# A House with a View: Understanding House Prices in the Seattle Area

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# Overview

Zillow has hired JMAW Consulting to create a model to identify key variables that predict housing prices in King Country, Wa.
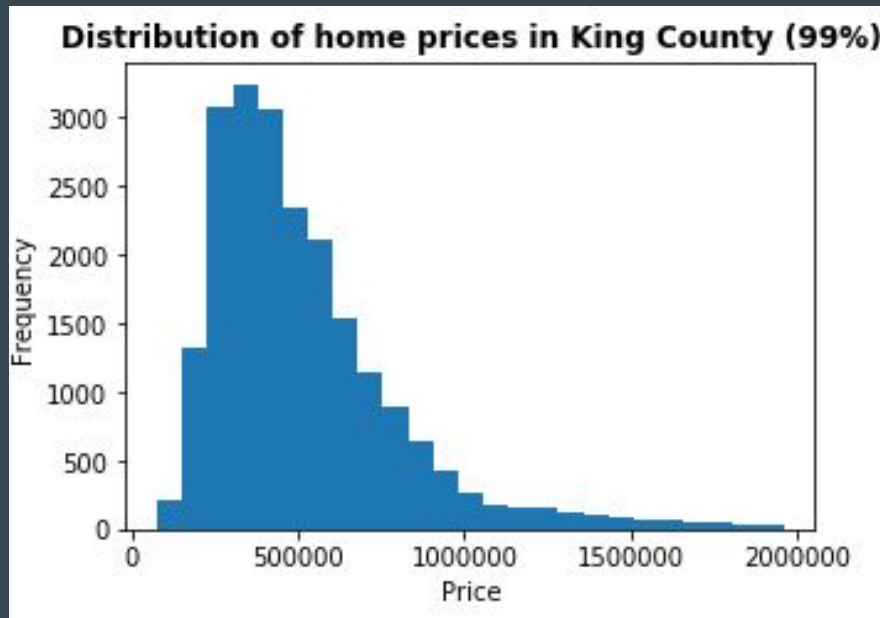
Steps:

1. Explore the King County housing dataset
2. Select significant features
3. Train, test, and validate our model.

# Assumptions

1. Our model is specific to King County, WA
2. All home data is for sales between May 2014 and May 2015
3. There are variables we don't have data for

# Dataset Overview



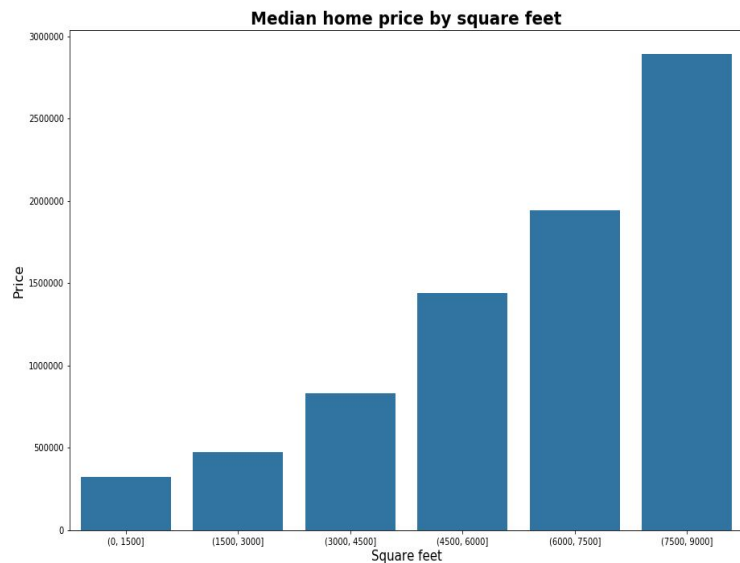Distribution of home prices in King County (99%)
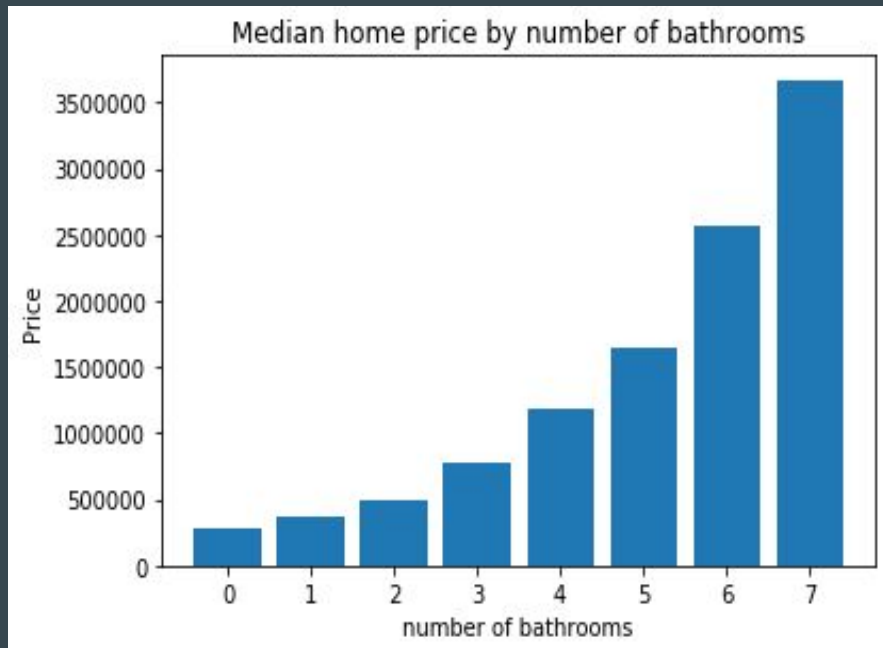
21,000+ homes
Median price $450,000
99% are less than $2M

# Home feature: Square feet
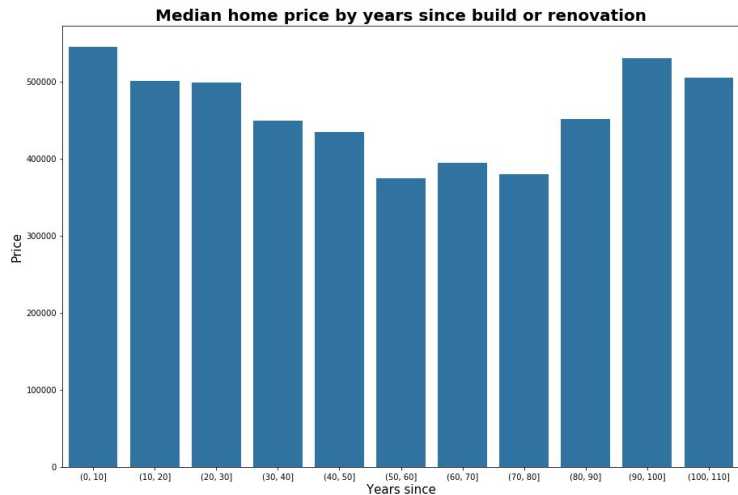


Median home prices appear to increase with square feet of living space.

# Home feature: Number of bathrooms



Median home price by number of bathrooms

Home prices appear to increase with the number of bathrooms

# Engineered feature: 'How dated'



Median home price by years since build or renovation
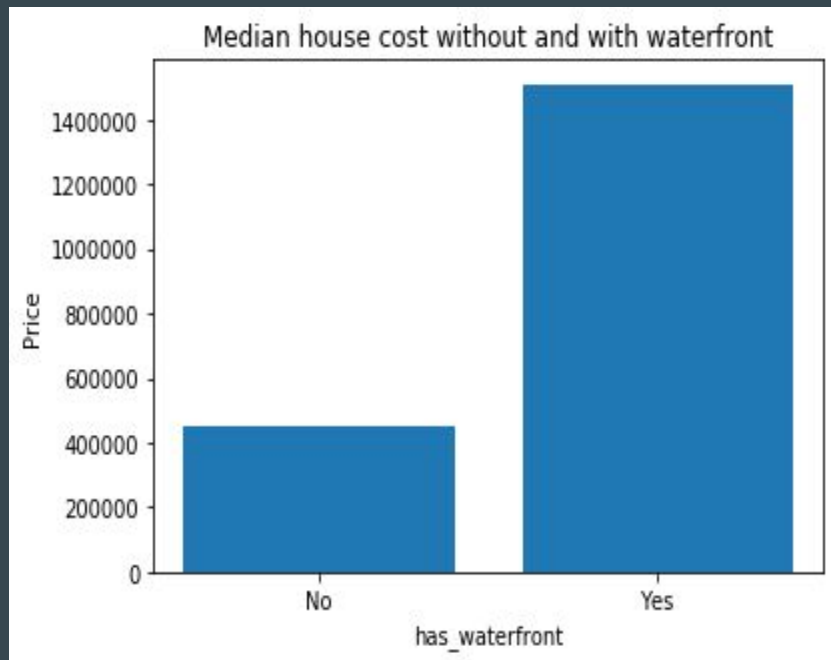
Expected to see that homes more recently built or renovated show higher median sale prices

# Pivot: Location, location, location

# Significant feature: Waterfront



Median house cost without and with waterfront

Homes on waterfronts have 335% higher median sale prices

# Significant feature: View



Median of home price by view rating
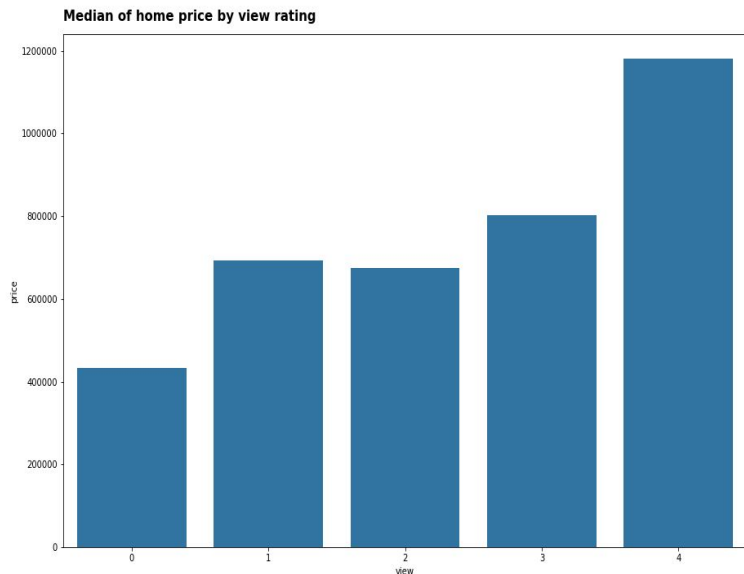
Homes with a view rating of 4 have median sale prices 272% higher than those with rating of 0... but why?

# Significant Feature: Zipcodes



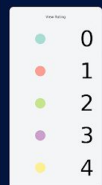Mean Price of Top & Bottom 5 Zipcodes
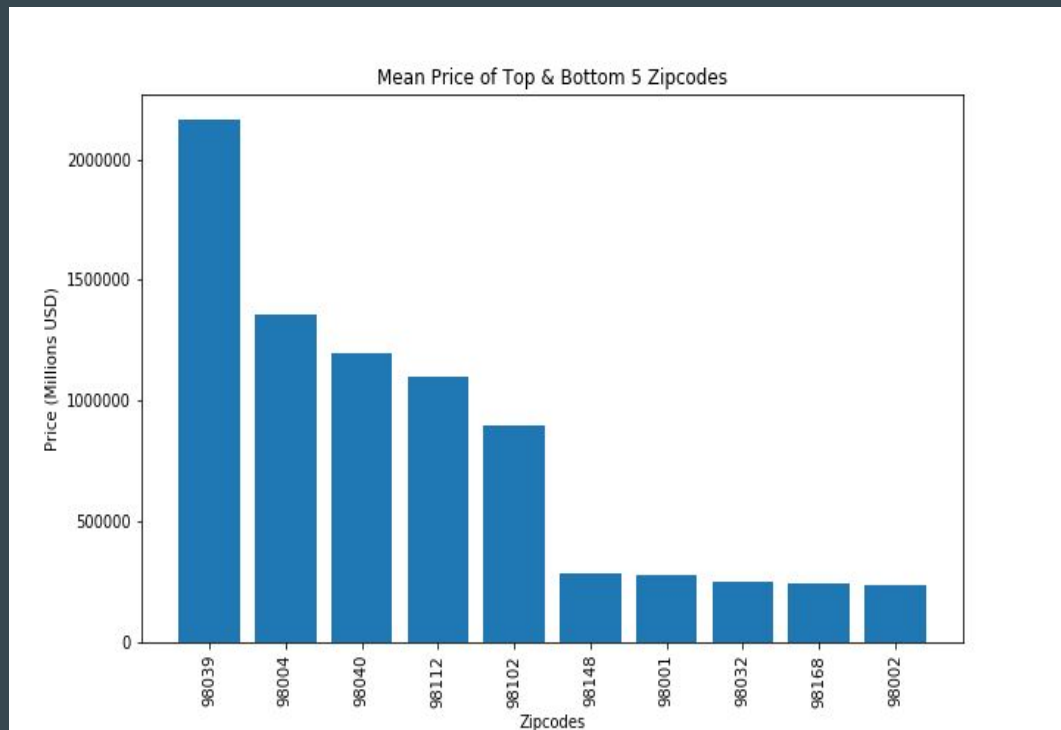
A hunch: when comparing the average sales price of the top 5 and bottom 5 zip codes, a lot of variance can be seen

What's location got
to do with it?
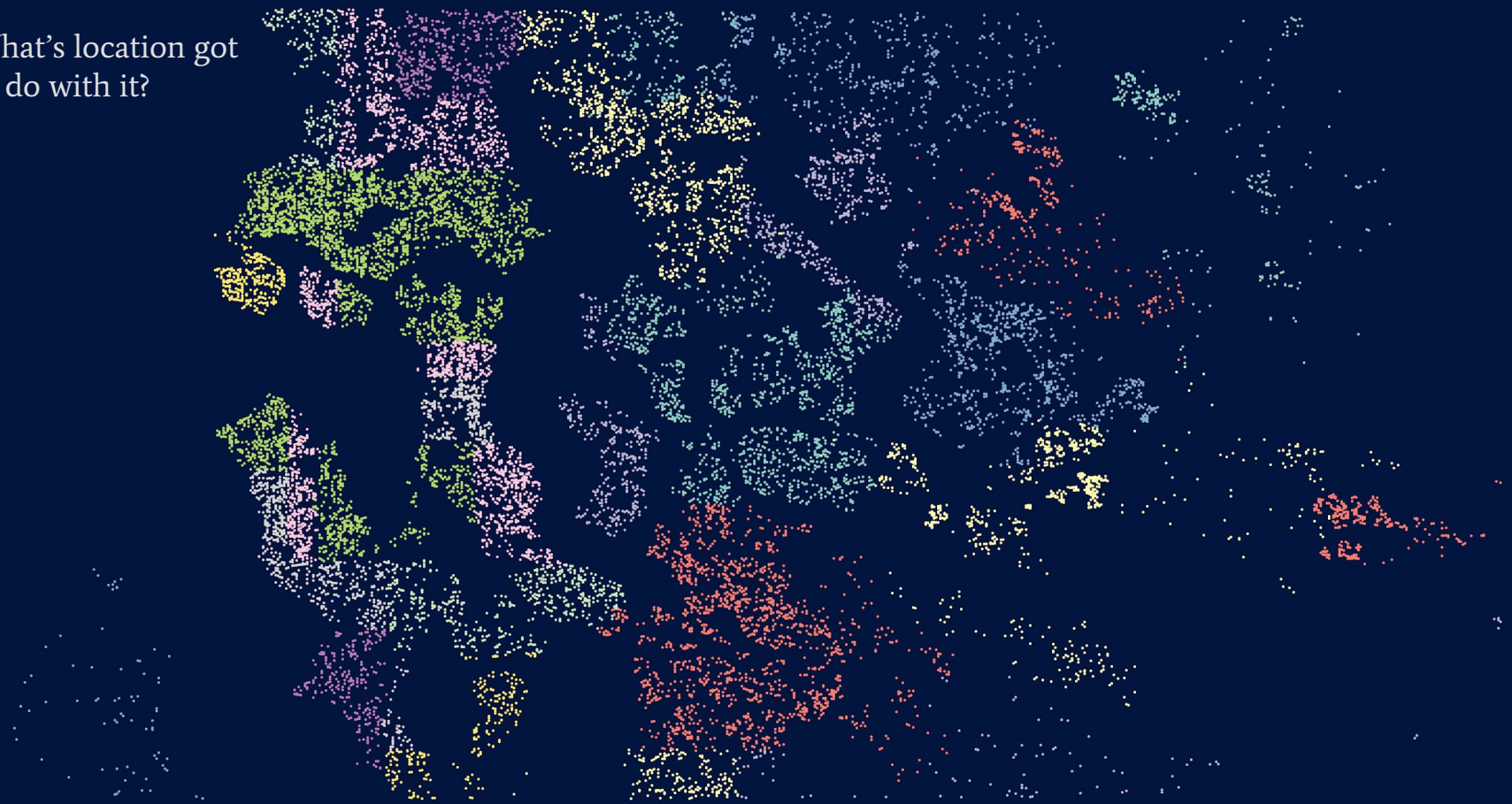
Scenic views, zipcode, ... location is everything!

98033

98112    98039

98004

98102

98040

# Results from the model:

## Insight 1:

- Whilst being significant, number of rooms, number of bathrooms and square footage, didn't have much of an effect on price
- Mcmansion Syndrome?

# Results from the model

## Insight 2:

- Zipcodes had the most significant impact on price.
- Medina, Bellevue, Mercer Island, and Kirkland charging the highest premium

| | |
|---|---|
| Base Case: | **$193,094.98** (1.00x) |
| Medina (98039) | **$668,108.63** (3.46x) |
| Bellevue (98004) | **$587,005.76** (3.04x) |
| Mercer Island (98040) | **$463427.95** (2.40x) |
| Kirkland (98033) | **$409,361.358** (2.12x) |

# Results from the model

Insight 3:

- View and waterfront category have a meaningful impact on price (1.70x, 1.58x).
- The aforementioned zipcodes scored highly on the view category and were more likely to be waterfront properties

# Further Research

- Accounting for the McMansion factor: Would number of rooms, bathrooms, and square footage have a more meaningful impact?

- Data going further back, e.g., 10 years?

- Analyze/visualize grade/condition by zipcode

- Other factors not present in the dataset? Quality of local schools? Crime-rate?

# The Team

## Joseph McHugh

A recent graduate of GW with a degree in economics, Joe strives to provide valuable insights for JMAW's clients

## Alphonso Woodbury

Dedicated to data, Alphonso spent years in the healthcare field, acquiring valuable analytical expertise that he applies daily at JMAW

ANY QUESTIONS?