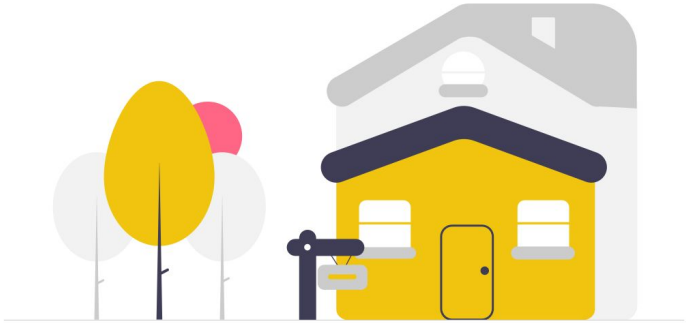
King County Housing Data

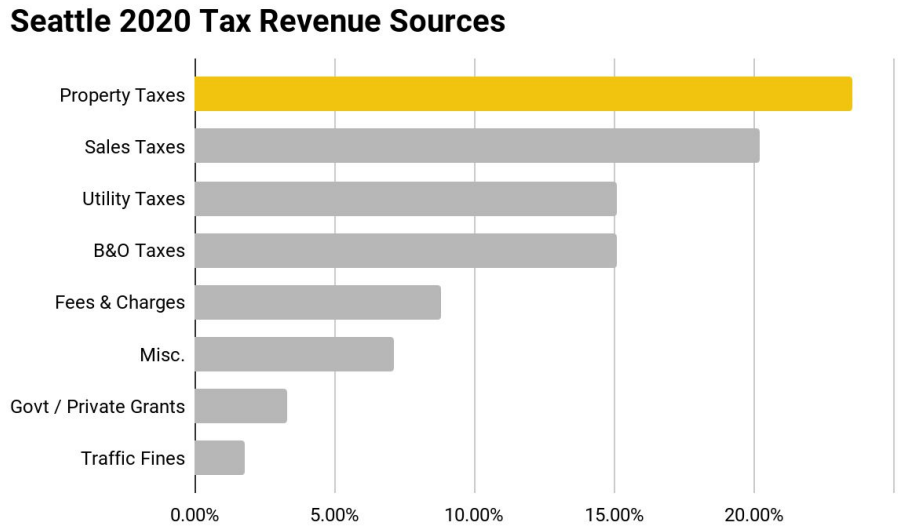
Tax revenue forecasting tool

By T.J. Kyner



The Goal

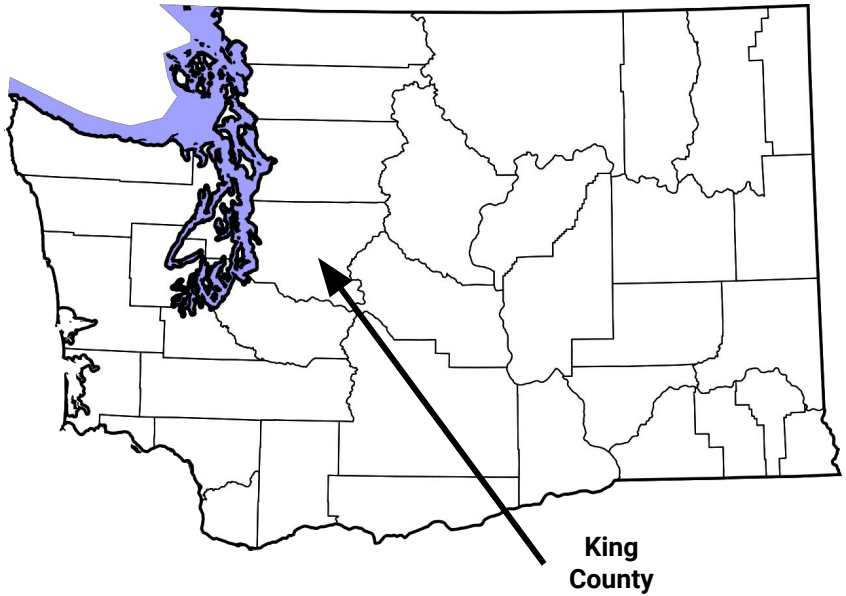
An accurate prediction model for house prices can play a key role in efficient financial planning and budgeting for municipalities.



Source: Seattle General Fund Revenue Overview

Available Data

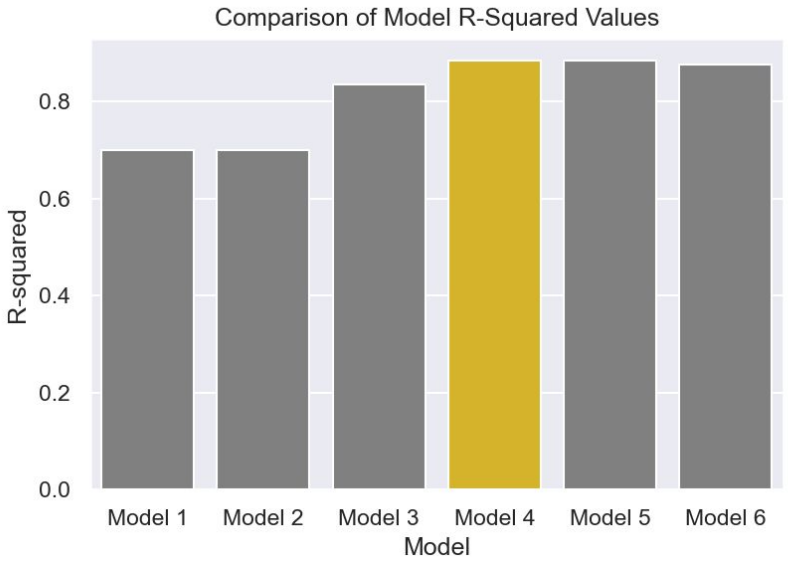
- King County, WA
- 21,500+ transactions
- May 2014 - May 2015
- Examples of variables: sale price, # of bedrooms, # of bathrooms, square footage, year built, condition, location, and more



Iterative Modeling

Starting with a baseline model, each subsequent model built upon the previous (except for model 6 which built off of model 4).

1. Baseline model
2. Removed outliers
3. Handling categorical variables
4. Applied a log transformation
5. Scaled the data
6. Dropped non-significant variables



Model 4 Results

88.5%

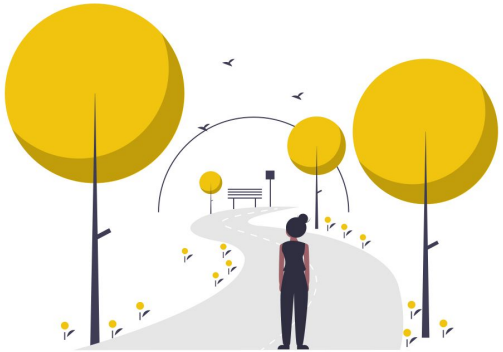
The amount of variation in price explained by the model

Important Variables:

- Zip code
- Waterfront property
- Condition (higher = better)
- Grade (higher = better)
- Latitude (further north = better)

Next Steps

- Test other model transformations / interactions
- Direct incorporation of taxable value adjustment
- Amenities proximity / walkability information
- Macroeconomic data



Thank You!

Contact Information:


tjkyner@gmail.com


github.com/tjkyner


linkedin.com/in/tjkyner

Acknowledgments:

- Illustrations from unDraw.co
- Blank Washington counties map by David Benbennick, released into the public domain