# KING COUNTY DEVELOPMENT PROJECT

Presented by:

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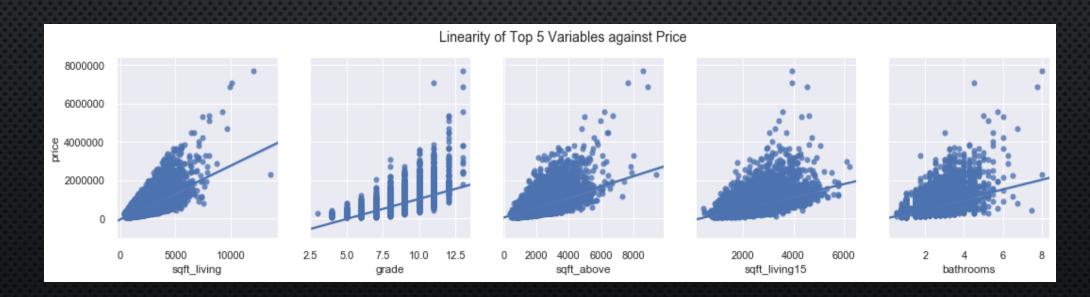
## SCOPE OF ANALYSIS

- What are the 5 most influential variable contributing to the price of a property?
- COST BENEFIT ANALYSIS OF GRADE & PRICE OF A PROPERTY
- Would it be a better investment to purchase and renovate old properties or develop a new residential area in kings county?

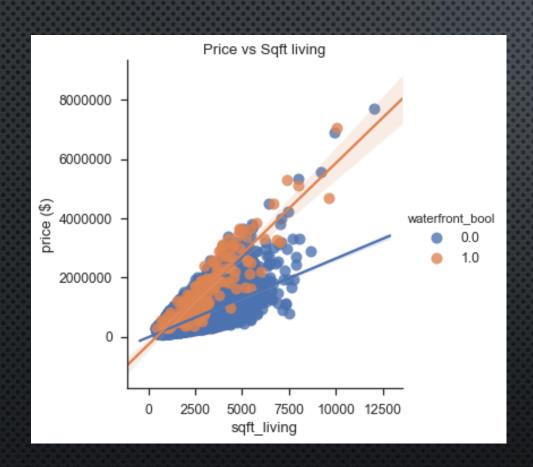
## 5 MOST INFLUENTIAL FEATURES

HOW DID WE PICK THE 5 MOST INFLUENTIAL FEATURES?

- BASED ON THE DATA, A CORRELATION MATRIX WAS USED TO COMPARE CORRELATION BETWEEN EACH FEATURE.
- THE FOLLOWING ARE THE 5 MOST INFLUENTIAL FEATURES:
  - SQFT LIVING [0.7] A COMBINATION OF SQFT BASEMENT AND SQFT ABOVE
  - GRADE [0.67] MEASURES THE QUALITY OF THE HOUSE, RANKING FROM 1 TO 13
  - SQFT ABOVE [0.61] SQFT OF HOUSE EXCLUDING THE BASEMENT
  - **SQFT LIVING 15 [0.59]** SQFT LIVING OF THE 15 NEAREST NEIGHBORS
  - BATHROOMS [0.53] NUMBER OF BATHROOMS



## INTERPRETING THE REGRESSION MODEL



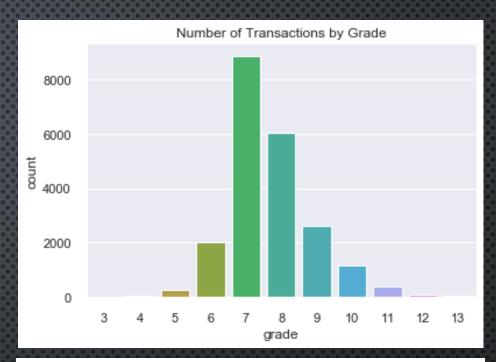
#### KEY FINDINGS

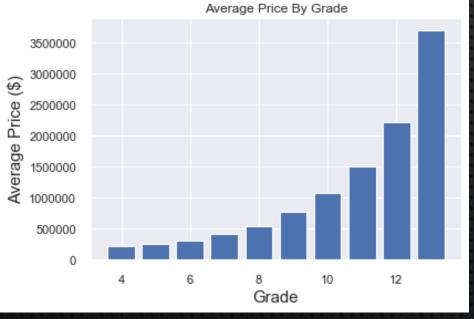
- THE MODEL HAS A R-SQUARED VALUE OF 0.6
- THE MODEL USES 10 VARIABLE FOR PREDICTION
  - Waterfront is the feature with highest coefficient at 569,700
  - ON AVERAGE, HAVING A WATERFRONT VIEW INSTANTLY ADDS A \$569,700 PREMIUM ON THE PROPERTY

## COST BENEFIT ANALYSIS: GRADE VS PRICE

#### KEY FACTS

- PROPERTIES WITH GRADE OF 7 IS THE BEST SELLING PROPERTY
   GRADE WITH 8888 SALES
- AVERAGE PRICE OF GRADE 7 PROPERTIES: \$ 402,020
- Real estate prices gain an average of 29.88% per grade from grade 4-7
- REAL ESTATE PRICES GAIN AN AVERAGE OF 137.17% PER GRADE FROM GRADE 7-13





### UNDERSTANDING THE TARGET MARKET

#### KEY INSIGHTS



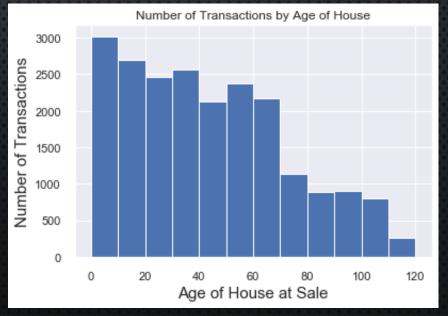
- THE MOST POPULAR PRICE RANGE IN KINGS
   COUNTY IS AN AFFORDABLE \$ 250,000 \$450,000
- REPRESENTS 45.21 % OF THE DATA SAMPLE
- · CONSISTS MAINLY OF:
  - HIGH-END GRADE 6
  - GRADE 7
  - VERY LOW-END GRADE 8

### PREMIUM OF RENOVATED HOUSES

#### KEY FACTS

- A VERAGE PRICE BEFORE RENOVATION: \$ 532,490
- Average price after renovation: \$ 770,595
- PREMIUM OF RENOVATION: \$ 238,104
- REGARDLESS OF RENOVATION, DEMAND OF A
   PROPERTY REDUCES GRADUALLY AS IT AGES, WITH A
   SHARP DROP AFTER THE HOUSE HAD BEEN BUILT FOR
   MORE THAN 70 YEARS





#### RECOMMENDATIONS TO INVESTORS

- WE ADVISE AGAINST PURCHASING AND RENOVATING OLD PROPERTIES FOR PROFIT
  AS THE LIQUIDITY OF THE ASSET WILL BE LOW DUE TO LOW DEMAND OF AGED
  PROPERTIES
- WE ADVISE TO DEVELOP BRAND NEW (O YEARS) HIGH VALUE GRADE 7 OR GRADE 8
   PROPERTIES IN THE PRICE RANGE OF \$350,000 TO \$450,000 TO ENJOY HIGH
   CAPITAL GAIN AND GOOD RENT PRICES
- WE ADVISE TO ACQUIRE UNDER-VALUED PROPERTIES WITH THE ASSISTANCE OF OUR MULTI VARIABLE LINEAR REGRESSION MODEL, WITH HIGH CONSIDERATION BEING PLACED ON THE FOLLOWING FEATURES:
  - WATERFRONT VIEW
  - SQUARE FOOT OF LIVING SPACE
  - GRADE
  - SQUARE FOOT OF LIVING SPACE OF 15 NEAREST NEIGHBORS
- WE ADVISE TO EVALUATE VALUE OF PROPERTIES WITH OUR LINEAR REGRESSION MODEL WITH CAUTION AT OWN RISK

#### FUTURE WORK & PROBLEMS

- REGRESSION MODEL CAN BE IMPROVED, LOW VALUE OF R-SQUARED AT 0.6
- RENT PRICES & MORTGAGE RATES CAN BE INCLUDED FOR A MORE COMPREHENSIVE ANALYSIS
- Sample data represent a small percentage of King County:
  - POPULATION AT > 2.2 MILLION
- Data can be categorized into 3 price segments to conduct detailed analysis in the following market niche:
  - LOW-INCOME BUDGET PROPERTIES
  - MIDDLE-INCOME AVERAGE PROPERTIES
  - HIGH-INCOME LUXURY PROPERTIES