INVESTOR ANALYSIS KING COUNTY

Interim Presentation
June 10th, 2015

AGENDA

1 | BACKGROUND

2 | APPROACH AND INTERIM FINDINGS

3 | NEXT STEPS

AGENDA

1 | BACKGROUND

WHY ARE WE COLLABORATING?

2 | APPROACH AND INTERIM FINDINGS

3 | NEXT STEPS

JUST A QUICK RECAP OF THE CORE CHALLENGE YOU HAVE TASKED US WITH

SUBHEADING

Situation

- **Collaboration** between consortium of investors and our Data Science team
- Initial data provided by consortium for the **timeframe 2014-2015**
- Additional publicly available data added during data collection
- **Project timeline**: June-August 2015

Key Questions

- Which new listed houses can be identified as **significant investment opportunities**, based of them being sold at **below the predicted price**?
- Of these, **identify the top opportunities** for a) high-end investments and b) sub-par investments (growth opportunities)

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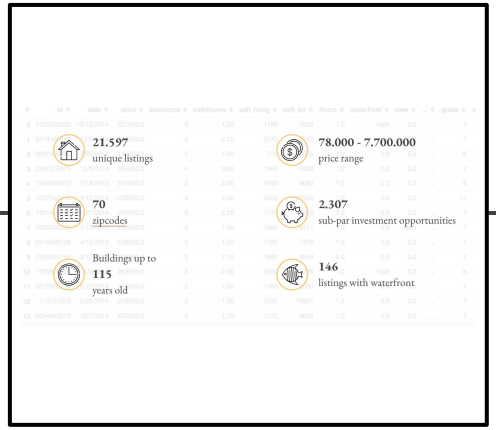
WHAT HAS BEEN ACHIEVED SO FAR?

3 | NEXT STEPS

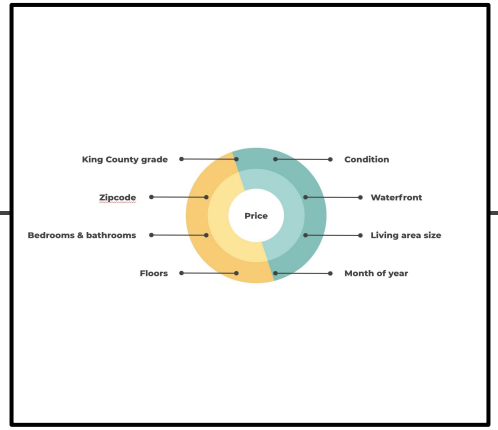
THE INITIAL MODEL HAS YIELDED TEN TARGET INVESTMENT OPPORTUNITIES

APPROACH AND CORE FINDINGS

1 | DATA COLLECTION



2 | MODEL OPTIMIZATION



3 | OPPORTUNITY IDENTIFICATION

- 5 high grade opportunities identified
- 5 sub-par opportunities identified

THE ANALYSIS IS BASED ON A BROAD DATASET OF LISTINGS IN THE SEATTLE AREA

1 | DATA COLLECTION

21.597
unique listings

78.000 - 7.700.000
price range

70
zipcodes

2.307
sub-par investments based on grade

Buildings up to
115
years old

146
listings with waterfront

SEVERAL VARIABLES HAVE BEEN CRUCIAL IN FORECASTING SALES PRICE

2 | MODEL OPTIMIZATION

*model metric adj. R^2 = 88%

THE MODEL ENABLES THE SELECTION OF SPECIFIC LISTINGS BASED ON FILTERING

3 | OPPORTUNITY IDENTIFICATION

Core logic

- Analysis allowed for a **comparison of actual listing price and predicted value**
- Map shows the **deviation from predicted value**
- Our focus of interest are those **listings that are furthest below the predicted value**, relative to the actual price

Additional observations

- Relatively lowest prices appear to be in the winter months (November - March)
- Prices have been growing year-on-year

below prediction above prediction (size = price)

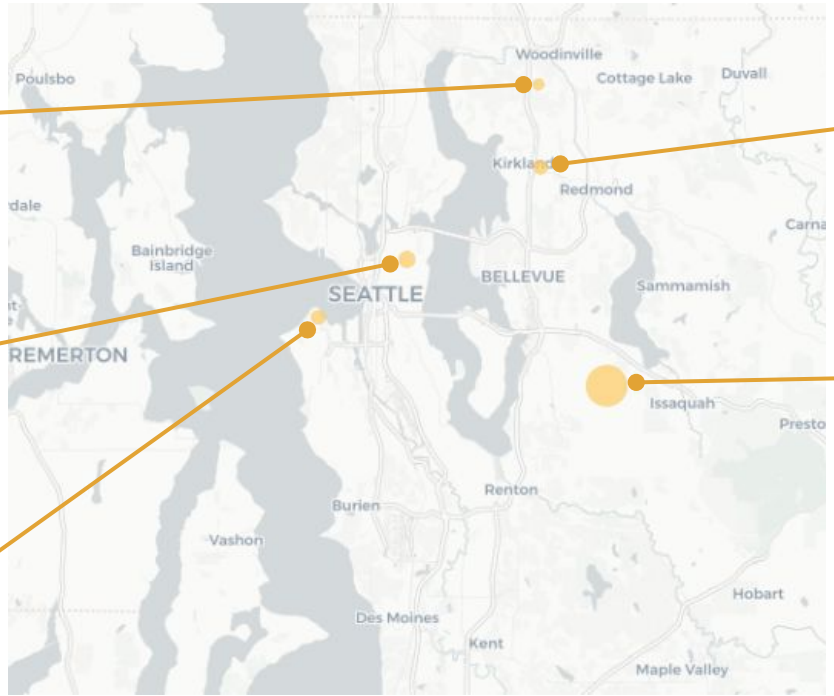
FIVE REAL ESTATE OPPORTUNITIES WERE IDENTIFIED IN MID- TO HIGH-END RANGE

3 | OPPORTUNITY IDENTIFICATION

$90.000 (1974)
2.640 sqft lot
790 sqft living
2 bedrooms
1 bathroom

$169.317 (1908)
4.000 sqft lot
790 sqft living
2 bedrooms
1 bathroom

$130.000 (1909)
7.000 sqft lot
1.200 sqft living
3 bedrooms
1 bathroom



$130.000 (1960)
7.520 sqft lot
1.110 sqft living
3 bedrooms
1 bathroom

$900.000 (2007)
40.806 sqft lot
7.120 sqft living
5 bedrooms
6 bathrooms

below prediction above prediction (size = price)

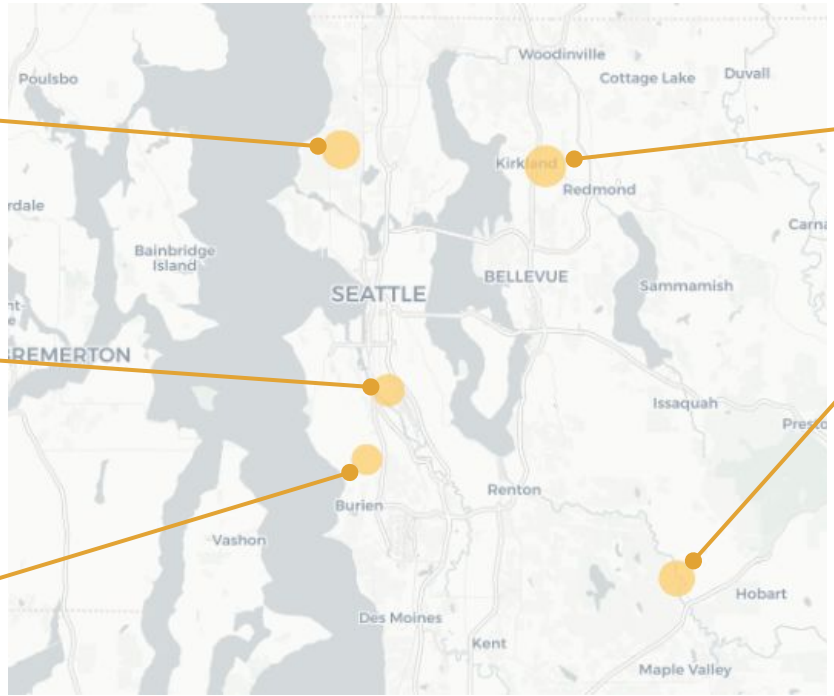
THE LOWER-GRADE FIVE PRESENT BIG POTENTIAL FOR VALUE GROWTH

3 | OPPORTUNITY IDENTIFICATION

$125.000 (1922)
4.800 sqft lot
1.230 sqft living
3 bedrooms
1 bathroom

$90.000 (1910)
4.000 sqft lot
780 sqft living
1 bedrooms
1 bathroom

$82.000 (1960)
10.426 sqft lot
860 sqft living
3 bedrooms
1 bathroom



$145.000 (1970)
8.125 sqft lot
800 sqft living
2 bedrooms
1 bathroom

$110.000 (1951)
53.143 sqft lot
1.250 sqft living
3 bedrooms
1 bathroom

below prediction above prediction (size = price)

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WHERE DO WE GO FROM HERE?

THE MODEL IS REFINED FOR THE FINAL PRESENTATION BASED ON YOUR INPUT

NEXT STEPS

1 | Real Estate Review and Feedback

Evaluation of identified real estate on part of the investor consortium

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Structured feedback and reviewed requirements on part of the investor consortium by end of July

2 | Model Refinement and Opportunity Identification

Refinement of the current model based on your feedback on part of our team

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Identification of ten more opportunities on part of our team for the final presentation

3 | Future Collaboration

Discuss **opportunity of developing a prediction dashboard** which would allow you to:

- Independently enter criteria via a designed user interface
- Estimate the upward potential of the real estate

Checkpoint (TBD, July 2015)

Final presentation (August 22nd, 2015)

THANK YOU!

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APPENDIX

THE INTERIM MODEL EXPLAINS ROUGHLY 88% OF THE VARIANCE IN PRICE

MODEL RESULT SUMMARY

OLS Regression Results

Dep. Variable:	price_log	**R-squared:**	0.880
Model:	OLS	**Adj. R-squared:**	0.879
Method:	Least Squares	**F-statistic:**	1620.
Date:	Wed, 10 Jun 2020	**Prob (F-statistic):**	0.00
Time:	11:06:25	**Log-Likelihood:**	6077.6
No. Observations:	21594	**AIC:**	-1.196e+04
Df Residuals:	21496	**BIC:**	-1.118e+04
Df Model:	97		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
const	11.6719	0.187	62.343	0.000	11.305	12.039
date	0.0063	0.000	18.829	0.000	0.006	0.007
bedrooms	-0.0051	0.002	-2.708	0.007	-0.009	-0.001
bathrooms	0.0451	0.003	15.040	0.000	0.039	0.051
floors	-0.0346	0.004	-9.505	0.000	-0.042	-0.027
waterfront	0.4295	0.019	22.726	0.000	0.392	0.467
sqft_above	0.0002	3.6e-06	60.218	0.000	0.000	0.000
sqft_basement	0.0001	4.09e-06	32.723	0.000	0.000	0.000
sqft_living15	7.839e-05	3.31e-06	23.664	0.000	7.19e-05	8.49e-05
sqft_lot15	6.829e-07	5.26e-08	12.979	0.000	5.8e-07	7.86e-07