Seattle Housing Dataset - EDA

by Thomas Roider

Dataset

- Seattle Housing Dataset
- Containing information regarding:
  - prices of sold houses in the last year
  - number of bedrooms / bathrooms
  - size of houses and surrounding houses
  - condition / grade of a house
  - location
  - etc.

Stakeholder: Erin Robinson

- Buyer / Seller
- Socially Responsible
- Goal:
  - Find houses in poor neighborhoods, buy them and sell them with small profit

General Hypotheses

General Insights to the dataset:

- The newer a house, the bigger the house
- The longer ago a house has been renovated, the lower the price
- The closer a house is to the city center, the smaller it is

Stakeholder-specific Hypotheses

- Mrs. Robinson wants to invest in poor neighbourhoods
- Definition of a poor neighborhood:
  - houses are graded badly (zipcodes with most houses in lowest 20% of dataset)
  - houses have a lower price (zipcodes with lowest 20% of dataset)
  - houses are small (zipcodes lowest 20% of dataset)
- Zipcodes of poor neigborhoods: 98168, 98148, 98002, 98178
- Goal of the EDA: Find comparatively cheap houses in poor neighborhoods

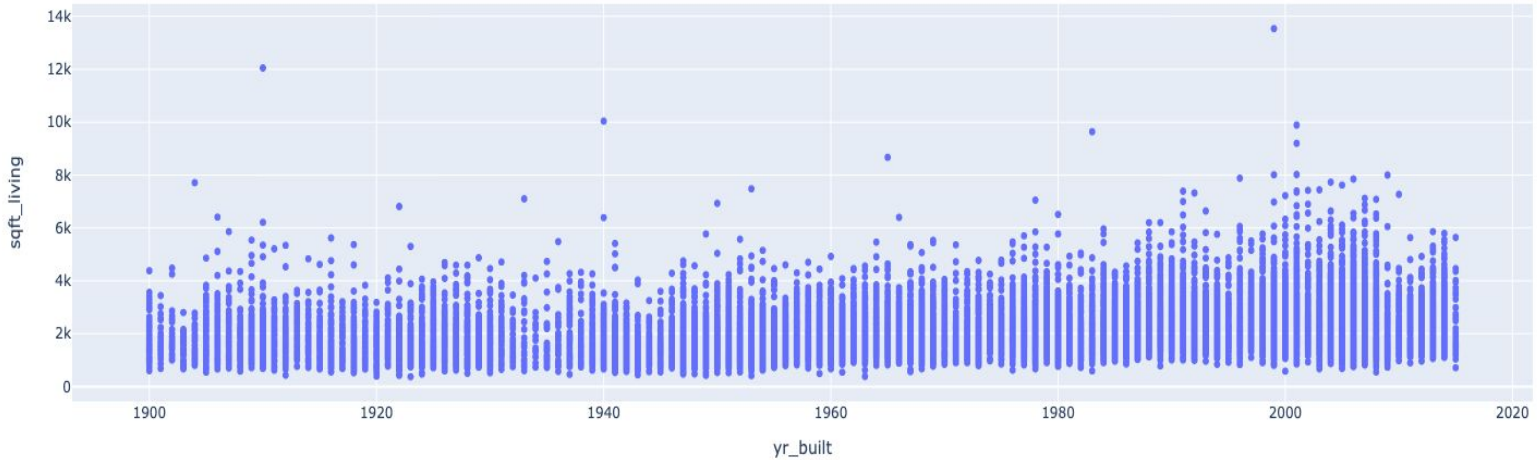
Stakeholder-specific Hypotheses

- The smaller the houses around a house, the lower the house price
- If a house is located in an area with small houses, it’s more likely to be graded badly
- If a house is in a poor neighborhood, it tends to be smaller and to have a smaller lot

The newer a house, the bigger the house

Correlation: 0.31815229

-> Slight Correlation

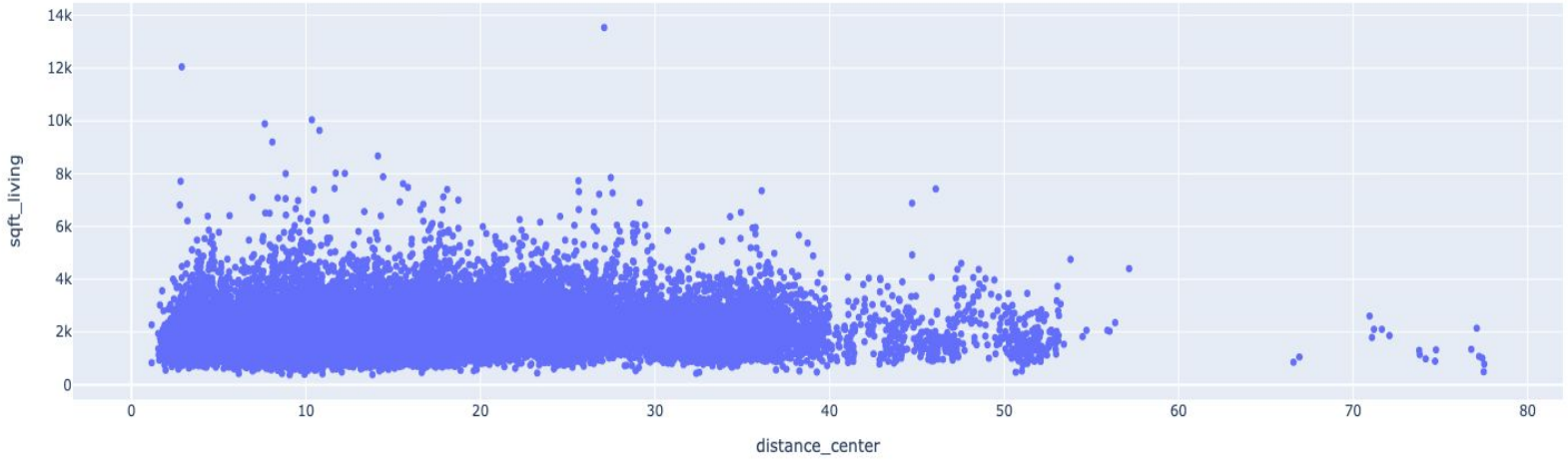


The closer a house is to the city center, the smaller it is

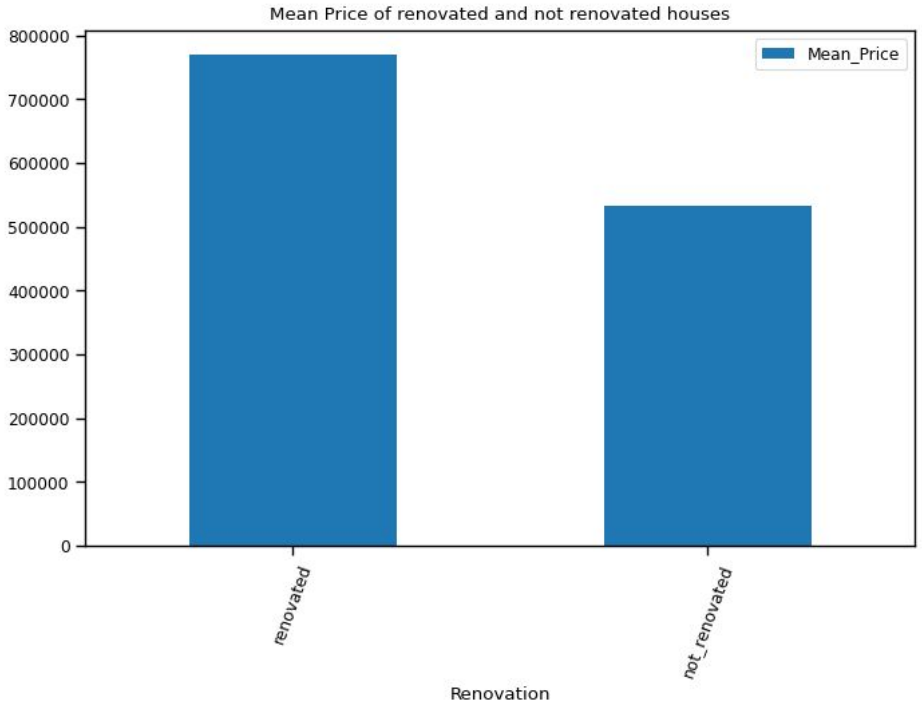
Assumption: The city center in Seattle is "Downtown Seattle" with the zip code "98121"

Correlation: 0.07741065

-> No significant Correlation



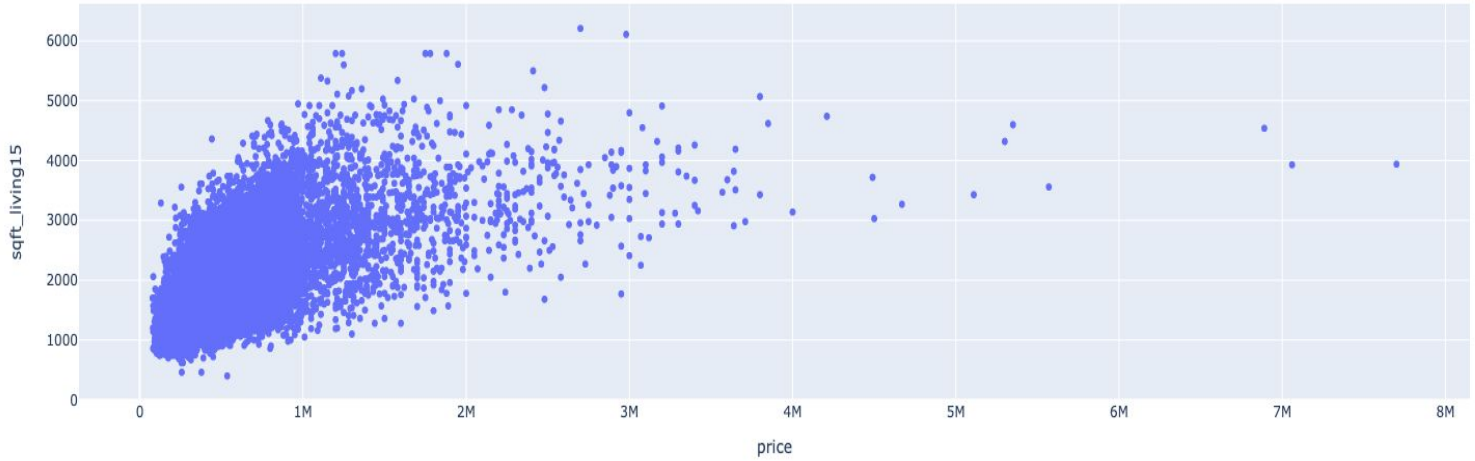
If a house has been renovated at least once, it tends to have a higher price.



The smaller the houses around a house, the smaller the house price

Correlation: 0.5852412

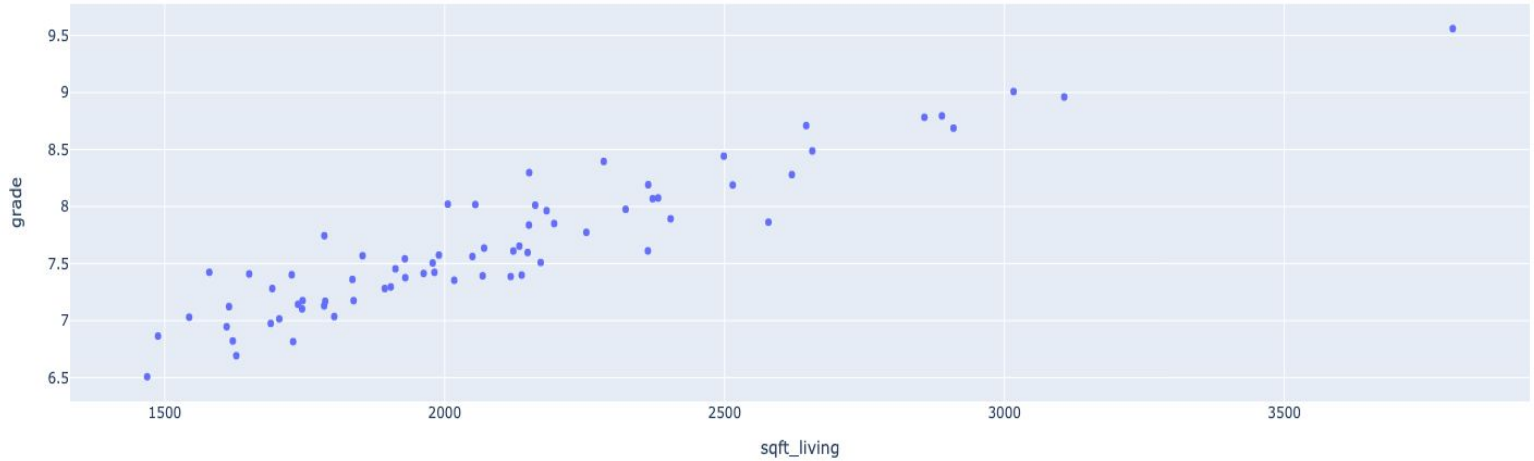
-> Significant Correlation



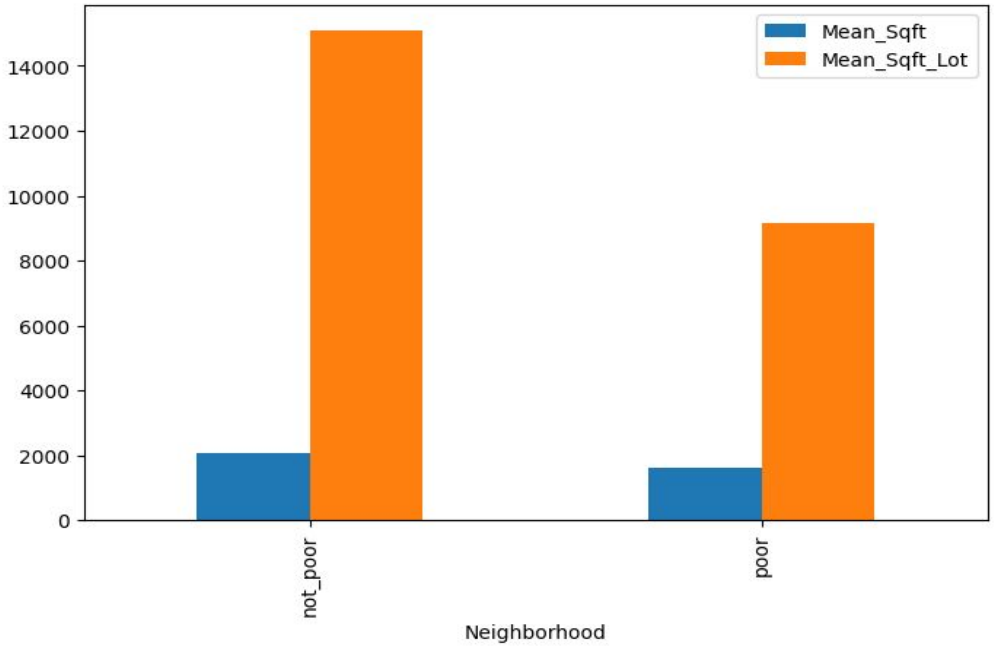
If a house is located in an area with small houses, it’s more likely to be graded badly

Correlation: 0.91743516

-> Strong correlation



If a house is located in a poor neighborhood, it tends to be smaller and have a smaller lot



Recommendations

Avg. price / sqft_living in poor neighborhoods: 174.61 $

The following houses could possibly be interesting: 2891000610, 3800008, 6121800050

-> Houses with the lowest price / sqft

-> They should be looked at more closer

-> A renovation could help to increase the price and the quality of living in the neighborhoods