

Predicting Housing Prices in King County, WA

Presented by Jonathan Tyler



Scope

To provide guidance in appraising properties within Kings County, Washington based on published public data.

Column Names and descriptions for Kings County Data Set

- id - unique identified for a house
- dateDate - house was sold
- pricePrice - is prediction target
- bedroomsNumber - of Bedrooms/House
- bathroomsNumber - of bathrooms/bedrooms
- sqft_livingsquare - footage of the home
- sqft_lotsquare - footage of the lot
- floorsTotal - floors (levels) in house
- waterfront - House which has a view to a waterfront
- view - Has been viewed
- condition - How good the condition is (Overall)
- grade - overall grade given to the housing unit, based on King County grading system
- sqft_above - square footage of house apart from basement
- sqft_basement - square footage of the basement
- yr_built - Built Year
- yr_renovated - Year when house was renovated
- zipcode - zip
- lat - Latitude coordinate
- long - Longitude coordinate
- sqft_living15 - Living room area in 2015(implies-- some renovations) This might or might not have affected the lotsize area
- sqft_lot15 - lotSize area in 2015(implies-- some renovations)

About the underlying data

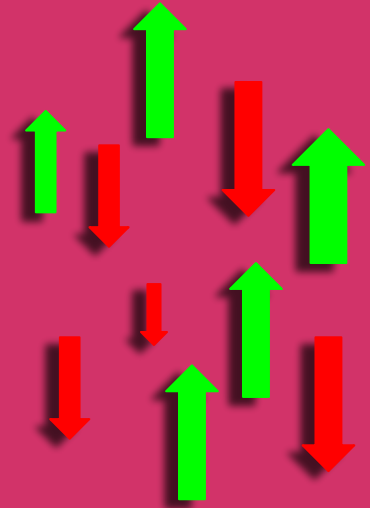
Collected from homes sold
between **May 2014 and
May 2015**.

21613 observations

19 house features

This dataset contains house
sale prices for King County,
which *includes Seattle*.

Goal:
To find potential
areas for growing
housing
development



Process

Cleaned the data

Combined features

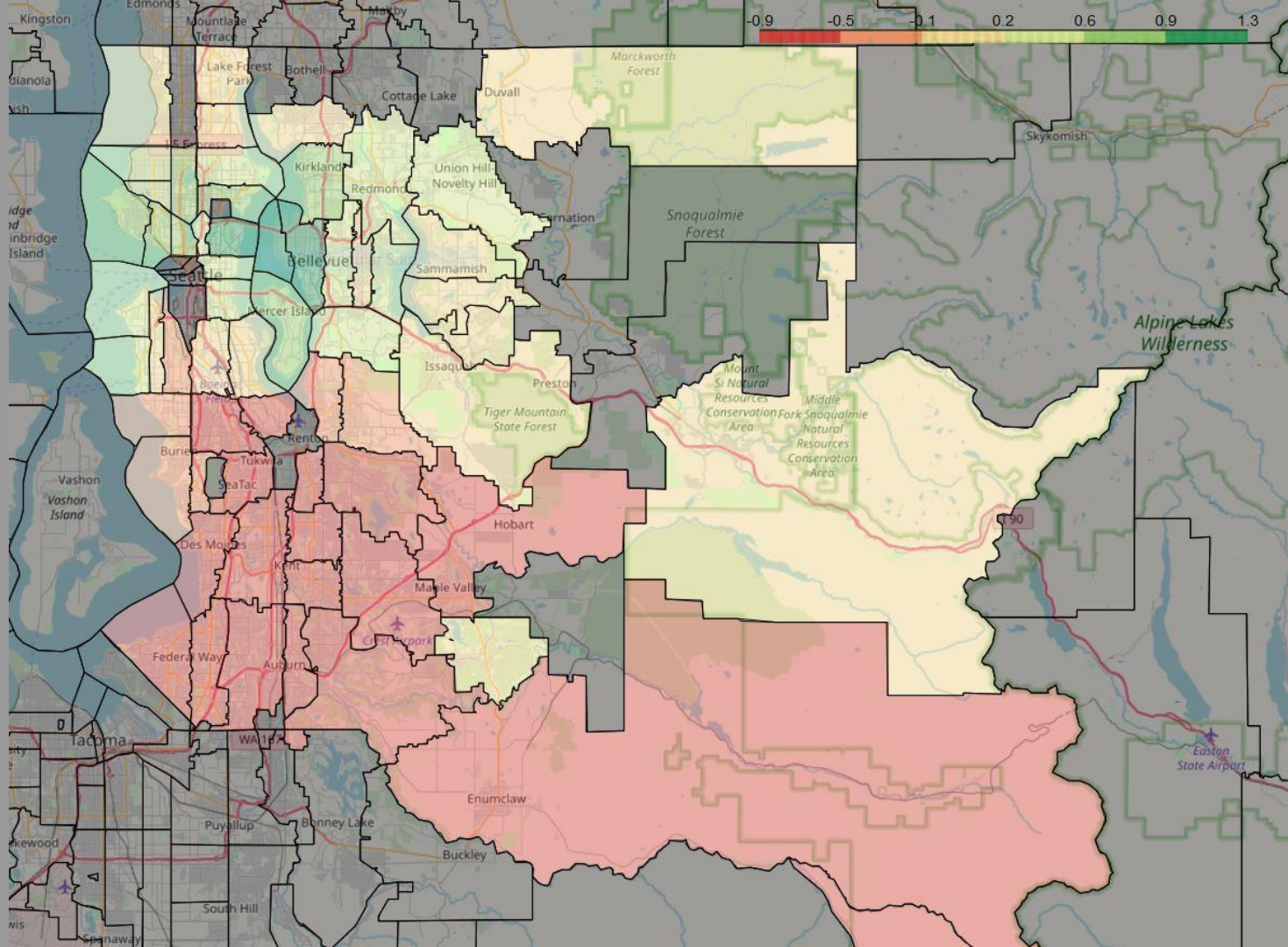
Run LASSO type of regression

Analysis results

Results

Yielded 91 predictors

Zip Codes effect pricing



yr_built	-0.002024
sqfthouse	0.373876
sqftlot	0.021685

floor	delta
floors_1.0	-0.051929
floors_1.5	-0.000171
floors_2.0	0.012383

bathroom	delta
bathrooms_1.0	-0.054372
bathrooms_1.5	-0.067718
bathrooms_1.75	-0.037121
bathrooms_2.0	-0.047492
bathrooms_2.25	-0.017714
bathrooms_2.5	-0.018425
bathrooms_3.25	0.032980
bathrooms_3.5	0.008766

bedroom	delta
bedroom_2	0.044835
bedroom_5	-0.014897

condition	delta
condition_2	-0.127705
condition_4	0.050005
condition_5	0.156692

Relative to age and grade. Coded 1-5

grade	delta
grade_5	-0.586833
grade_6	-0.456593
grade_7	-0.276086
grade_8	-0.038861
grade_9	0.241643
grade_10	0.469752
grade_11	0.706695
grade_12	0.651088

Represents the construction quality of improvements. Grades run from grade 1 to 13

view	delta
view_0.0	-0.258030
view_3.0	0.101795
view_4.0	0.629105

Has been viewed and inspected. Coded 0-4

- King County has a lot of influence when pricing.
- 90% of homes were not viewed by the county.
- The year when it was built did not greatly impact the housing price



Takeaways

Get the house viewed by the county

If any work is to be done, expand square footage

Quaterbaths do better than halfbaths, list appropriately