

EDA Seattle Real Estate

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By Simon Klemm

How in the world
should we find the
right spot to buy?

The Clients



The Clients



William and Angelo Rodriguez, Buyers - a **young professional couple** who are moving to Seattle and are looking for not just one new home, but **two**. They want and **central city house** and a **fixer-upper on the countryside**. William and Angelo are both working **well-earning jobs** and are in the process of **adopting a beautiful baby girl**. For their city house they would like at least **two bedrooms, good condition, right in the city center**. And for those long weekends, a quaint **fixer-upper with beautiful views in the luscious green fields and forests of King County**.

The Task

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Let's find'em a
home! Or two.

Questions

1. What zipcodes are best for William and Angel to consider for buying?
2. Can the data give us insights around urbanity?
3. What is the best time of the year to buy a country house in King County?



Hypothesis

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We think that...

Hypothesis

The denser the population, the more urban the area is and vice-versa.

Urbanity or ruralness is not hard defined.
In this EDA we use population density to draw conclusions on urbaness.

There is an ideal time to buy a house.

House prices are seasonal and can be determined from the dataset.

The denser the population, the more expensive the market gets.

Population density is strongly linked to housing prices.

Methodology

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How did we do
that?

Methodology - the Requirements

Client Requirements

After extensive discussion with the clients, we collected the following requirements:

- One country house and one city home
- At least two bedrooms, one bathroom
- Not renovated for the country house
- Condition of the city home and grade for both medium to high
- Excellent view for the country house, good for the city home

Methodology - the Data

King County Real Estate Data

We were provided with a lot of house sales data for King County. We had plenty of information like square footage, number of bedrooms, bathrooms, floors, the condition and grade of the house, information around view, location, etc.

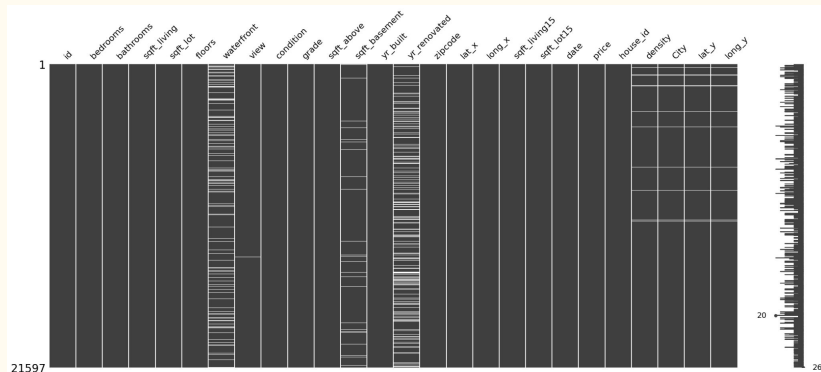
Note: the data does not include downtown Seattle, so we cannot give a recommendation for downtown.

King County Population Data

Since we needed to determine if the area of the house is urban or rural, we were missing population density data but were able to find it through the US Census.

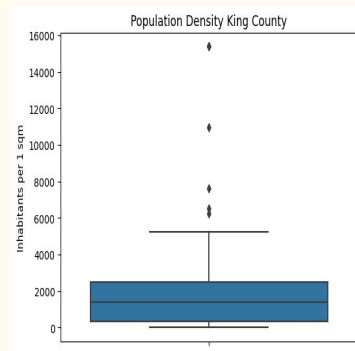
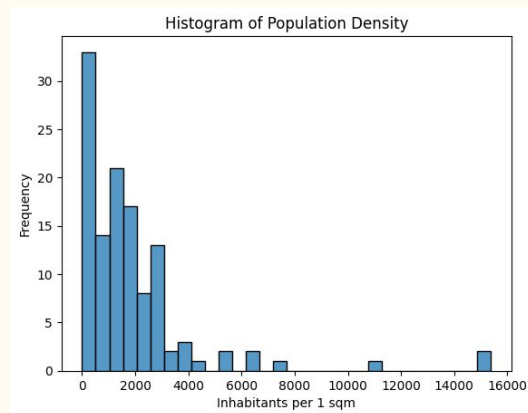
Methodology - the Data

King County Real Estate Data



Relatively clean, missing values either irrelevant for our purposes or able to backfill.

King County Population Data



We needed a measure for urbanity. As you can see, King County is generally not very dense with high density in the Seattle areas.

Methodology - the Score

From the clients requirements we were able to build a scoring system. Properties will receive a score from 0 to 5, with 5 being the most suitable for purchase.

We can then surface the **average score** across all relevant zip codes.

	country	city
view	≥ 3	≥ 1
bathrooms	≥ 1	≥ 1
condition	-	≥ 3
bedrooms	2-3	2-3
grade	≥ 7	≥ 7
renovated	true	-

Results

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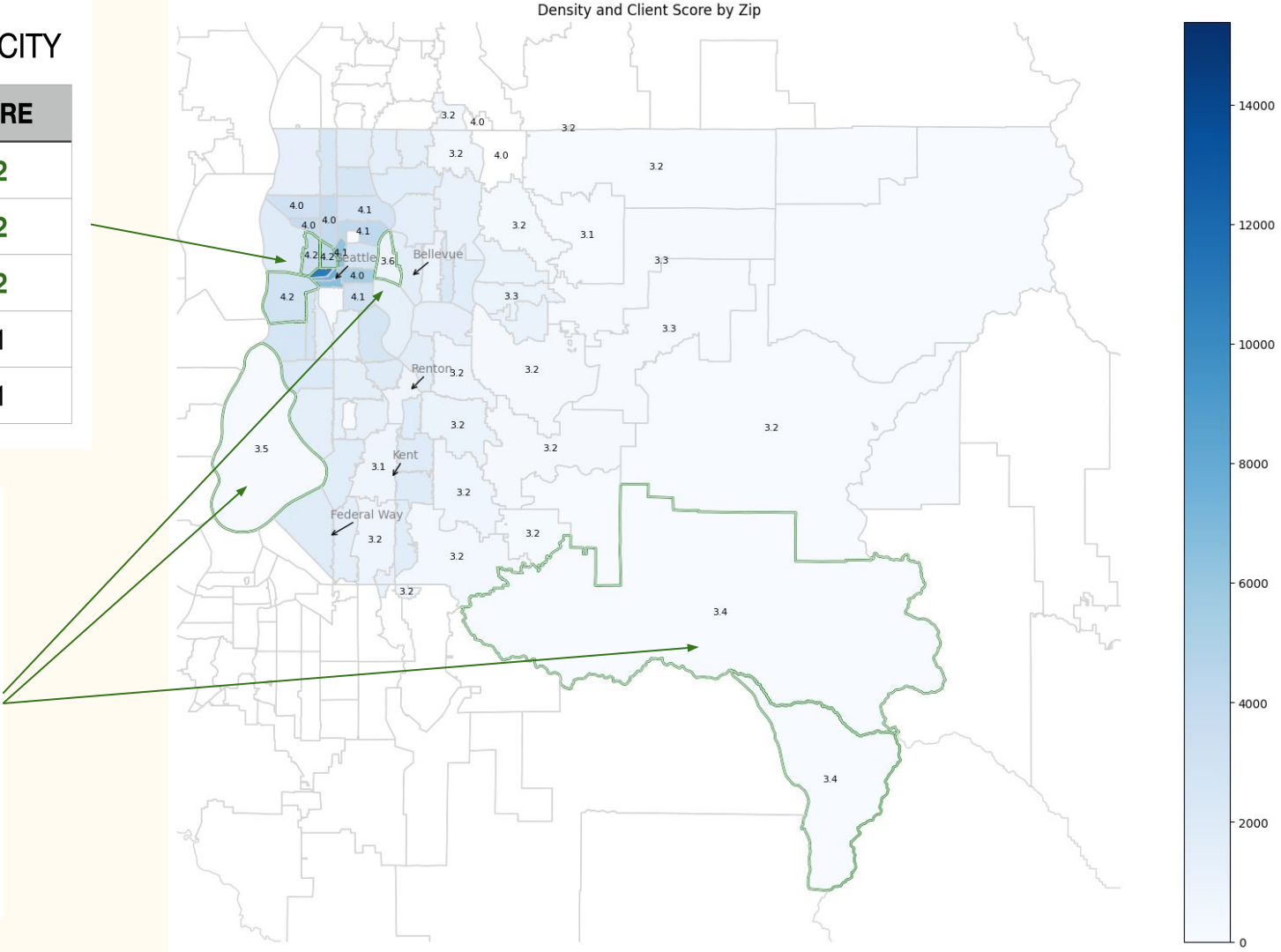
And the winner
is...

TOP SCORES CITY

ZIP	SCORE
98119	4.2
98116	4.2
98109	4.2
98144	4.1
98105	4.1

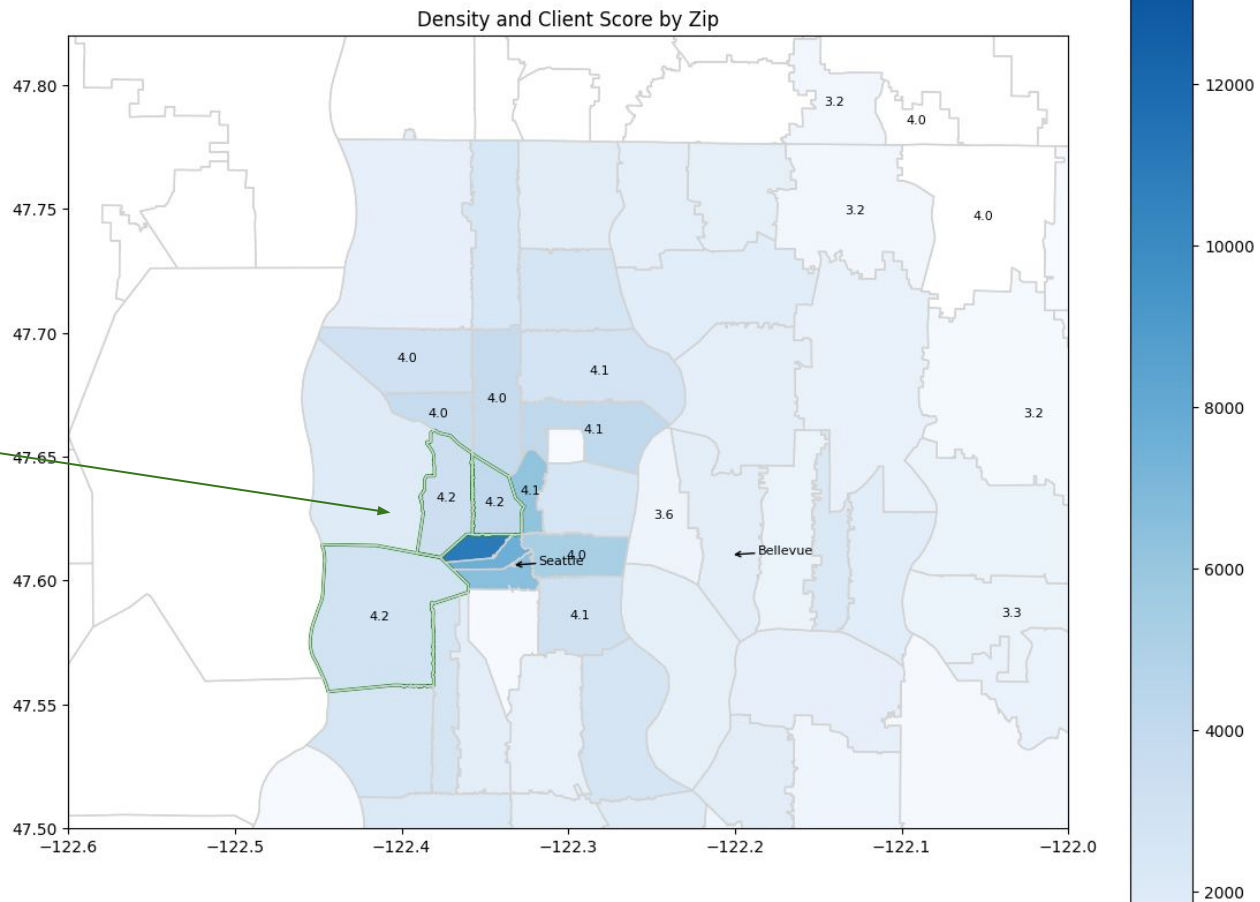
TOP SCORES COUNTRY

ZIP	SCORE
98039	3.6
98070	3.5
98022	3.4
98024	3.3
98075	3.3



TOP SCORES CITY

ZIP	SCORE
98119	4.2
98116	4.2
98109	4.2
98144	4.1
98105	4.1



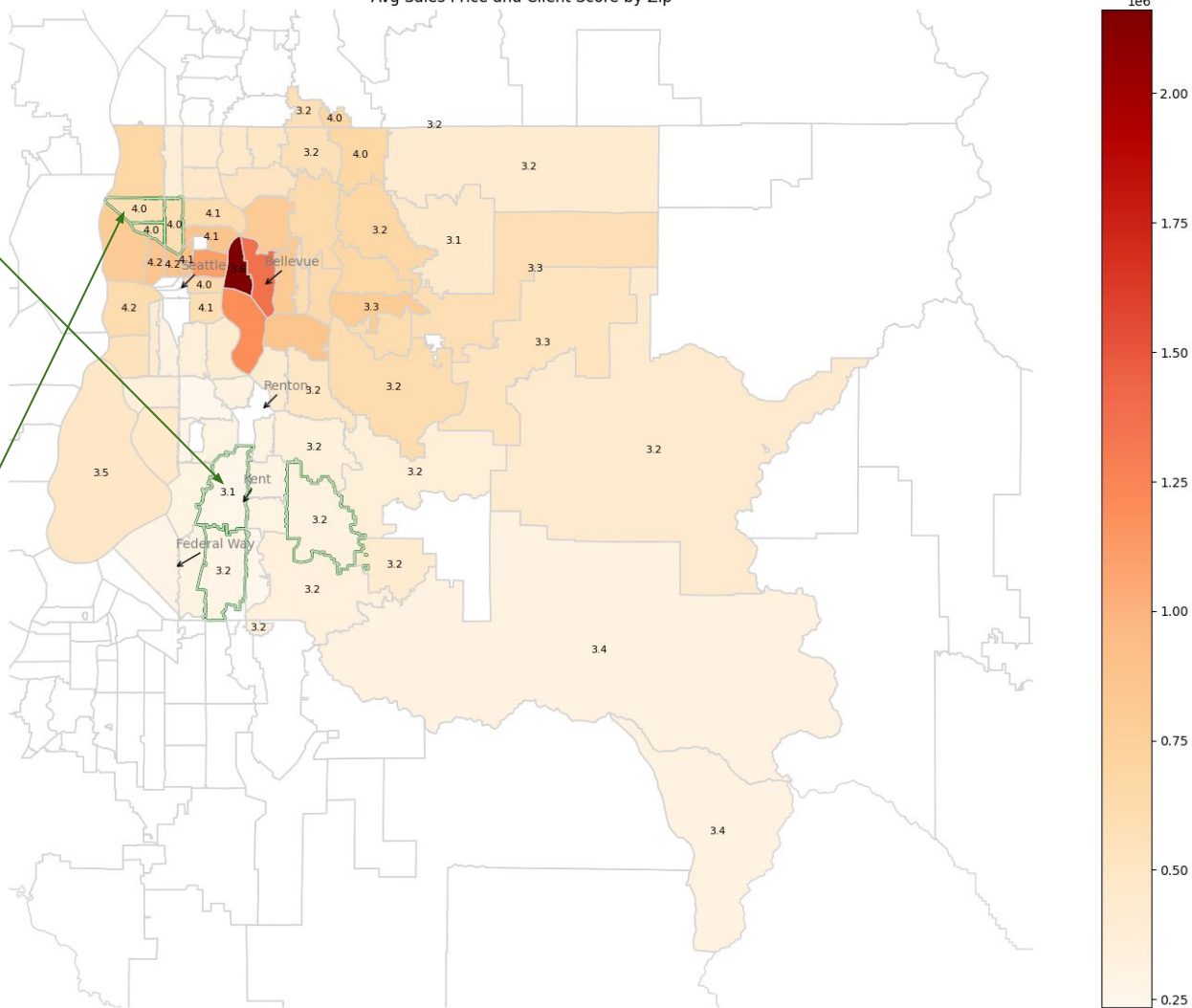
TOP PRICE COUNTRY

ZIP	AVG PRICE	AVG SCORE
98032	251,296.20 US\$	3.1
98001	281,194.90 US\$	3.2
98042	311,580.30 US\$	3.2
98022	316,742.40 US\$	3.4
98092	334,921.10 US\$	3.2

TOP PRICE CITY

ZIP	AVG PRICE	AVG SCORE
98117	576,834.80 US\$	4.0
98107	579,109.80 US\$	4.0
98103	585,048.80 US\$	4.0
98144	594,706.50 US\$	4.1
98116	618,695.10 US\$	4.2

Avg Sales Price and Client Score by Zip



Conclusion

- We can give William and Angel a good recommendation on where to look into houses for both the country and the city house.
- We also saw, that population density is an indicator of urbaness.
- The population density is also an important factor regarding house prices.

Regarding timing of purchase, we need to further investigate.