# Impact of Distances from Major Roads on Housing Prices

Questions:

- What percentage of homes are next to a major road?
- How does being next to a major road impact the price of a home?

- How would you analyze the accuracy of your major road feature? (You may want to include visualizations)
- How would Opendoor make use of this analysis? How would you extend your analysis given more resources / time?
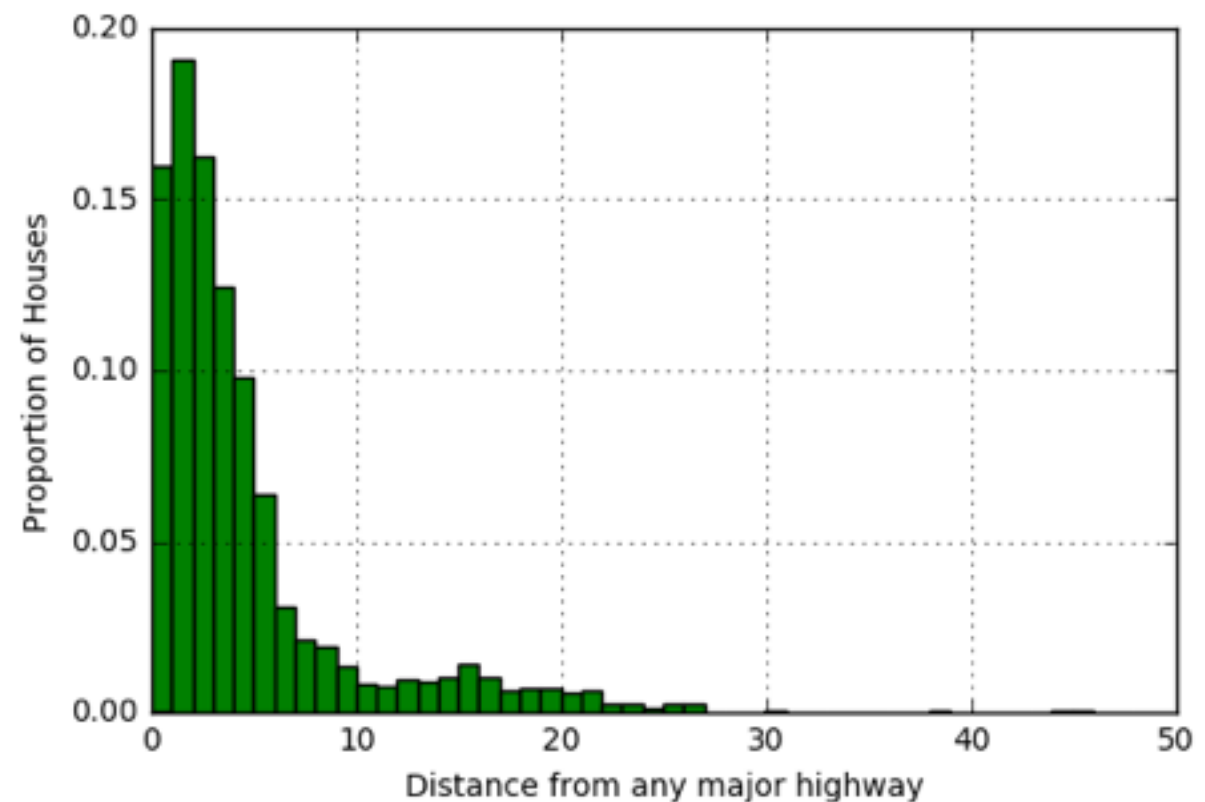
Chose to focus on major motorways

- I 8, I 10, AZ 85, AZ 303 Loop, AZ 303, Northern Parkway, AZ 101 Loop, AZ-101 Loop, I 17, I-17, ...

- Scale of map is …

- Understand how proximity to highway affects price
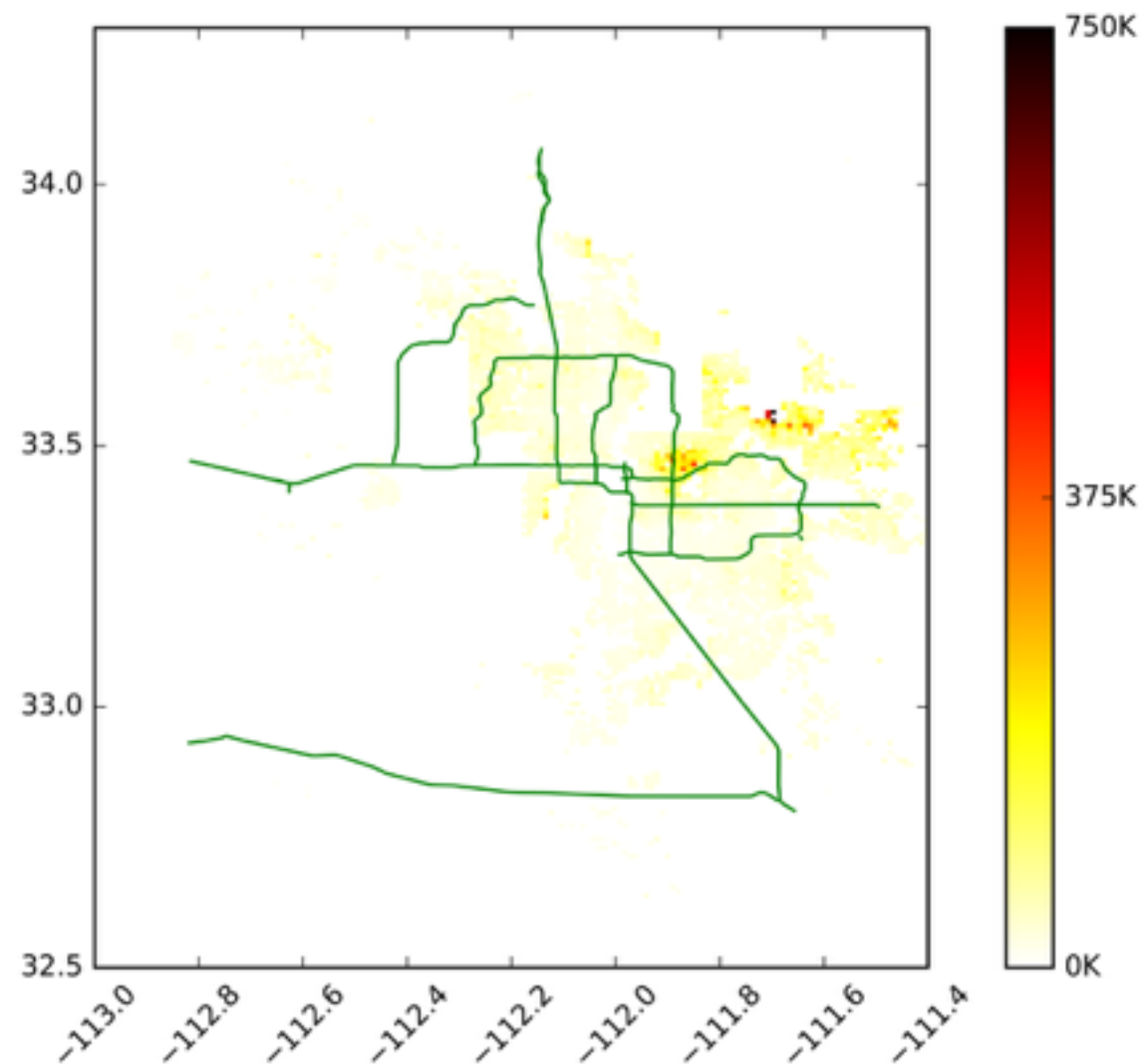
What percentage of homes are near a major road?

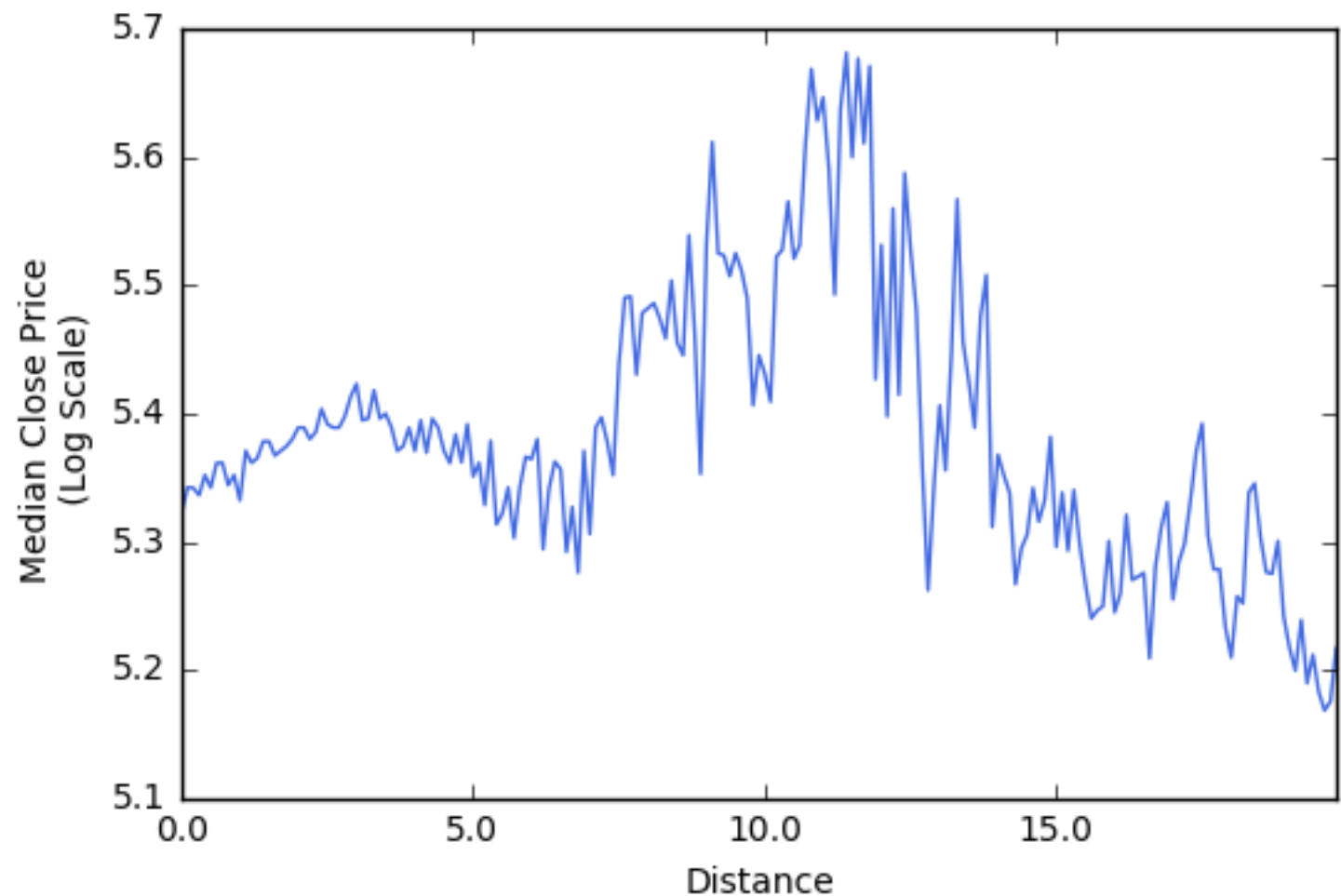- 15% within 1km
- 85% within 9 km

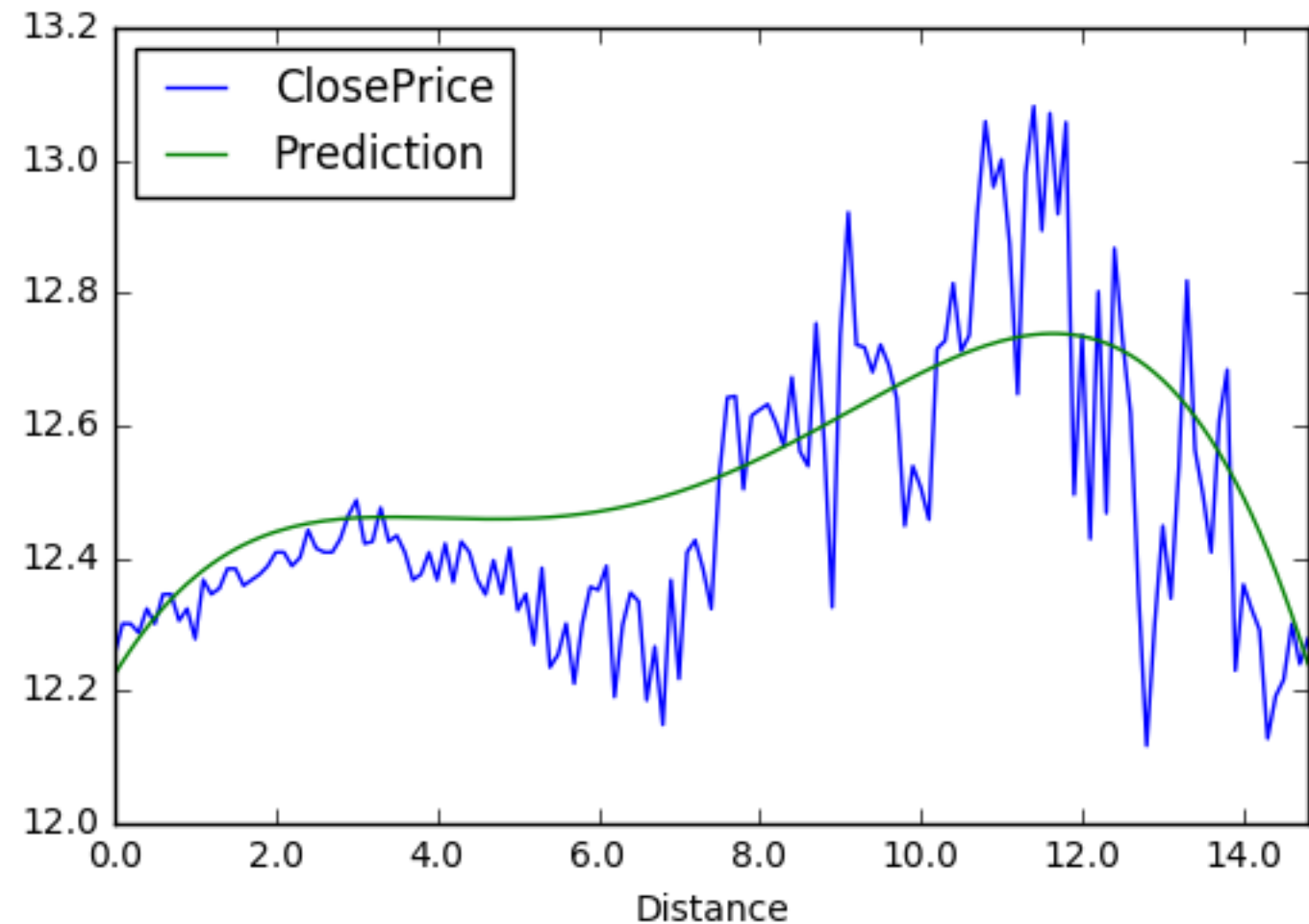|	
mean	6.9
std	16.5
min	0.0
25%	1.5
50%	3.0
75%	5.5
max	244.1

Effect of distance on price of home

Restrict to homes within 15km (93% of data)

- Non linear relationship

- Negatively correlated for small distances away from the highway

- Highly correlated for medium distances (wealthier neighbourhood)

- Negatively correlate for large distances

Fit a non linear model

- Performance of model:

  - Mean Absolute Error: $121K

  - Median Proportion of Error: 31%

  - R2 score: -0.01

- Performance of median model

  - Mean Absolute Error: $121K

  - Median Proportion of Error: 30%

  - R2 score: -0.05

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