King County

A Modeling Analysis of Washington Real Estate

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Business Problem

GENESIS CAPITAL

Who: Genesis Capital ‘Fix & Flip’ Division

Where: King County, Washington

What: Price

Business Questions

How do features of a house affect the selling price?

The extent to which price is affected

Coefficient examination

Data Understanding

King County Sales, 2014 - 2015

21,597 Entries

21 Descriptors

Target: Price

Predictors of Note:

Bedrooms, Square Footage, Floors, Zip Code

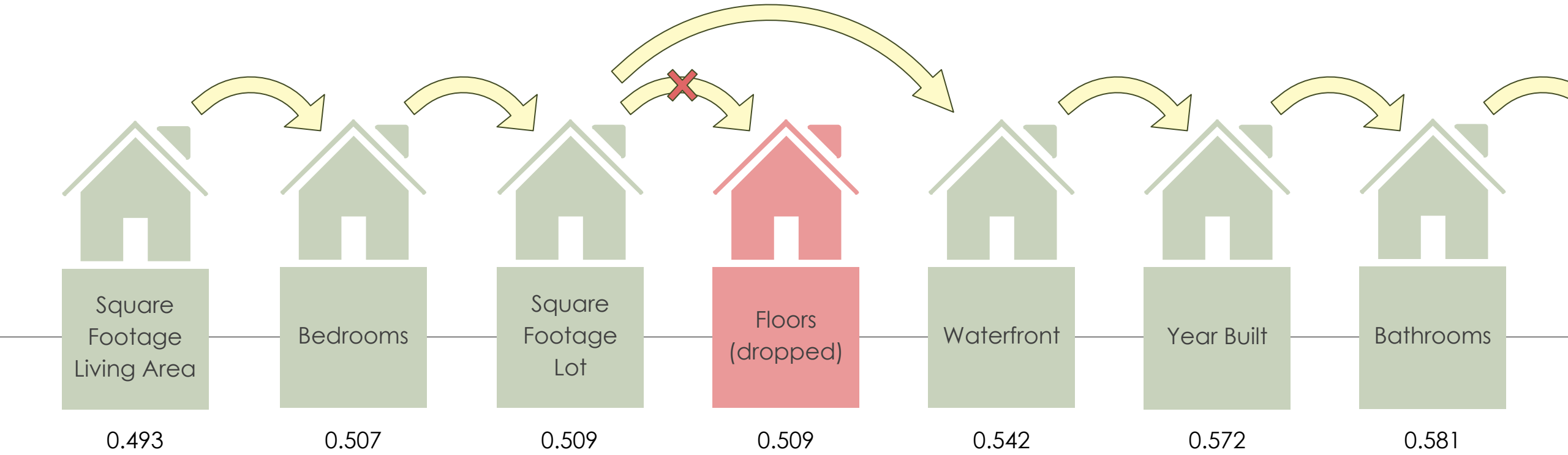
First Simple Model

Sqft_living
Correlation: 0.701917

Model Results:
R-Squared: 49.3%

Coefficient: + $280 per sqft

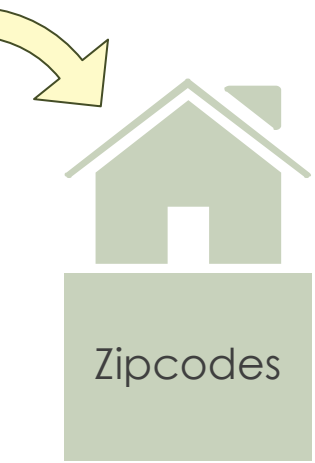
Iterative Modeling Process



Final Model

After turning 70 zip codes into categorical variables and using them to get a final model, we get this:

R-Squared: 0.779



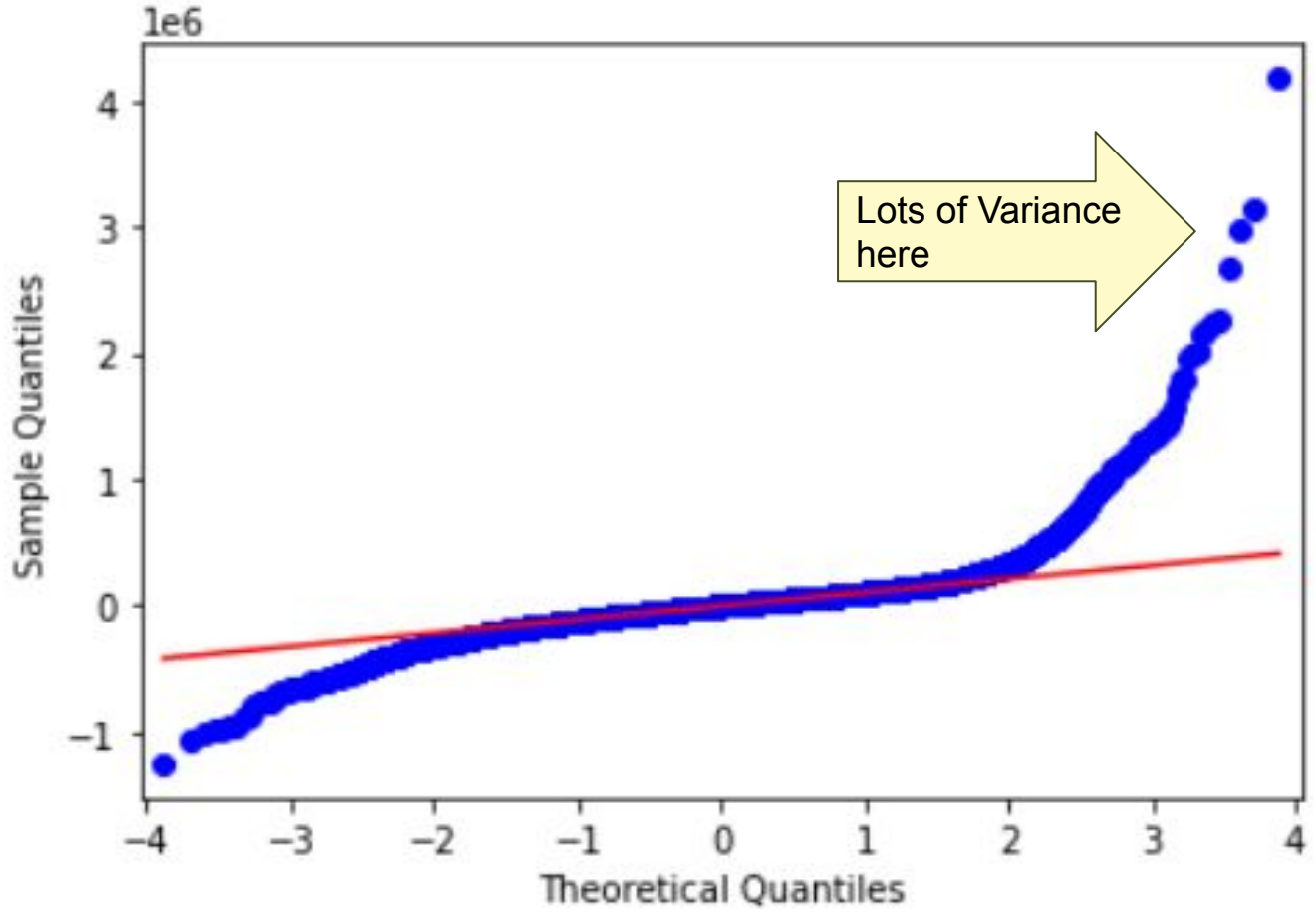
Positive Coefficients	
Square Foot Living Space	+ $256.93
Square Foot Lot	+ $0.25
Bathrooms	+ $26,370
Waterfront View	+ $868,300

Negative Coefficients	
Number of Bedrooms	- $3,800
Year the House was Built	- $452

Taking It Further with Log Transforms

Final Model Before Log Transforming 'price':

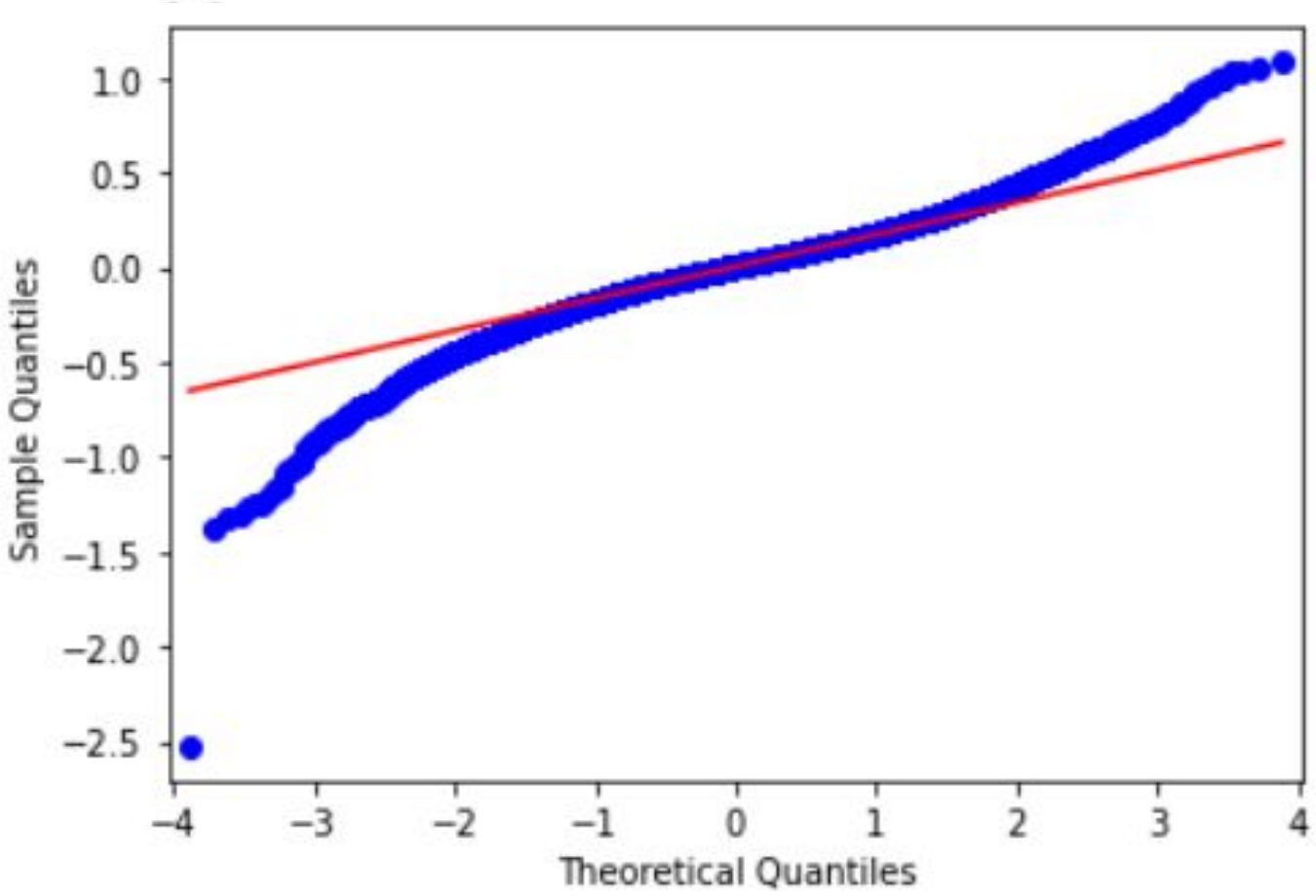
R-Squared: 0.779



Taking It Further with Log Transforms

Final Model After Log Transforming 'price':

R-Squared: 0.840



Interpreting Log Transform Coefficients

Positive Coefficients	
Square Foot Living Space	+ 0.03%
Bathrooms	+ 4.78%
Square Foot Lot	+ 0% (tiny number)
Waterfront View	+ 97.13%

Negative Coefficients	
Number of Bedrooms	- 1.633%
Year the House was Built	- 0.03%

Next Steps

- Hone in on renovation specific predictors
- Dataset with detailed renovation information
- Goal: Finding value in renovation types

THANK YOU!

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