



# Seattle Affordable Housing Initiative

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# BUSINESS PROBLEM



## ***Background:***

- The **Low Income Housing Institute (LIHI)** has **received** a \$60 million grant from **Amazon**.
- LIHI will use the money to **purchase and lease affordable homes** to working class families

## ***Goals:***

- Determine the ways to use the money efficiently through **linear regression modelling**, to buy the most homes possible.

# DATA SET CHARACTERISTICS



## Timeframe

**2014-2015**



## Data Points

**20 different features  
for each house**



## Homes Sold

**21,417**

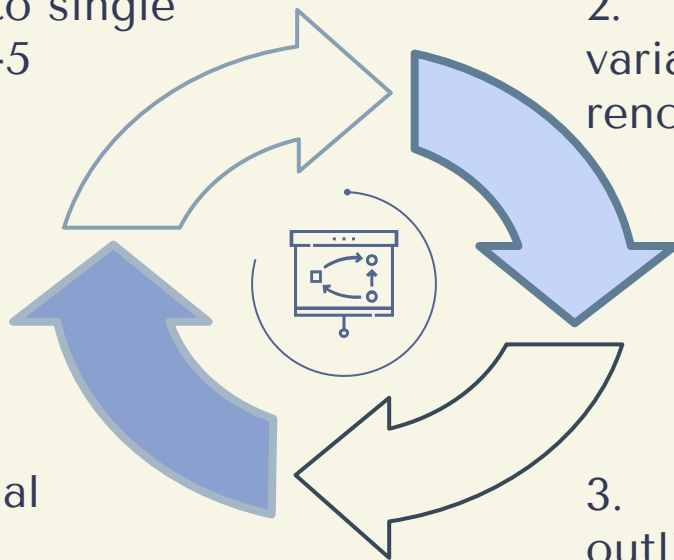
# OUR DATA CLEANING PROCESS

1. Narrowed data to single family homes (2-5 bedrooms)

2. Removed extraneous variables (view, year renovated, etc.)

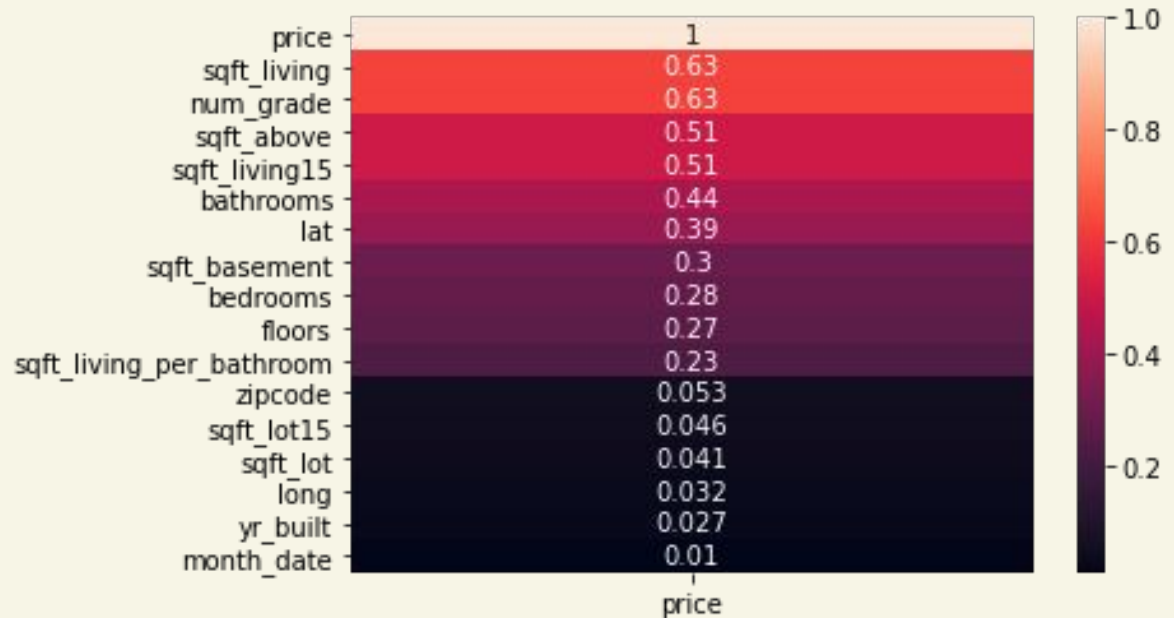
3. Eliminated other outliers from selected variables

4. Matched locational data to city names.



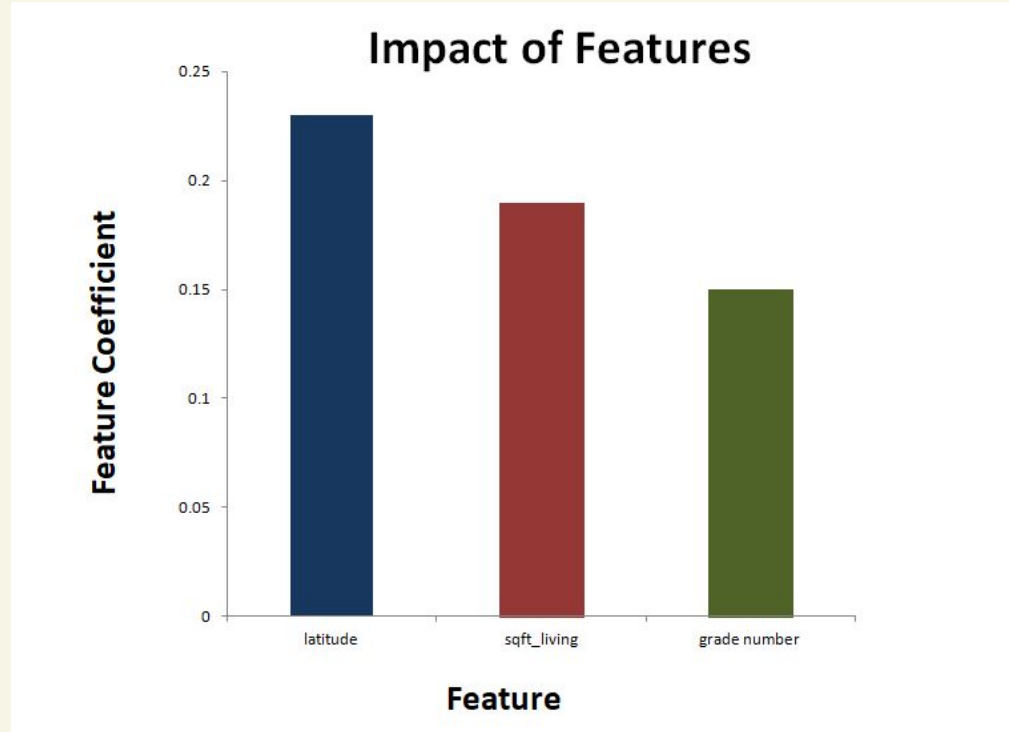
# Exploratory Analysis

- Explored correlation of dataset characteristics to the price.
- Tested various models to predict price.



# OUR MODEL

- Our model is able to explain **63%** of the price of homes sold through controlling for **the square feet of living space**, the **grade**, and it's **latitude**.
- We can predict prices with an **average error** of **\$106,000**.



Charting the impact of each feature in our model

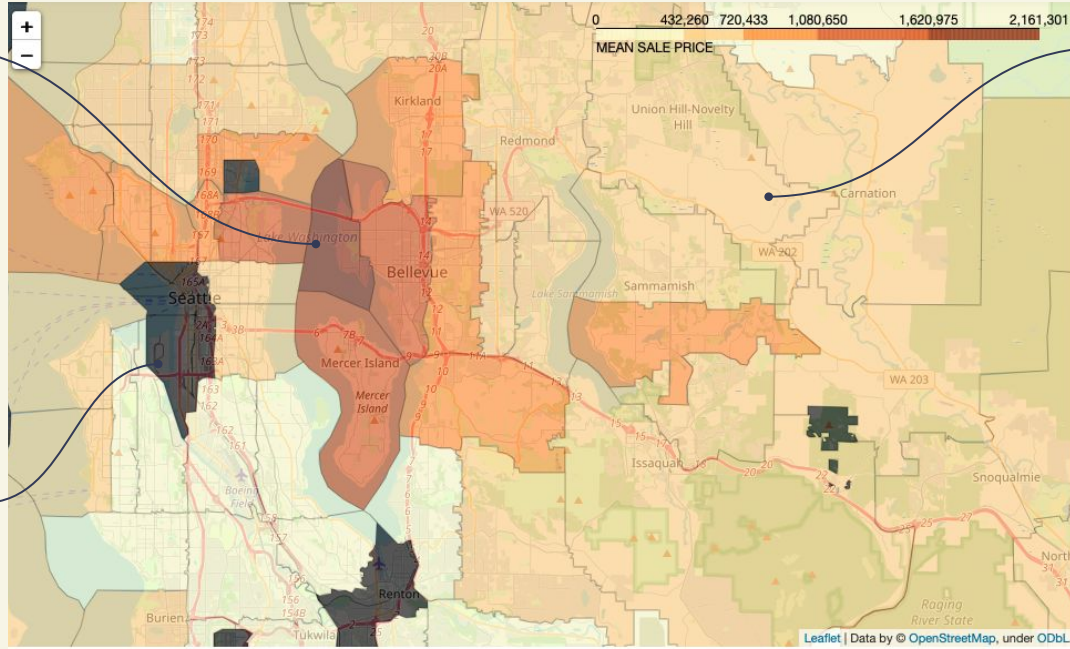
# THE HOUSING MARKET

\$2,051,301

The most expensive  
zipcode's average  
sale price

Missing data

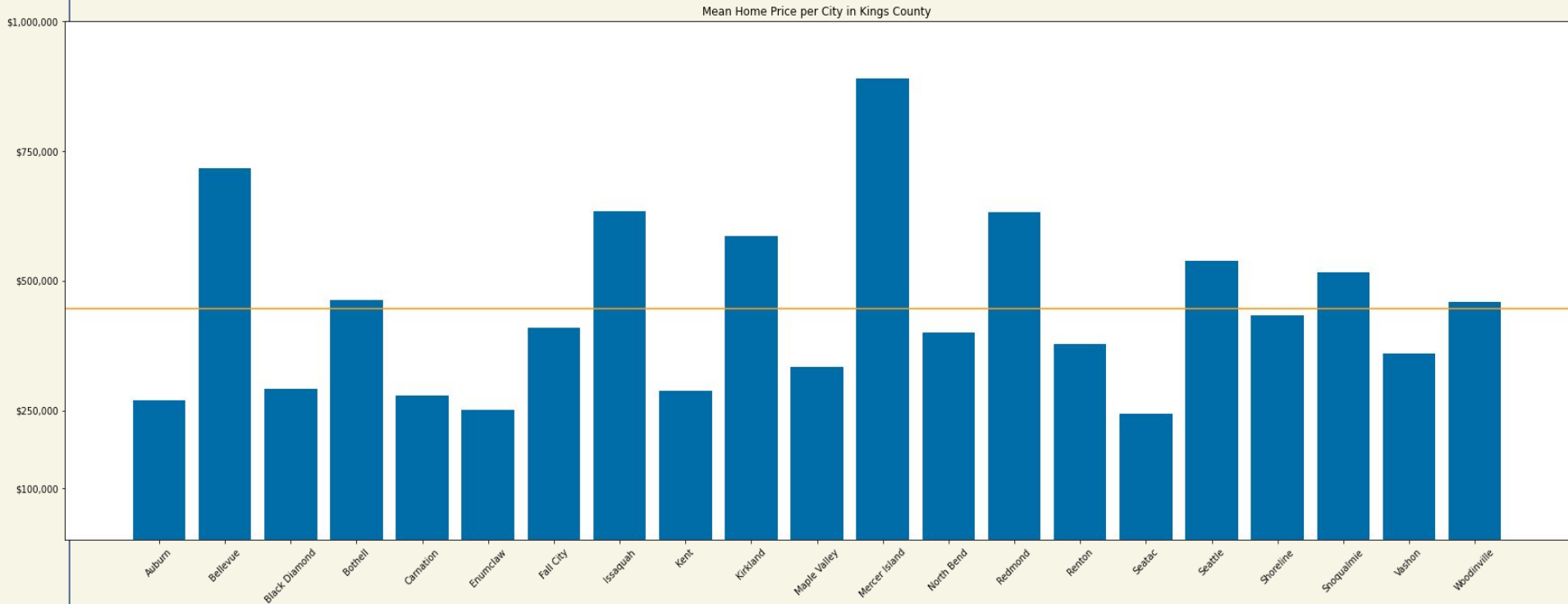
Downtown Seattle,  
along with other  
areas, are not  
included in the data  
set



\$540,296

The mean home price

# AFFORDABLE AREAS





# RECOMMENDATIONS

1

Utilize our  
parameter-based model  
to assess the true value  
of properties.



2

Focus property  
acquisition efforts on  
the demonstrated  
affordable areas.



• QUESTIONS?