



Housing Market Analysis

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The Business Problem

The King County Development Group (KCDG) wants to build a new community of family homes in King County (WA).

KCDG would like to bring on a team of contractors, engineers, and architects to assist with the design of these homes but need to understand how the sale price of the home will change depending on the design parameters.

What metrics influence the sale price of a home?

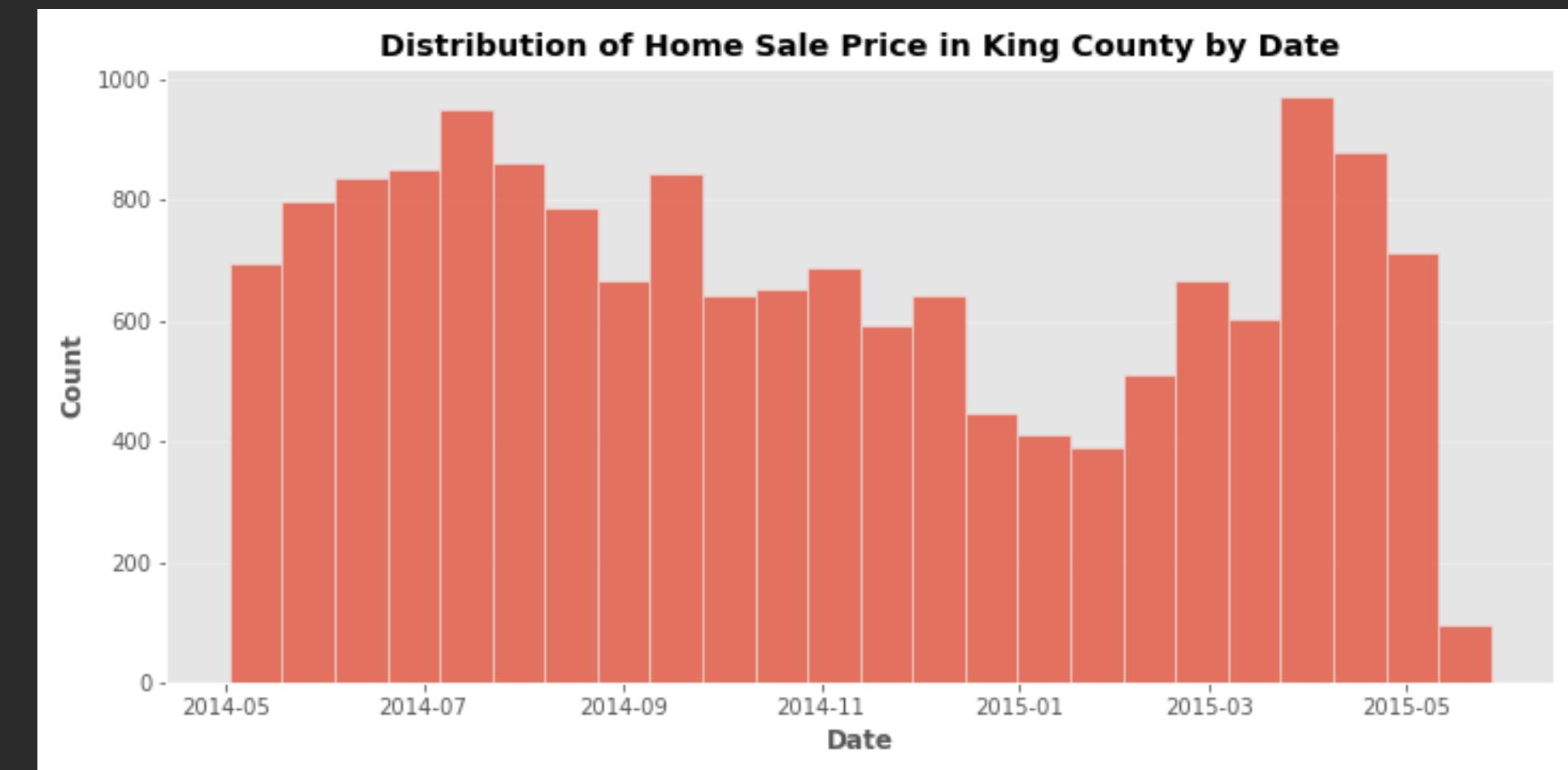


The Data

03

King County House Sales dataset

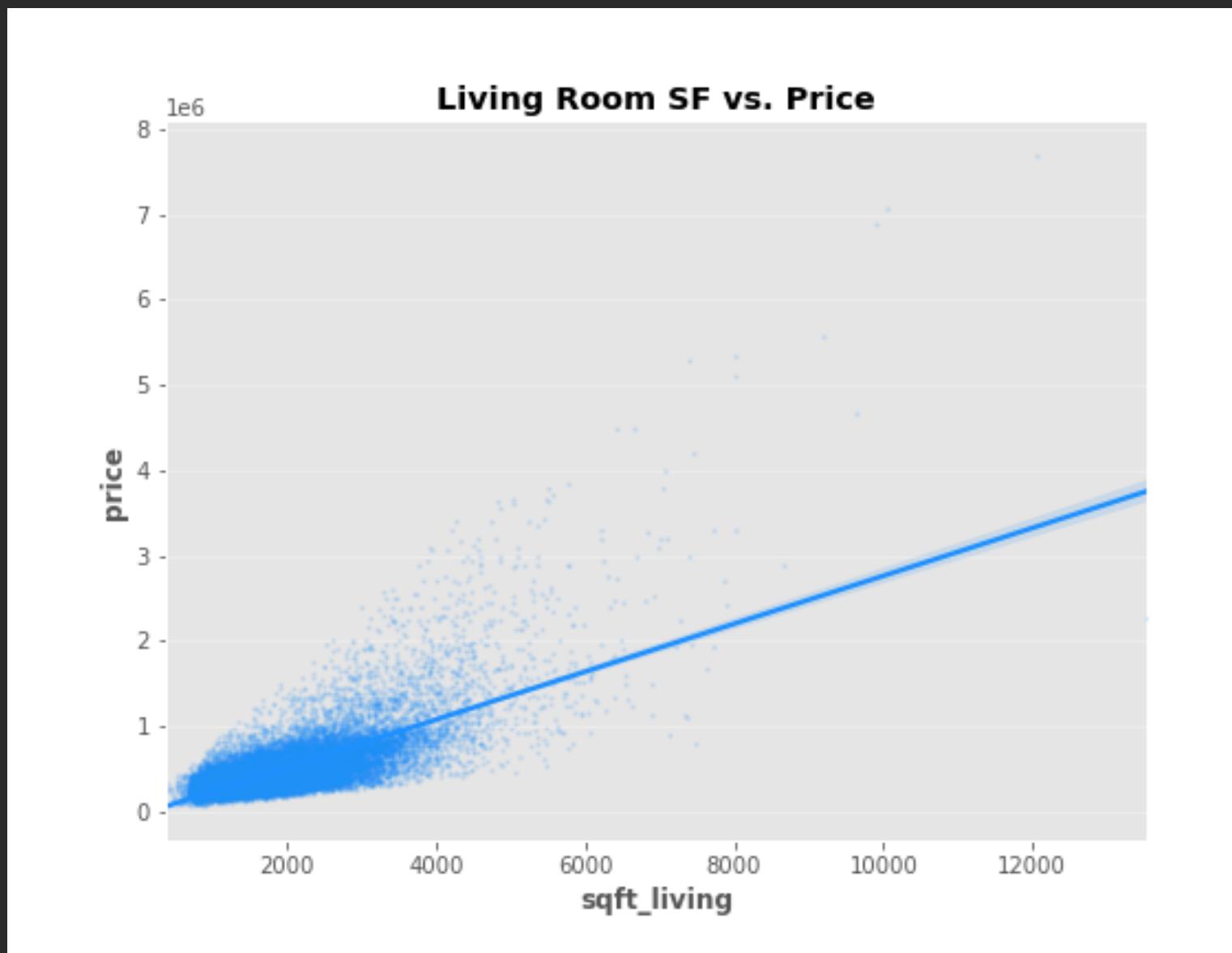
- Contains housing data for King County between 2014 - 2015
- Target variable = Price



Constructing Models

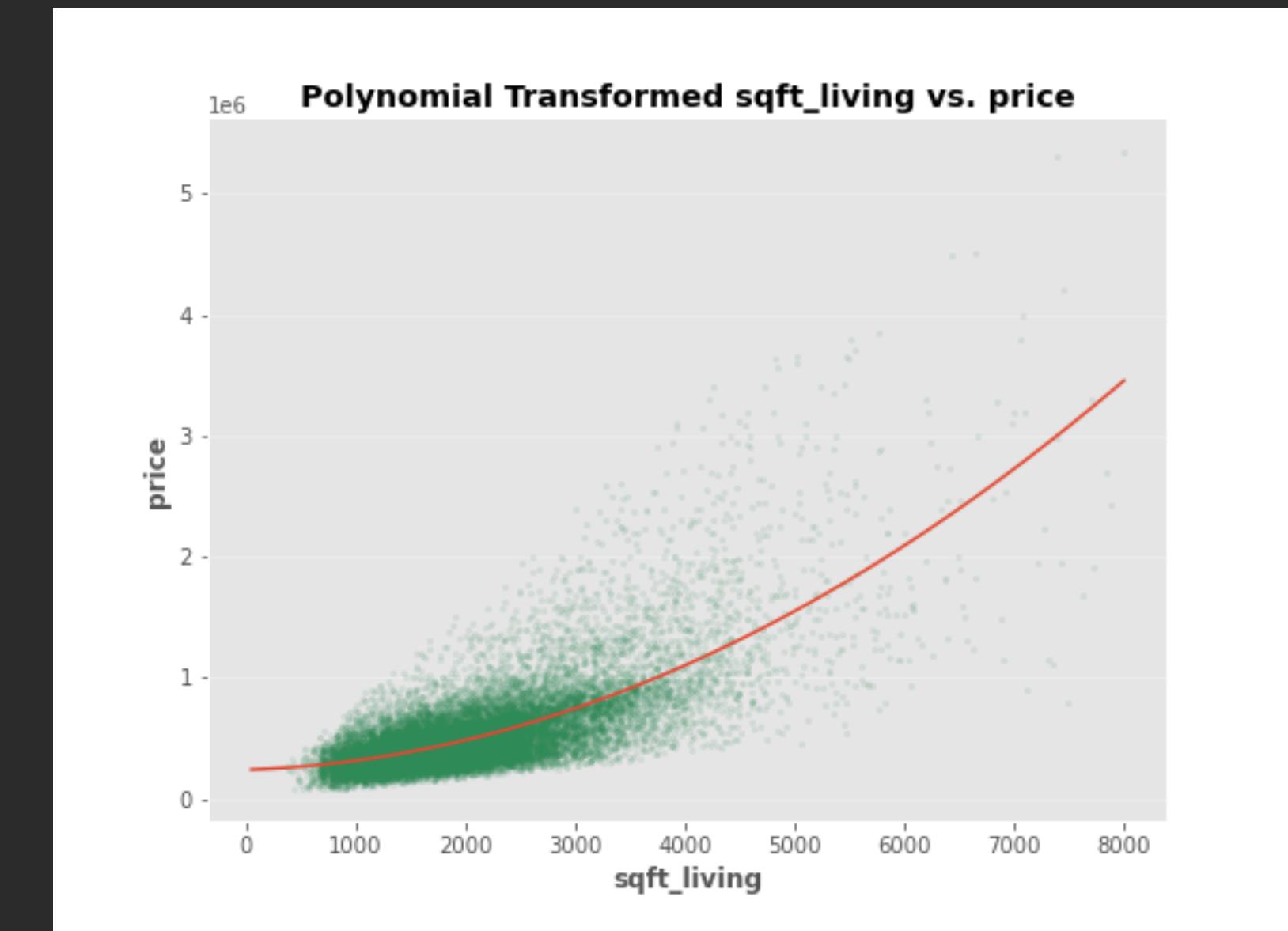
04

Train-Test Split (75%-25%)



Baseline Model

Base Training R-Squared:
0.485

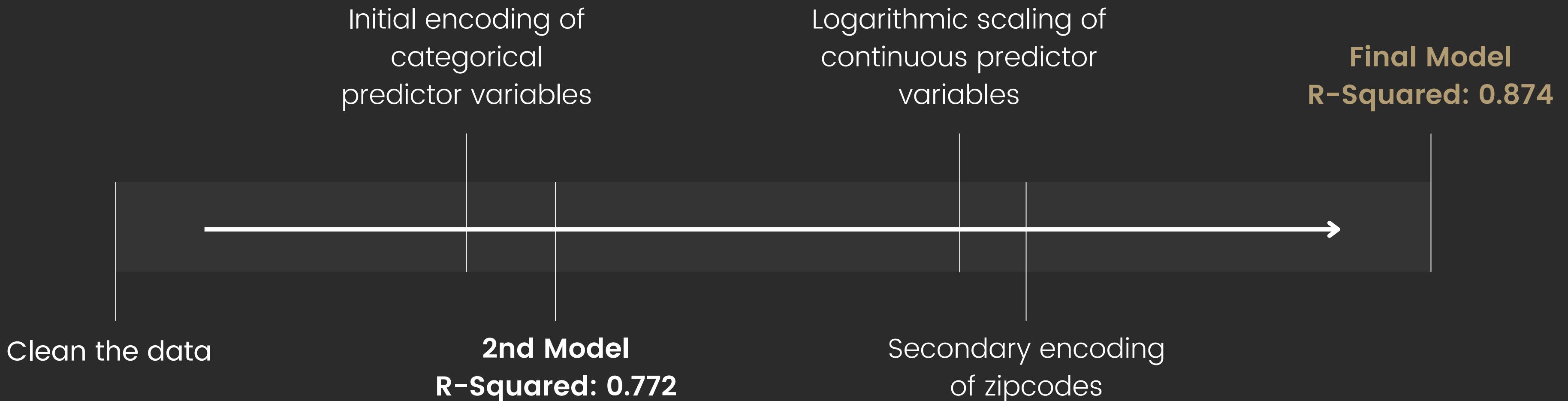


Transformed Polynomial Model

Base Training R-Squared: 0.521



Data Cleaning & Preprocessing



Final Model

Predictors

- SF of living space in the home
- SF of house apart from basement
- SF of interior housing living space for the nearest 15 neighbors
- Age
- # of Bedrooms
- # of Bathrooms
- # of Floors
- Quality of View (None - Excellent)
- Maintenance condition of house (Poor - Very Good)
- Grade of the construction (1 - 13)
- Previously renovated?
- Zipcode



Model - Training

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Model - Testing

08

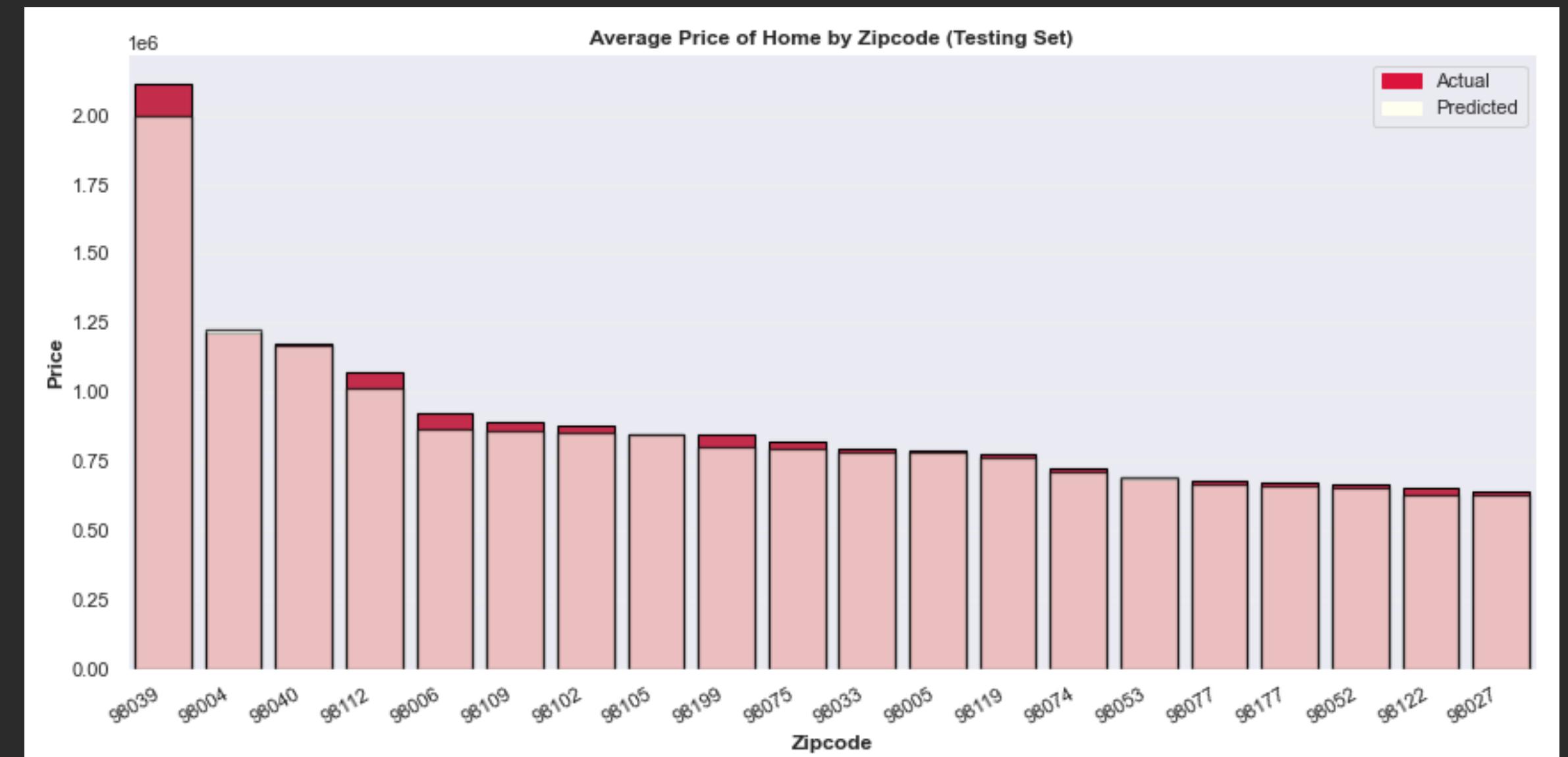
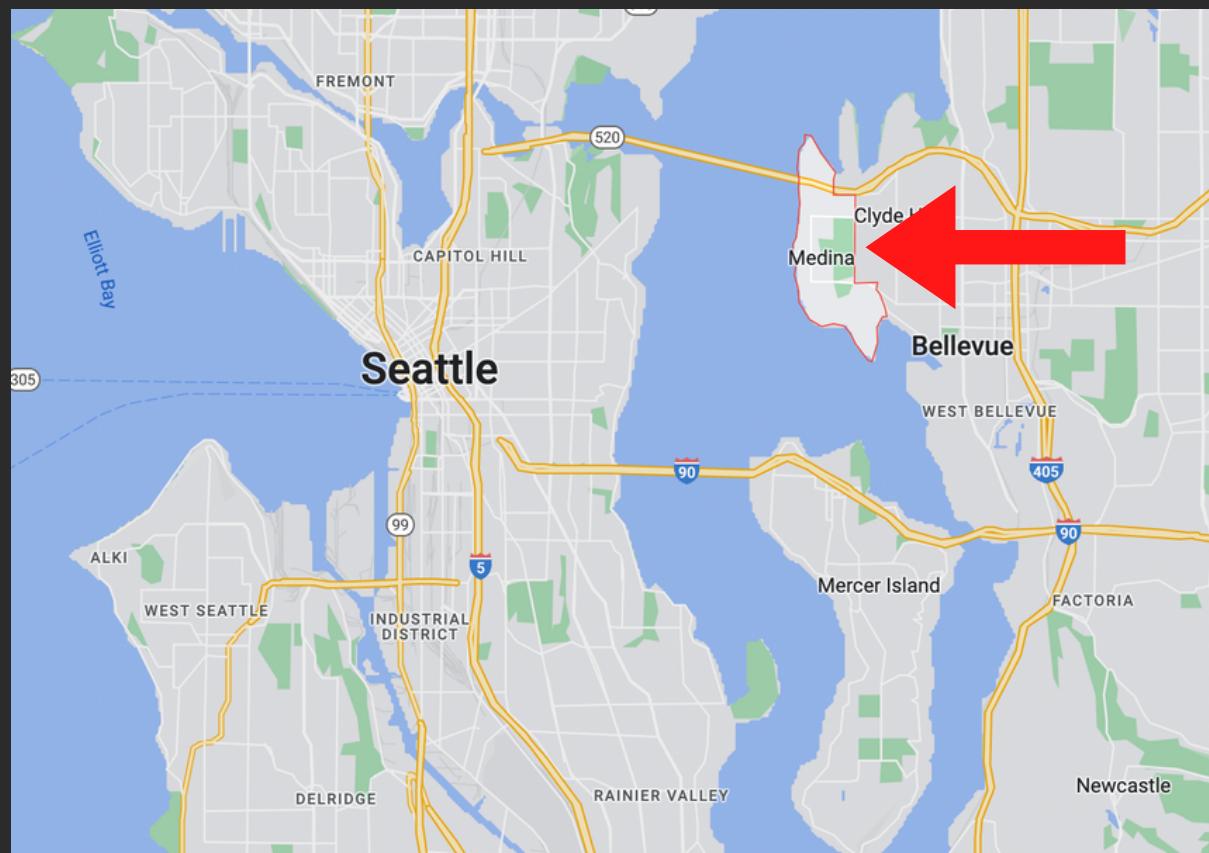


Location, Location, Location!

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Zipcode matters

- Highest priced neighborhoods:
 - Medina, WA 98039
 - Bellevue, WA 98004
 - Mercer Island, WA 98040
 - Seattle, WA 98112

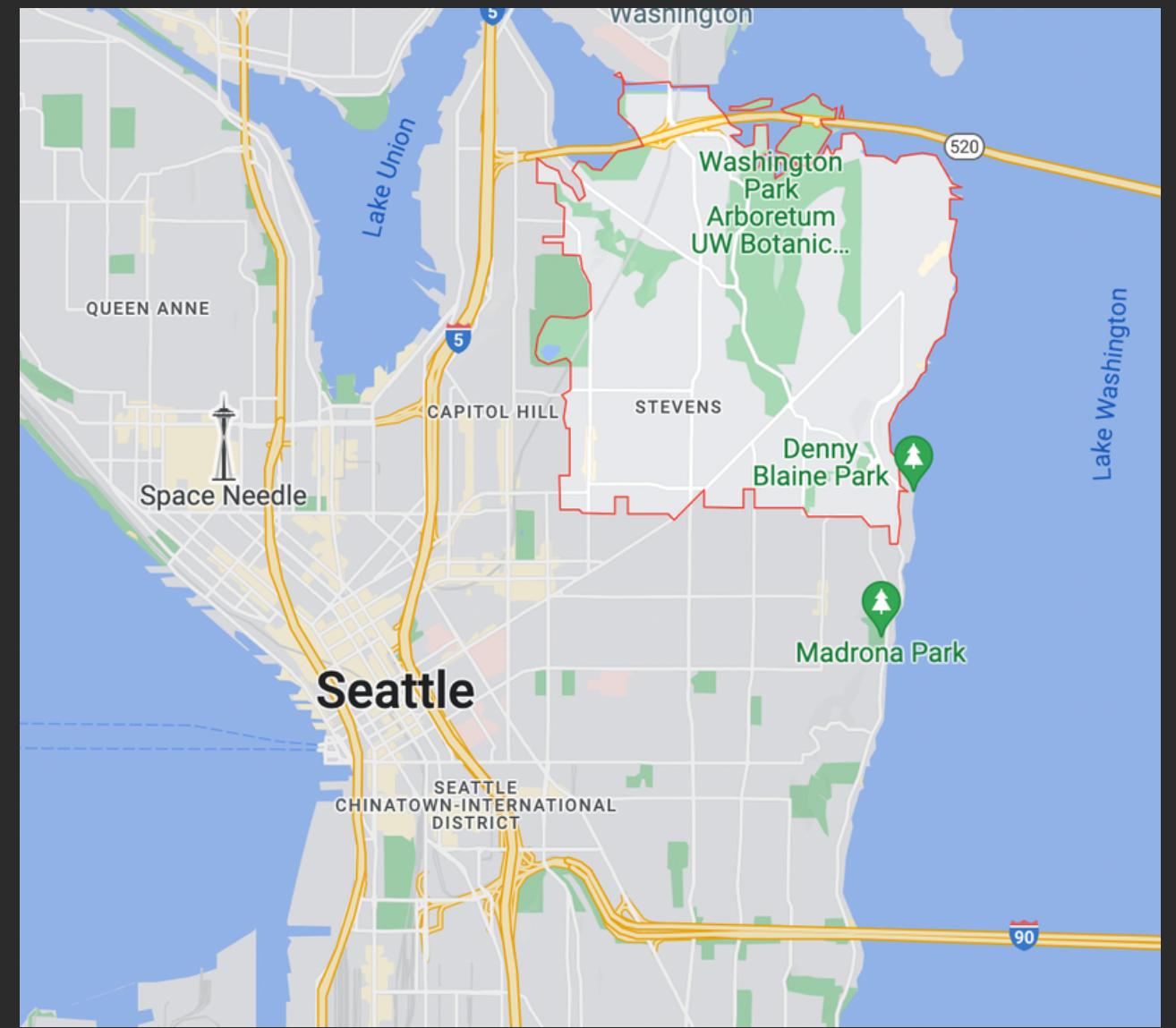


Predict a Price

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Model Predicts a price based on inputs

- SF Living: 4000 SF
- SF Above: 3000 SF
- SF Living Nearest 15: 3000 SF
- Age: 1 (New Building)
- Number of Bedrooms: 2
- Number of Bathrooms: 2
- Number of Floors: 2
- View Quality (0-4): 1 (Fair)
- Condition Quality (1-5): 4 (Good)
- Grade Quality (1-13): 7 (Average grade of construction)
- Renovated? No
- Zipcode: Seattle, WA 98112



Predicted Sale Price:
\$1,076,956



Conclusions/Recommendations

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- Location matters
- Positive: SF Living, Bathrooms, View, Condition, Grade, Renovated
- Negative: Age, Bedrooms, Floors

Next Steps

01

Examine relationship between predictors

02

Expand to larger dataset

- Sale price up to today?



Contact

Thank you!



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