
Investigating King County Property Prices

Analysis and Interpretation by: Jack Mannix

Summary

A linear regression model trained to predict the price of properties throughout King County, WA reveals the influence of many property characteristics

- City
- Grade (condition)
- View
- etc.

Business Problem

King Property Services (KPS)

wants to acquire new properties that will appeal to recent college graduates / young professionals

KPS wants to better understand how different property characteristics influence the prices of properties that would appeal to this target demographic

Data and Methods

- 20,647 King County properties analyzed
 - Data regarding cities corresponding to zipcodes taken from [King County Open Data Source](#)
 - Ordinary least squared (OLS) regression model
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- **Assumptions:**
 - Maximum property price = \$1,350,000
 - Bedrooms < 8
 - Bathrooms $\geq \frac{3}{4}$ Bath
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Results: Final Model

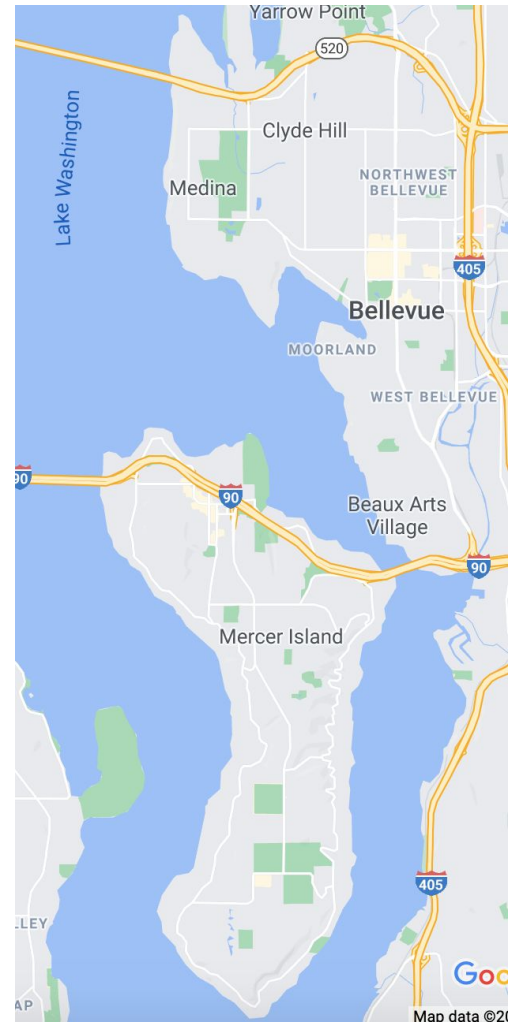
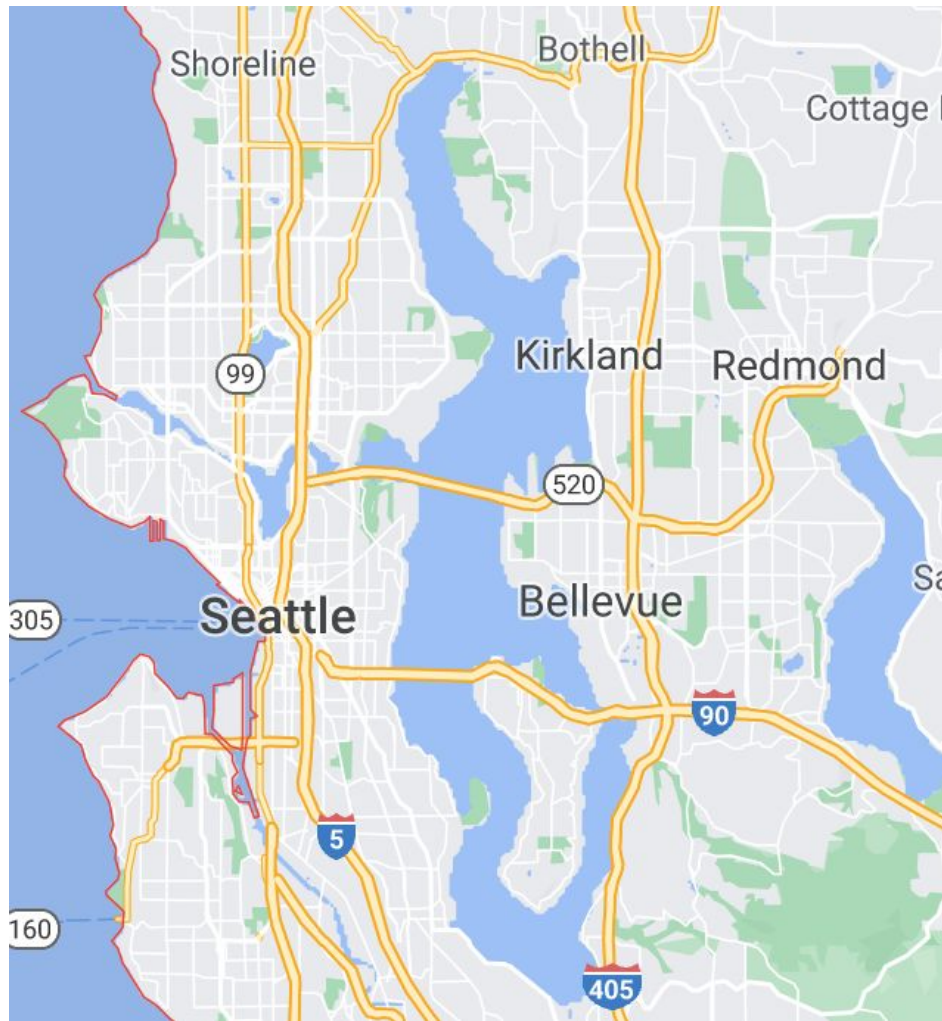
- **Adjusted $R^2 = 0.729$**
 - 72.9% of the change in property prices can be attributed to the examined property characteristics
- **Train RMSE = \$121,608.44**
- **Test RMSE = \$121,313.09**
 - Train and Test RSME are close

Model Functions Well!

Results: Influential Characteristics

- Bathrooms (\$29,980)
- Year Built (-\$2,053)
- Waterfront (\$110,300)
- Cities
 - Medina (\$683,600)
 - Mercer Island (\$424,100)
 - Bellevue (\$299,500)
- Grade (Condition)
 - 7 (\$83,060)
 - 8 (\$160,500)
 - 12 (\$483,600)
- View

 - 1 (\$58,910)
 - 2 (\$55,510)
 - 3 (\$91,540)
 - 4 (\$164,300)



Recommendations

King Property Services should consider the following for targeting the recent graduate demographic:

- Newer homes
 - Grade 7 Properties
 - Properties with lesser views
 - 1/4 or 2/4
 - No waterfront status
 - Properties NOT IN Medina, Mercer Island, or Bellevue
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Going Forward

- Conduct investigation regarding the effect of number of bedrooms on property price
 - Bedrooms = -\$16,090
- Research age demographics by city / other geographical data
- Filter more outliers
 - This model filtered conservatively

Thank You!

There will now be a brief Q&A session

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