

# KING COUNTY HOUSING PRICE

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# ABOUT US

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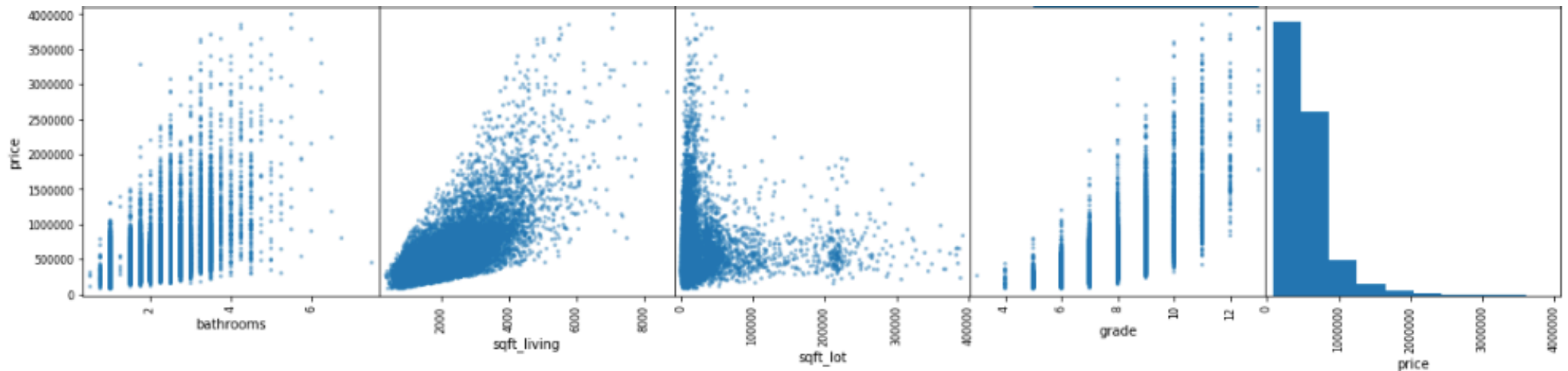
- We are a **real estate agency** in King County and are exploring ways to:
  - Better serve our clients by optimising buying/selling price,
  - Demonstrate our value proposition to potential investors.
- To improve our business advantage in the agency market, we are conducting a study on how to address these key questions:
  1. What are the main factors that drive property prices?
  2. Could property prices be reliably predicted?
  3. Where are the premium locations in King County?
- Our working assumption is based on the selling price and other features of over 21,000 properties from throughout the county



# EXPLORING HOUSING MARKET DATA

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- **Living space area** has a good correlation with price and rather normally distributed. This is a potential primary driver for the price.
- **Land lot area** is clustered around two groups, one with price steeply increasing with area, while another does not have a clear-cut relationship.
- **Grade** of a property also appears to be another driver to the price, although the spread of prices for a given grade can be fairly large.
- **Waterfront** properties have significantly higher price per square feet compared to other neighbours without a similar view (based on heat map).

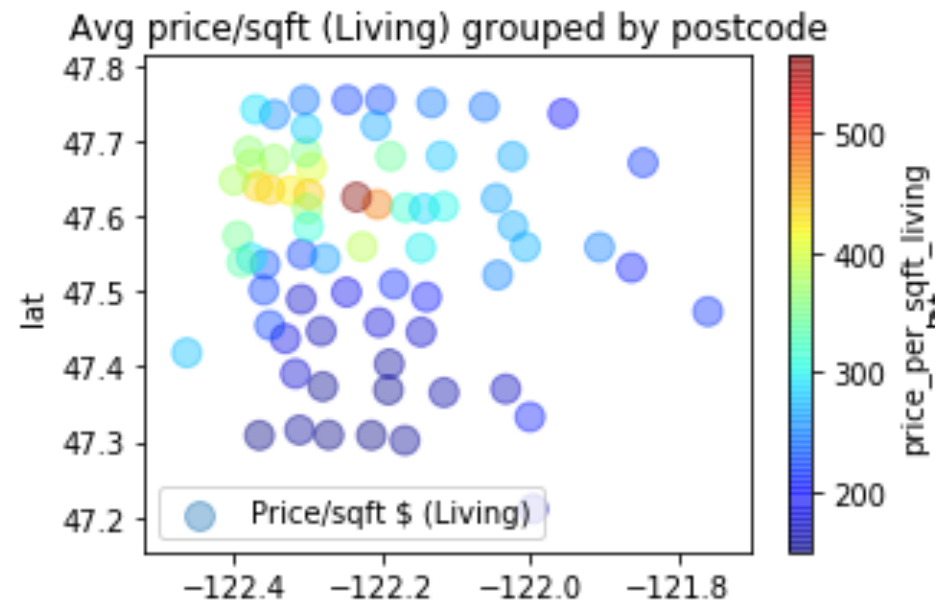
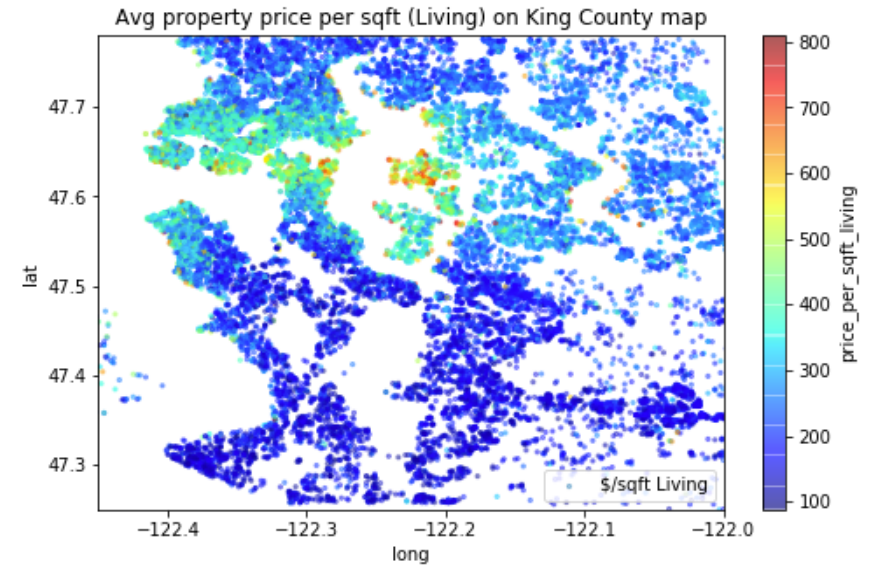




# FORMULATING PRICE MODELLING STRATEGY

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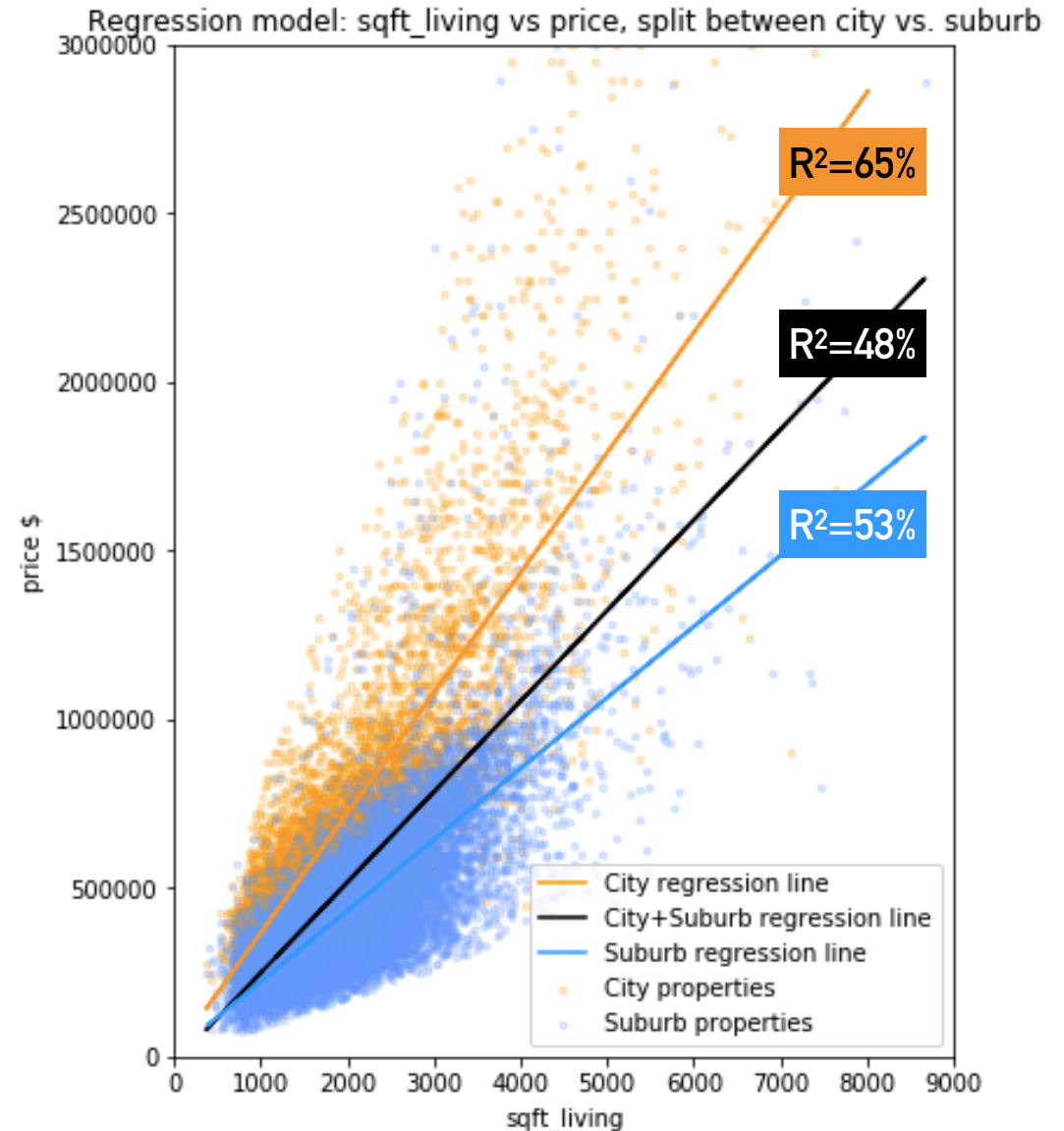
- We've identified that price/sq. ft. does not clearly correlate with other measures. Instead, a property's location is a better driver.
- We grouped all 70 zip codes into 2 sets to be used in our model:
  1. "City" indicates premium zip codes with high price/sq. ft.
  2. "Suburb" for all other areas.



# OUR PRICE PREDICTION MODEL

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- Initial model: using **living space area** as the sole driver for the house price (shown in graph)
- Enhanced model: a better accuracy of  **$R^2=70\%$**  by feeding in additional drivers:
  - **city/suburb distinction**
  - **building grade**
  - **waterfront location**
- Future refinement is possible if more area data is available to better classify zip codes e.g. schools, public transit, etc.



# HOW CAN THIS STUDY HELP YOU?

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## To corporate investors:

- Our pricing model will give us a competitive advantage vs. other market players that will make our business grow.
- With additional investment, we aim to further enhance our model with additional data and more advanced predictive techniques.



## To homeowners:

- **Sellers:** we can advise you on maximising profit by optimising the asking price using our model.
- **Buyers:** we can help you negotiate the asking price by comparing it with the price generated by our model.