

A scenic view of the Seattle skyline with snow-capped mountains in the background and a body of water in the foreground. The text is overlaid on the image.

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MODELING HOUSING PRICES IN KING COUNTY, WA.

Using Linear Regression to Describe House Prices

HOUSING SNAPSHOT

- Pop. 2.25M
- 16.6% Population Increase (2010-2019)
- \$779k median home price (2021)
- 43.9% Home Ownership Rate

King County Housing Market Trends

Median Sale Price

\$779,000

+13.5% year-over-year

of Homes Sold

3,850

+7.7% year-over-year

Median Days on Market

6

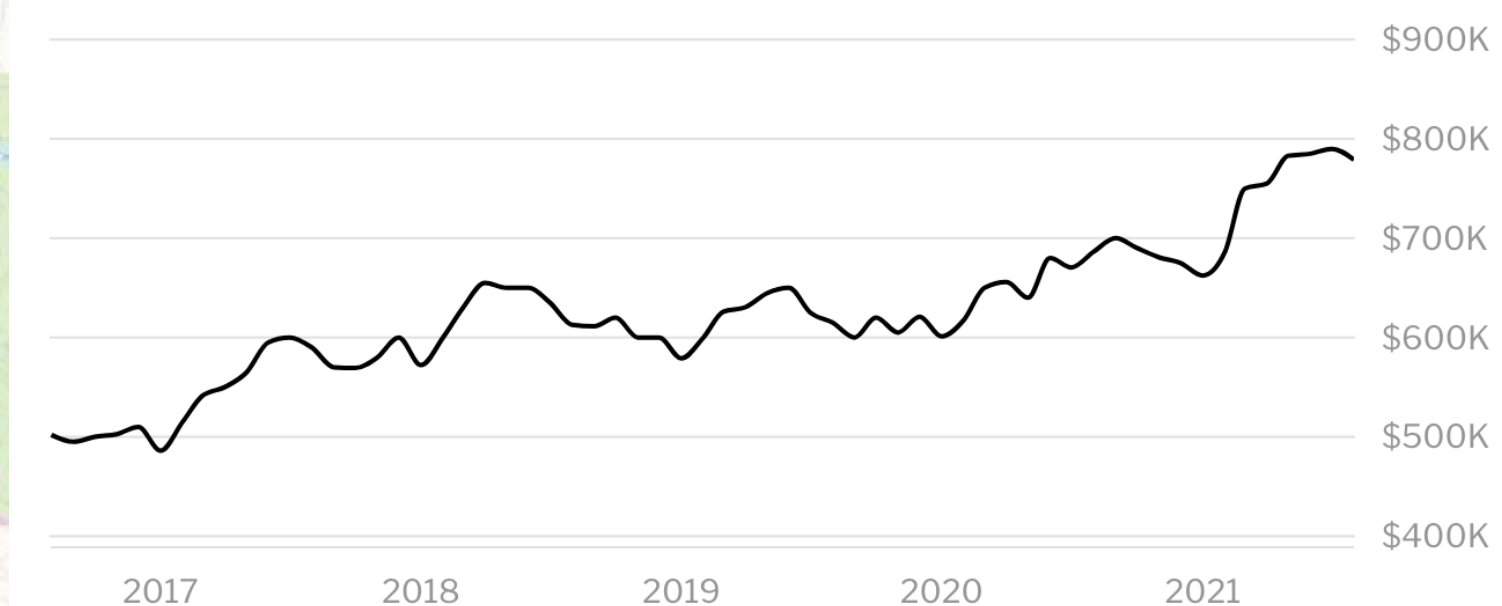
-14.3% year-over-year

All Home Types ▾

1 year

3 years

5 years



Source :<https://www.census.gov/quickfacts/fact/table/kingcountywashington,WA/PST045219>
<https://www.redfin.com/county/118/WA/King-County/housing-market>

**WHAT ARE THE BEST IMPROVEMENTS
WE CAN MAKE TO INCREASE HOME
VALUE?**

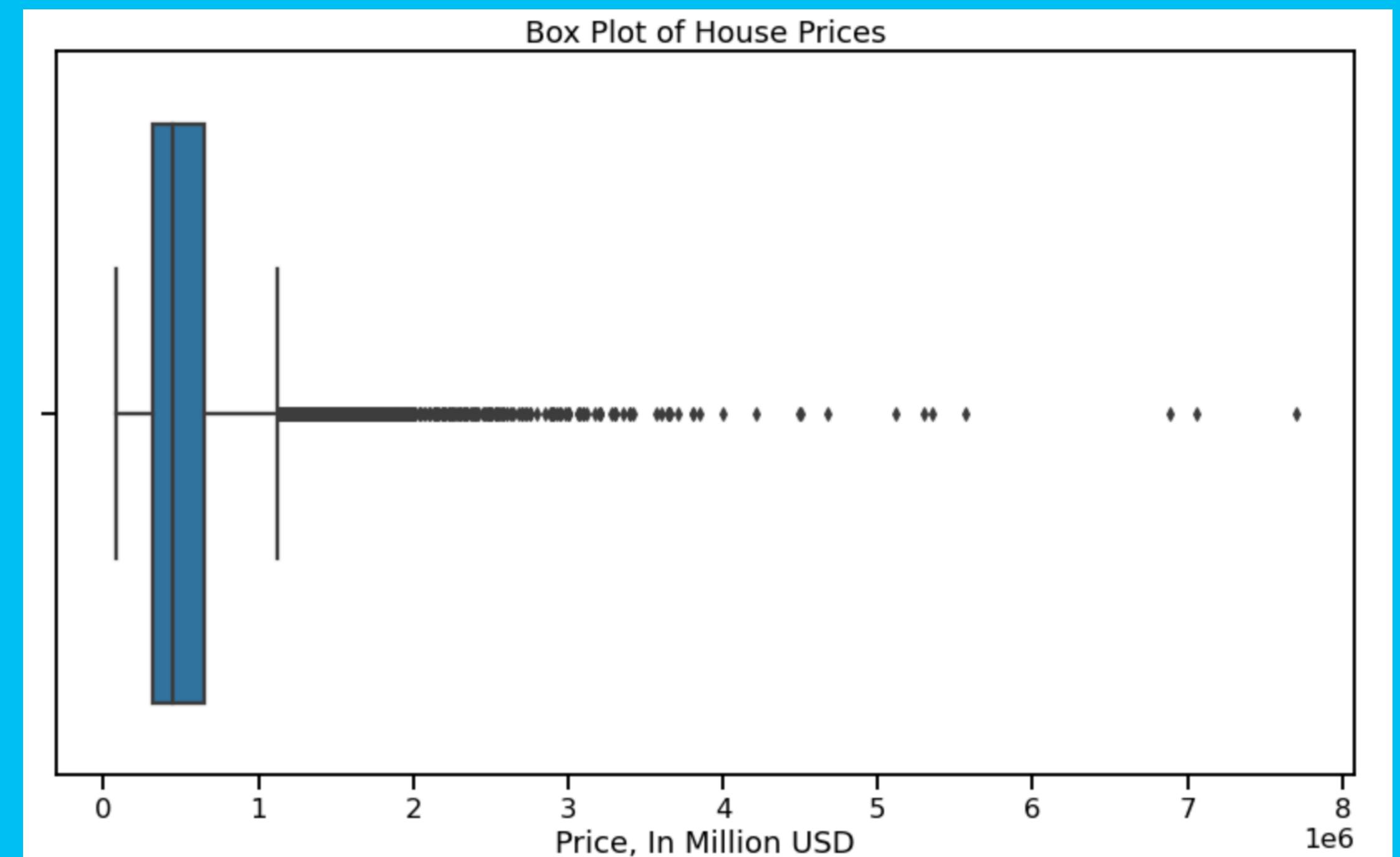
**HOW TO IDENTIFY INVESTMENT
OPPORTUNITIES?**

SUMMARIZING THE KC HOUSING DATA SET

- Almost 21,600 entries.
- Contains all housing sales from May 2014 - May 2015.
- Includes data about house size, bedrooms, bathrooms, grade, condition, location, and lot size.
- Mean house price is \$540,296
- Median house price is \$450,000
- Most expensive house sold for \$7.7 million.
- Least expensive house sold for \$78,000.

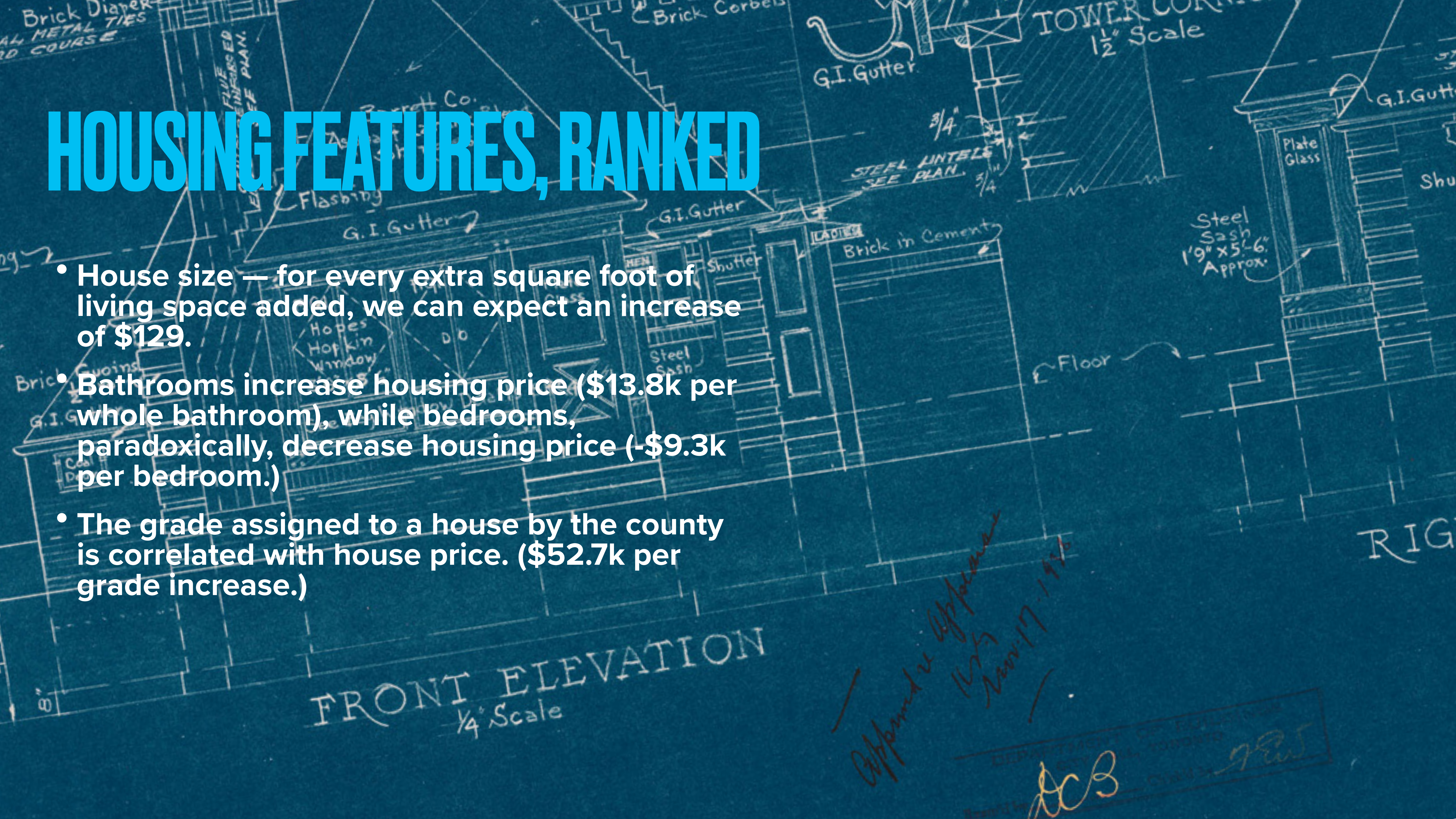
SHORTCOMINGS

- Data is 5 years old.
- Some variables are missing a lot values.
- Price info contains a lot of outliers that skew data



HOUSING FEATURES, RANKED

- House size — for every extra square foot of living space added, we can expect an increase of \$129.
- Bathrooms increase housing price (\$13.8k per whole bathroom), while bedrooms, paradoxically, decrease housing price (-\$9.3k per bedroom.)
- The grade assigned to a house by the county is correlated with house price. (\$52.7k per grade increase.)



LOCATION!

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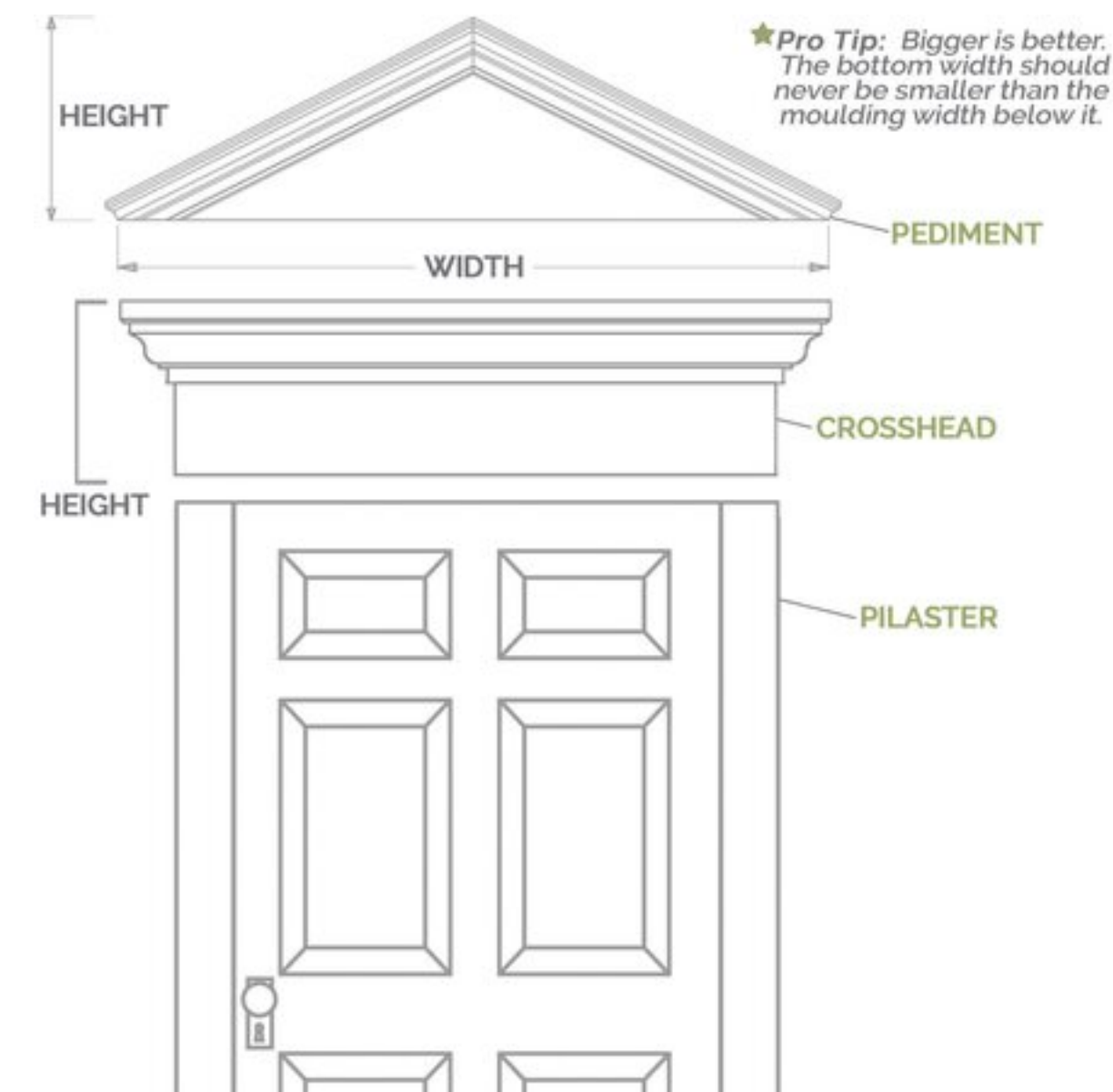
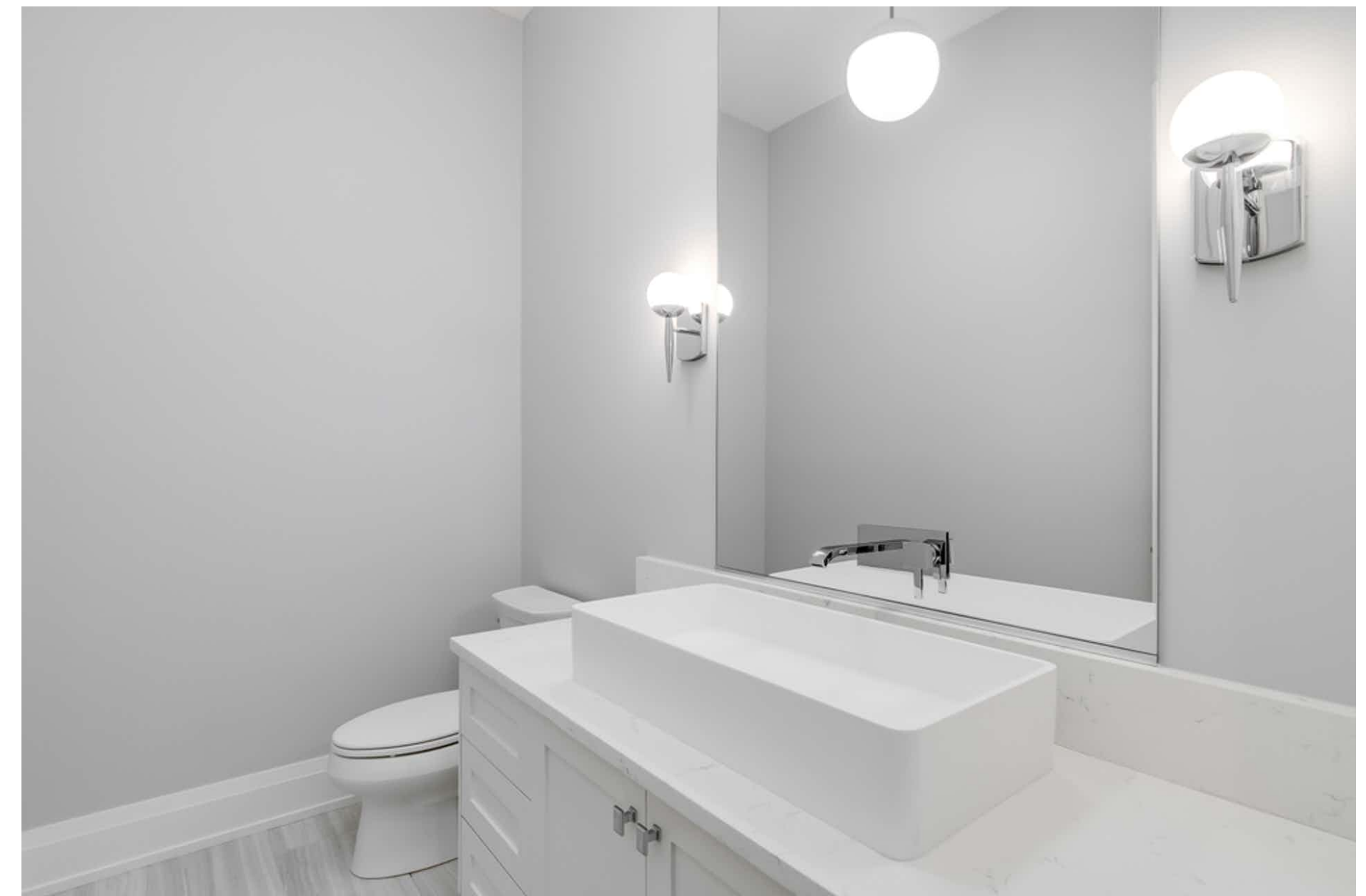
LOCATION!

- Houses with waterfront views sold for an average of \$209k more than houses without a waterfront view.
- Houses in the 98039, 98004, 98112, and 98040 zip codes have a very high house price compared to other zip codes.
- Further investigation in adjacent zip codes could yield potential deals as demand for housing in exclusive zip codes grows.



RECOMMENDATIONS:

- Increase the square footage of your house by building a whole or half bathroom.
- Make improvements in the quality of building materials and craftsmanship whenever possible. You will have to get a reassessment of the grade of your house, but the upside is tremendous.
- If looking for investment properties, look in the aforementioned zip codes, and adjacent zip codes, for houses in need of renovations where improving the grade is relatively painless.





THANK YOU!

Full Jupiter notebook and dataset available at:
https://github.com/dan-rl1976/kc_housing_regression