



KING COUNTY

# HOME PRICE ANALYSIS

INFERRING IMPACT OF DIFFERENT FACTORS ON HOME PRICES



# PROBLEM STATEMENT

## KING COUTY

- available factors (predictors)
- predictor significance and effect
- model accuracy



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## Ponder This

# HOME IMPROVEMENTS THAT PAY OFF

SOURCE: CALIFORNIA ASSOCIATION OF REALTORS (CAR.ORG)



# BUSINESS VALUE

## Benefits

- significant and impactful predictors
- model to predict potential sale price of home
- actions to maximize sale profits



# METHODOLOGY

## 1. TIME PERIOD

- 
- King County home sales: 05/02/2014 - 05/27/2015
  - 21,597 records

## 2. DATA PREPROCESSING

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- address missing/null values
  - remove correlated (redundant) predictors

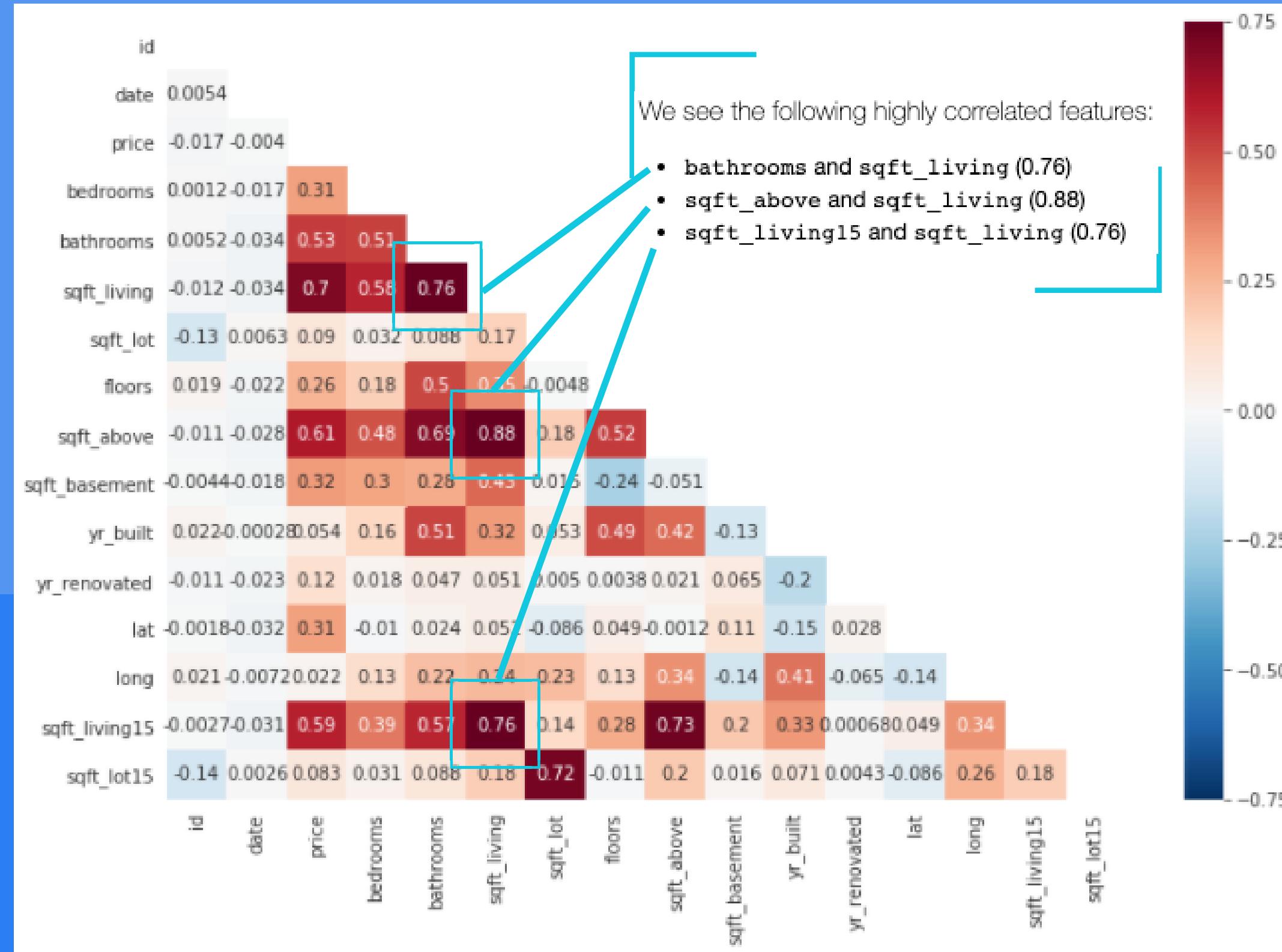
## 3. LINEAR REGRESSION

- 
- selection techniques
  - most accurate model

## 4. MODEL INTERPRETATION

- 
- effect of different predictors
  - predictor with biggest effect

# PREDICTORS - OVERVIEW



# FINDINGS

## Predictor Analysis

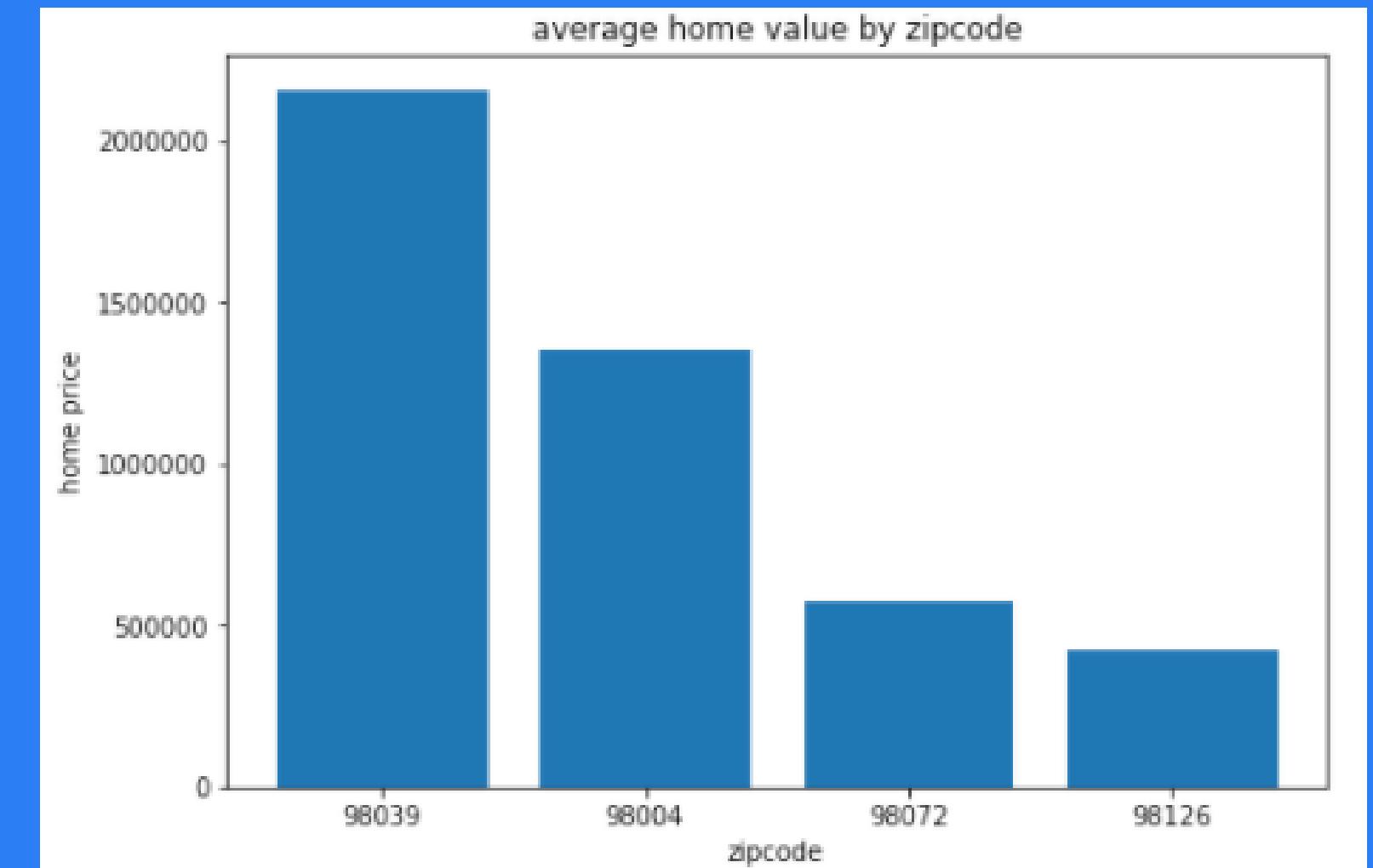
After calculations:

Being in **zipcode 98039**, the average sale price **increases by 189.9%**

Having a **waterfront property increases** the average sale price by **105.74%**

For every **one sq. ft. increase** in the **living space**, the average sale price increases by **.04%**

**Calculated model can explain 79.1% of the variance in the selling price of a house**



the property's zipcode has the most impact on the average sale price of the home, with properties in zipcode 98039 having the highest impact on the average sale price



# CONCLUSION

ZIPCODE HAS HIGHEST EFFECT

- 98039, 98004, 98112

RENOVATIONS ARE NOT SIGNIFICANT/HAVE LITTLE EFFECT

- adding bedrooms
- increasing living space

IMMEDIATE ACTIONS TO TAKE TO MAXIMIZE PROFIT

- increasing the square footage of the living space can provide a slight bump in the average sale price

# FUTURE WORK

## Predictor Refinement

### property improvements

having a pool

garage or attic space

value of landscaping

### neighborhood indicators

school ratings

crime statistics

### economic indicators

current mortgage interest rates

## Technical Model Refinement

explore feature normalization and

predictor interactions



**THANK YOU!**