KINGS COUNTY HOUSING PRICE ANALYSIS

COPPER CONSULTING

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BUSINESS PROBLEM

We want to be able to provide King Country real estate brokers a viable model that uses house features (e.g. # of bedrooms, square footage) to predict sales price so they can identify properties that will be excellent clients.

Copper Consulting used linear regression modeling as a framework for analyzing property sales data to find the features with the greatest impact on price and then use those features to predict a property's sale price

KEY TAKEAWAYS

- Bigger is better!

- … but More isn't necessarily

- Location! Location! Location!

- Grades count!

# DATA CHARACTERISTICS

- Over 21,500 sales records from Kings County for 2014 & 2015

- 21 separate property features recorded for each sale

  Additional features engineered by Copper Consulting

- Additional data from [King County GIS Open Data](#)

  Police stations

  Medical centers

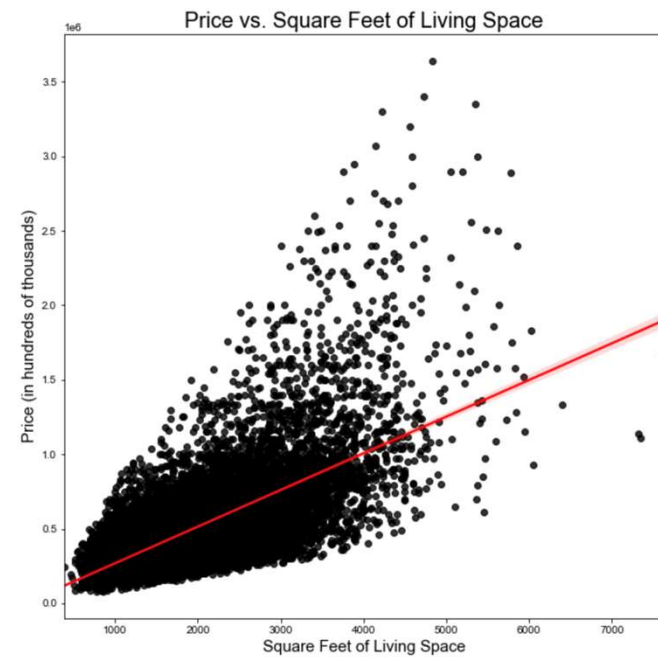 Schools

  Farmers Markets

E D A

- Examined correlation between price and other features

- Mapped location data

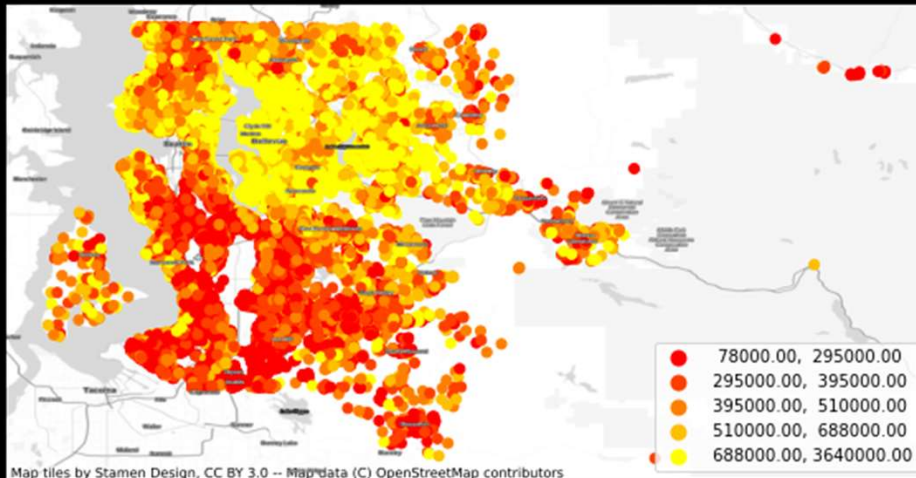- Determined outliers to "single family home"
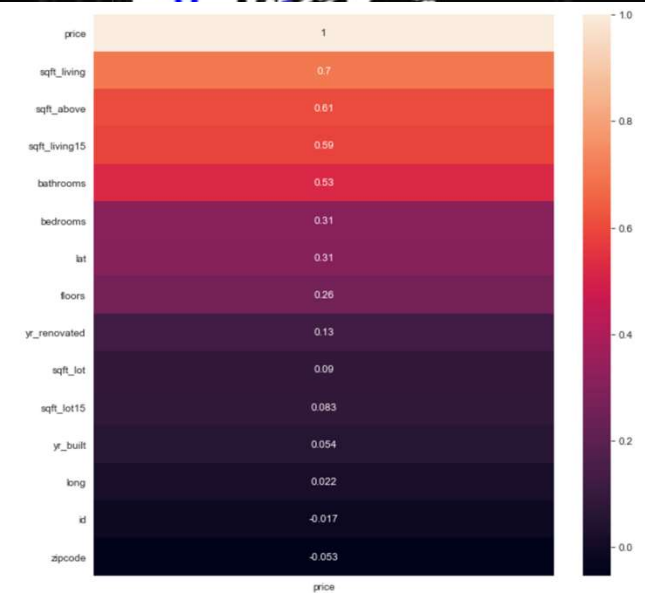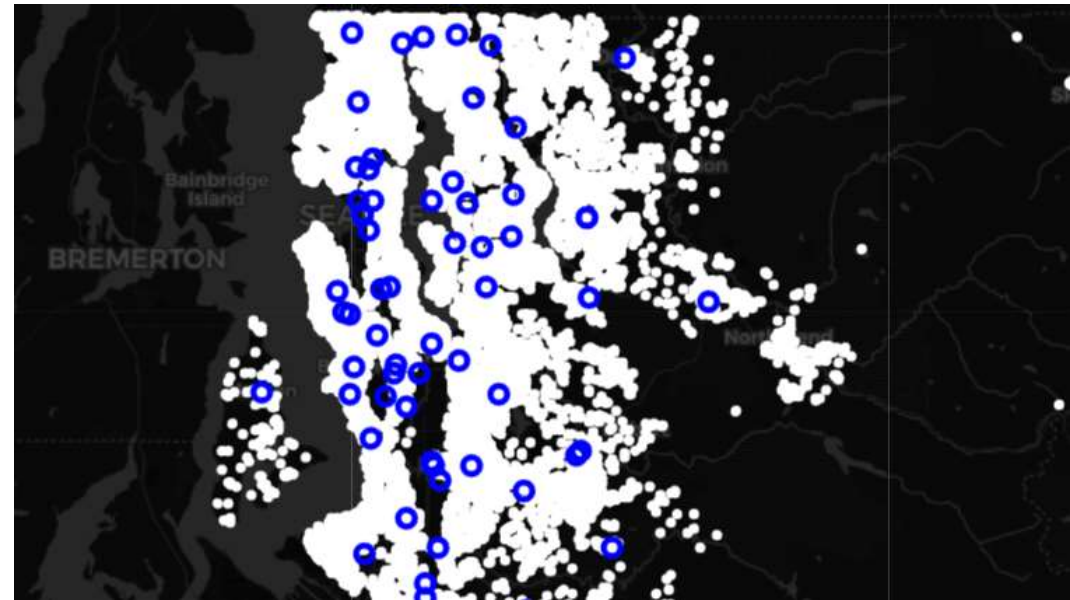
DATA ANALYSIS – NUMERIC FEATURES

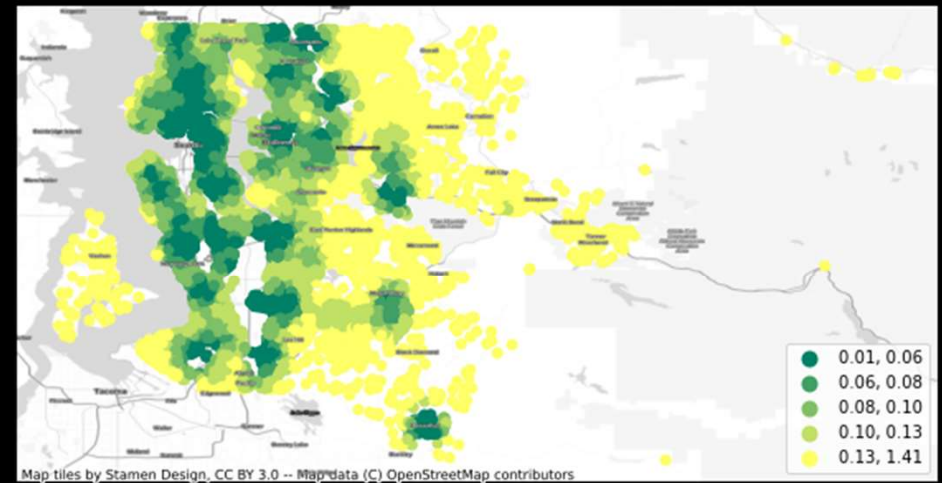As housing square footage increases so does price

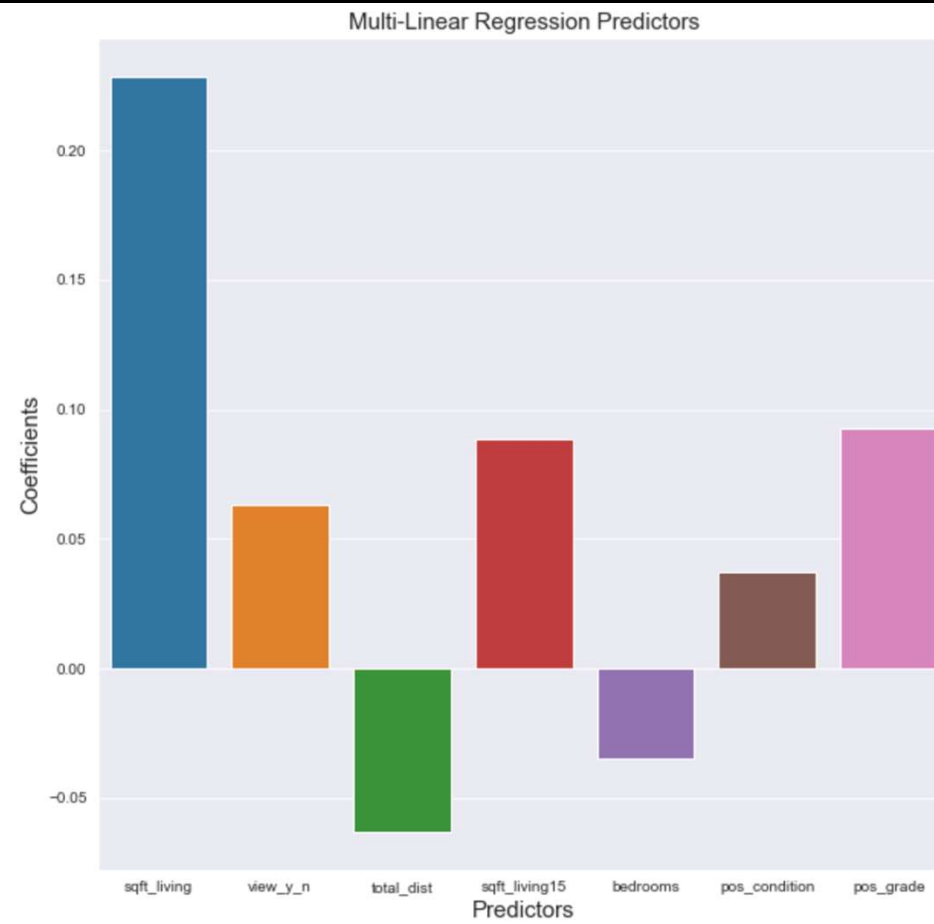# DATA ANALYSIS — GEODATA FEATURES

Price in Dollars per House

Total Distance in Degrees from Points of Interest per House

DATA ANALYSIS – CATEGORICAL FEATURES

- GRAPHIC TO COME

RESULTS

Multi-Linear Regression Predictors

RESULTS

Model explains 52% of the variance in sales prices for homes in King County

Square footage : 23% increase in sales price

Square footage of 15 closest neighbors: 9% increase in sales price

High Grade: 9% increase in sales price
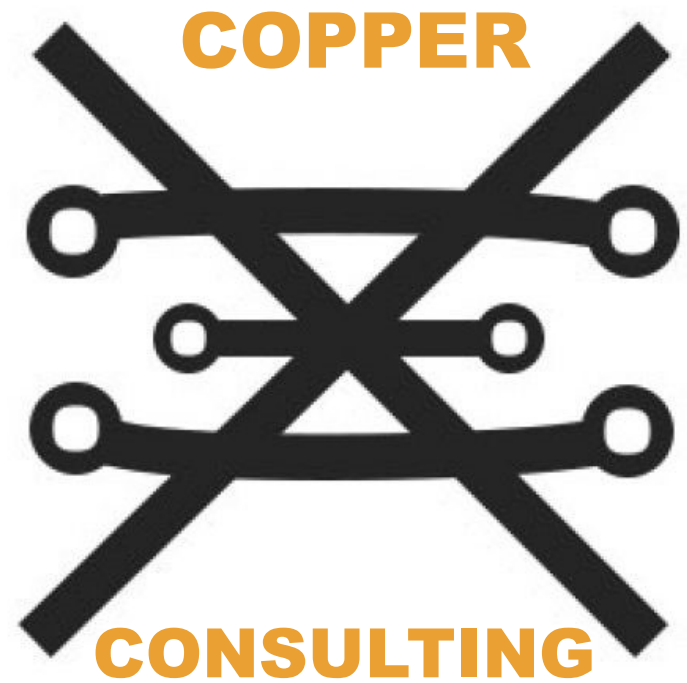
View: 6% increase in sales price

Location: 6% decrease in sales price

Number of bedrooms: 4% decrease in sales price

NEXT STEPS & IMPROVEMENTS

- Add more location data

- Feature engineering with Condition and Grade
    - Identify relationships with Year Built and Year Renovated

- Explore room number and type

- Leverage zip code data

- Examine properties with multiple sales records
    - Price changes
    - Feature changes

THANK YOU!

COPPER

CONSULTING

APPENDIX