

# No Place Like Home

An Analysis of King County, WA Real Estate

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# Business Introduction

- The magazine “Homeowners Yearly”
- Renovations might increase the estimated value of their readers homes.
- Subscriber base: middle to upper middle class homeowners



### 3 Main Questions

- Will increasing the living area size lead to an associated increase in the value of the home?
- Will adding bedrooms or bathrooms lead to an associated increase in the value of the home?
- Is the grade or condition rating of the house associated with the value of the home?

# Data: Pros and Cons

- Cons: King County, WA, not all renovations included
- Pros: Does represent middle to upper class neighborhood, includes information the magazine asked for.

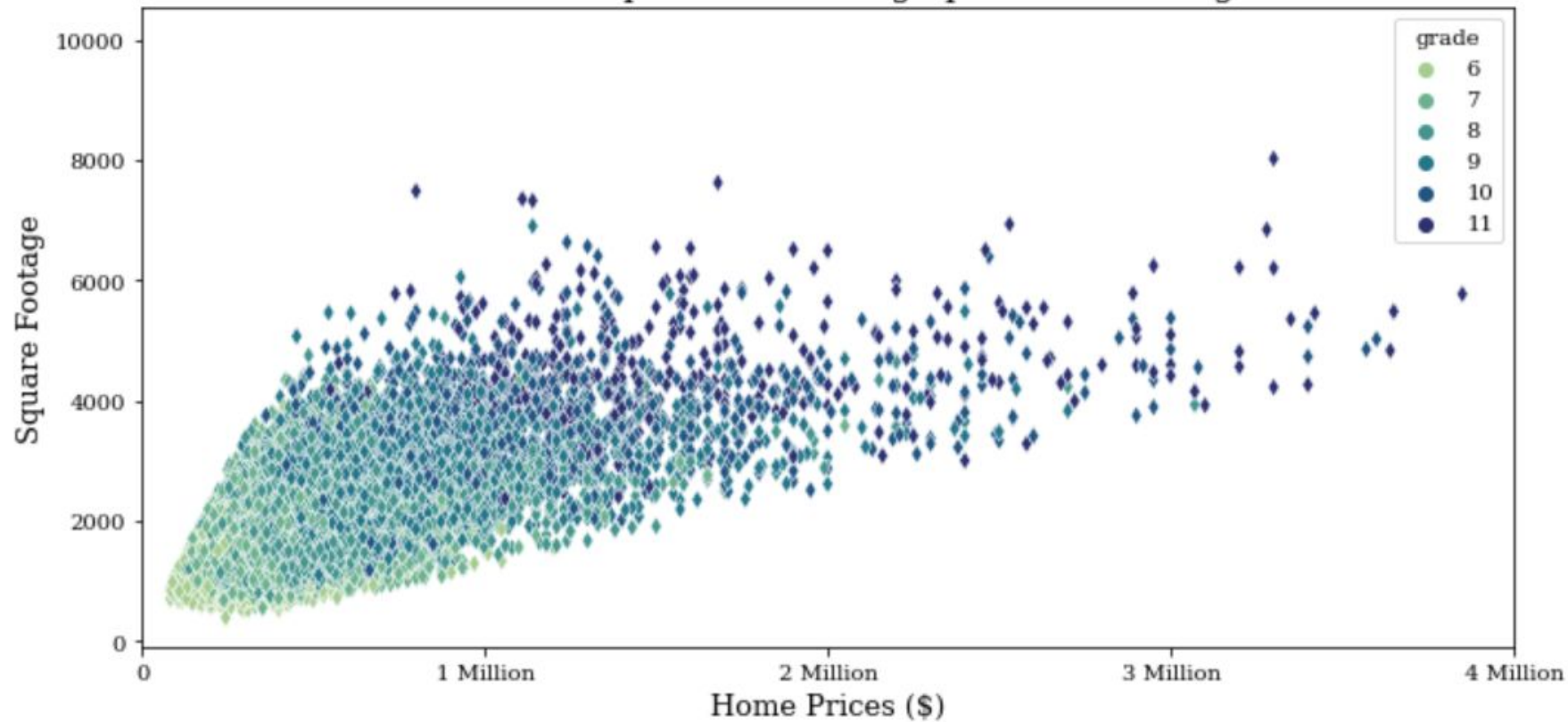


# Data: Intro

- After data cleaning
  - 21,225 houses
  - Mean sale price \$535,000
- Used log transformation on the price to make sure the model would work



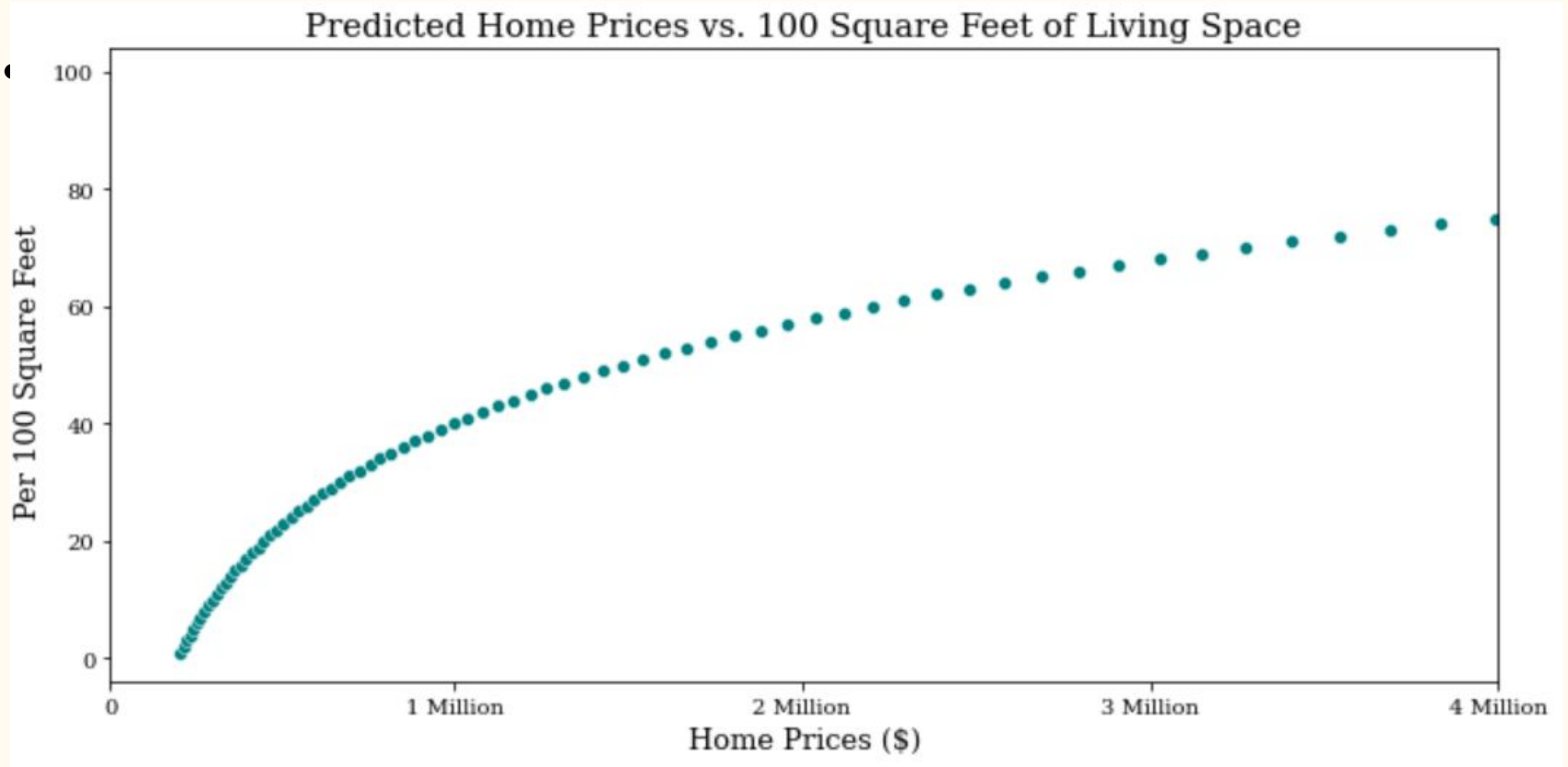
Home Prices vs. Square Foot Living Space vs. Building Grade



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# Increasing Living Area: Model





# Bedrooms and Bathrooms: Model

- Collinearity with squarefoot living
- $R^2$  is lower: 22.9%
- Coefficients:
  - Bedrooms: 0.05
  - Bathrooms: 0.3



# Grade and Conditions: Model

- With squarefoot living area,  $R^2$ : 54.8%
- Condition only statistically significant if it is at the highest level
  - Coefficient: .2652
- Higher building grades  $\Rightarrow$  higher coefficients



# Summary

- Will increasing the living area size lead to an associated increase in the value of the home?
  - Yes, with larger additions leading to larger increases in home prices.
- Will adding bedrooms or bathrooms lead to an associated increase in the value of the home?
  - Yes, but bathrooms lead to a significantly larger increase.

# Article Answers

- Is the grade or condition rating of the house associated with the value of the home?
  - Only the highest level of maintenance (condition) increases the sale price of a home
  - Increasing the building quality  $\rightarrow$  better sales price



# Possible Next Steps

- Look at data from other counties
- Look further into disentangling the collinearity between living space and bedrooms/bathrooms
- Investigate datasets with information on other renovations (plumbing, electric, ect.)



# Thank you!

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