



Kings County, WA Home Sales

Regression Analysis Summary
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Business Problem

We are a small company looking for properties to purchase and remodel to either sell or rent in the King's County, WA housing market. We will analyze housing data in order to understand the differing areas and factors which could lead to investment property strategy.



Agenda



Methods

Exploratory Data Analysis

-Outliers
Zscore >3.

Feature -Distance

4 major employers
Recorded min distance

Multiple Regression

Model Building for Price
Determine significant factors
Refining Model



Top Four Employers

In King's County, WA



Amazon

Seattle

50,000 Employees

80,000 in WA



Microsoft

Redmond

53,576 Employees

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Boeing

Renton

16,774 Employees

71,829 in WA.

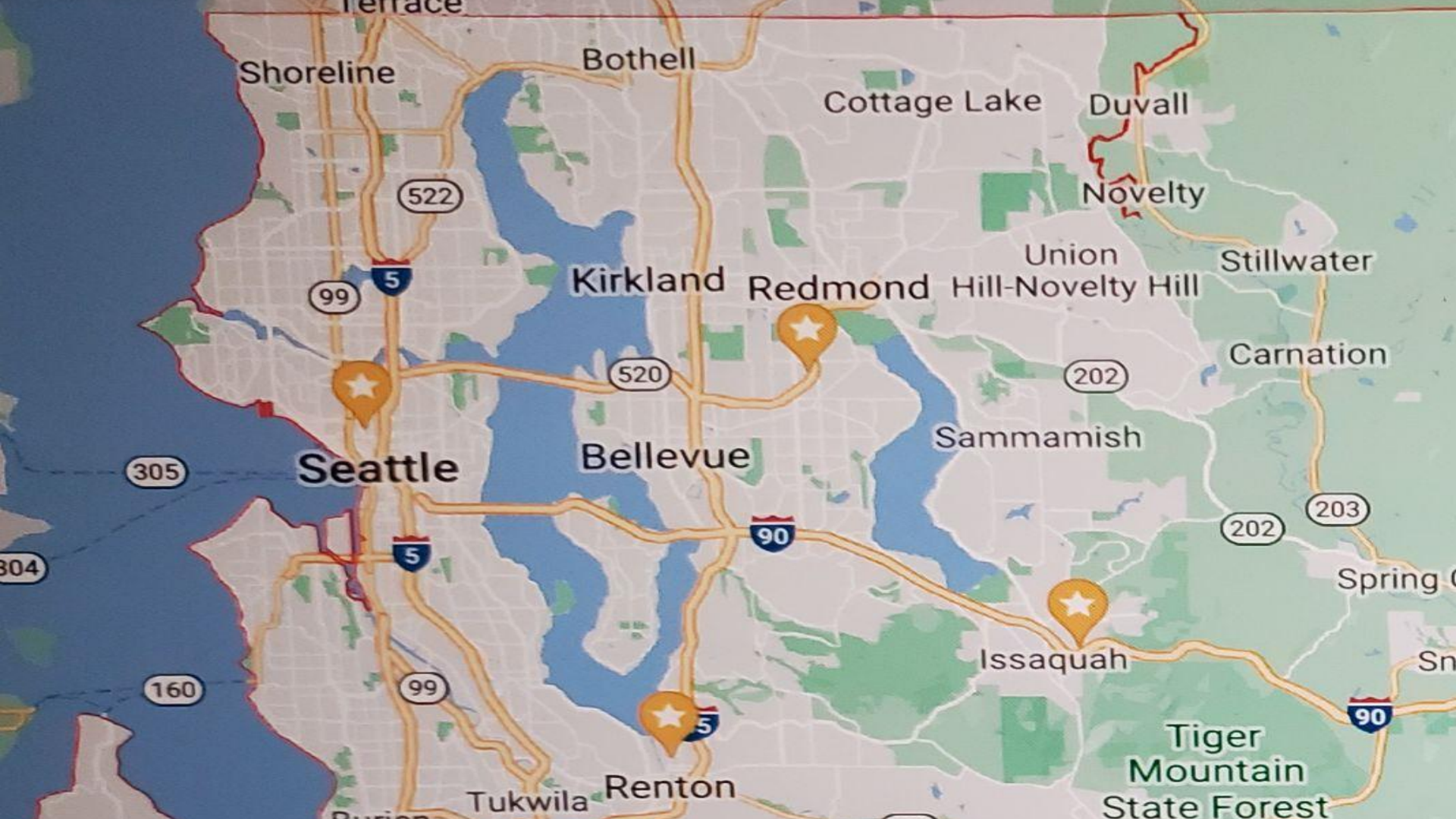


Swedish

Issaquah

15,000

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Methods

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-Outliers
Zscore >3

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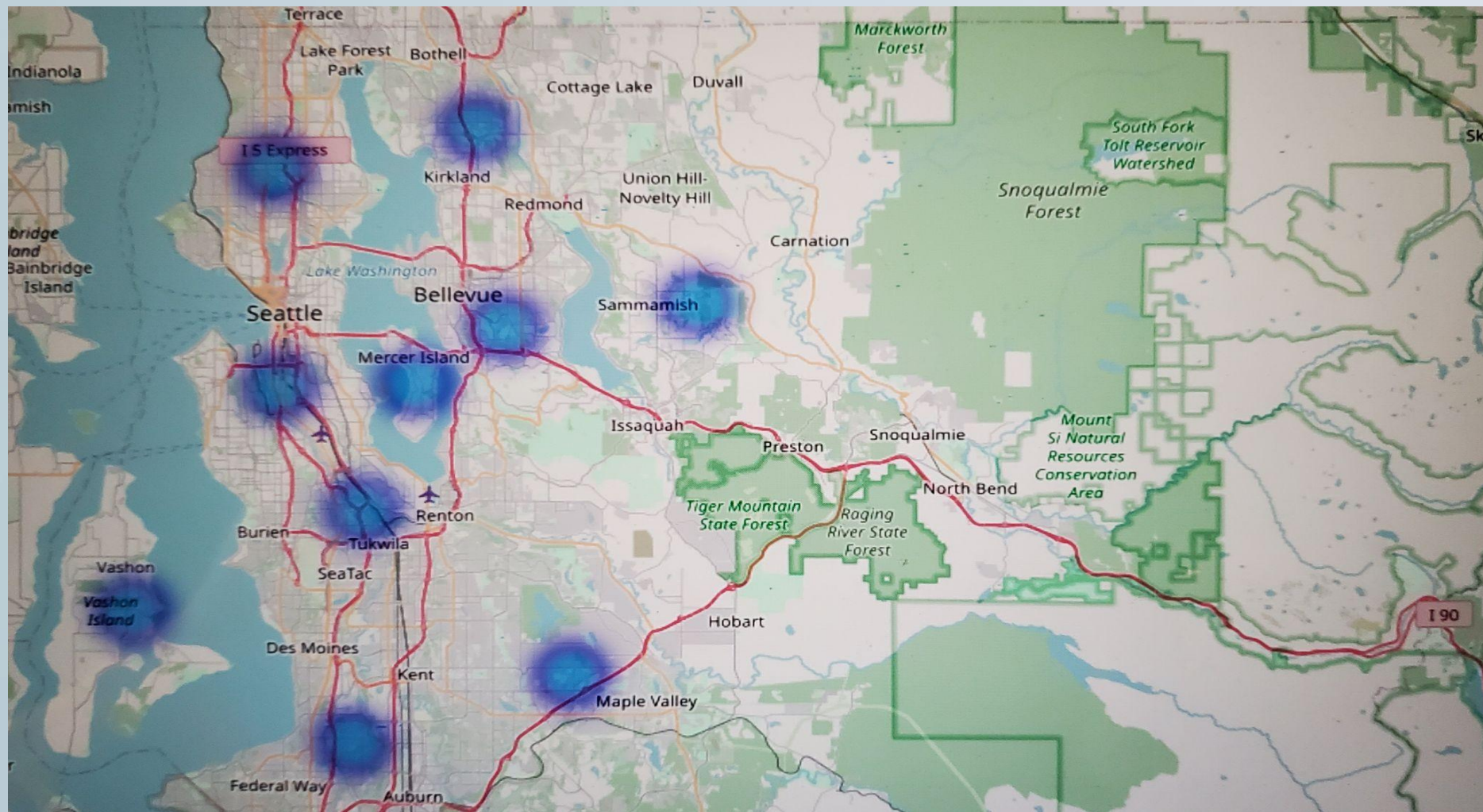
Feature - Distance

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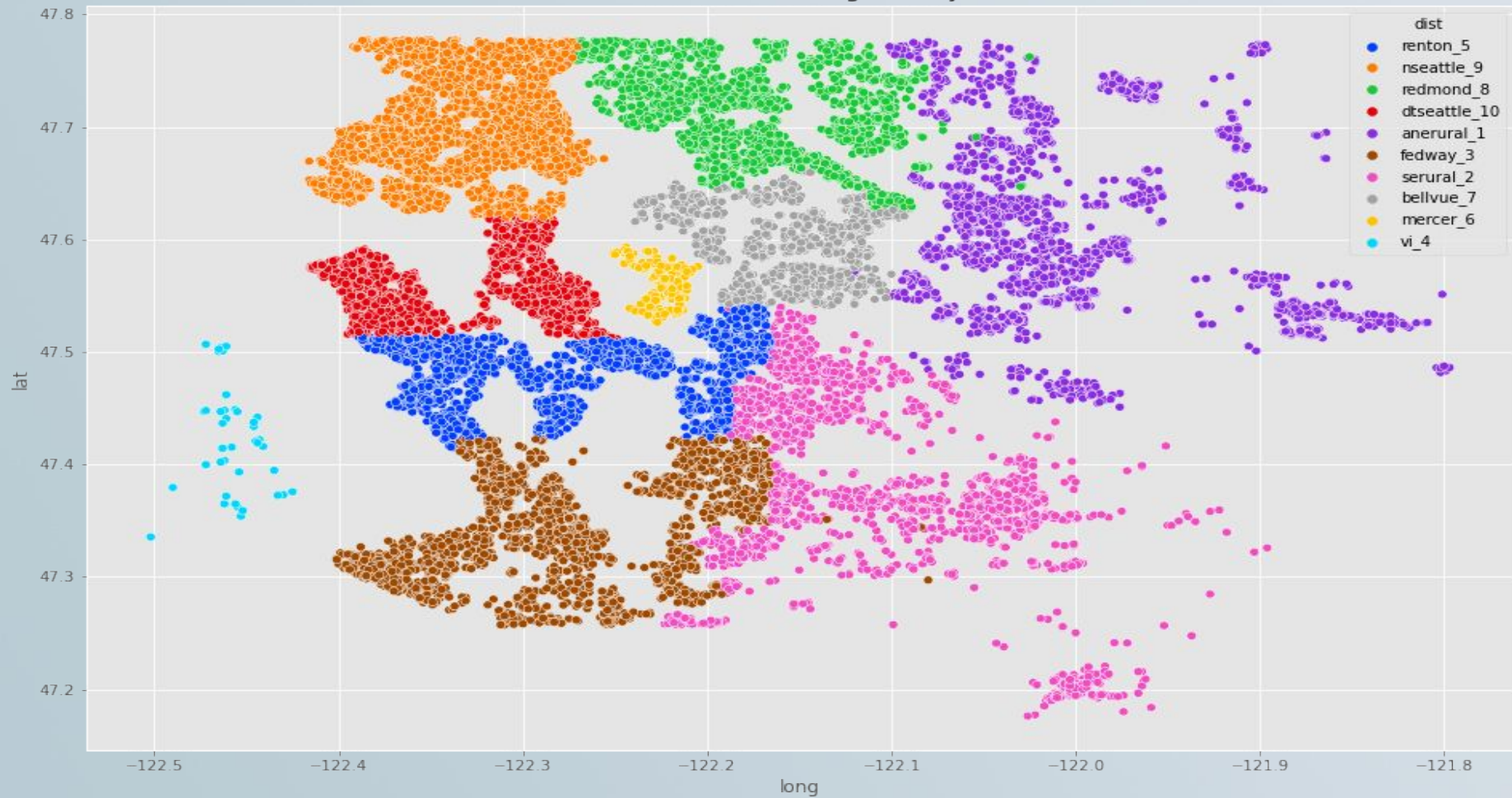
Feature - Districts

10 Districts based off zipcode data
and major





10 Districts of Kings County



Results



Final Model

$\log(\text{price}) = 8.15$

$$\begin{aligned} & - 0.027 * (\text{bedR}) & + 0.046 * (\text{baR}) & + 0.0007 * (\text{age}) \\ & + 0.1495 * (\text{v1}) & + 0.137 * (\text{v2}) \\ & + 0.549 * \log(\text{sqft}) & + 0.0606 * \log(\text{sqft15}) \\ & - 0.0226 * (\text{dist}) \\ & + 0.097 * (\text{gd6_8}) & + 0.234 * (\text{gd8_13}) \\ & + 0.2098 * (\text{d_1}) & + 0.094 * (\text{d_2}) \\ & + 0.1877 * (\text{d_4}) & - 0.042 * (\text{d_5}) \\ & + 0.622 * (\text{d_6}) & + 0.4056 * (\text{d_7}) \\ & + 0.2569 * (\text{d_8}) & + 0.6783 * (\text{d_9}) & + 0.2134 * (\text{d10}) \\ & - 0.0546 * (\text{dist} * \text{d_9}) \end{aligned}$$



Influential Drivers

N_seattle district	Mercer district	grade8-13	grade6-8	Sqft_living
Increase	Increase	Increase	Increase	Increase
67%	62%	23%	9.6%	0.55%
Compared to fedway district	Compared to fedway district	Compared to a Grade of <6	Compared to a Grade of <6	1% increase in sqft
-	-	-	-	-



Apply

Impact of Grade 8-13

Poor Grade

N Seattle

Homes Gd <6

21 homes

Ave age 82 yrs

\$305957
Avg

Good

N Seattle

Grade 8-13

Same 21
Homes

\$386670
Avg

Compare

Min \$45396

Max
\$125719
Std \$15785

\$80712
Avg increase





Thank you

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