

Question 1 - Case Study

Predicting the selling price of houses in the city of Baycoast



The city of Baycoast is a local government district within greater Melbourne. It is located on the bay (with part of the city stretching several kilometres along the bayside) but also stretches about three kilometres inland. There are three suburbs within the city of Baycoast and there is an eclectic mix of housing: some having bay views, others with no bay views; some in grand streets; some large, others quite small; some contemporary, others much older.

Baycoast City Real Estate Agents (BCREA) is a local real estate agency whose business has grown with the city. The principals are very interested in applying more modern techniques to assist in estimating the selling price of houses within the city. They are aware from their own experience that many factors influence the selling price; bay views, for example, will add considerably to the selling price. Other

factors include: the size of the house, the size of the block and the design of and fittings in the property.

The estate agency commissioned the development of a database containing a large number of influencing factors together with the selling price of each house in the database. The commissioned firm developed the database by collecting a random sample of 120 houses of the total of 2513 within Baycoast that sold within the last year. As a first stage in the study, information was collected only about houses. A later stage might want to examine apartments.

BCREA is aware that a street considered to be more attractive is generally preferred by potential buyers and thereby attracts a higher selling price for houses. Hence, the company's agents are required to assess each street based on its perceived streetscape appeal, ranging from 0 (lowest appeal) to 10 (highest appeal). They would like to model the relationship between the street rating and the selling price to determine the extent to which it is a useful factor in determining price.

	A	B	C	D	E	F	G
1	SUMMARY OUTPUT						
2							
3	<i>Regression Statistics</i>						
4	Multiple R	0.72257					
5	R Square	0.522107					
6	Adjusted R Square	0.518058					
7	Standard Error	225.5847					
8	Observations	120					
9							
10							
11	ANOVA						
12		<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
13	Regression	1	6560411	6560411	128.9174	1.21E-20	
14	Residual	118	6004839	50888.46			
15	Total	119	12565249				
16							
17							
18		<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
19	Intercept	183.2621	65.27645	2.807477	0.005844	53.99701	312.5273
20	Street	122.3153	10.77271	11.35418	1.21E-20	100.9824	143.6482
21							
22							