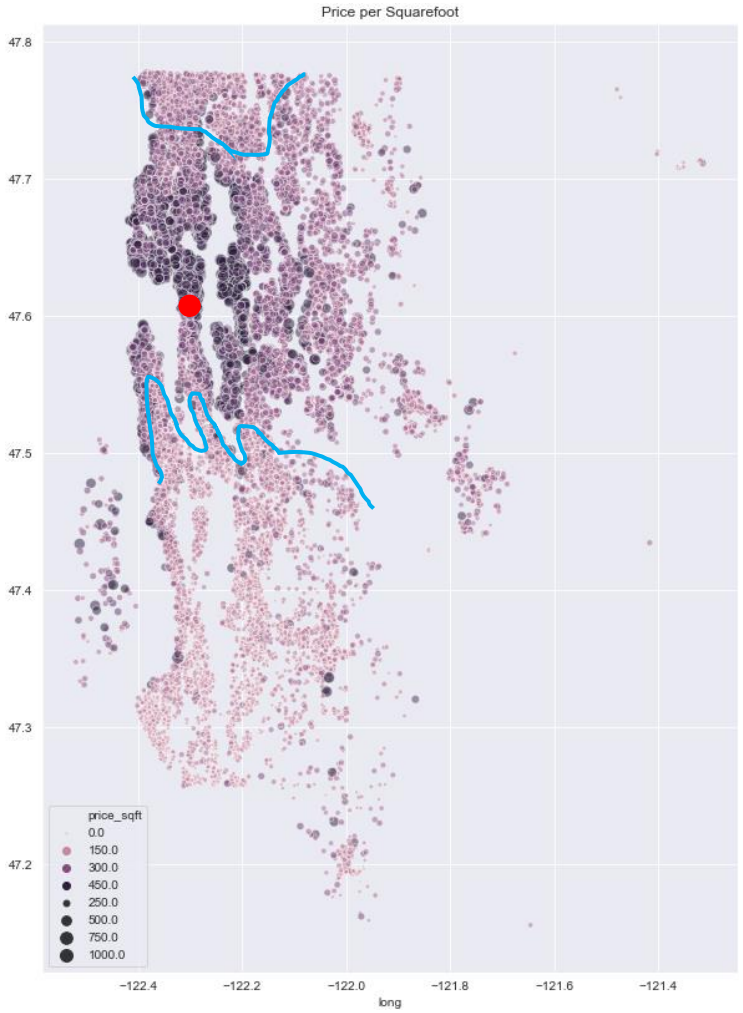
Methodology

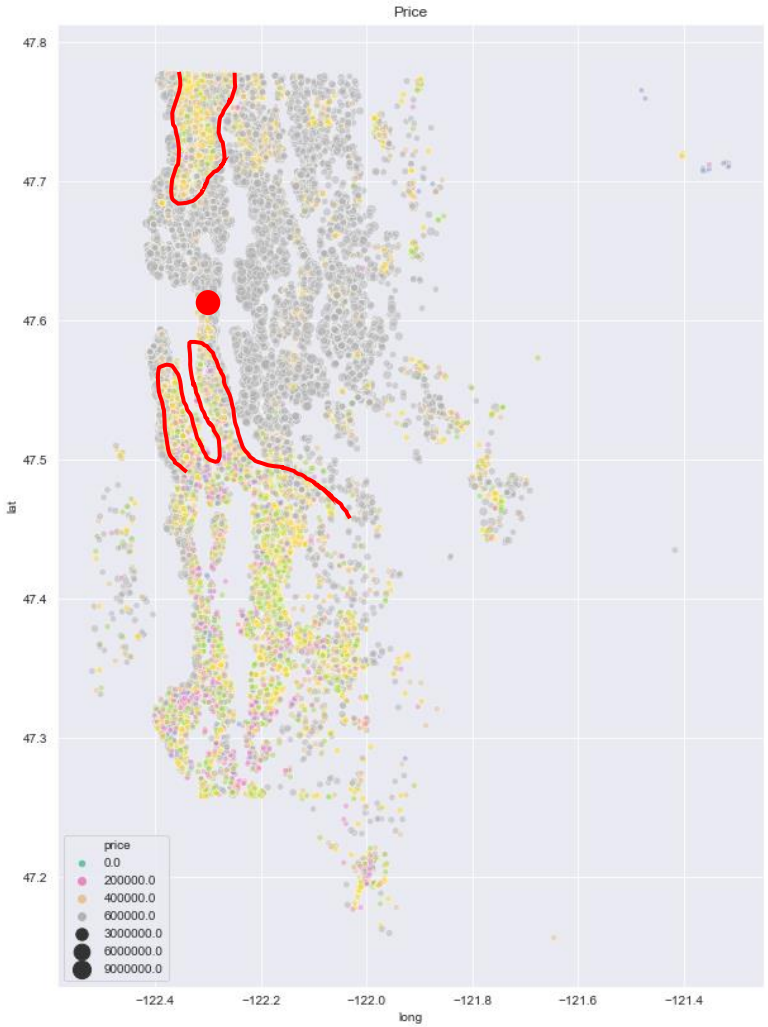
- Using Python:
  - Import data into Jupyter Notebook
  - Ask relevant questions
  - Scrub
    - Fill null
    - Convert data types
    - Drop duplicate values
    - Manage extraneous values
  - Explore
    - Characterize and transform relevant variables
  - Model
    - Linear regression
      - Restrictions – Homes valued below $2 million with lot sizes under 250,000sqft
  - Generate and interpret meaningful visualizations for predicting home prices and investment opportunities

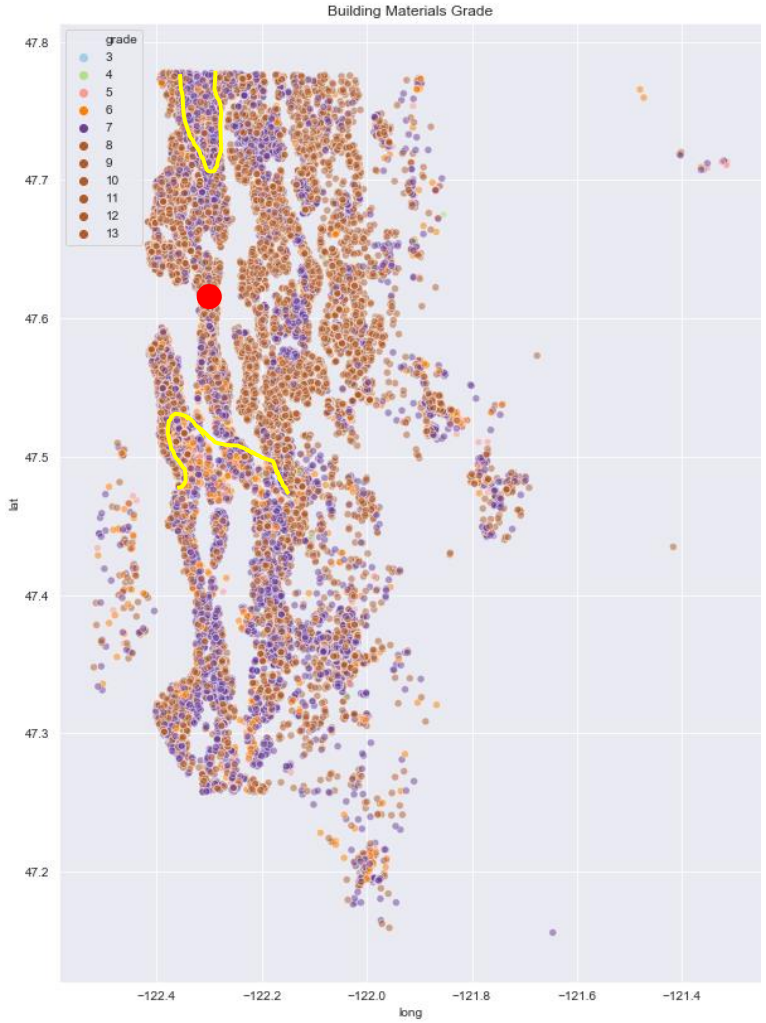
Predictive Model

- Generated model accounts for 80% of analyzed homes
- Most influential variables on price are location and home square footage
- Model has issues with predicting higher priced homes

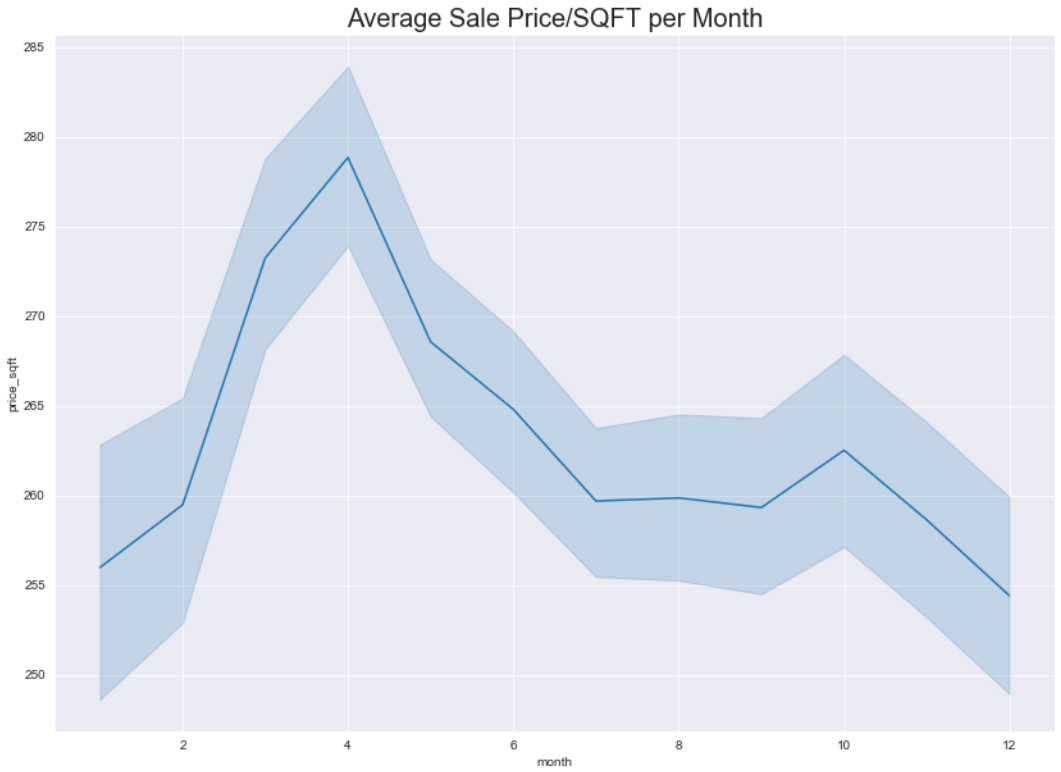
Is there an ideal location for home investing?

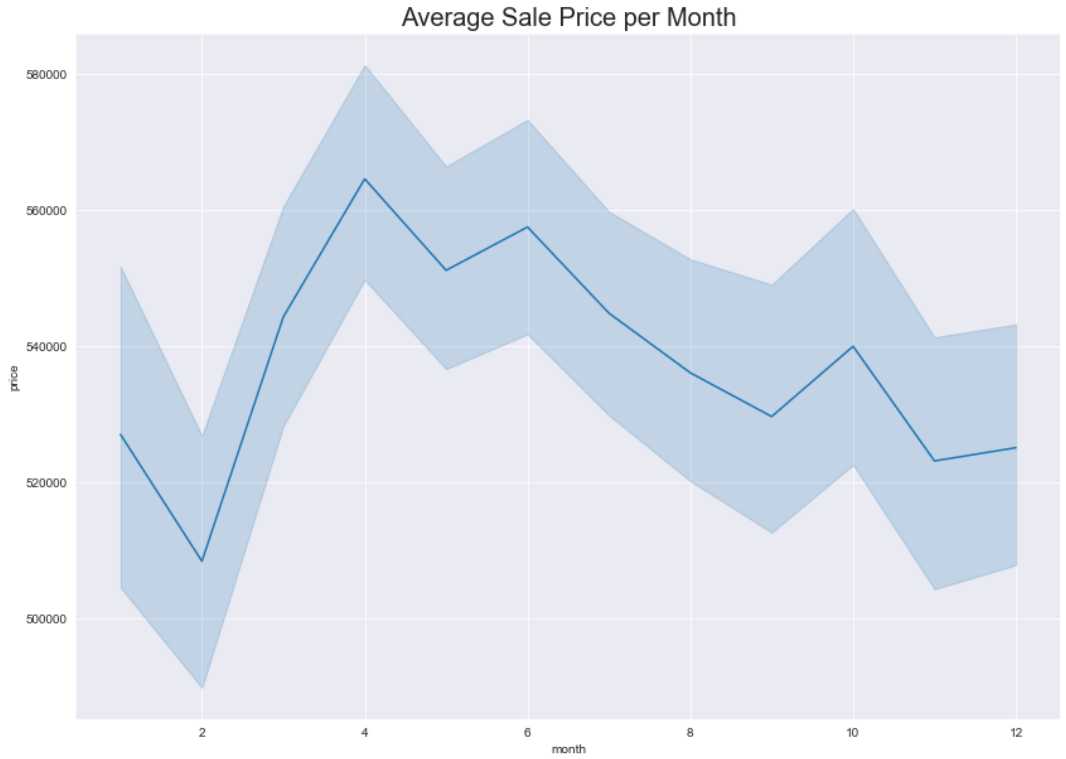




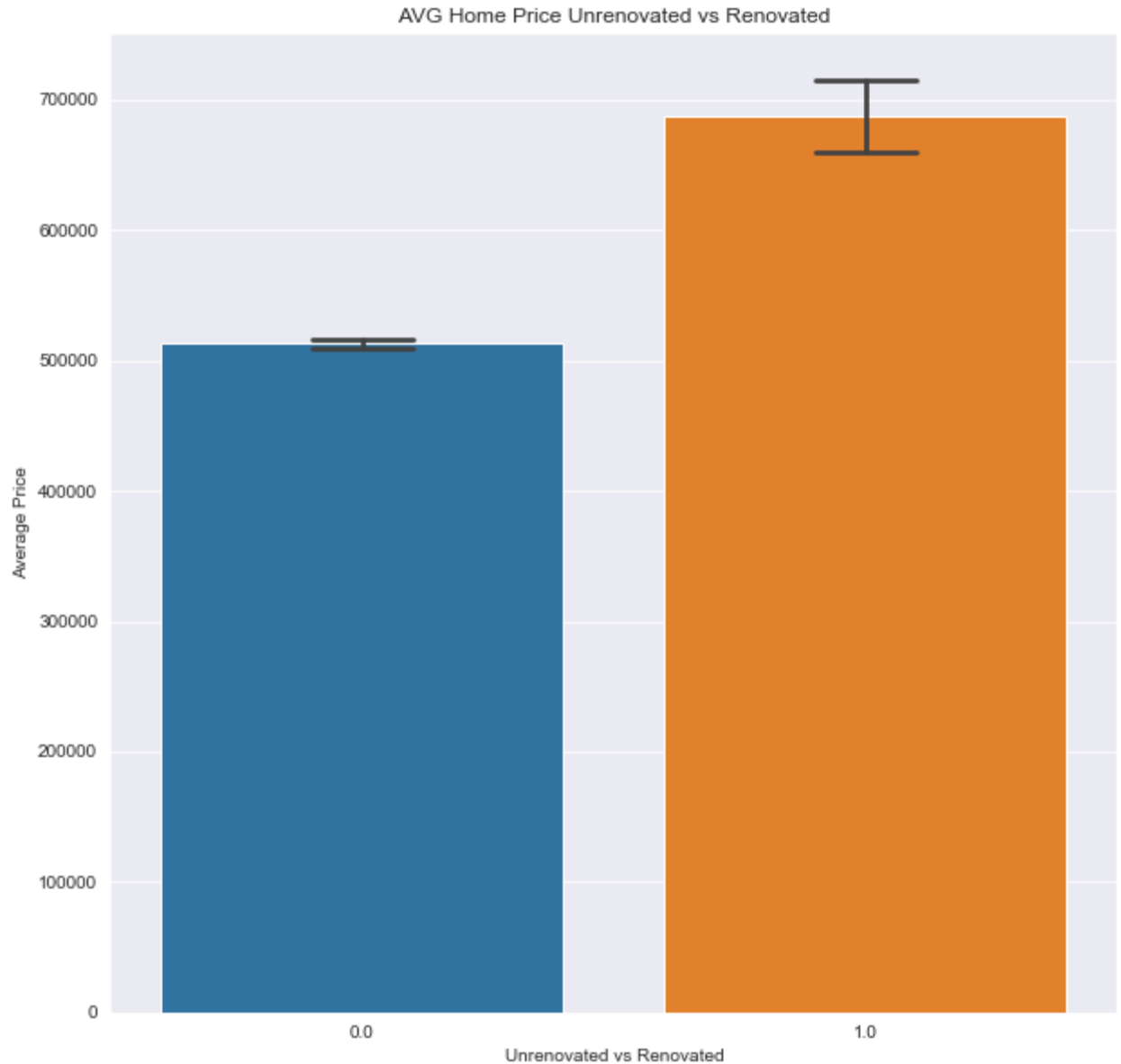


What are the ideal months to buy/sell a home?





How much do renovations affect home values?



Conclusions and Recommendations

- Is there an ideal location for investing?
  - Mostly south of Seattle, along with a pocket north of the city
- When is the best time to buy/sell a home?
  - Buy – November through February
  - Sell – April through June
- How much do renovations affect home values?
  - On average, can increase home value by over $150,000

The initial steps in creating a predictive home price model provided 80% accuracy.

As home prices increased, the model became less accurate, so somehow refining the model based on price-points of interest could also help tighten the model for accuracy.

Room for improvement –
- population density
- crime rate
- school rating
- proximity to amenities
- proximity to industrial areas

Thank You