



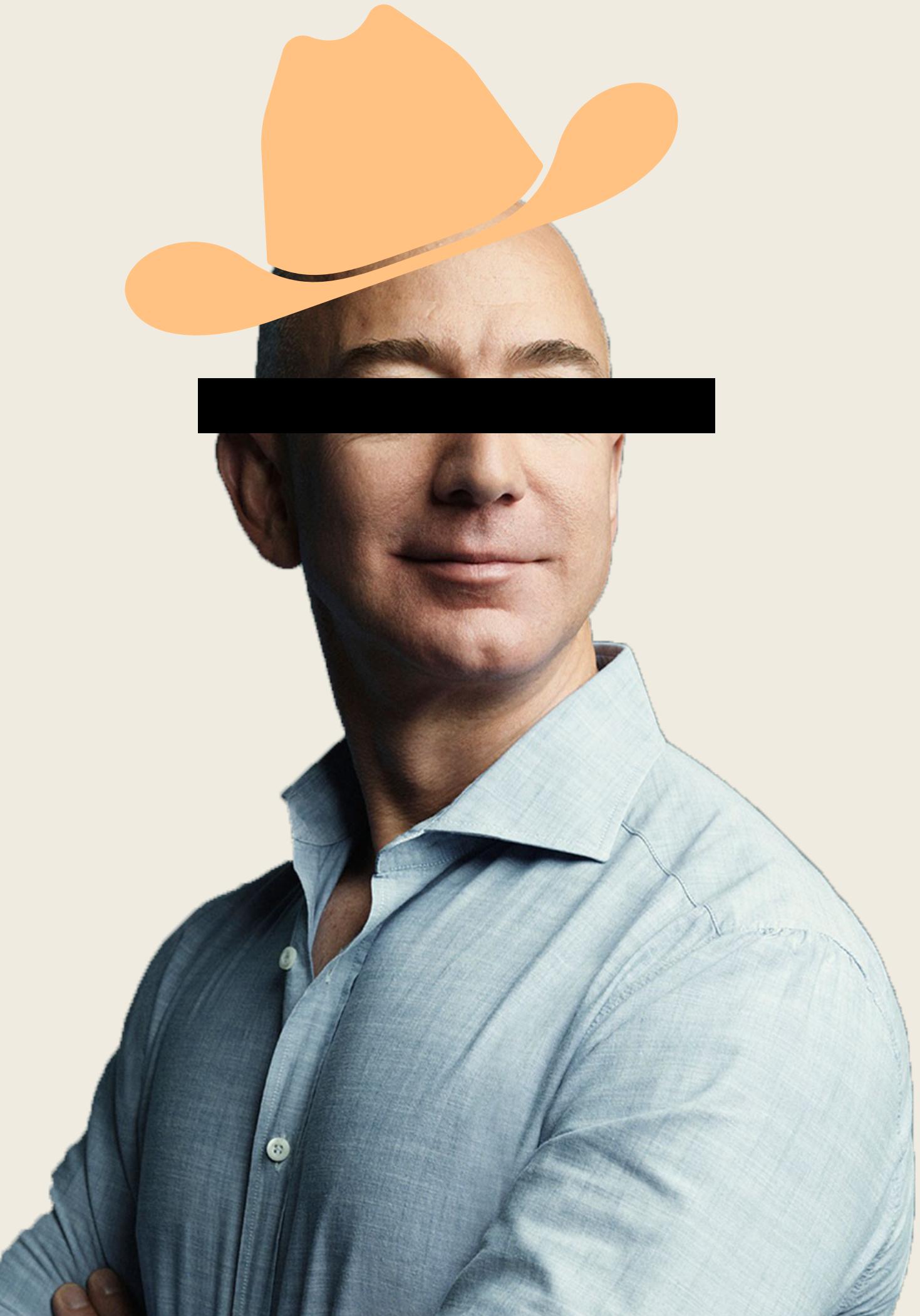
AARON TEICHMANN - 07.04.2022

EDA Project

Housing Market in King County, WA,
USA

Who do I work for?

- Unlimited Budget
- 4+ bathrooms or smaller house nearby
- Big lot for tennis court and pool
- Historic
- No waterfront
- Close to a golf course

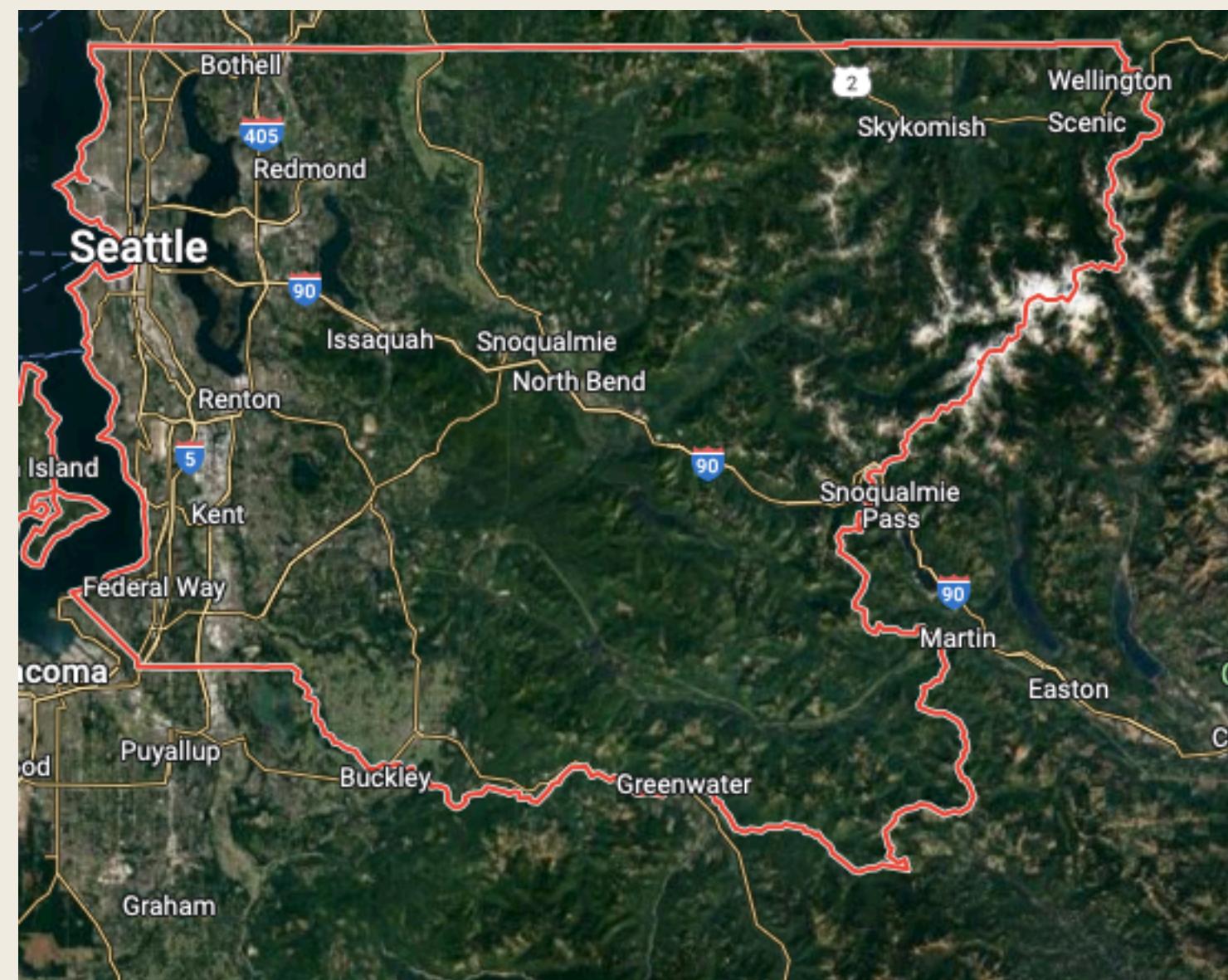


"Jacob Phillips", Cowboy hat enthusiast

What am I working with?



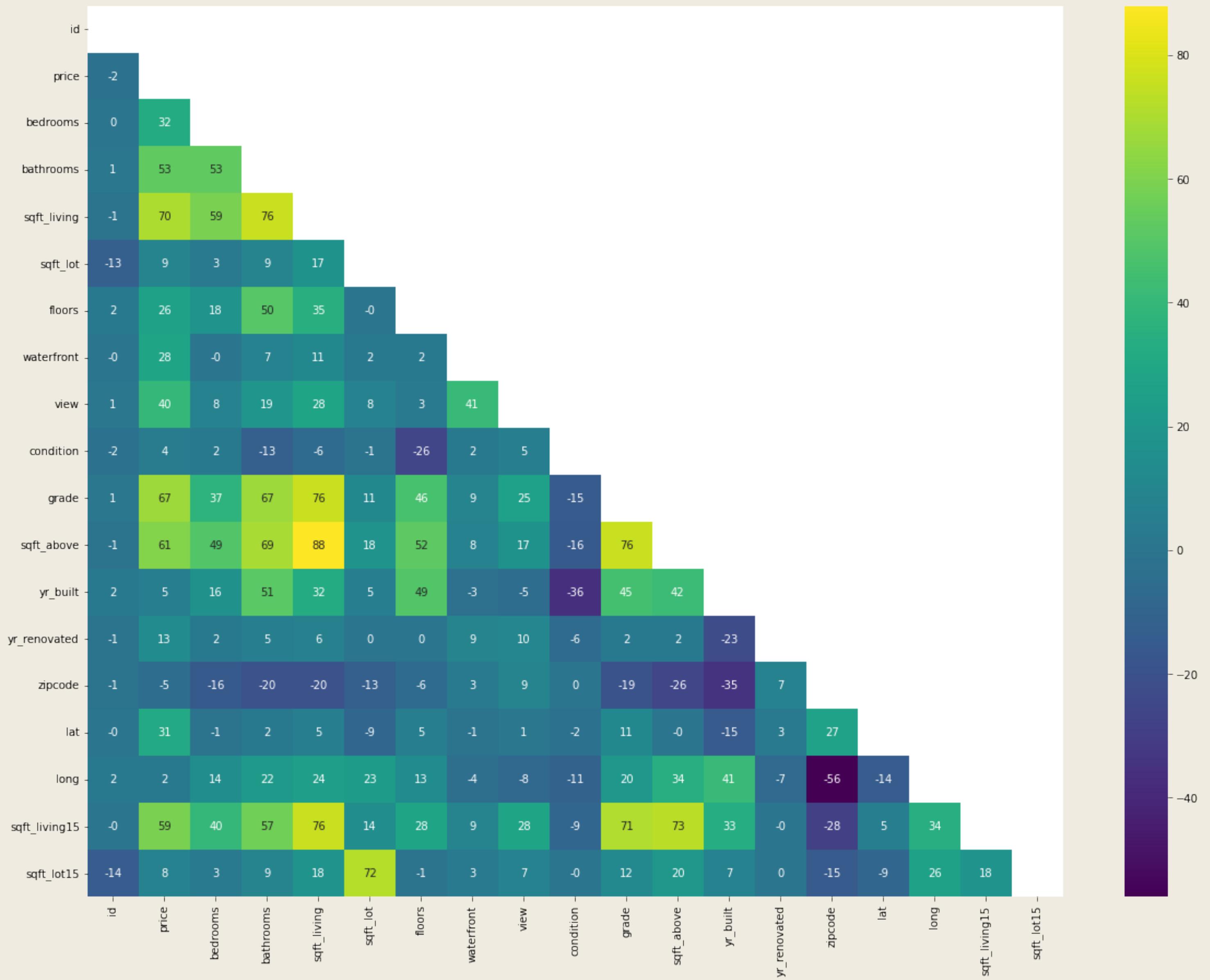
- House sales in King County, WA, USA
- Collected from 2014-2015
- 21597 entries in 21 columns



King County, Washington, USA - © Google

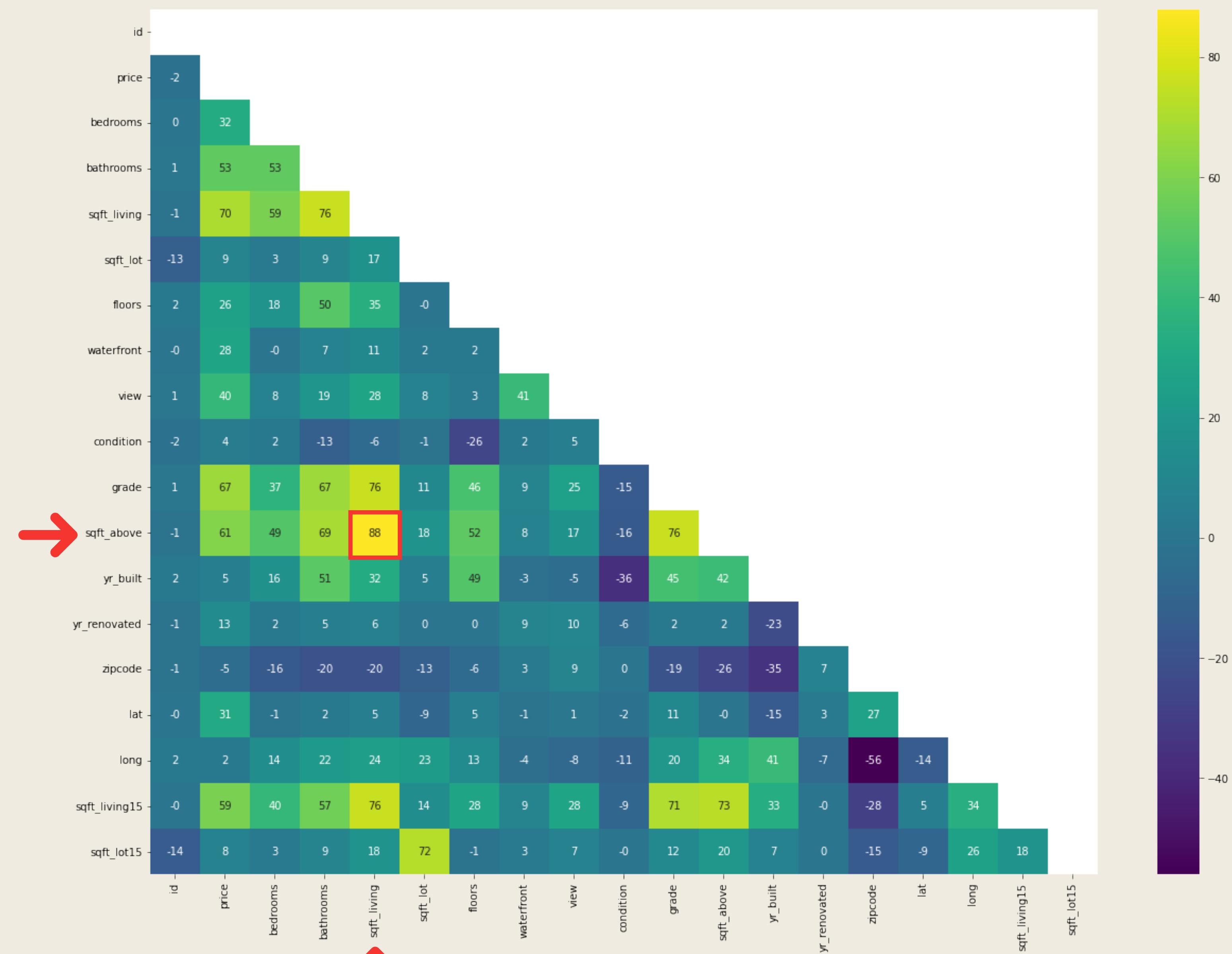
Overview

- **id** - unique id for each house
- **date** - date of sale
- **price** - is prediction target
- **bedrooms** - # of bedrooms
- **bathrooms** - # of bathrooms
- **sqft_living** - footage of the home
- **sqft_lot** - footage of the lot
- **floors** - floors (levels) in house
- **waterfront** - House which has a view to a waterfront
- **view** - An index from 0 to 4 of how good the view of the property was
- **condition** - How good the condition is (Overall)
- **grade** - overall grade given to the housing unit, based on King County grading system
- **sqft_above** - square footage of house apart from basement
- **sqft_basement** - square footage of the basement
- **yr_built** - year house was built
- **yr_renovated** - year when house was renovated
- **zipcode** - zipcode area
- **lat** - Latitude coordinate
- **long** - Longitude coordinate
- **sqft_living15** - The square footage of interior housing living space for the nearest 15 neighbors
- **sqft_lot15** - The square footage of the land lots of the nearest 15 neighbors



Correlation matrix

- 'sqft_living' correlates highly with 'sqft_above'. **People don't live in underground bunkers.**
- 'yr_built' correlates negatively with 'condition'. **The older the house, the worse the condition it is in.**
- Price ('price') increases with the size of the house ('sqft_living') (which also means more bathrooms and bedrooms), but not much with the size of the property ('sqft_lot').



Research Questions

Are bigger houses
more expensive?

Are 'nicer' houses
more expensive?

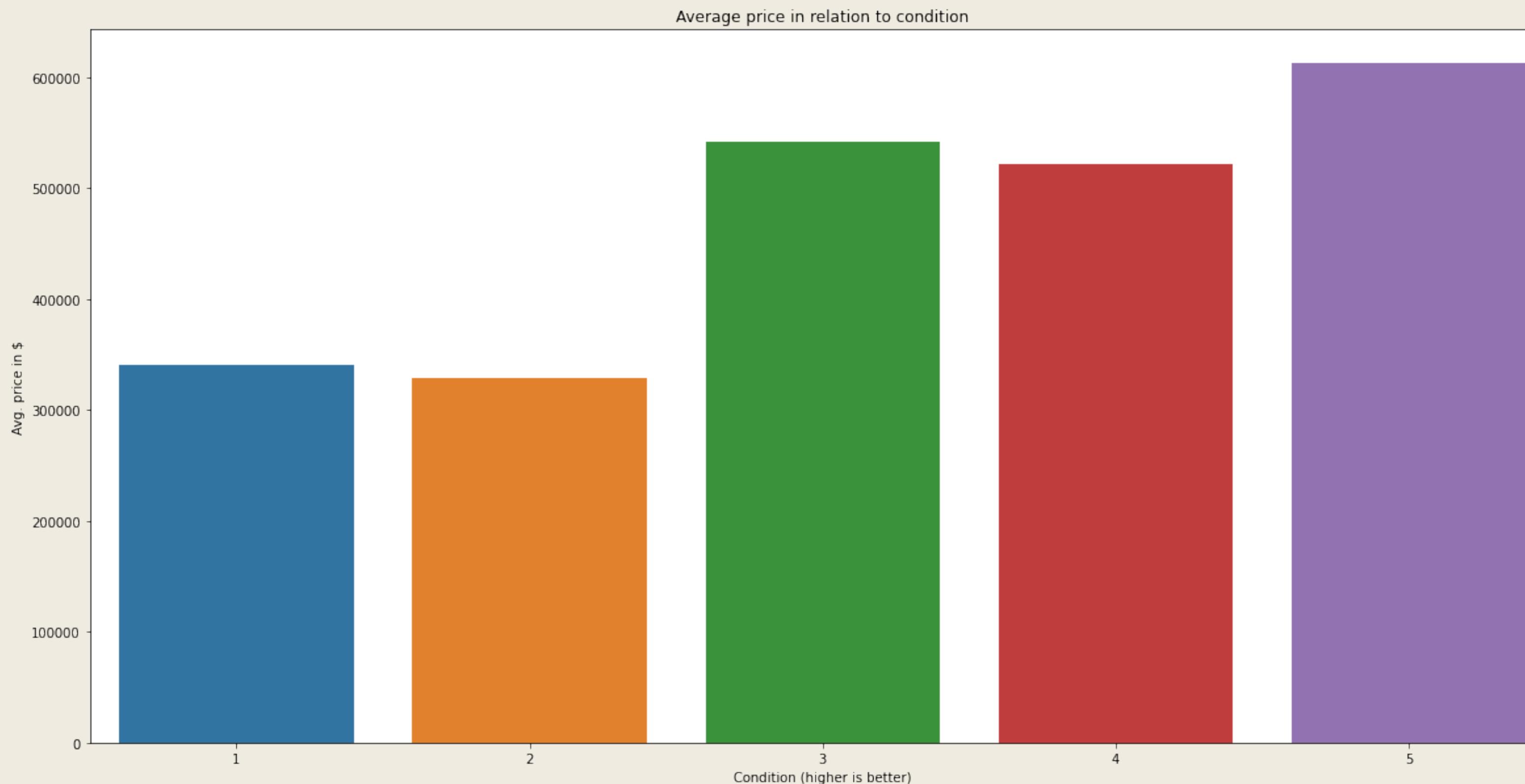
Where are the
larger properties
located?

Are bigger houses more expensive?



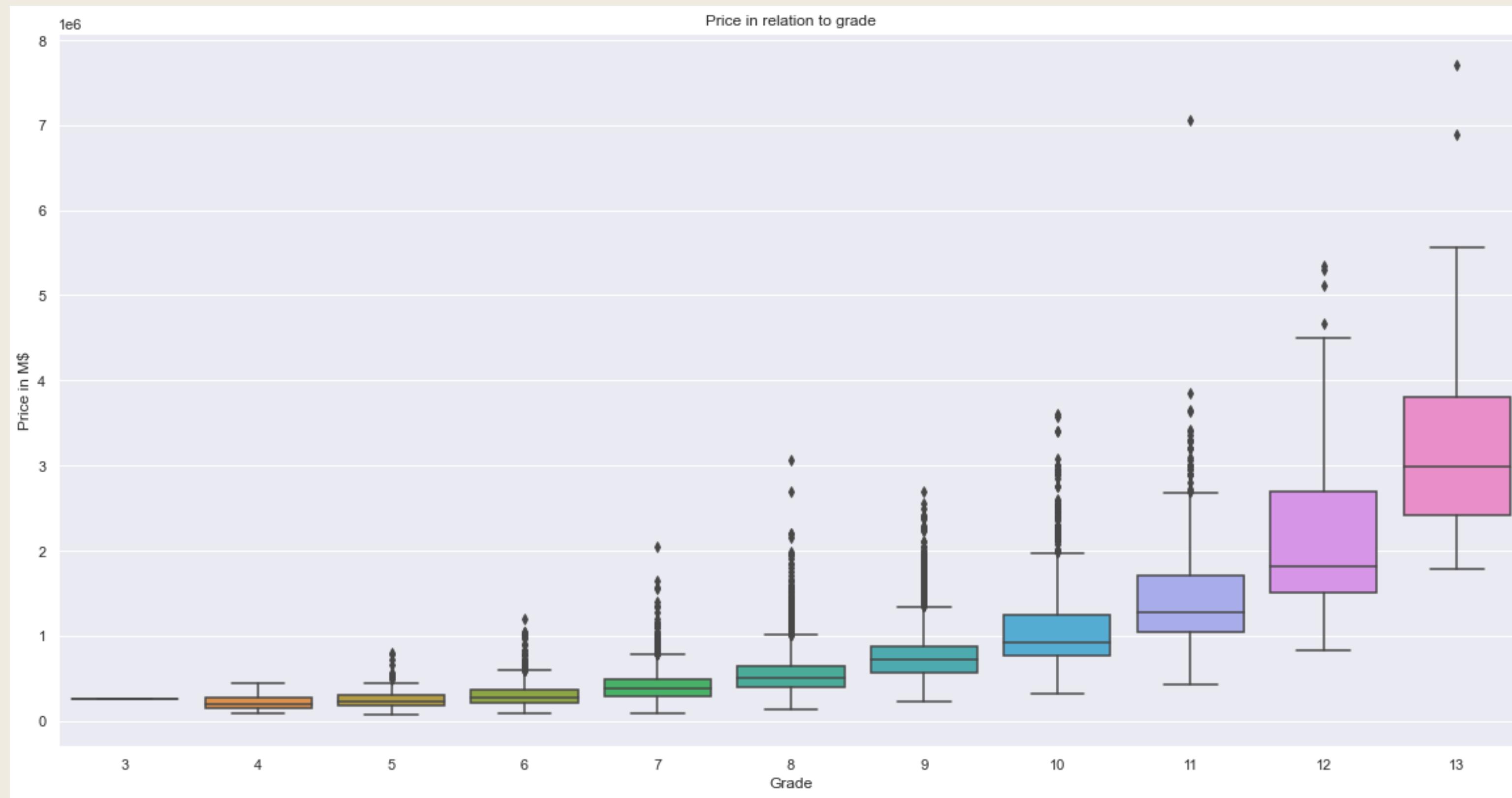
As expected, bigger houses are generally more expensive.

Are ‘nicer’ houses more expensive?



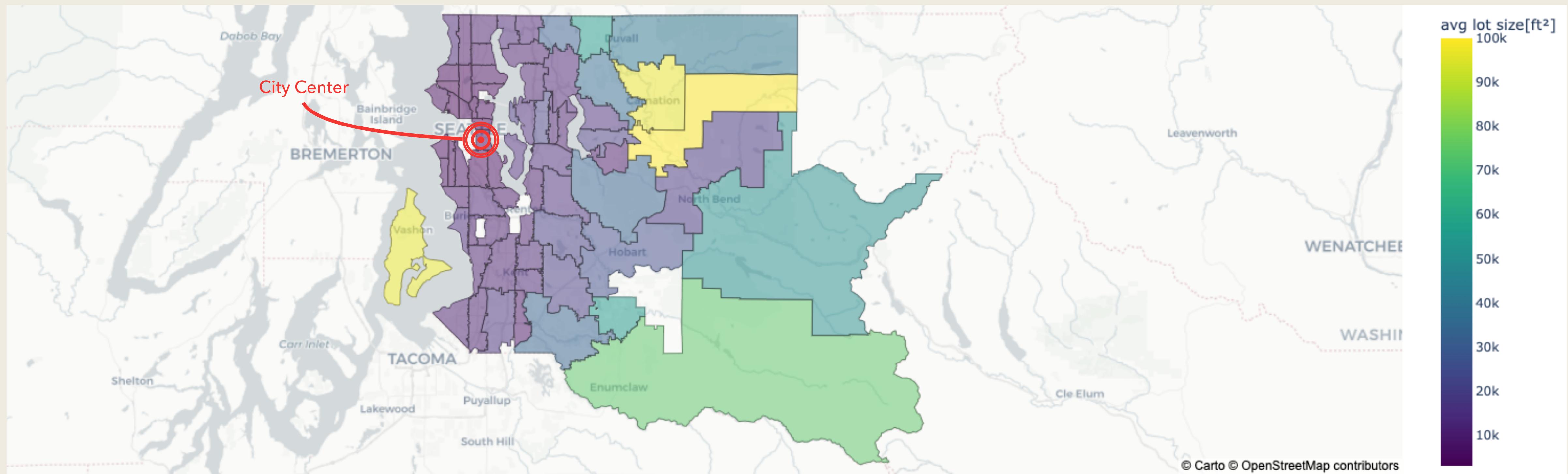
Division into two groups (1-2 and 3-5). Price difference within those groups less pronounced.

Are ‘nicer’ houses more expensive?



Price increases with increasing grade. Large number of outliers in range 7-11.

Where are the larger properties located?



The further you are from the city center, the average lot size increases

Workflow

1. Drop columns that are not needed
2. Filter by hard requirements
 - No waterfront view
 - More than 4 bathrooms or smaller house nearby
3. Filter by soft requirements
 - Lot size
 - Fancy house
4. Golf courses, historical buildings
5. Visual inspection with satellite imagery

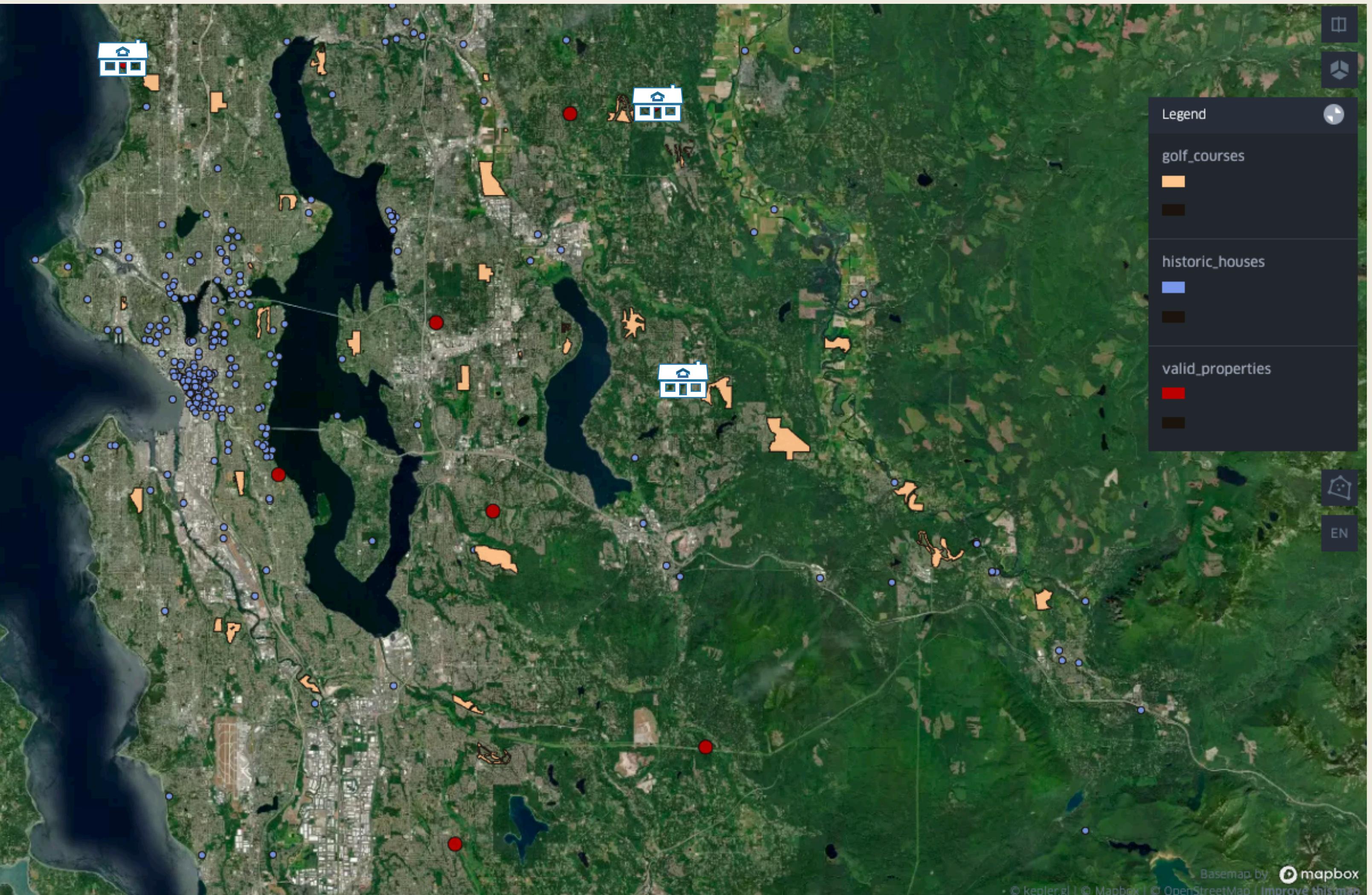
Requirement	Columns of interest
no waterfront	'waterfront'
4+ bathrooms	'bathrooms', 'sqft_living15'
big lot	'sqft_lot'
historic	'lat', 'lon', ('yr_built')
Unlimited Budget	'price' (not really, but..)
Luxurious	'grade', 'condition'

Number of prospective properties:

21596 → 21450 → 4639 → 94 → 9

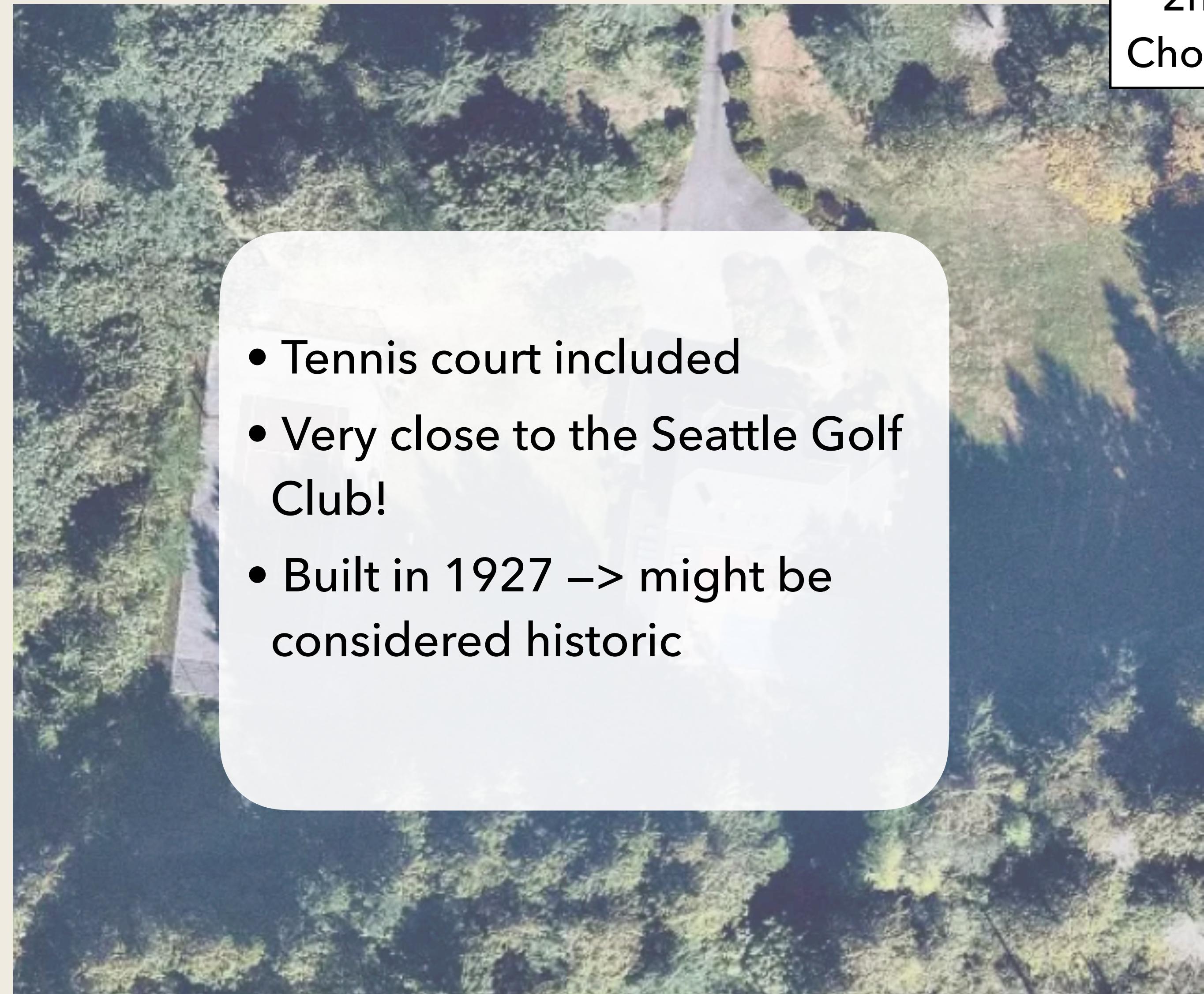
Visual Inspection

- None of the properties are classified as historic
- Seattle has a surprising amount of golf courses





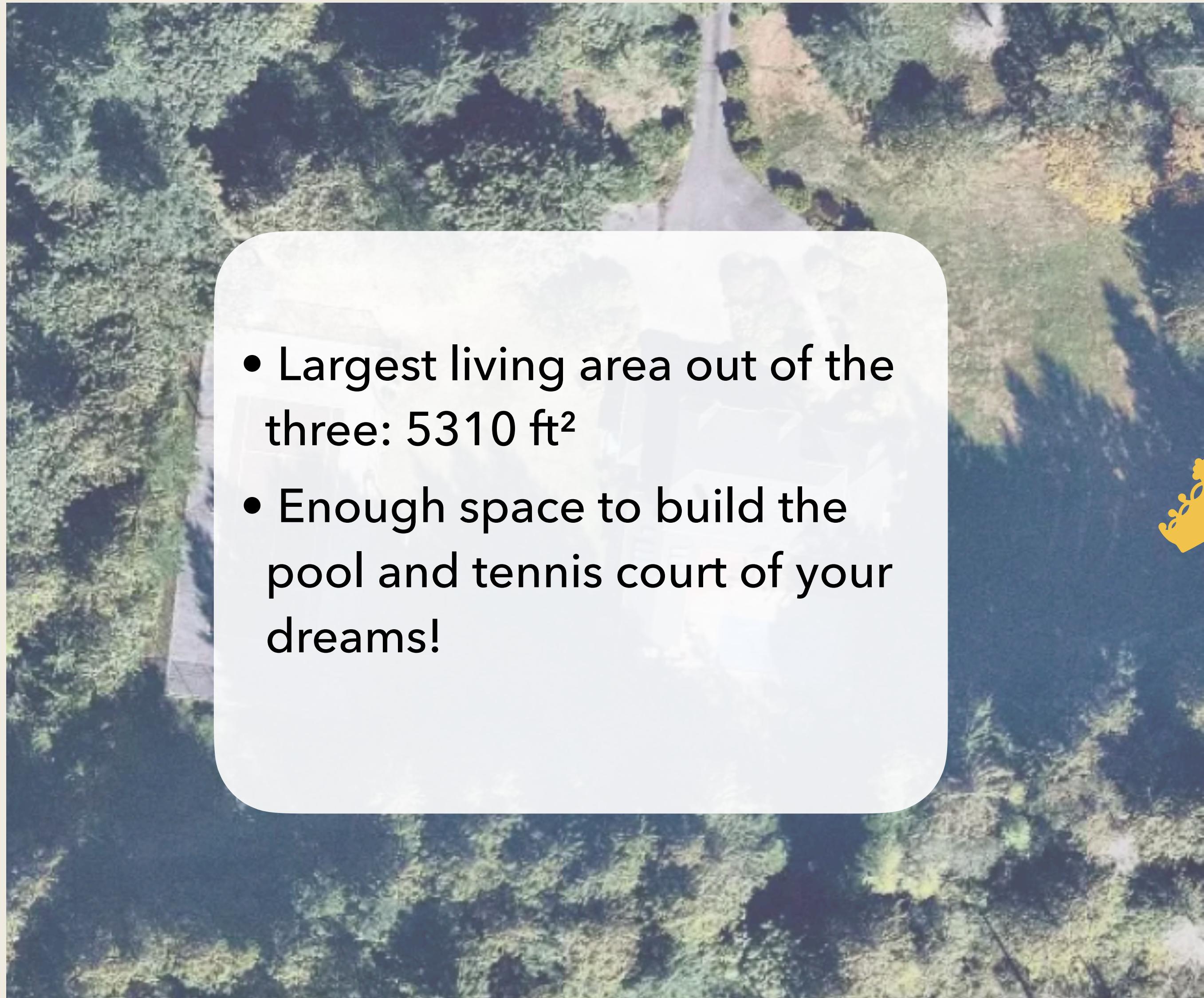
- Gigantic lot size: 284011 ft² (that's almost 5 football fields)
- Pool and Tennis court already included!



- Tennis court included
- Very close to the Seattle Golf Club!
- Built in 1927 -> might be considered historic

2nd
Choice!





- Largest living area out of the three: 5310 ft²
- Enough space to build the pool and tennis court of your dreams!





Thank you!

Questions?
