

HOUSE PRICE MODEL

KING COUNTY, WASHINGTON

HELP CLIENTS PRICE HOMES WITH PRECISION

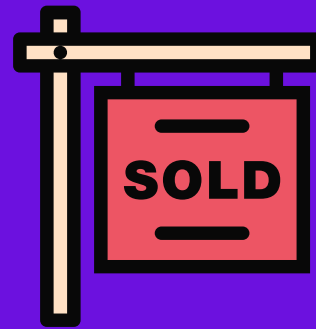
BUSINESS PROBLEM

King County includes urban, suburban, and rural areas

Home prices vary greatly by neighborhood



DATA UNDERSTANDING



OVER 20,000
HOMES SOLD
IN 2014 AND
2015



70
DIFFERENT
ZIP CODES



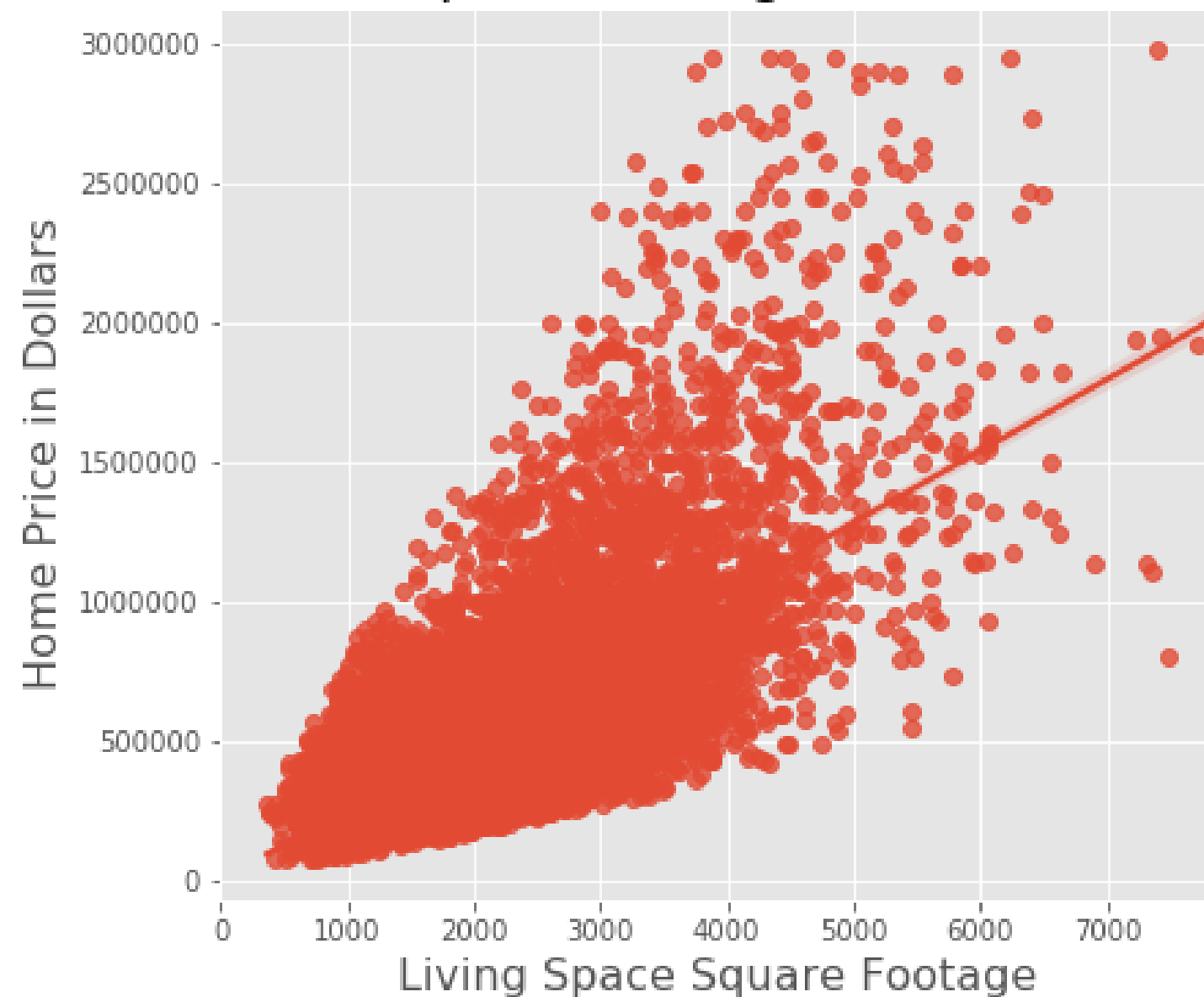
AVERAGE
(MEDIAN)
SALE PRICE
IS \$450K



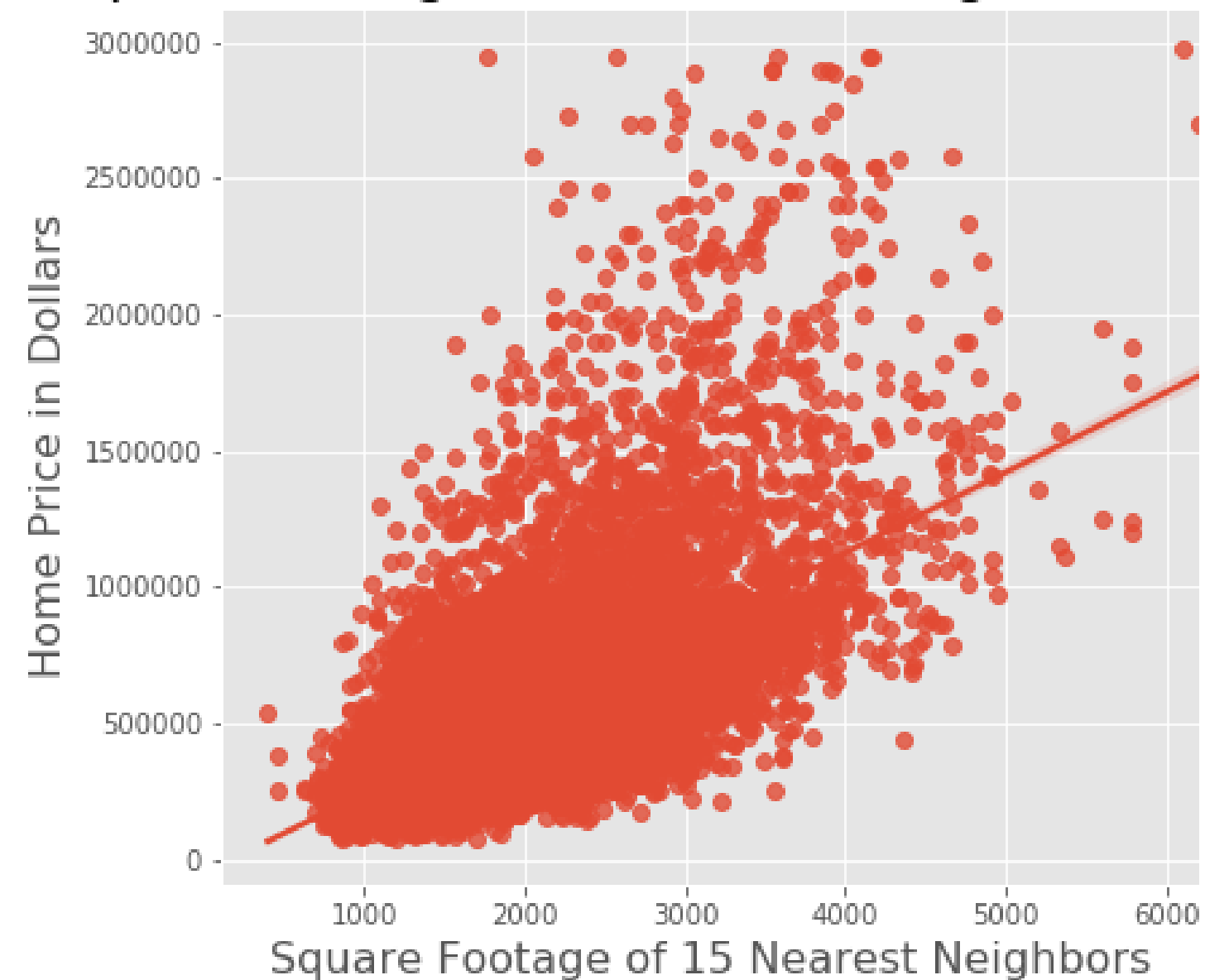
BUT SOME
HOMES SELL
IN THE
MILLIONS

DRIVERS OF PRICE: SQUARE FOOTAGE

Square Footage vs Price



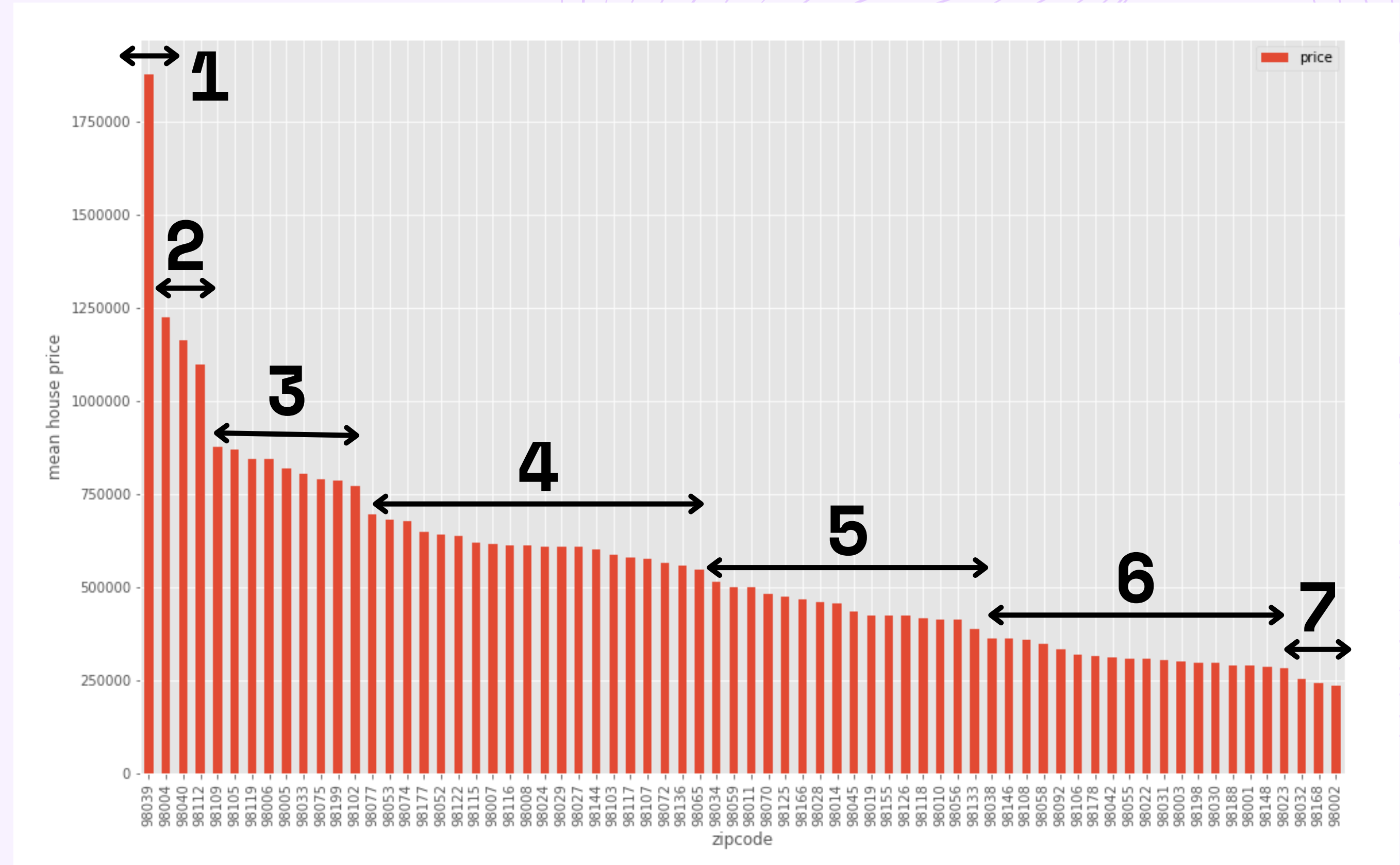
Square Footage of 15 Closest Neighbors vs Price



DRIVERS OF PRICE: ZIP CODE

Mean house price
varies
dramatically by
zipcode

Classifying
zipcodes into 7
categories helps
predict prices



CONCLUSIONS

A MODEL BASED ON ZIP CODE CLASSIFICATIONS AS WELL AS HOME FEATURES CAN EFFECTIVELY ESTIMATE HOME VALUE

IMPROVEMENT OVER BASELINE

Model predictions are an average of \$87,000 off from true price, as opposed to \$136,000 in the baseline model

MODEL INCLUSIVITY

The vast majority of King County home prices can be predicted

Less than half of one per cent of homes are excluded

MODEL EXCLUSIONS

- Over \$3 million
- Over 8,000 square feet
- Lots over 600,000 square feet

Future Work

ADD MORE ZIP CLASSES

Since zip code classification was so effective in improving the model, perhaps including more zip classes would help by segmenting the market even further

INVESTIGATE MONTH SOLD

The month when the house was sold may affect price, and was not tested in these models

EXPLORE RECENT RENOVATIONS

Test including a feature that would indicate whether the house was recently renovated, for example in the past 20 years

CREATE MODELS FOR EXCLUDED HOMES

Creating models that can generate predictions for the handful of homes not accounted for in this model

THANK YOU!

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