

The background is a dark navy blue. On the left, there is a large, semi-transparent circular graphic containing a detailed image of a circuit board. Overlaid on the top left of this circle are two overlapping triangles: a blue one in the foreground and a light green one behind it. In the top right corner, there is a faint, grey, 3D-rendered pattern of interlocking cubes or a circuit trace.

King County Home Sales

Samuel Middleton

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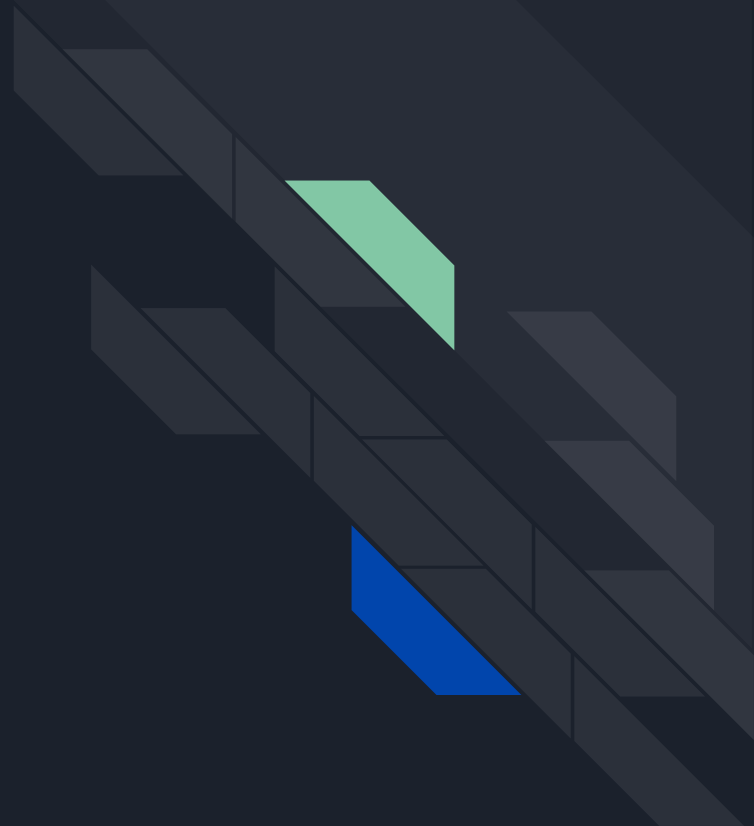
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Overview and Business Case

What is the driving force behind home prices in the King County area, and how can you leverage these factors into more money in your pocket for your home?

Selling a home can be a difficult prospect for anyone, and in today's uncertain markets it has become an even scarier prospect. What we hope to achieve is giving the seller the piece of mind through factual, scientific data. We want to empower the seller to go out and seek the most for their real properties and homes through mathematical modeling and statistical learning.

Mathematical modeling and statistical learning are just terms that mean finding some relationship between data using math.



Understanding the methods

01

The data that we have observed is all home sales in King County from May 2014 to May 2015.

02

We used a method known as linear regression. A linear regression is a mathematical way for us to look at past data and their corresponding outcomes, so a home sold and the price it is sold at, to help determine the future.

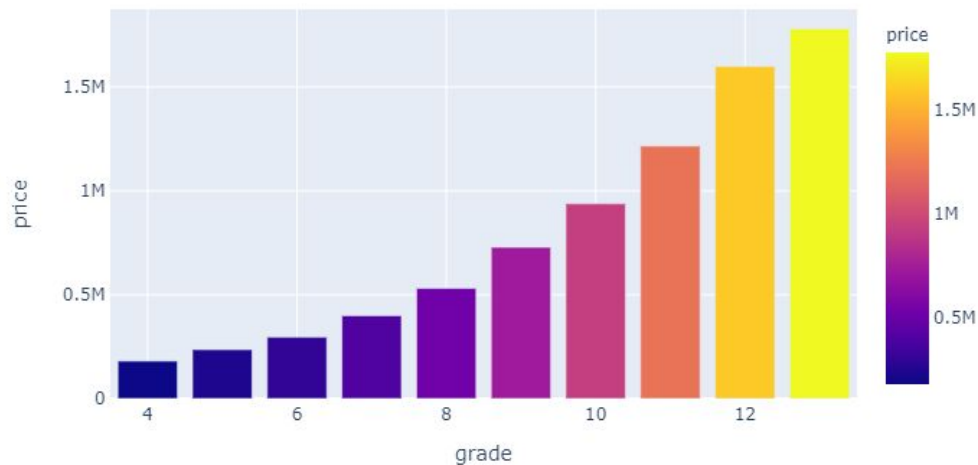
03

Our linear regression models are able to tell us what the most important factors are in selling a home.

Does your home make the grade?

We have found that your home grade, as graded by King County, is the single most important factor in relation to home value.

Price vs. Grade





King County Grading System

Grading System

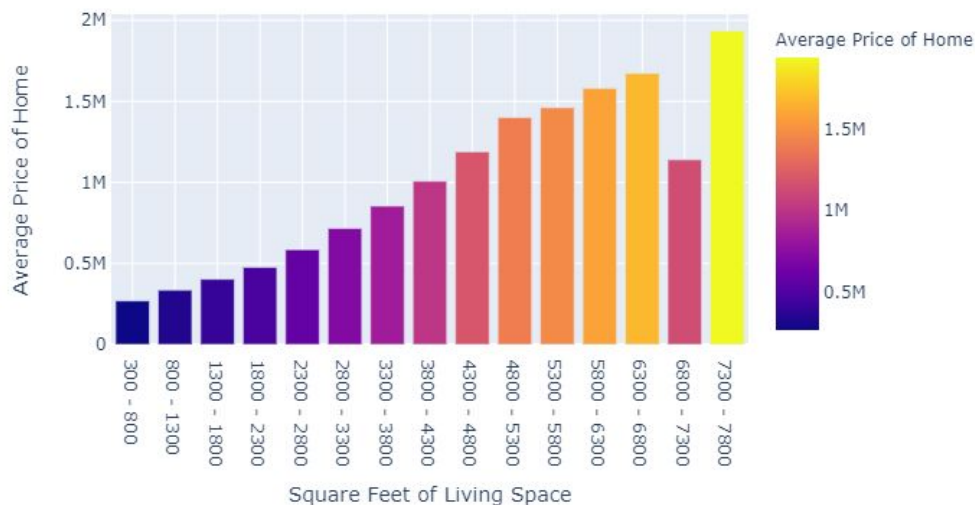
- **1-3** Falls short of minimum building standards. Normally cabin or inferior structure.
- **4** Generally older, low quality construction. Does not meet code.
- **5** Low construction costs and workmanship. Small, simple design.
- **6** Lowest grade currently meeting building code. Low quality materials and simple designs.
- **7** Average grade of construction and design. Commonly seen in plats and older sub-divisions.
- **8** Just above average in construction and design. Usually better materials in both the exterior and interior finish work.
- **9** Better architectural design with extra interior and exterior design and quality.
- **10** Homes of this quality generally have high quality features. Finish work is better and more design quality is seen in the floor plans. Generally have a larger square footage.
- **11** Custom design and higher quality finish work with added amenities of solid woods, bathroom fixtures and more luxurious options.
- **12** Custom design and excellent builders. All materials are of the highest quality and all conveniences are present.
- **13** Generally custom designed and built. Mansion level. Large amount of highest quality cabinet work, wood trim, marble, entry ways etc.

Is it spacious enough?

The second most influential aspect of a home is the square footage of living space*.

* Living Space - This definition includes bedrooms, bathrooms, kitchens, dining rooms and living rooms, per guidelines laid out by the American National Standard Institute (ANSI). Rooms must be finished and livable. Basements do not count towards living area as living area is only above ground level.

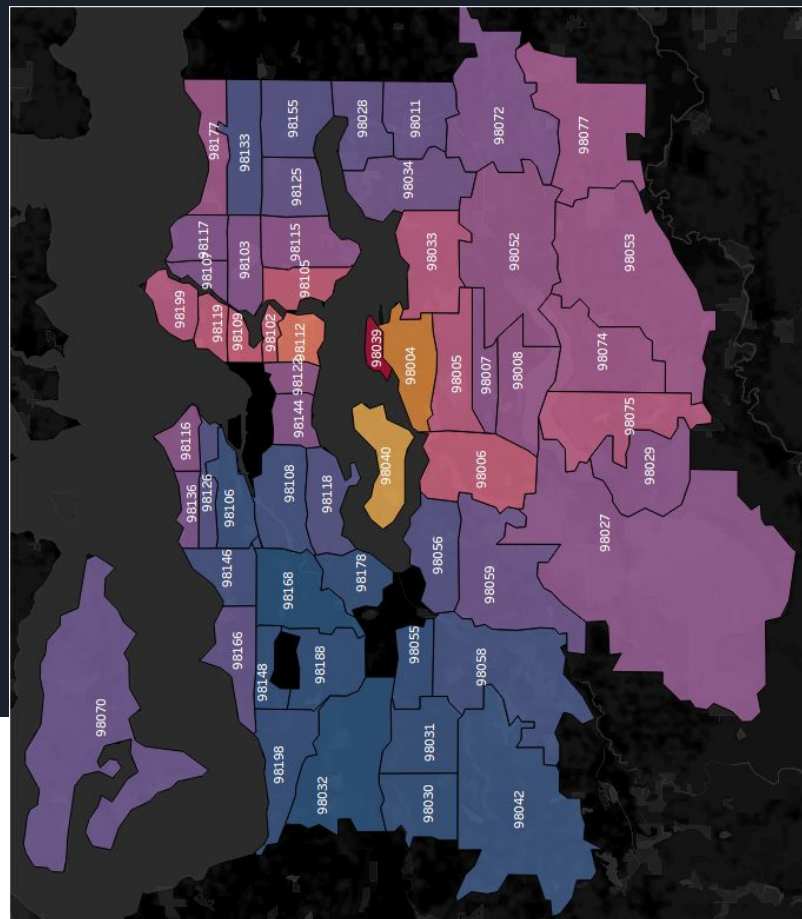
Square Foot of Living Space vs. Price



Location, Location, Location

Finally, one of the most influential aspects in a home's price is the location.

While we know you can't just uproot your home and move it to another zipcode the average price that a home sold for per zipcode is a great baseline to decide what price your home should enter the market at in order to not sit on the property for a lengthy period of time.





Recommendation

Our recommendation first and foremost is to increase the grade of your home, which looking at the grading system can be achieved in many ways - such as custom cabinetry or something as simple as installing more luxurious fixtures. Next recommendation for the biggest price increase would be to increase the square footage of the living area in the home into the next bracket. Finally, for an express sale we recommend taking a look at the average price of homes sold in your zipcode and follow those as a guideline to see what price range sells the best for your area.

Following these guidelines will give you an express sale and will also increase the price at which your home is sold.



Future Works

Our next project to improve the selling process for you and your home would be to develop a process for predicting the price increases that each individual elements of your home would provide.



Thank you!

Appendix:

Linear Regressions - <http://www.stat.yale.edu/Courses/1997-98/101/linreg.htm>

King County Grading System and more definitions -
<https://info.kingcounty.gov/assessor/esales/Glossary.aspx?type=r>

Living Space definitions -
http://www.realtyplus-gadsden.com/files/documents/Square_Footage_Guidelines.pdf