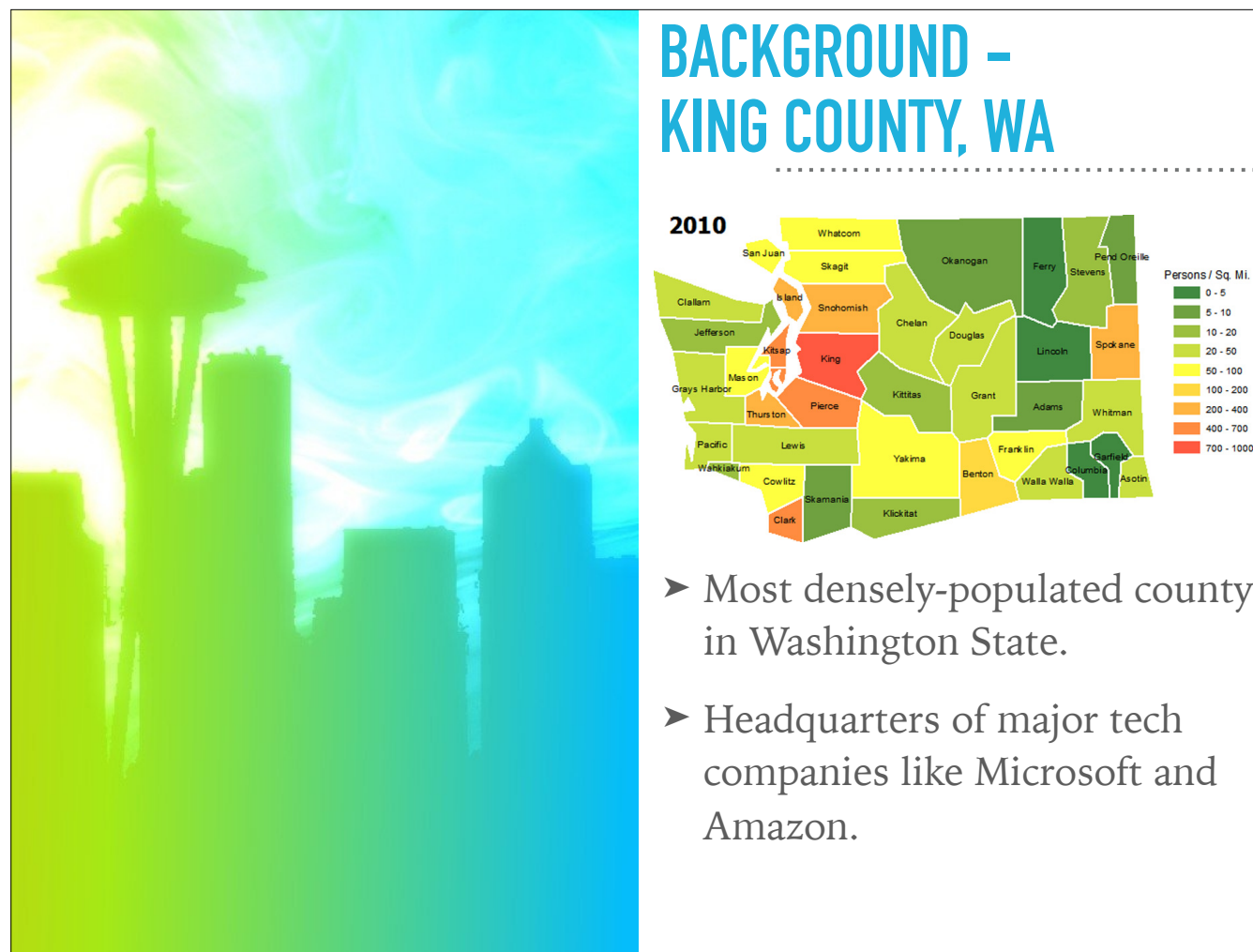# FACTORS INFLUENCING HOME VALUES

NEAR SEATTLE, WA (2014 – 2015)

Valentina C. Fontiveros, 2019

Hello, my name is Valentina Fontiveros. If you are looking to sell or purchase a home near Seattle soo, you are in luck because today I will share with you the results of a study that identifies which are the key characteristics that drive value differences amongst homes in the area.

BACKGROUND – KING COUNTY, WA

2010

Persons / Sq. Mi.
- 0 - 5
- 5 - 10
- 10 - 20
- 20 - 50
- 50 - 100
- 100 - 200
- 200 - 400
- 400 - 700
- 700 - 1000

➤ Most densely-populated county in Washington State.

➤ Headquarters of major tech companies like Microsoft and Amazon.

Seattle is located in King County, the most densely-populated in Washington State. Being a global tech hub, Seattle is amongst the most competitive real estate markets in the US. The headquarters of major tech companies like Microsoft and Amazon are located here.

BUSINESS VALUE

➤ Which characteristics increase prices the most?

➤ Do prices fluctuate with the seasons? Year to year?

➤ Is it worth renovating my home before I sell?

➤ Is it worth investing in marketing the home?

The main objective is to answer these questions for prospective buyers and sellers: which home characteristics increase the price most? Do prices fluctuate with the seasons? Is it worth renovating the home or investing in marketing the home? How do we answer these questions?

METHODOLOGY

1. Obtain Data
   - ➤ *Prices*
   - ➤ *Location*
   - ➤ *Physical Characteristics*
   - ➤ *Historical Details*
2. Clean and Reformat Data
3. Find Initial Correlations
4. Scale Data
5. Choose Features
6. Create a Predictive Model
7. Validate Results
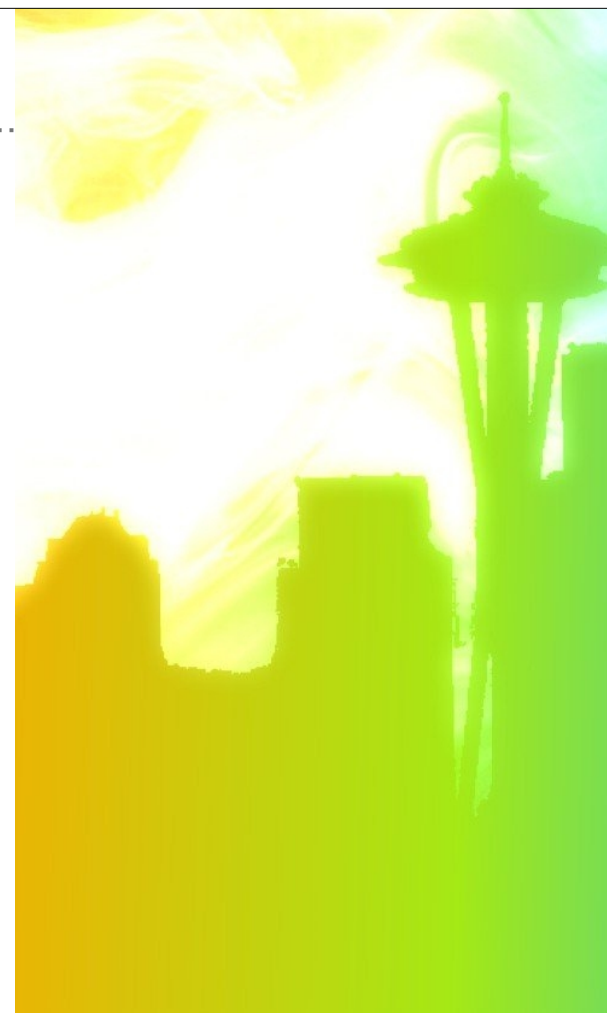
By using statistical analysis. The gist of the process consists of first obtaining the data, making sure the data is correct and relevant, and then creating a model to explain the variations in price. The dataset contains price and location information for each sale during the 2014-2015 plus the physical characteristics and historical details of each home such as number of bedrooms and the year when it was built. Once the data is cleaned and reformated, we explore each detail about each home to make initial inferences or correlations. After this, the data is prepared for modeling by first scaling the numerical data and choosing the characteristics that we identified as relevant. Then, an iterative process of fitting a model to the data begins, and we calculate the accuracy of our predictions by using statistics. For this model, I iterated 3 times to achieve a predictive capacity of 86.5% the variations in price. Meaning, the r-squared value of the model was 86.5%. This is a good result and gives me confidence in the findings.

FINDINGS – TOP 5 VALUE DRIVERS

1. Premium zipcodes

2. Waterfront view

3. Distance to Seattle

4. Square footage of living space

5. Built Recently (2010s) & Renovated Recently (<15 yr)

The top value drivers for homes in Seattle include location-related characteristics such as being within a premium zip code (like Medina and Bellevue) and having a waterfront view. Driving distance to the Seattle city center is an important factor as well, the closest you are to Seattle, the higher the price. Square footage of the home and recent construction or renovation are also main drivers of value.

FINDINGS – SALES DISTRIBUTION
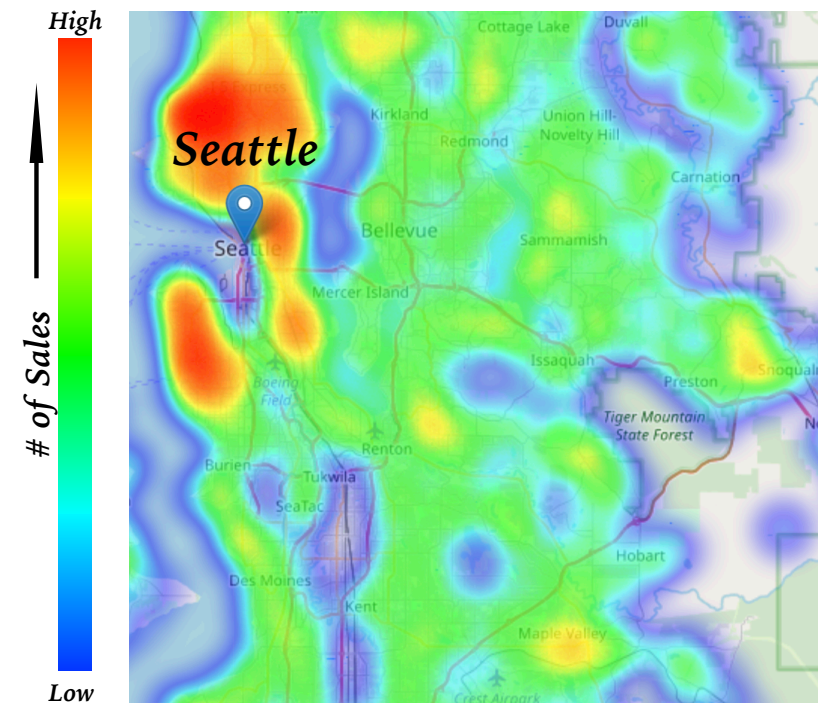
➤ 20,000 homes sold (2014-2015)

➤ Seattle metro is very competitive

Sales are concentrated in the near vicinity of Seattle. Therefore, the closer you are to the Seattle center, the more competitive the market. This is not terribly surprising but it is useful to visualize it on a map.

FINDINGS – SALES VOLUME

Sales *accelerate* starting in March, peak in May, & slow down in November - February
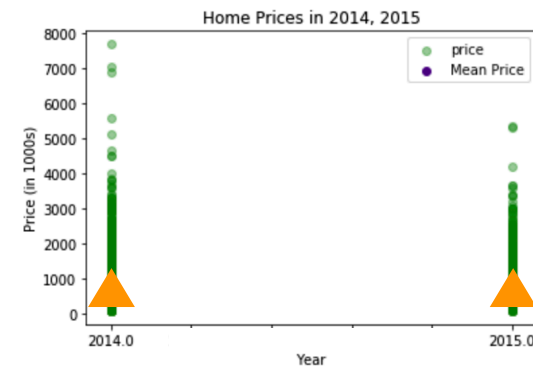
Home Sales by Month
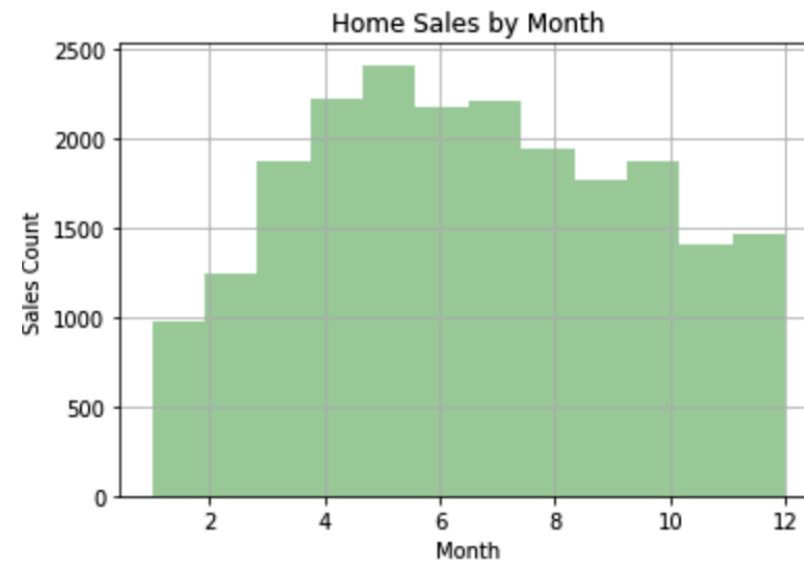
Sales accelerate starting in March and peak in May. Not surprisingly, sales slow down during the Winter. Who wants to tour properties when its freezing cold outside? Not me!

FINDINGS – PRICE FLUCTUATIONS

🔺 *Average price of a home in King County: ∼$ 540,000*

Mean home prices do not fluctuate significantly month-to-month,

Or year after year according to this dataset.

According to the dataset used, the average price of a home in King County does not change significantly month to month or year to year. The price is fairly stable around the overall mean of $540,000. For a description of the average home in Seattle, refer to the backup slides.

FINDINGS – EFFECT OF RENOVATIONS

Homes with renovations after circa 1980, see a boost in price.

Mean Price Comparison of Renovated vs. Not Renovated Homes
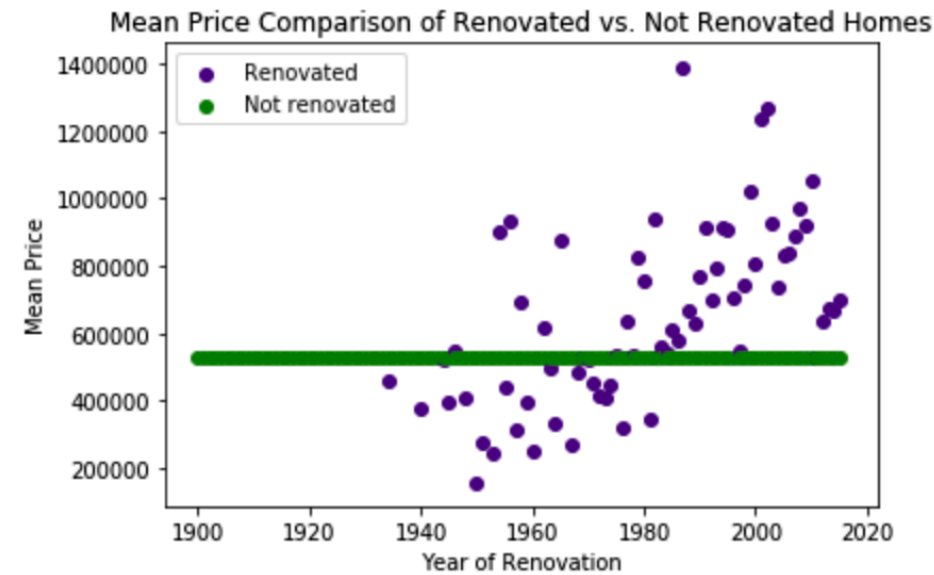
Renovation dates are available and date back all the way to the 1930s. As it would be expected, renovations before a certain year should not boost price. When we view the average price of the home plotted against the value of renovated homes, we see that there is a clear cut off date around 1980. Renovations after this date do show a boost in average price.

FINDINGS – VIEWS DRIVE PRICE UP

➤ More views are associated with higher mean price
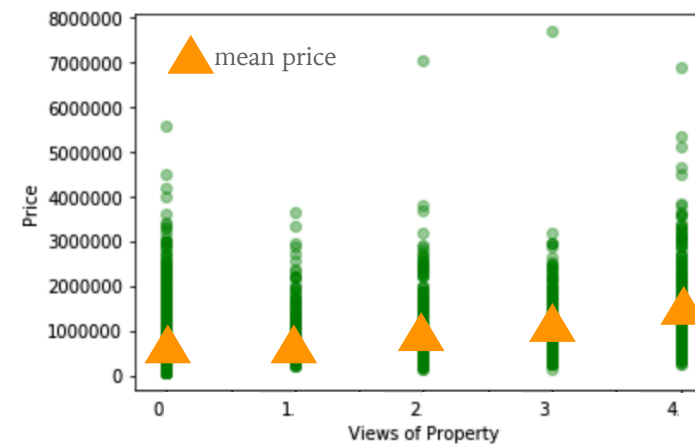
➤ Views may not be the only factor influencing price: location, time in market, or other factors may be involved.

➤ Waterfront properties usually get viewed more often, which could explain the higher mean prices observed in the trend.

The more views a home got, in general, the higher the selling price turned out to be. There may be other factors involved in this trend. For example, waterfront properties tend to be viewed more often when compared to their counterparts. Waterfront properties are, on average, more than a million dollars pricier, so this trend could be showing this correlation between waterfront and views. More work needs to be done.

BUSINESS RECOMMENDATIONS

▲ Late February is a good time to enter the market, but don't expect a higher selling price on any given month.

▲ Renovating, adding square footage will boost resale value.

▲ If your home has a waterfront view,

stress that in any listings.
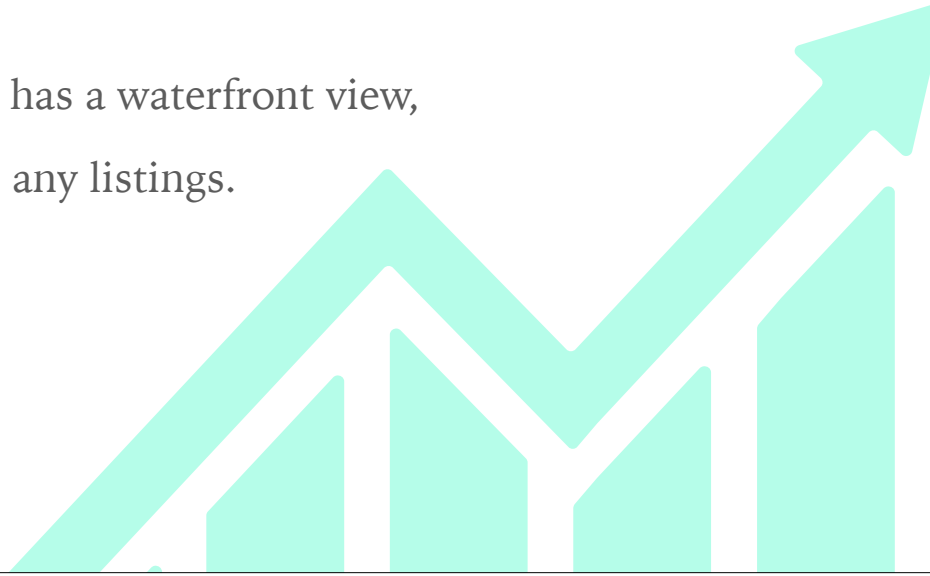
In conclusion, my three main recommendation for you if you are selling. First, enter the market around late February so that you take advantage of the increased interest in touring properties. Second, if you have the budget to do so, renovate older homes and add extra square footage prior to going to market. Third, if you are selling a waterfront property, make sure to list this fact on any listing (and take professional pictures!)

FUTURE WORK

Explore views/price relationship further.

Repeat exercise with datasets from 2016 - 2019 to analyze potential deviations in mean prices.

Create more geographic visualizations.

There are a few ideas for future work including exploring the relationship between views and price more deeply. In addition, since the dataset was limited to the years 2014 and 2015, it would be beneficial to include additional years and analyze any potential changes to the mean prices. If I had all the time in the world, I would make more maps because 1) I love maps and 2) we could visualize the geographical distributions and make geographic inferences more easily!

Thank you very much. I hope you learned something today. Do you have any questions, comments, concerns?

BACKUP: AVERAGE HOME

- ➤ 3 bedrooms
- ➤ 2 bathrooms
- ➤ ~2000 sqft.
- ➤ 1.5 floors
- ➤ Does not have waterfront view
- ➤ Average condition
- ➤ Grade of 7 / 13
- ➤ Small basement
- ➤ Built in 1970s
- ➤ Is not renovated