MODULE 1- Project

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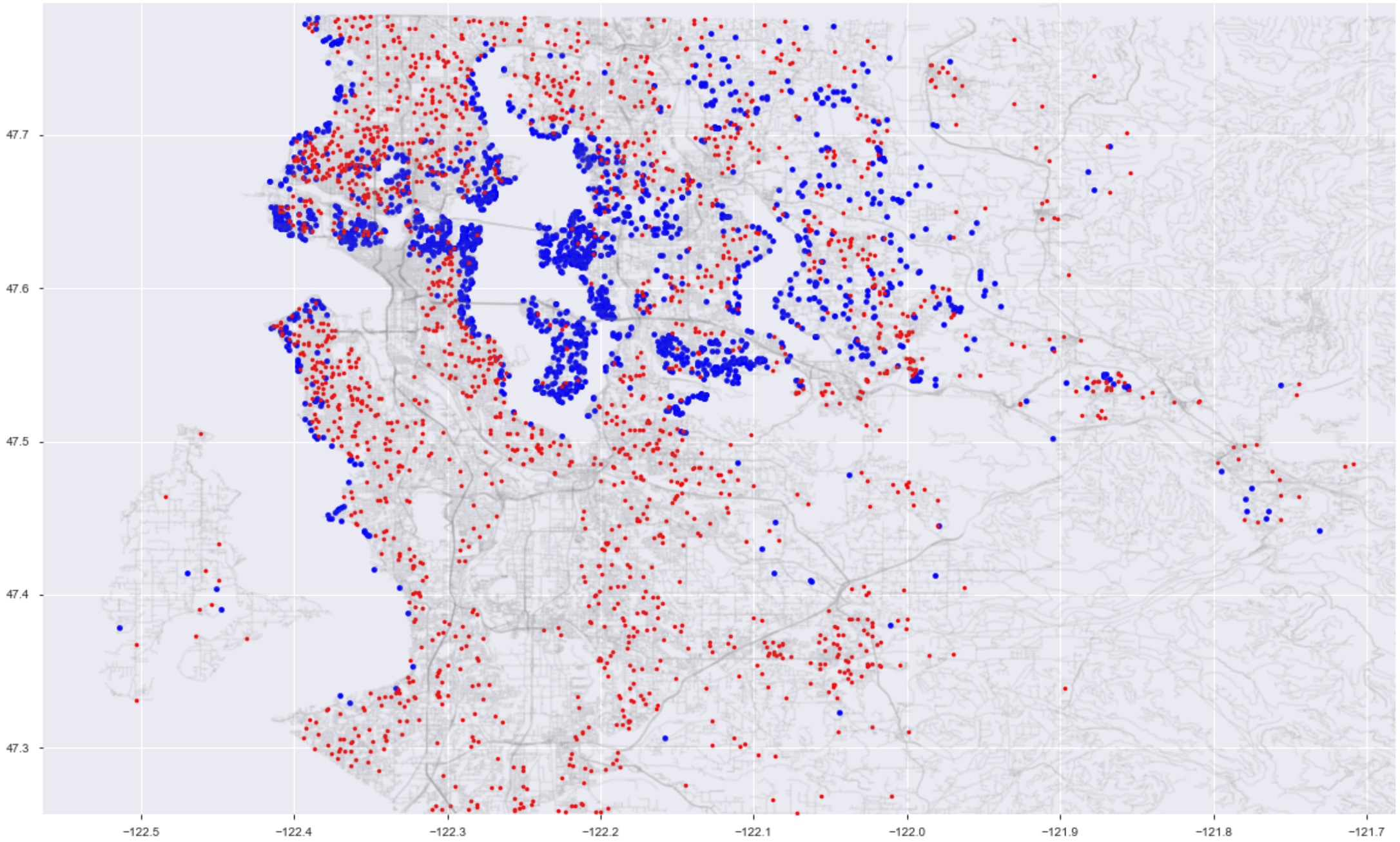
Hypothesis

Looking at the top 2,000 high end properties and comparing them to a random sample set of similar size, we wanted to understand:

1. What makes a property high end?
    A. Living size
    B. Lot size
    C. Location
    D. Sqft_linving15
    E. sqft_lot15
    F. Zipcode
2. Does the number of bedrooms affect the overall price?
3. Does the year built affect the overall price?

Q1 - What makes a high end property high end?

- Looking at the different variables we noticed several trends:
    - The most expensive properties generally had a larger square foot living space in comparison to properties with the same number of bedrooms.
    - They also tended to have a larger number bedrooms.
- Some notable points that were negated by the data:
    - The most expensive properties where not localised to specific zip codes, while a lot were on the the waterfront or had views of the waterfront there were also quite a few properties that were inland.
    - The square foot living space for the most expensive properties was generally much larger than that of the neighbouring properties.



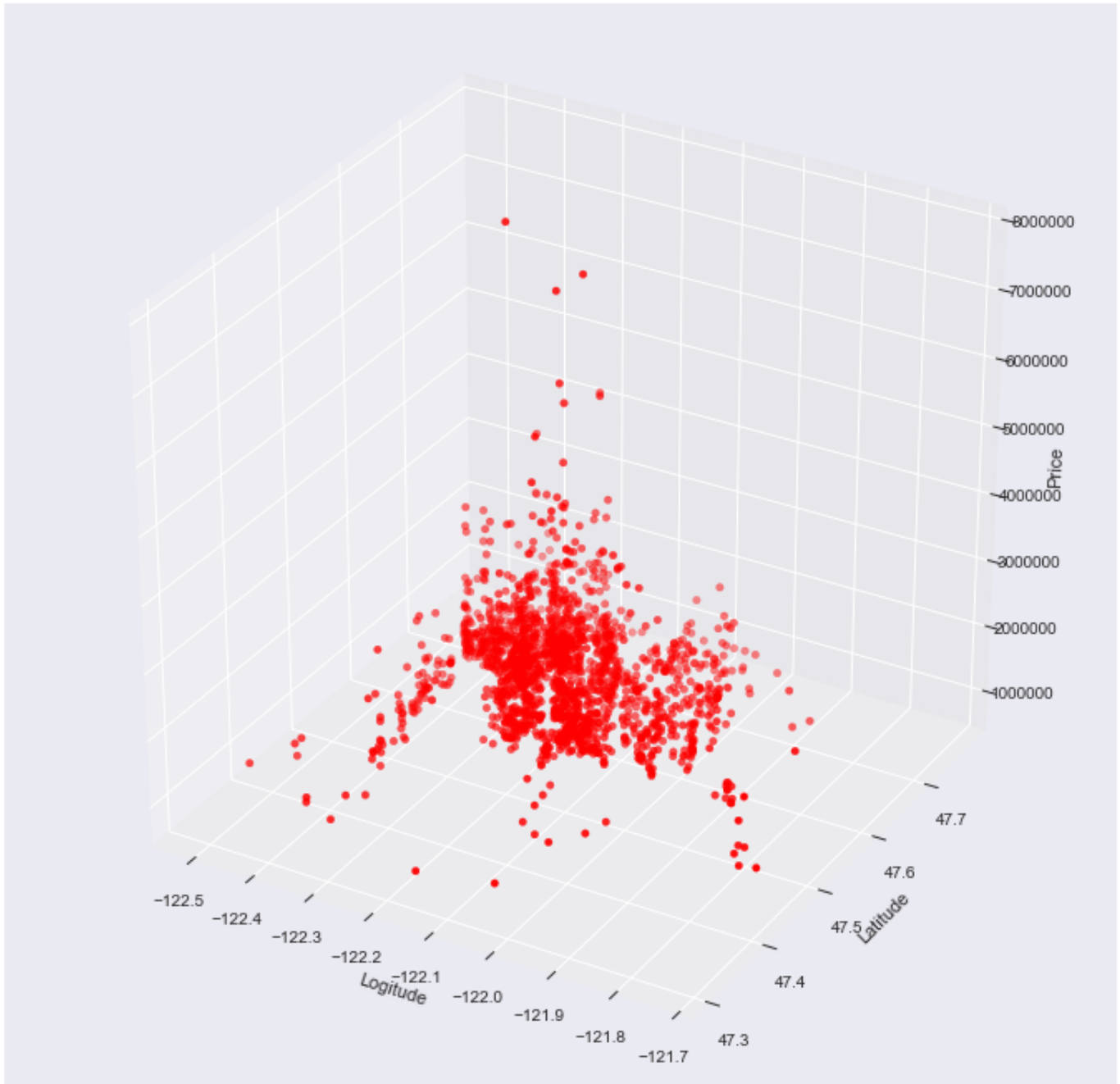
- While a good percentage of the most expensive properties are based on the waterfront or have waterfront views there are quite a few that are more inland.

- In comparison most of our sample set are not waterfront properties which indicates that waterfront properties are more expensive.

- We can see from the following plot that the most expensive properties will generally between in the following coordinates

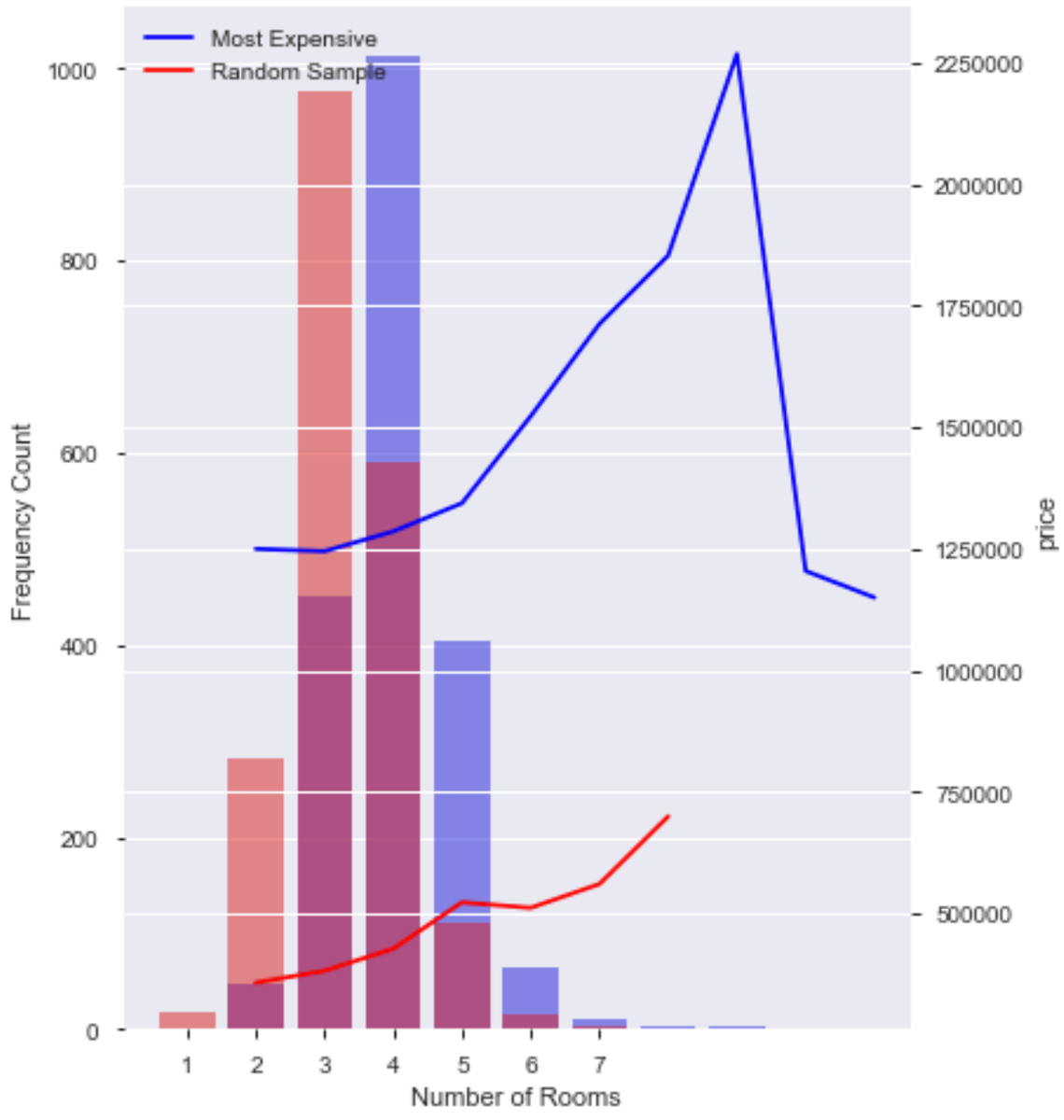
  - Long = -122.4 & -122.2

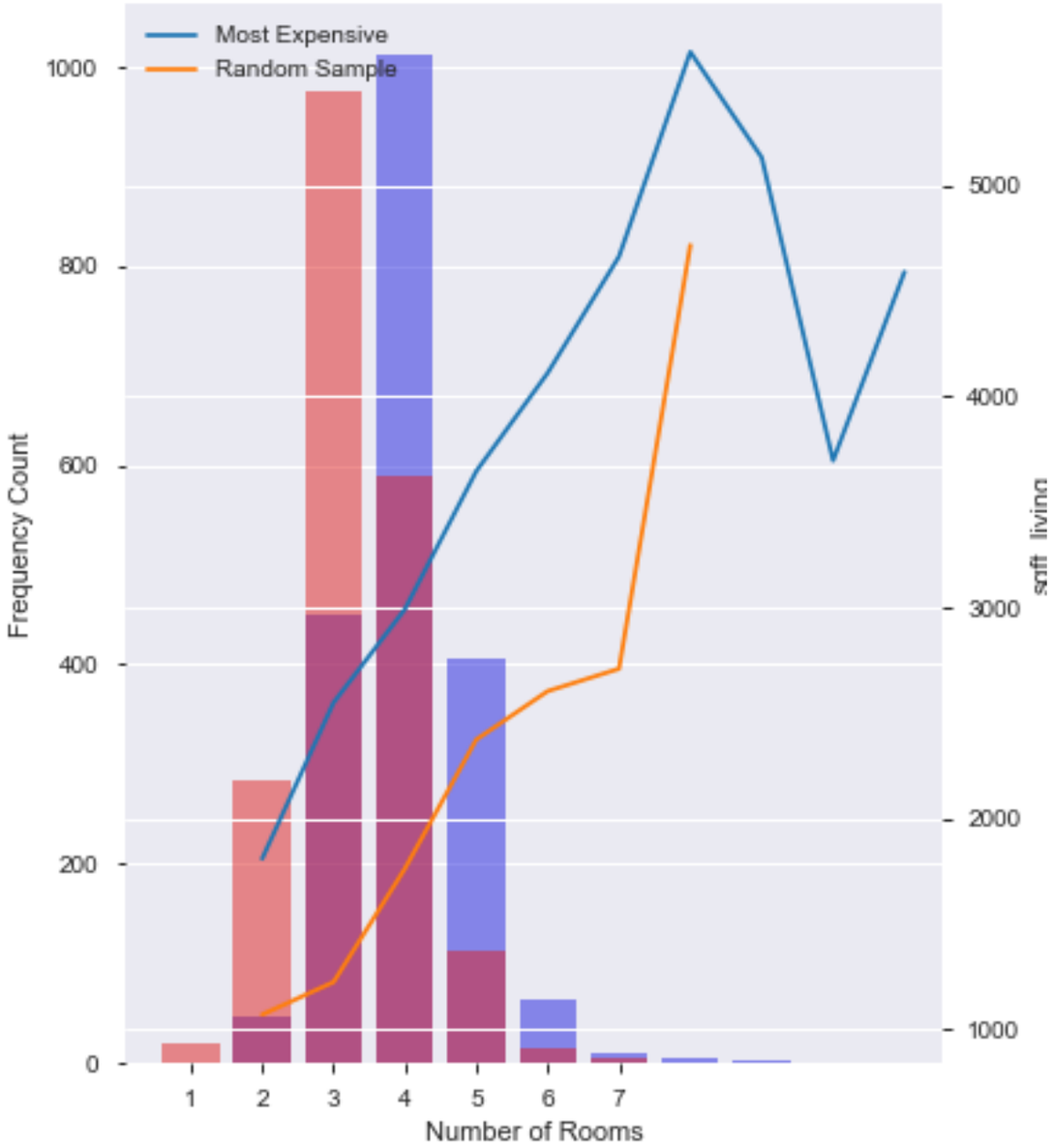
  - Lat = 47.5 & 47.7



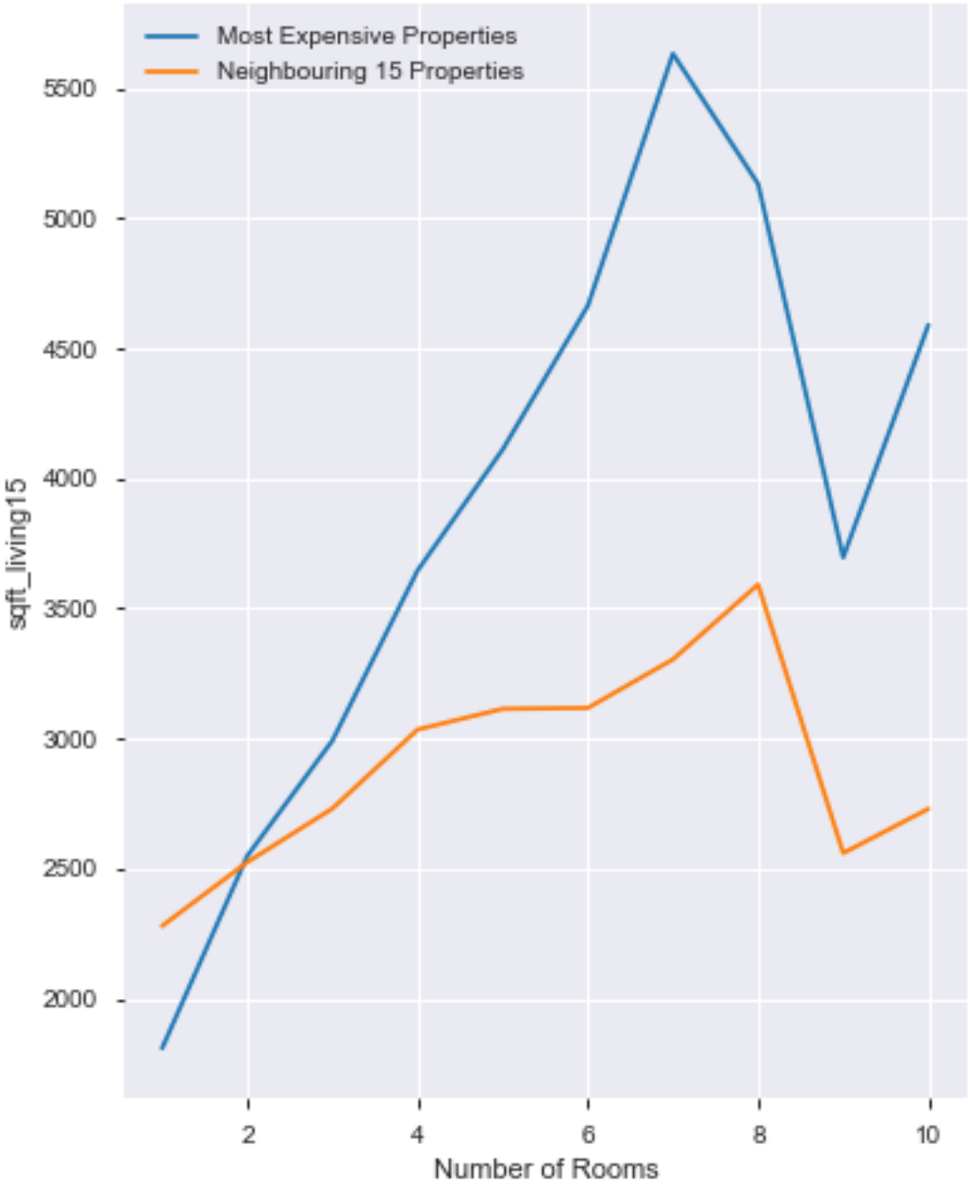
Q2 -Does the number of bedrooms affect the overall price?

- From the following comparison graph we can see that there are several factor affecting the price:
    - The most expensive properties start at a higher price than the random sample.
    - However for most of the properties, there is a direct correlation between number of rooms to price, this correlation reverses itself at 9 rooms



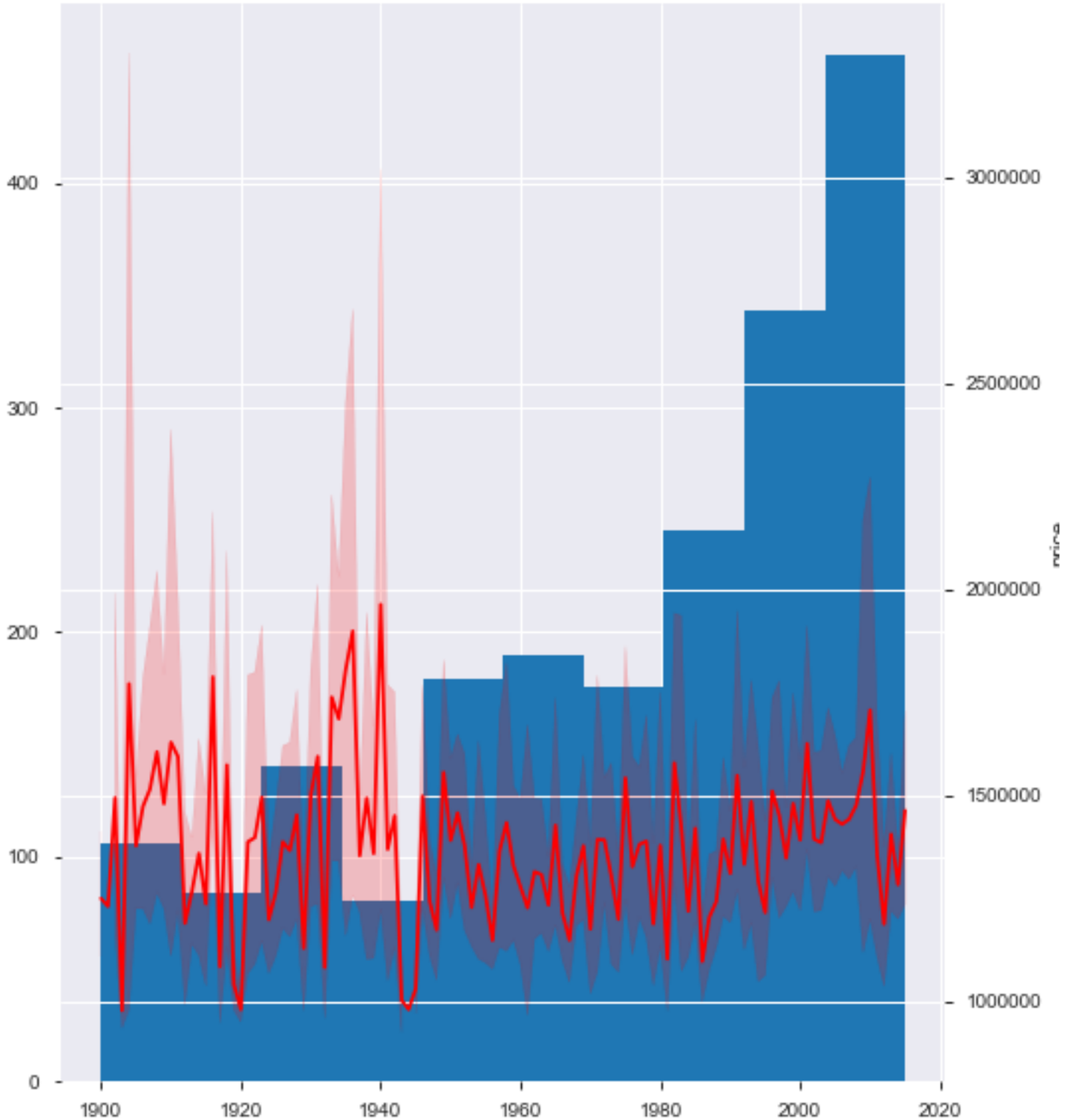


- This reverse in correlation is mainly due to the fact that the properties become smaller even though there are more rooms



- When we compare sqft living of the most expensive properties to their 15 nearest neighbours we can see that difference gets significantly larger as the number of rooms increase and peaks at 8 rooms.

Q3-Does the year built affect the overall price?



- While a few of the most expensive properties sold have been older properties there is no strong correlation between Year Built and price.

- However, based on the data that we currently have, we can see that most of the properties currently sold have been newer properties

Recommendations

- Based on our analysis our recommendations would be to look for a property that has 4-5 bedrooms and is more expensive than $1mil as it will most likely be bigger than the neighbouring properties and and most likely be on the waterfront or at the least have views of the waterfront.