

A grayscale photograph of a beach house overlooking the ocean at sunset. The house has a dark roof and light-colored walls with several windows. A white wooden deck with railings is visible in the foreground, leading down towards the beach. The ocean is calm, and the sky is filled with soft, warm clouds.

Can I Afford A
Beach House??

Rental Income: Goal

- How Much Rental Income Can I Expect to Earn?
 - Amount of rental income to expect
 - Impact of different features of the property
 - How to use the the rental income prediction

Methodology

- Partnering with VRBO
 - Cape May County Rental Data
- Prediction model based on Linear Regression
 - Features:
 - Bedrooms
 - Bathrooms
 - Type of Property
 - Distance to Beach



Model Interpretation

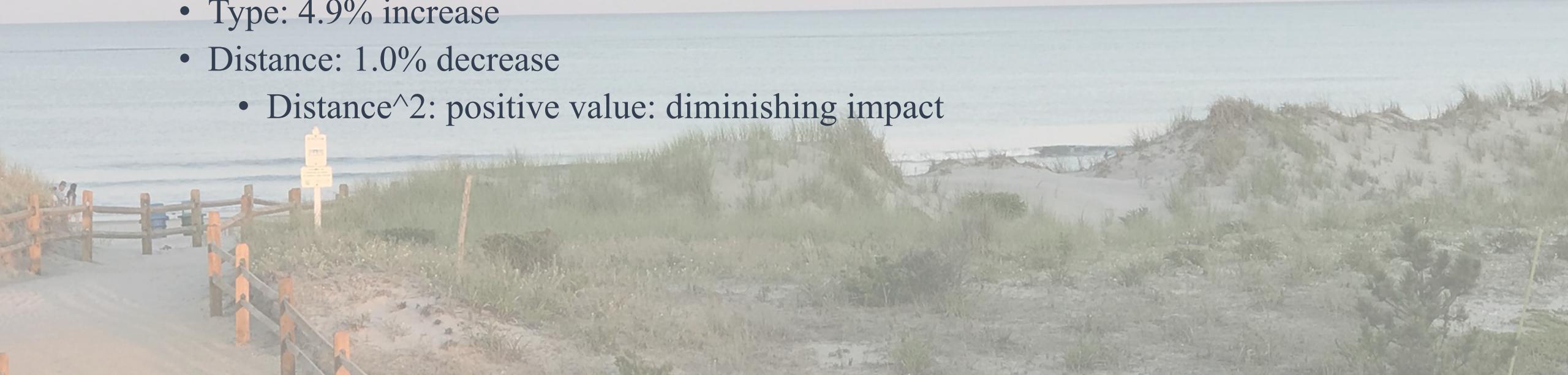
- Model:

$$\log(\text{Price})$$

$$= 4.905 + .179(\text{Bedrooms}) - .010(\text{Distance}) + .116(\text{Bathrooms}) + .048(\text{Type}) + .0001(\text{Distance}^2)$$

- Coefficients:

- Bedrooms: 19.6% increase
- Bathrooms: 12.3% increase
- Type: 4.9% increase
- Distance: 1.0% decrease
 - Distance²: positive value: diminishing impact



Model Predictions

- Model:

$$\log(\text{Price})$$

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- RMSE:

- \$105.14

	Bedrooms	Distance	Bathrooms	Type	Distance ²	Predicted	Actual	Difference
Close Prediction	4	7 min walk	2	Condo	49	\$326.84	\$325	(\$1.84)
Underestimation	3	11 min walk	2.5	House	121	\$294.07	\$350	\$55.93
Overestimation	3	5 min walk	2	Condo	25	\$278.08	\$239	(\$39.08)

Example

- Property Price: \$500,000
- Budget: \$400,000
- Over by how much: \$100, 000
- $Rent \times \# \text{ Nights} = \text{Yearly Rental Income}$
- $\text{Over Budget Amount} = \text{Number Years} \times (\text{Yearly Rental Income} - \text{tax})$

Example

- Property Price: \$500,000
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- $\$330 \times 75\ days = \$24,750$
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- $\$100,000 = N \times \$24,750(1 - .07)$

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$$N = \sim 4.5 \text{ years}$$

Key Takeaways

- Affordability of a beach home
- Know the worth of your property
- Decide between properties
- Property Renovations



A wide-angle photograph of a beach at sunset. The sky is filled with scattered clouds, with the sun low on the horizon, casting a warm glow over the scene. The ocean waves are visible in the background, crashing onto the sandy shore. The overall atmosphere is peaceful and contemplative.

QUESTIONS??