

A scenic view of the Seattle skyline across Lake Washington, with snow-capped mountains in the background and autumn foliage in the foreground. The text is overlaid on this 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)
- 56.9% 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

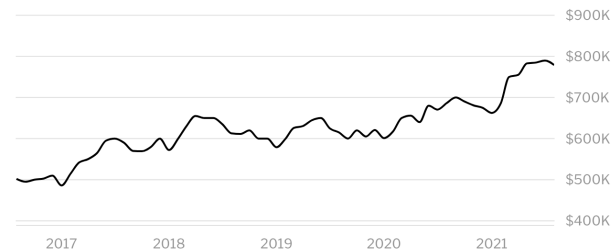
Median Days on Market

6

-14.3% year-over-year

All Home Types ▾

1 year 3 years **5 years**



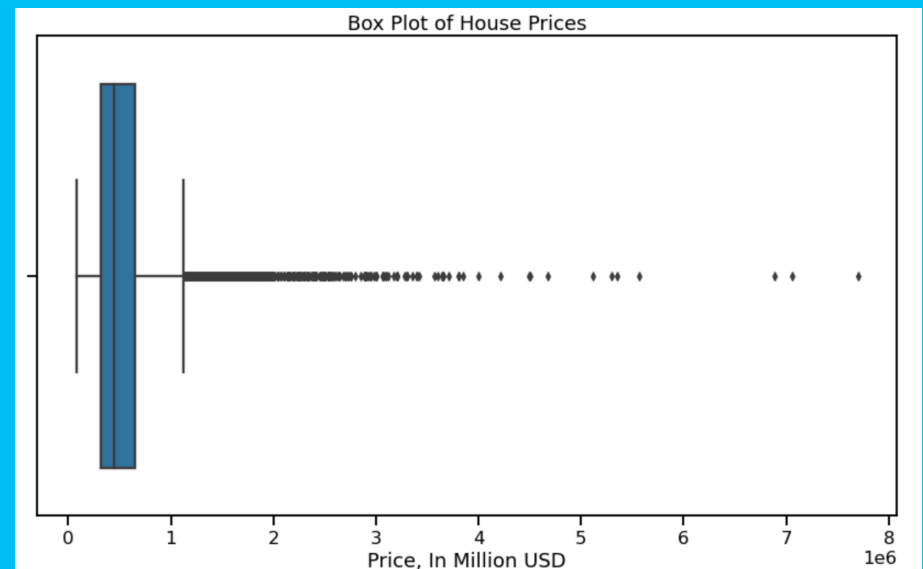
Source :<https://www.census.gov/quickfacts/fact/table/kingcountywashington,WA/PST045219>
<https://www.redfin.com/county/118/WA/King-County/housing-market>

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



- 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.)

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FRONT ELEVATION
1/4" Scale

DEPARTMENT OF DEFENSE
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20301
7-25

LOCATION!

LOCATION!

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- 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.





THANK YOU!

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

Image from settlement.com