

REAL ESTATE

The value of change

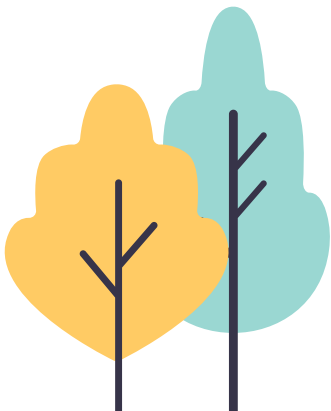
A look at housing features and their related market values.





Sam Samson and Sons

- **Area:** Real estate development
- **Goal:** Become more data driven
- **Question:** Which upgrades yield the highest return?





Topics



01

SUNROOM

Understand the value of adding **non-living space** to an existing property



02

Addition

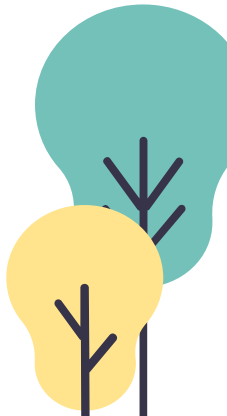
Understand the value of adding living space to the footprint of a property



03

BEDS & BATHS

Understand the value of adding a Bedroom or Bathroom to the **existing footprint** of a property



the DATA and the PROCESS



PROVIDED BY SS&S



SCOPE
King County
home sales from
May 2014 - May 2015
inclusive



PROCESSING
Remove irrelevant and
redundant data,
mathematically modify data
to improve the model



NEW METRICS
Created new metrics
to answer the
questions



MODEL
Created a formula
that can be used to
calculate home value
and answer the
questions

Additions - Living Space

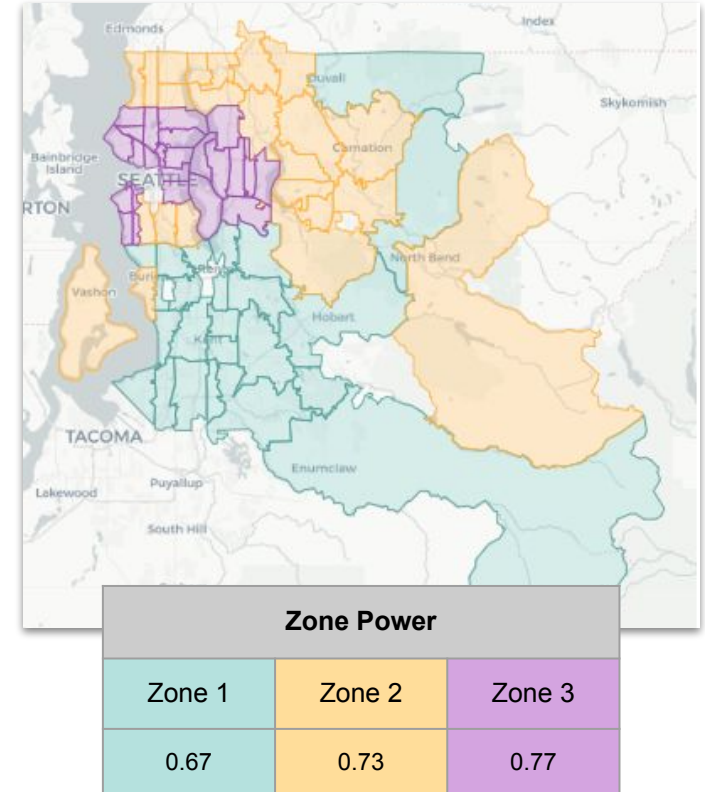
- Living space is space that is enclosed and heated.
- Varies by zone

Example

$$\text{Starting Value} \times \left(\frac{\text{sqft after}}{\text{sqft before}} \right)^{\text{Zone Power}} = \text{New Price}$$

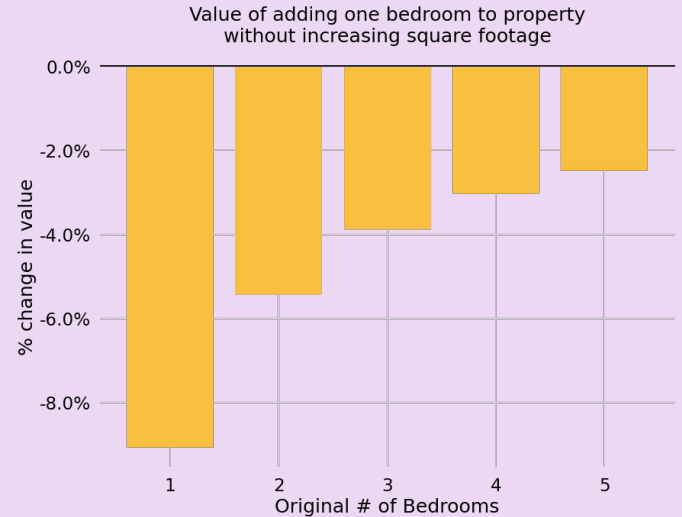
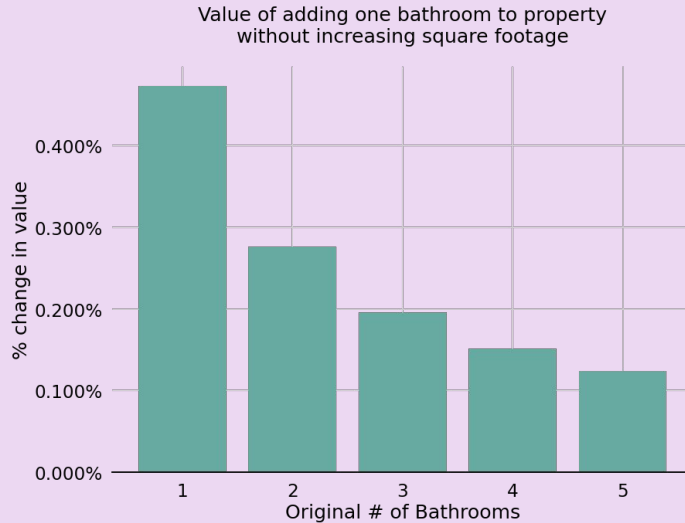
Sample

$$\$ 500,000 \times \left(\frac{2000 \text{ sqft}}{1500 \text{ sqft}} \right)^{0.73} = \$ 616,844$$



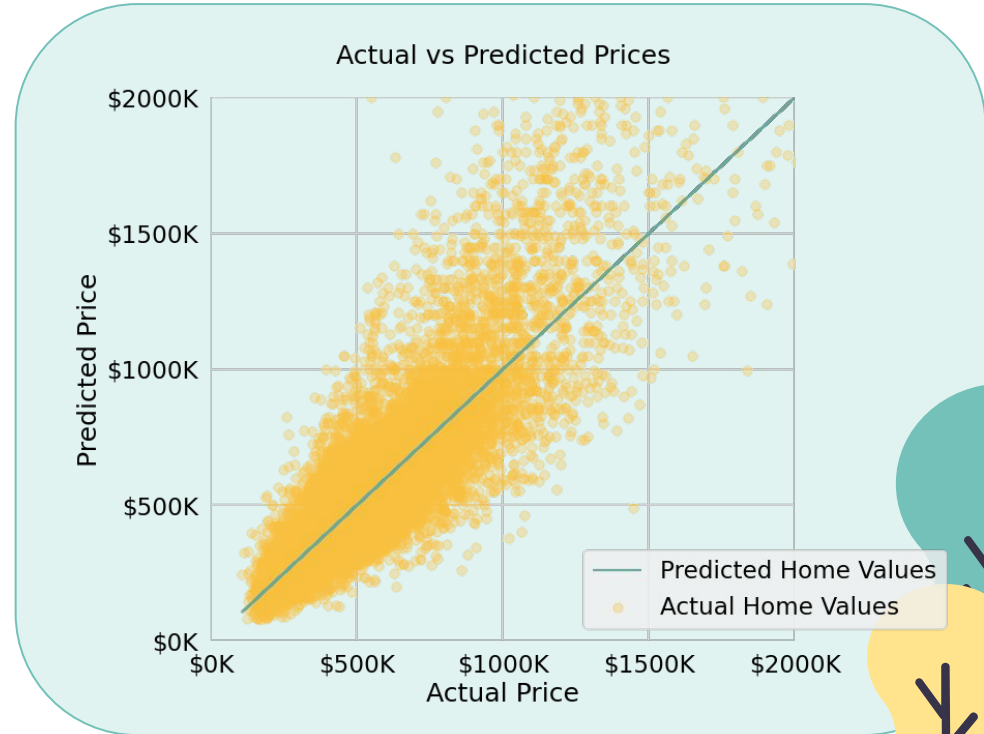
Bedrooms and Bathrooms

- Change in number of bathrooms or bedrooms **without a change in sqft.**
- Change is proportional to the total number of bathrooms or bedrooms



PREDICTIONS

- Predicts within 24% of the home value.
- 7 Characteristics
 1. Bedrooms
 2. Bathrooms
 3. View
 4. Waterfront
 5. Year renovated
 6. Zipcode
 7. Square Footage



Summary of Insights and Recommendations



Addition: Living space

HIGH VALUE - highest increase in value



Addition: Bathroom

MODERATE VALUE - depending on build cost and home



Addition: Bedroom

NO VALUE - changes in home value are likely to be negative



Further Work

Condition

How does a change in the condition rating change home value



Addition type

Determine the value of different sqft expansions.
(Bedroom, Bathroom, Other)



Improve Model

Gather more current data to understand changes over time





Thank You



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