

# King County Housing:

Getting the Most Out of  
Your Future House Sale

By Jeff Spagnola

# Introduction

Your home is the biggest investment you'll ever make. Obviously, **you want to maximize the return on this investment when it's time to sell**. We will attempt to figure out the key features that drive the sale price.

In this presentation, we will be examining house sale data for King County, WA in order **to pinpoint the specific factors that drive the sale price of a house** in this area.



# King County

# About King County

- King County is located in the northwest of Washington State.
- Population: 2,252,782 (est.)
- Most highly populated county in Washington.
- Home to Seattle-Tacoma-Bellevue metropolitan area.



# 1.The Data

Let's look at the King County dataset

# The Data

The data used in this presentation comes from the King County Housing dataset. This dataset is fairly robust and includes information on many features of a house that can affect the overall sale price.



King County  
Housing  
Authority

id	date	price	bedrooms	bathrooms	sqft_living	sqft_lot	floors	waterfront	view	condition	grade	sqft_above	sqft_base	yr_built	yr_renovated	zipcode	lat	long	
7129300530	10/13/14	221900	3	1	1180	5650	1	0	0	0	3	7	1180	0	1951	0	98178	47.5112	-122.257
6414100192	12/9/14	538000	3	2.25	2570	7242	2	0	0	0	3	7	2170	400	1951	1991	98125	47.721	-122.319
5631500400	2/25/15	180000	2	1	770	10000	1	0	0	3	6	770	0	1933	0	98028	47.7379	-122.233	
2487200875	12/9/14	604000	4	3	1960	5000	1	0	0	5	7	1050	910	1965	0	98136	47.5208	-122.353	
1954400510	2/18/15	510000	3	2	1680	8060	1	0	0	3	8	1680	0	1987	0	98074	47.6148	-122.045	
7237500310	5/12/14	1230000	4	4.5	5420	101930	1	0	0	3	11	3890	1530	2001	0	98053	47.6561	-122.005	
1321400060	6/27/14	257500	3	2.25	1715	6819	2	0	0	3	7	1715	0	1995	0	98003	47.3097	-122.327	
2008000270	1/15/15	291850	3	1.5	1080	9711	1	0	0	3	7	1080	0	1963	0	98128	47.4995	-122.315	
2414600126	4/15/15	219500	3	1	1780	7470	1	0	0	3	7	1050	730	1960	0	98146	47.5123	-122.337	
3793500160	3/12/15	323000	3	2.5	1890	6560	2	0	0	3	7	1890	0	2003	0	98038	47.3684	-122.031	
1738800520	4/3/15	662500	3	2.5	3560	9796	1	0	0	3	8	3860	1700	1965	0	98007	47.6007	-122.145	
9212900260	5/27/14	468000	2	1	1160	6000	1	0	0	4	7	860	300	1942	0	98115	47.49	-122.292	
1141015156	5/28/14	310000	3	1	1430	19901	1.5	0	0	4	7	1430	0	1927	0	98028	47.7558	-122.229	
6054650070	10/7/14	400000	3	1.75	1370	9680	1	0	0	4	7	1370	0	1977	0	98074	47.6127	-122.045	
1175000570	3/12/15	530000	5	2	1810	4850	1.5	0	0	3	7	1810	0	1900	0	98107	47.47	-122.394	
9297700055	1/24/15	650000	4	3	2950	5000	2	0	3	3	9	1980	970	1979	0	98126	47.5714	-122.175	
1875500060	7/31/14	395000	3	2	1890	14040	2	0	0	3	7	1890	0	1994	0	98019	47.7277	-121.962	
6865200140	5/29/14	485000	4	1	1600	4300	1.5	0	0	4	7	1600	0	1916	0	98103	47.6648	-122.343	
16000397	12/5/14	189000	2	1	1200	9850	1	0	0	4	7	1200	0	1921	0	98002	47.3089	-122.21	
7983200060	4/24/15	230000	3	1	1250	9774	1	0	0	4	7	1250	0	1969	0	98003	47.3343	-122.306	
6300500875	5/14/14	385000	4	1.75	1620	4980	1	0	0	4	7	860	760	1947	0	98133	47.7025	-122.341	
2514049179	8/26/14	2000000	3	2.75	3050	44867	1	0	4	3	9	2330	720	1968	0	98040	47.5316	-122.233	
7137970340	7/19/14	285000	5	2.5	2270	6300	2	0	0	3	8	2270	0	1995	0	98092	47.3246	-122.169	
8091400200	5/16/14	252700	2	1.5	1070	9643	1	0	0	3	7	1070	0	1985	0	98030	47.3533	-122.166	
3814700200	11/20/14	329000	3	2.25	2450	6500	2	0	0	4	8	2450	0	1985	0	98030	47.3739	-122.172	
1202000200	11/7/14	235000	3	2	1710	4897	1.5	0	0	5	6	1710	0	1941	0	98002	47.3548	-122.118	
1784500383	6/26/14	837000	3	1.75	2450	2691	2	0	0	3	8	1750	700	1915	0	98119	47.6386	-121.36	
3303700376	12/1/14	667000	3	1	1400	1581	1.5	0	0	5	8	1400	0	1909	0	98112	47.6221	-122.314	
5101402488	6/24/14	438000	3	1.75	1520	6380	1	0	0	3	7	790	730	1948	0	98115	47.495	-122.304	
1873100390	3/2/15	718000	4	3.5	2570	7173	2	0	0	3	8	2570	0	2005	0	98052	47.7073	-122.11	
8562750320	11/10/14	580500	3	2.5	2320	3980	2	0	0	3	8	2320	0	2003	0	98027	47.5391	-122.07	
2426039314	12/1/14	280000	2	1.5	1190	1265	3	0	0	3	7	1190	0	2005	0	98133	47.7274	-122.357	
461000390	6/24/14	687500	4	1.75	2330	5000	1.5	0	0	4	7	1510	820	1929	0	98117	47.6823	-122.368	
7588002193	11/10/14	535500	3	1	1090	3020	1.5	0	0	4	8	1090	0	1929	0	98117	47.6849	-122.375	
7950800270	12/3/14	322500	4	2.75	2060	6659	1	0	0	3	7	1280	780	1981	0	98058	47.4276	-122.157	
9547205180	6/13/14	696000	3	2.5	2300	3060	1.5	0	0	3	8	1510	790	1930	2002	98115	47.6827	-122.31	
9493500030	5/28/14	555000	4	1	1660	34848	1	0	0	1	5	930	730	1933	0	98052	47.6521	-122.132	
2768000400	12/30/14	640000	4	2	2360	6000	2	0	0	4	8	2360	0	1904	0	98107	47.6702	-122.362	

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

+

<

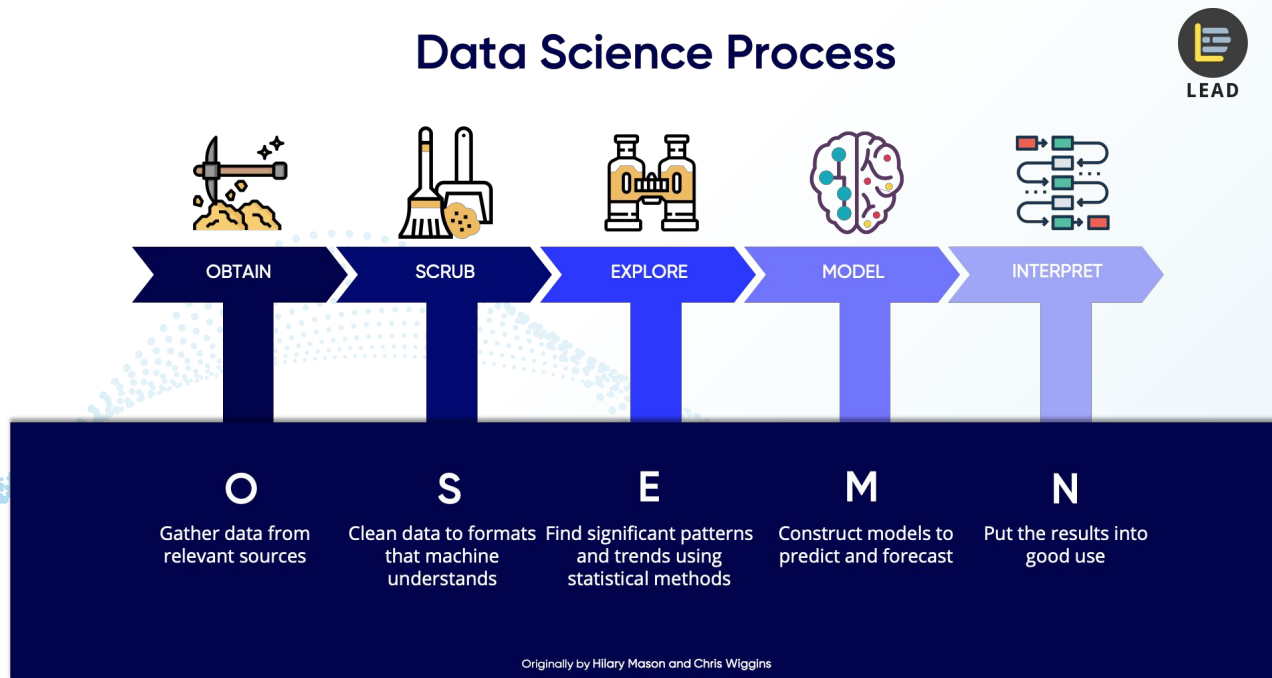
# 2.The Process

How does this work?



# The Process

The data was processed using the OSEMN data science process. The steps of the OSEMN process are detailed in the image below.



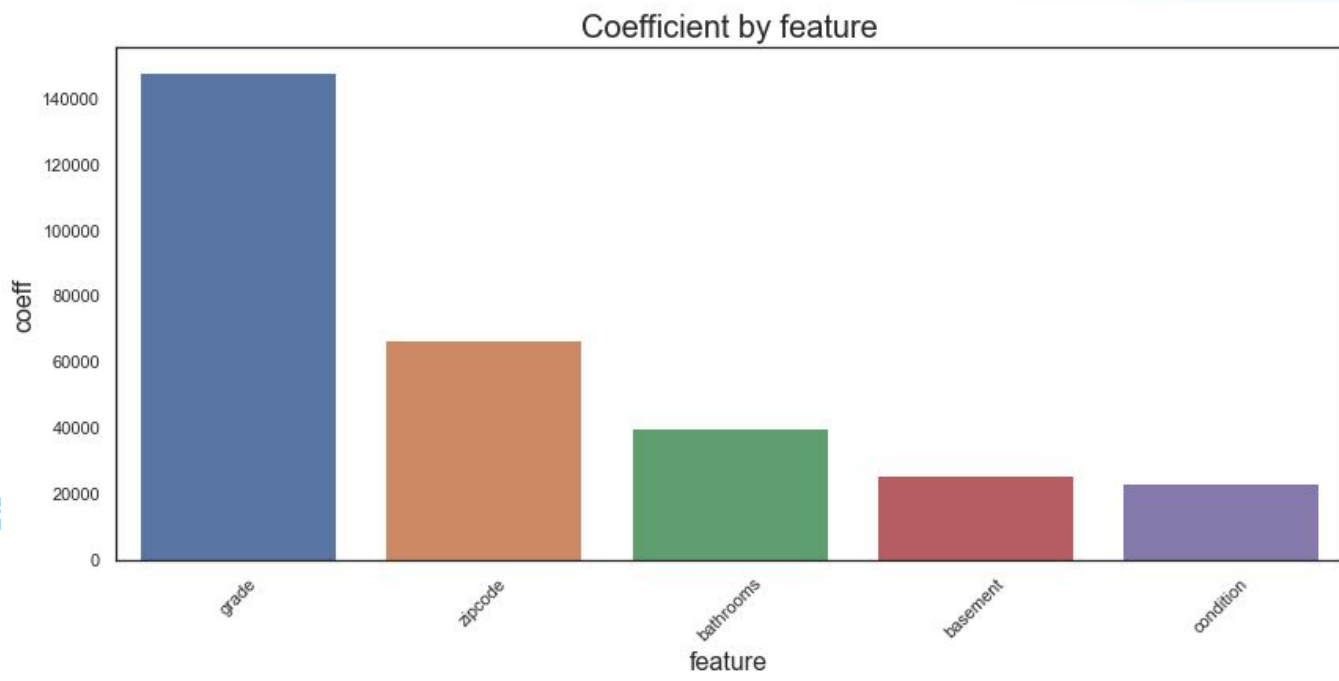
# 3.The Results

What did we find out?



# Results

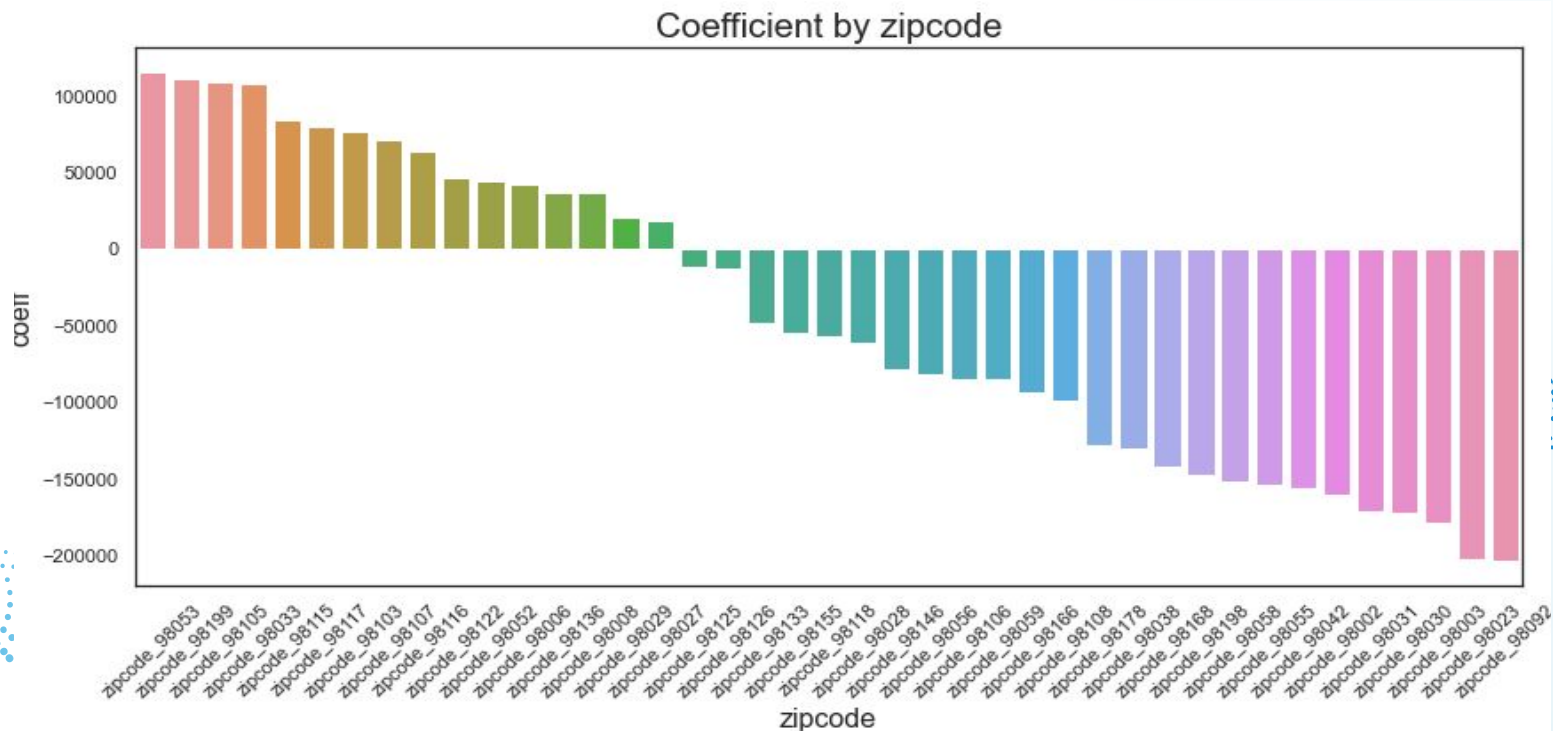
We have found that the features that are most important in driving the sale price are Grade, Zipcode, Bathrooms, Basement, and Condition



# Results - Zipcode

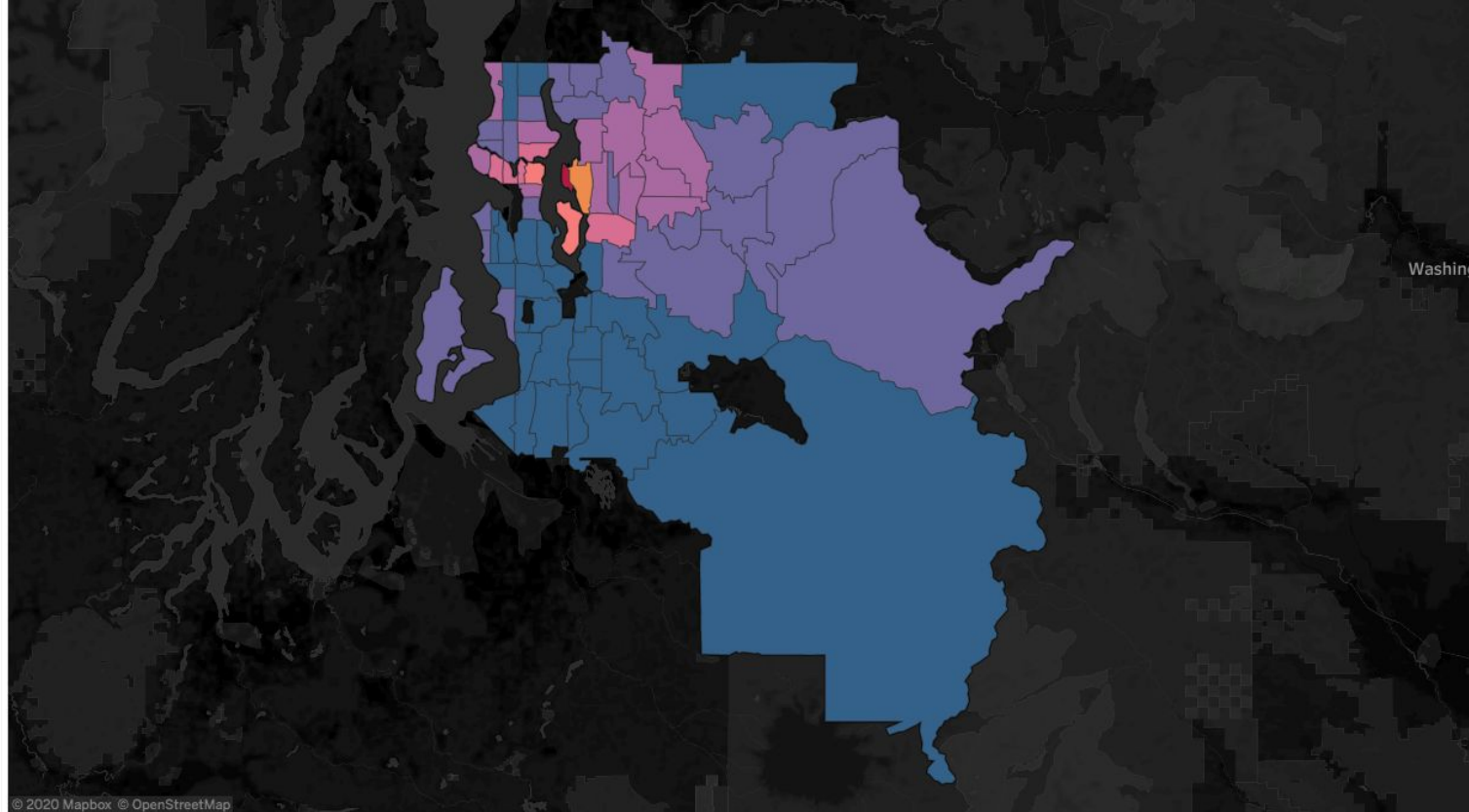
## Location Consideration

Houses in certain zipcodes do tend to sell for substantially more than houses in other zipcodes.



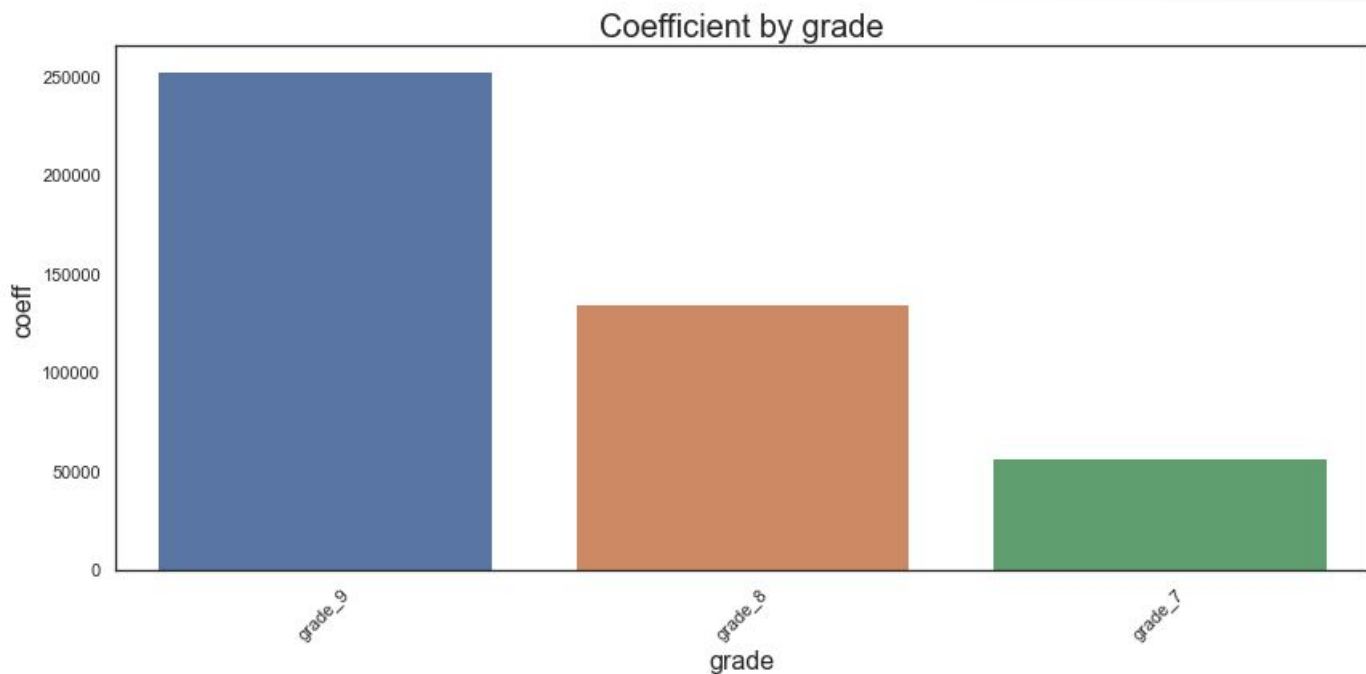
# Results - Zipcode Map

King County Average Sale Price by Zipcode



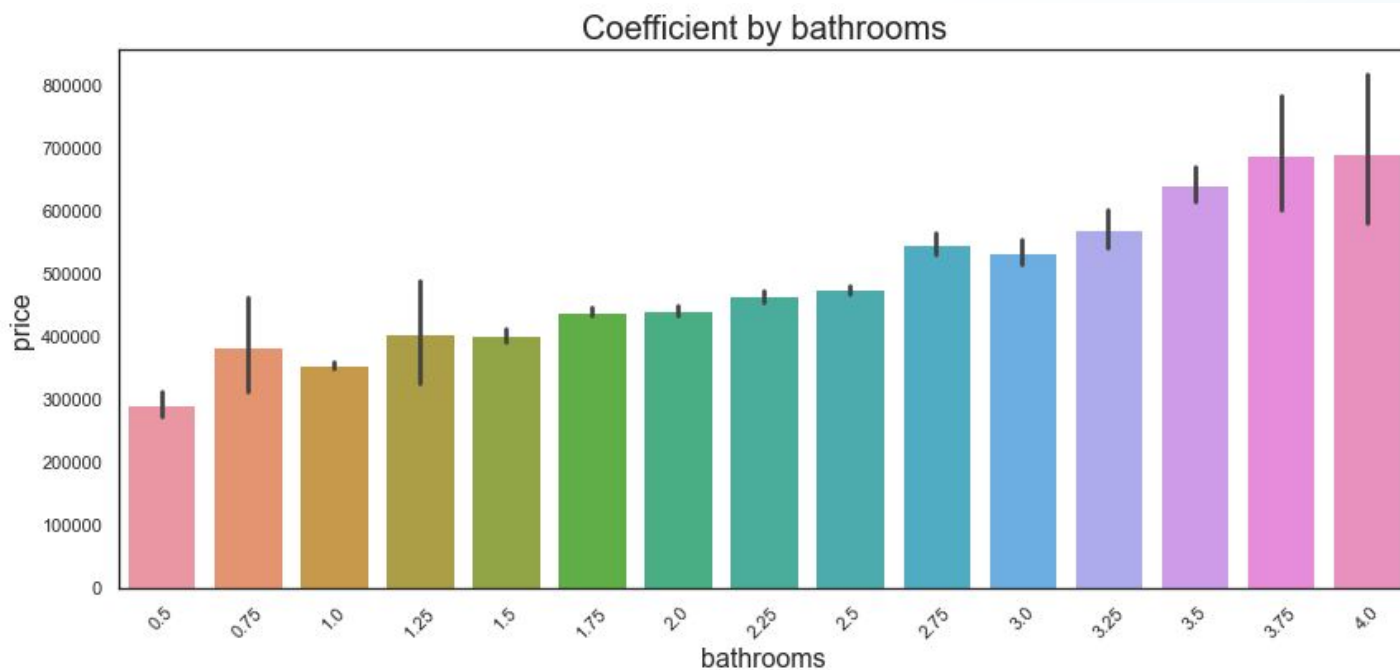
# Results - Grade

Grade is the largest contributor to the overall sale price. A grade within 7 and 9 represents highest impact on sale price.



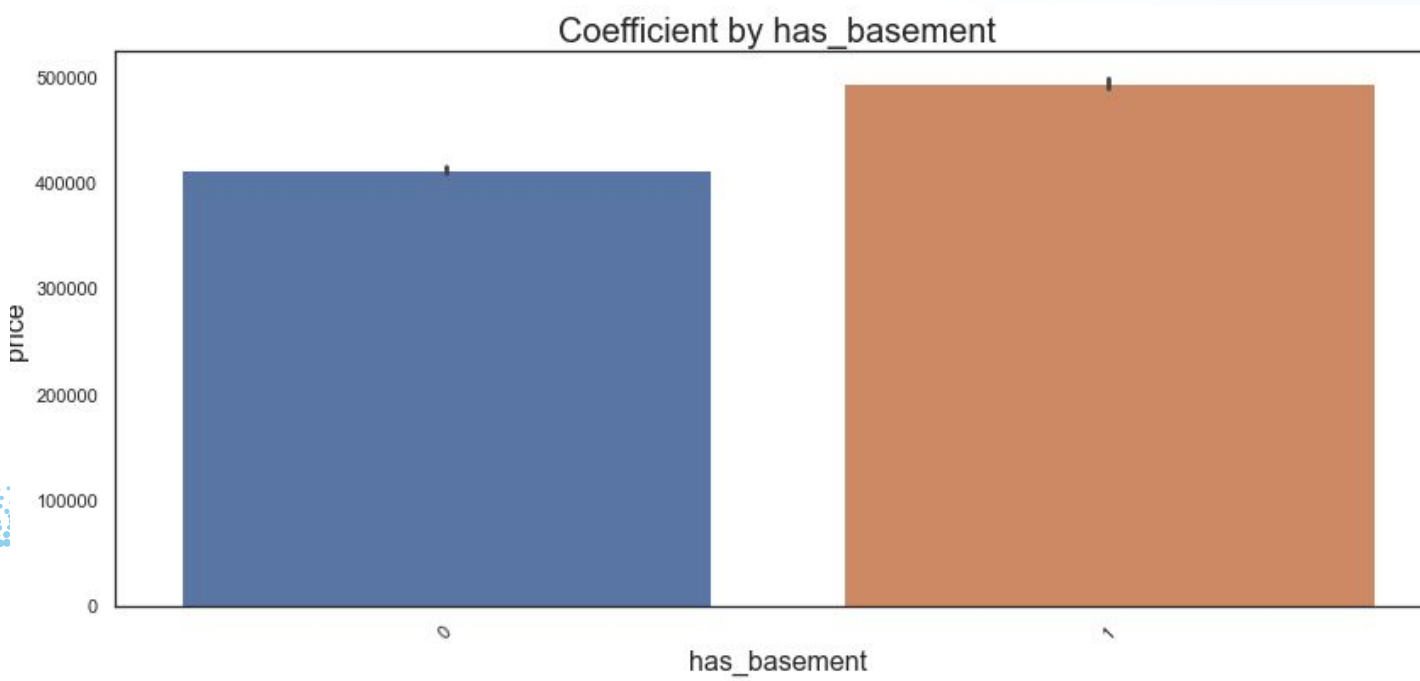
# Results - Bathrooms

Bathrooms are another large contributor. Generally, the more bathrooms, the higher the sale price.



# Results - Basement

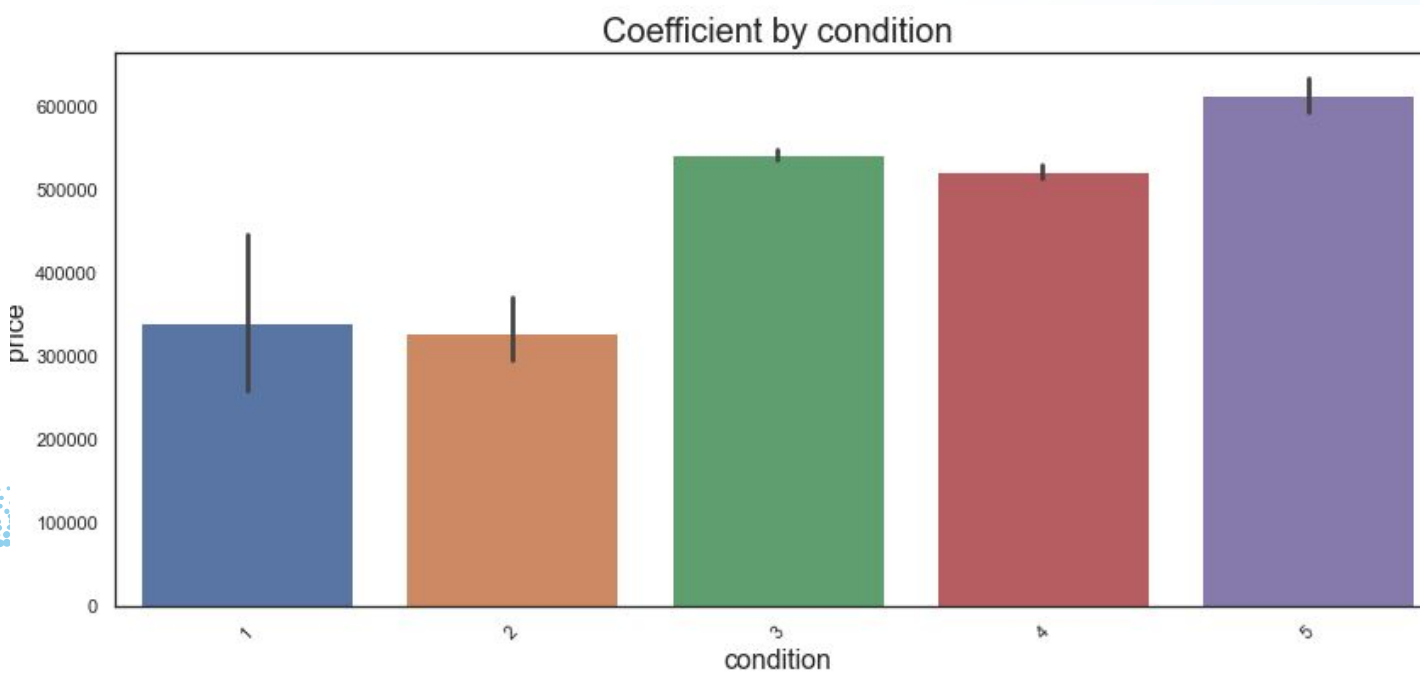
If a house has a basement, it will sell for a higher price than a house without a basement.





# Results - Condition

Generally, the higher the condition grade, the more the higher the sale price.



# Results - By the Numbers

If certain conditions are met, you can expect the following increase to your sale price.

## By the Numbers:

Grade (7-9): \$148,018.74 (average)

Top Zipcodes: \$66, 629.05 (average)

Bathrooms: \$40,018.49 per bathroom

Basement: \$25,934.89 if present

Condition: \$23,521.84 if score is 5



# 4.Recommendations

What do we recommend?

# Recommendations

Based on the results, we have the following recommendations:

- Aim for having a Grade of 9.
- If possible, increase the amount of bathrooms.
- If possible, consider creating a basement.
- Make sure your house is able to achieve a Condition grade of 5.



# Future Work

With more time, we could establish a deeper understanding of the housing market and pull different insights.

## Accuracy

With more time, we can increase the accuracy of our models in order to be able to dive deeper into the data.

## Timing

Is there an emerging trend in your neighborhood? If the market is on the rise in your zipcode, it may be worth waiting til the optimal time to put your house on the market.

## Investment Properties

Are there houses in King County that could see a huge return on investment with only minor renovations?

# Thanks!

## Any questions?

You can find me at:

- @spags on GitHub
- jeff.spags@gmail.com