

BUSI 344 – PROJECT 2

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Introduction

This Report shows how a model is created that has the capability to value all detached single-family residential properties in Midsize City. The valuation date of the model is December 31st of this year.

Step 0: Preliminary Data Screening

Missing column in Variable View shows no missing value.

No table of possible codes shown in Values column.

Repeated sales are checked using the following steps:

Data → Identify Duplicate Cases

PID in the Define matching cases by box

Sale Month in the Sort within matching groups by box, select Sort Ascending

In the Variables to Create area, click Indicator of primary cases, and click “Last case in each group is primary” (a new variable will be created called PrimaryLast)

Ensure Move matching cases to the top of the file is selected

Ensure Display frequencies for created variables is not selected

OK

The top of the Data View shows the first 18 records are 9 sets of duplicates. In the Primary Last variable, 1 is for the most recent sale and 0 is for the older sale. The goal is to delete the older sale as the most recent sales are usually better predictor of current prices.

The following steps are conducted:

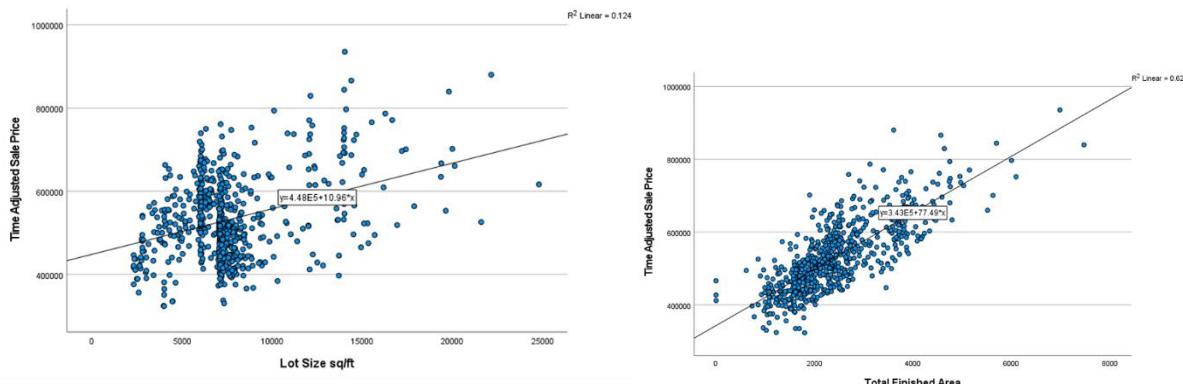
Data → Select Cases → If condition is satisfied → If ...

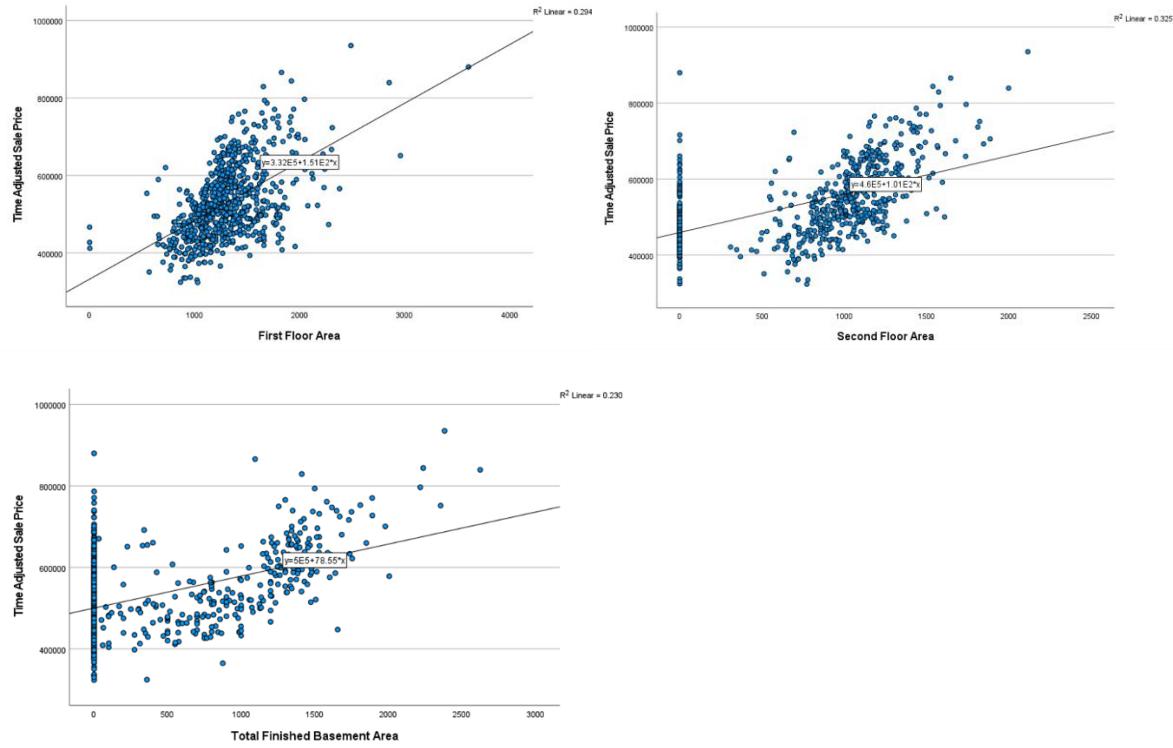
In the condition box enter: PrimaryLast = 1 → Continue

Click Delete unselected cases → OK

There are now 697 records. The PrimaryLast variable is deleted as it is no longer needed.

The database is now ready to be checked for outliers. Land and building variables commonly correlated with Time Adjusted Sale Price are ran in a scatterplot. Of course, Time Adjusted Sale Price is preferred over Sale Price as it is adjusted for time.





No issues with the Lot Size graph. The Total Finished Area, First Floor Area, Second Floor Area graphs all contain sales with 0 values. Further analysis in the Data View shows the following outliers: PID - 881-197-026 has a Total Finished Area of 1 sq. ft, First Floor Area of 1 sq. ft, Second Floor Area of 0 sq. ft, and Total Finished Basement Area of 0 sq. ft.

PID - 933-196-929 has a Total Finished Area of 1 sq. ft, First Floor Area of 1 sq. ft, Second Floor Area of 0 sq. ft, and Total Finished Basement Area of 0 sq. ft.

PID - 595-196-570 has a Total Finished Area of 3 sq. ft, First Floor Area of 3 sq. ft, Second Floor Area of 0 sq. ft, and Total Finished Basement Area of 0 sq. ft.

These three sales are deleted from the database. The current total is 694 sales. Outliers are then manually looked for in each column by sorting each column by ascending. I did not find any outliers or missing values.

Step 1: Specifying the Model

We will develop and test an additive model to estimate the value of single family detached residential property for Midsize City based on the variables given in the database.

The additive general model that is often applied to residential property is:

$$MV = LV + BV$$

where:

MV = estimated market value (or selling price);

LV = land value; and

BV = building value.

Land value is determined by a number of items including land size and location characteristics, such as view and neighbourhood. Building value is determined by items related to the physical dwelling on the property such as square footage of living area, number of bedrooms, number of bathrooms, and quality of construction.

Given the list of variables available in our database we can be somewhat more specific and produce a general model for the building value (and hence market value):

$$MV = b_0 + \sum (b_i \times \text{STRUCTURE_VARIABLE}_i) + \sum (b_j \times \text{LAND VARIABLE}_j)$$

where:

MV = estimated selling price (or market value) of the property;

b_0 = constant;

b_i, b_j = coefficients of the independent variables;

STRUCTURE_VARIABLE_i = any variable associated with the building or buildings on the land; and,

LAND VARIABLE_j = any variable associated with the land or location of the property.

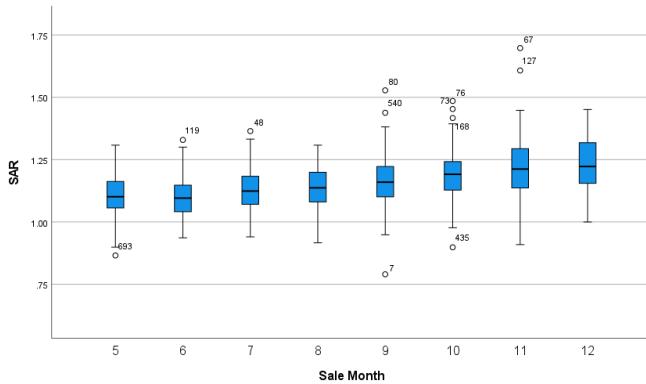
Step 2: Review Variables

FACTOR	VARIABLES
Structure	Age, Effective_Age, Foundation, FinishedArea, First_Floor, Second_Floor, BasementTotalArea, BasementFinishedArea, Stories, DeckCoveredArea, DeckUncoveredArea, FullBath, ThreeQtrBath, HalfBath, Bedrooms, Fireplcs, MultiCarGarage, SingleCarGarage, CarPort, Pool, OutBuildings, ManualClass, Linearized Manual Class
Land	LotSizeSqft, CornerLot, OutstandingView, ExcellentView, GoodView, Nbhd, Neigh,
Information	PID, Actual Use, ActualUseTypeDesc, SaleMonth, SaleDay, SalePrice, Adj_Price, AssessedLand, AssessedImprov, AssessedTotal, Random

Step 3: Examine Relationship of Variables with Dependent Variable

Time Adjustment

The SAR (Sales Price Assessed Total Ratio) is plotted against Sale Month in a box plot to see if a time adjustment is needed.



The earlier months do differ from the later months. It seems like a time adjustment is needed.

A Kruskal-Wallis Test is conducted for a more precise answer.

Ranks			Test Statistics^{a,b}		
	Sale Month	N	Mean Rank	SAR	
SAR	5	73	239.71	Kruskal-Wallis H	110.938
	6	58	225.02	df	7
	7	84	287.25	Asymp. Sig.	.000
	8	99	308.61	a. Kruskal Wallis Test	
	9	115	349.34	b. Grouping Variable: Sale	
	10	111	409.59	Month	
	11	115	448.42		
	12	39	480.18		
Total		694			

There are 694 sales. The mean rank is expected to be 347. The maximum is 225.02. The minimum is 480.18. The Asymp. Sig. is less than 0.05. There is 95% confidence that a time adjustment is needed.

Relationship of Variables with Adjusted Sale Price

A case summaries of the land and building variables commonly correlated with Adjusted Sale Price is shown below.

	Case Summaries					
	Mean	Median	Maximum	Minimum	Range	Std. Deviation
Lot Size sq/ft	7585.36	7128.00	24803	2311	22492	3072.702
Total Finished Area	2441.43	2264.00	7477	616	6861	967.402
First Floor Area	1322.27	1291.50	3609	546	3063	332.160
Second Floor Area	715.17	898.50	2115	0	2115	539.946
Total Basement Area	744.31	874.00	2625	0	2625	669.226
Total Finished Basement Area	403.99	.00	2625	0	2625	584.665
Time Adjusted Sale Price	531913.78	516204.00	935504	323578	611926	95692.629

The range for these values is large. Outliers may exist. Again, the Second Floor Area, Total Basement Area, and Total Finished Basement Area has a minimum of 0. These sales have to be filtered when plotting scatterplots to predict more precisely.

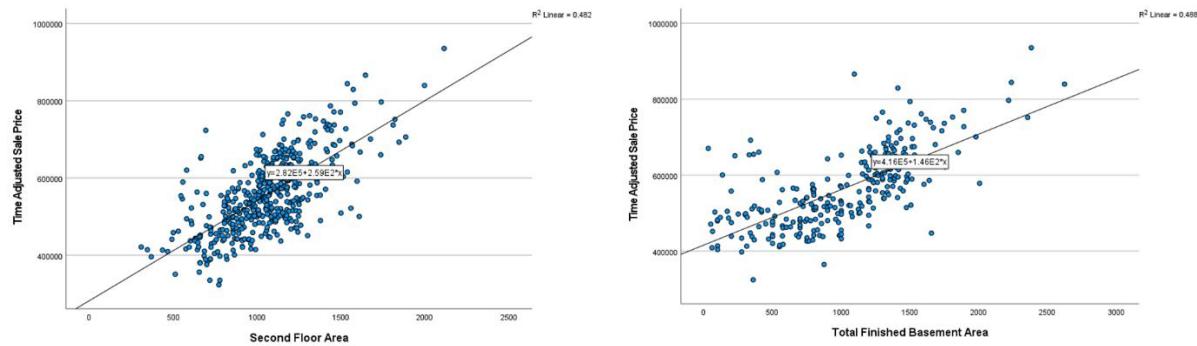
Frequencies of the other variables are analyzed. See Appendix A for these charts.

There are a few variables of concern. Only 21 sales have outbuildings. Only 20 sales have outstanding view lot. Only 27 sales has a good view lot. It is preferred to have 37 cases (5% of the total number of sales) for each variable. These variables are kept in our analysis during this early stage. They will

likely be filter out later. Finished Basement Type cannot be used in its current form and would have to be transformed.

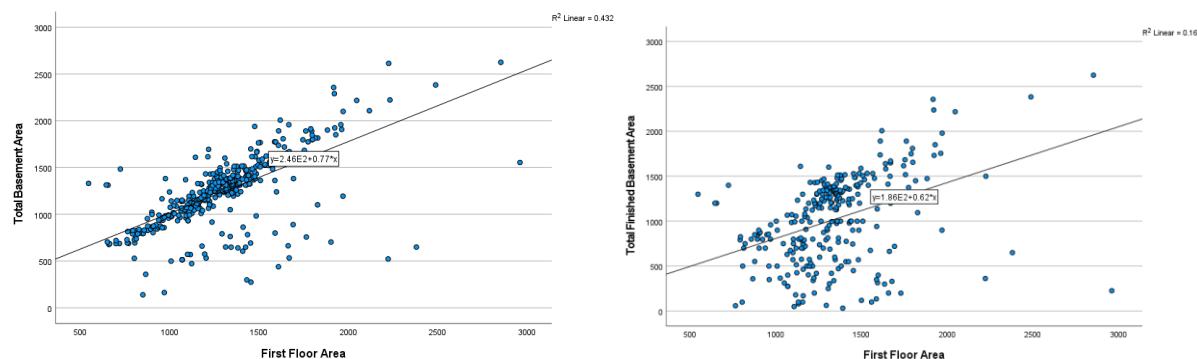
Step 3c: Graphical Analysis

To get a clearer picture of the relationship between Adjusted Sales Price with Second Floor Area and Total Basement Finished Area scatterplots will be reproduced after filtering out the records with a 0 value.



The Second Floor Area's R^2 improves to 0.482 from 0.325. The Total Finished Basement Area's R^2 improves to 0.488 from 0.325.

Up to this point we have ignored the Total Basement Area variable, focusing instead on the Total Finished Basement Finish Variable. The Total Basement Area is highly correlated with the First Floor Area - in many cases (one storey homes with a full basement, for example) they will be equal. The following scatterplots illustrates this. This highlights that basement finish area is a better variable to consider in a model as it represents how much extra living space there is in the basement of the home.



Now we will use boxplots to examine many of the variables discussed in the previous section. We have already established good relationships between sale price and the continuous variables that represent the land size and building size. Our boxplots will provide a visual representation of the relationship between our many discrete variables and sale price. Where there is little variation

between the different values of a discrete variable in its relationship with sale price, it is likely that the variable would not be a good choice for inclusion in the regression model. Thus, we are looking for some separation in the boxes of the boxplots. See Appendix B to view these Box Charts.

The following variables vary with changes in Adjusted Sale Price:

Number of Bedrooms, Number of Full Bathrooms, Number of Fireplaces, Number of Multi-car garages, Number of Single Car Garages, Number of Carports, Pool(Y/N), Outbuildings(Y/N), Outstanding View Lot (Y/N), Excellent View Lot (Y/N), and Neighbourhood Code.

It is interesting that the Adjusted Sale Price decrease when the Number of Single Car Garages increase, Number of Carports increase, and when it does have an outbuilding.

Step 3(d): Correlation Analysis

A number of potential variables has been determined for the additive regression model. Correlation analysis will be conducted to determine if any variables of interest are correlated with each other.

Correlations																
Time Adjusted Sale Price	Lot Size sqft	Effective Age	Total Finished Area	First Floor Area	Second Floor Area	Total Finished Basement Area	Number of Stories	Covered Deck Area	Uncovered Deck Area	Number of Full Bathrooms	Number of Bedrooms	Number of Fireplaces	Number of Multi-car Garages	Number of Single Car Garages	Number of Carports	
1	.357**	-.491**	.794**	.544**	.568**	.480**	.383**	.278**	.320**	.587**	.561**	.518**	.461**	-.186**	-.211**	
Lot Size sqft	1	.358**	.158**	.470**	-.033	.025	-.221**	-.027	.141**	-.140**	-.024	.023	.028	.086*	.090*	
Effective Age	-.491**	1	-.550**	-.147**	-.600**	-.273**	-.621**	-.211**	-.089*	-.602**	-.425**	-.454**	-.557**	.298**	.399**	
Total Finished Area	.794**	.158**	1	.503**	.681**	.741**	.495**	.283**	.337**	.727**	.704**	.484**	.426**	-.191**	-.204**	
First Floor Area	.544**	.470**	-.147**	1	.106**	.166**	-.140**	.115**	.171**	.223**	.303**	.251**	.392**	-.094*	.097*	
Second Floor Area	.568**	-.033	-.600**	.681**	.106**	1	.142**	.931**	.154**	.051	.510**	.454**	.516**	.422**	-.261**	-.288**
Total Finished Basement Area	.480**	.025	-.273**	.741**	.166**	.142**	1	.039	.262**	.413**	.605**	.574**	.182**	.092*	-.022	.017
Number of Stories	.383**	-.221**	-.621**	.495**	-.140**	.931**	1	.116**	-.040	.425**	.332**	.446**	.364**	-.260**	-.293**	
Covered Deck Area	.278**	-.027	-.211**	.283**	.115**	.154**	.262**	1	.480**	.282**	.288**	.135**	.135**	-.091*	.041	
Uncovered Deck Area	.320**	.141**	-.089*	.337**	.171**	.051	.413**	-.040	.480**	1	.274**	.325**	.098**	.034	.031	.096*
Number of Full Bathrooms	.587**	-.140**	-.602**	.727**	.223**	.510**	.605**	.425**	.282**	.274**	1	.655**	.367**	.276**	-.142**	-.196**
Number of Bedrooms	.561**	-.024	-.425**	.704**	.303**	.454**	.574**	.332**	.288**	.325**	.655**	1	.315**	.273**	-.111**	-.133**
Number of Fireplaces	.518**	.023	-.454**	.484**	.251**	.516**	.182**	.446**	.135**	.098**	.367**	.315**	1	.398**	-.183**	-.207**
Number of Multi-car Garages	.461**	.028	-.557**	.426**	.392**	.422**	.092*	.364**	.135**	.034	.276**	.273**	.398**	1	-.559**	-.437**
Number of Single Car Garages	-.186**	.086*	.298**	-.191**	-.094*	-.261**	-.022	-.260**	-.091*	.031	-.142**	-.111**	-.183**	-.559**	1	.121**
Number of Carports	-.211**	.090*	.399**	-.204**	-.097*	-.286**	-.017	-.293**	-.041	.096*	-.196**	-.133**	-.207**	-.437**	.121**	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The following are variables with high correlation with each other which are near the cut-off point of ± 0.8 :

Total Finished Area and Total Finished Basement Area is 0.741.

Total Finished Area and Number of Full Bathrooms is 0.727.

Total Finished Area and Number of Bedrooms is 0.704.

Number of Full Bathrooms and Total Finished Area is 0.727.

The Number of Stories and Second Floor Area is 0.931. Therefore, The Number of Stories will not be used in our model. Second Floor Area is kept as it would likely be a better predictor.

Step 4: Transformations

A binary variable for 5 neighbourhoods is created, keeping neighbourhood '015', 'Lillian Lake' as a reference neighbourhood (from the boxplots it appears to be one of the "middle-of-the-road" neighbourhoods).

The following syntax is used to create this binary variable.

```

1 COMPUTE AlexandraHeights = 0.
2 COMPUTE CairnWood = 0.
3 COMPUTE WestHill = 0.
4 COMPUTE SouthCove = 0.
5 COMPUTE MountView = 0.
6 IF (Nbhd = '005') AlexandraHeights = 1.
7 IF (Nbhd = '014') CairnWood = 1.
8 IF (Nbhd = '036') WestHill = 1.
9 IF (Nbhd = '046') SouthCove = 1.
10 IF (Nbhd = '072') MountView = 1.
11 EXECUTE

```

Pool, Outbuildings, Outstanding View, and Excellent View has to be transformed from string to numeric. The following shows the syntax.

**RECODE Pool ('y'=1) ('n'=0) INTO PoolNum.
EXECUTE.**

**RECODE OutBuildings ('y'=1) ('n'=0) INTO OutBuildingsNum.
EXECUTE.**

**RECODE OutstandingView ('Y'=1) ('N'=0) INTO OutstandingViewNum.
EXECUTE.**

**RECODE ExcellentView ('Y'=1) ('N'=0) INTO ExcellentViewNum
EXECUTE.**

Good View did not show variation. It is kept as a reference.

The multiplicative factor Lin_mancls by applied to all of the variables related to buildings.

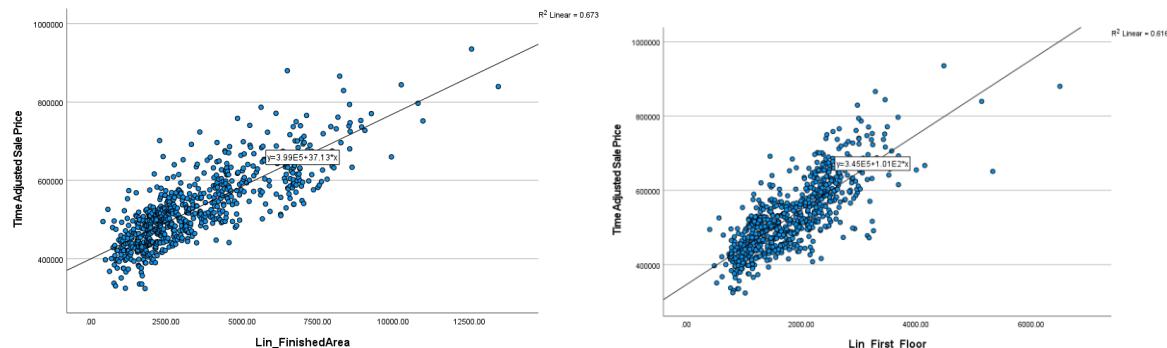
```

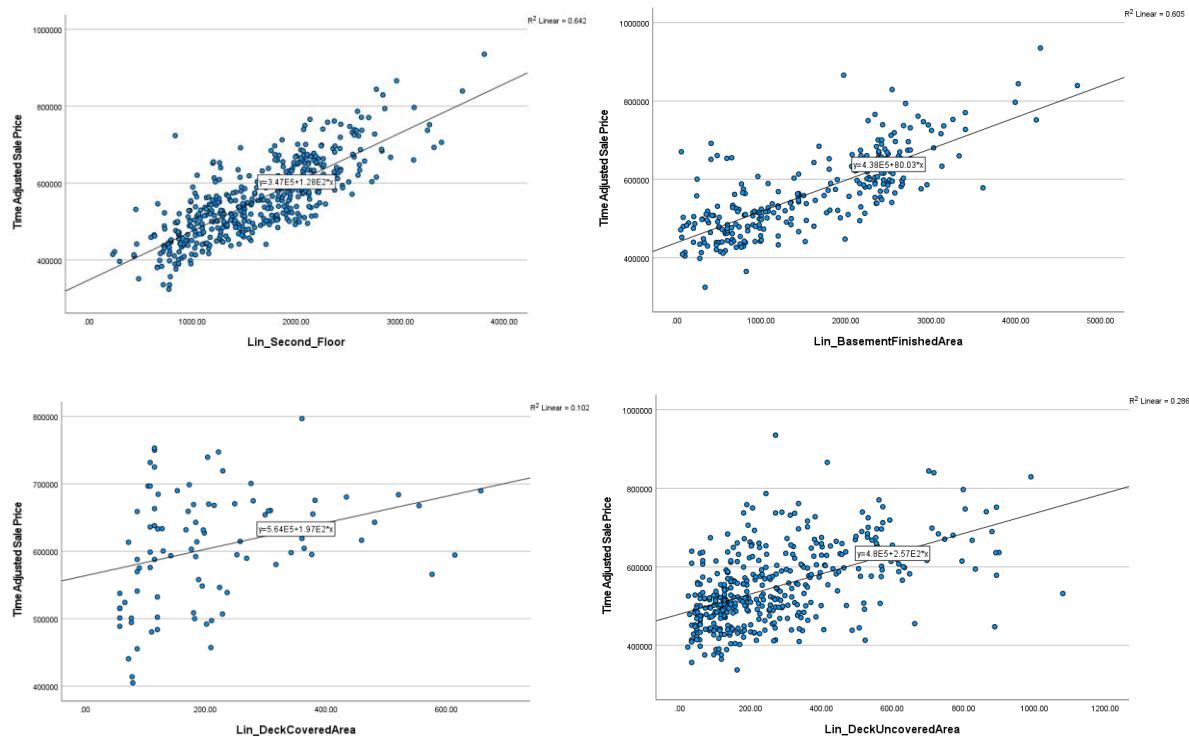
26 COMPUTE Lin_FinishedArea = Lin_mancls * FinishedArea.
27 COMPUTE Lin_First_Floor = Lin_mancls * First_Floor.
28 COMPUTE Lin_Second_Floor = Lin_mancls * Second_Floor.
29 COMPUTE Lin_BasementFinishedArea = Lin_mancls * BasementFinishedArea.
30 COMPUTE Lin_DeckCoveredArea = Lin_mancls * DeckCoveredArea.
31 COMPUTE Lin_DeckUncoveredArea = Lin_mancls * DeckUncoveredArea.
32
33 EXECUTE.

```

Step 5: Re-examine your new variables

The new linearized variables are checked against Adjusted Sale Price, to verify the strength of the relationship.





The Linearized variables show a higher R^2 than they did before they were Linearized.

Next, a new correlation matrix is created to examine the nonlinearized building area values with their linearized counterparts and adding all the new variables. See Appendix C to view this correlation matrix.

The following are variables with high correlation with each other which are over the cut-off point of ± 0.8 :

Lin_FinishedArea and Lin_First_Floor is 0.807.

Lin_FinishedArea and Lin_Second_Floor is 0.820.

The following are variables with high correlation with each other which are near the cut-off point of ± 0.8 :

Lin_FinishedArea and Number of Full Bathrooms is 0.773.

Lin_FinishedArea and Lin_BasementFinishedArea is 0.771.

The variables over and near 0.8 should not be in a model together as there would be multicollinearity.

Step 6: Variable Selection

Reviewing and Testing Variables: Enter Regression

The following 17 variables are common in each of the combinations.

Time Adjusted Sale Price
 Lot Size sq/ft
 Effective Age
 Number of Bedrooms
 Number of Fireplaces
 Number of Multi-car Garages
 Number of Single Car Garages
 Number of Carports
 AlexandraHeights
 CairnWood
 WestHill
 SouthCove
 MountView
 Lin_DeckCoveredArea
 Lin_DeckUncoveredArea
 PoolNum
 OutBuildingsNum
 OutstandingViewNum
 ExcellentViewNum

Below are the variables that will differentiate our 2 combinations.

Model 1:

Lin_FinishedArea

Model 2:

Number of Full Bathrooms
 Lin_First_Floor
 Lin_Second_Floor
 Lin_BasementFinishedArea

Model 1

The regression for Model 1 is ran twice. See Appendix D for the first run regression output. In the first run, Lin_FinishedArea and Effective Age both have VIFs over 3.33. Lin_FinishedArea has the

higher VIF but it is an important variable so effective age is removed. The second running has no multicollinearity issues. The following are the regression outputs.

Model Summary								
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					R Square Change	F Change	df1	df2
1	.910 ^a	.828	.823	40221.510	.828	180.422	18	675

a. Predictors: (Constant), Lin_FinishedArea, MountView, Lot Size sqft, PoolNum, OutBuildingsNum, ExcellentViewNum, Number of Single Car Garages, AlexandraHeights, OutstandingViewNum, Number of Carports, Lin_DeckCoveredArea, CairnWood, Number of Fireplaces, WestHill, Lin_DeckUncoveredArea, Number of Bedrooms, Number of Multi-car Garages, SouthCove

ANOVA ^a					
Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.254E+12	18	2.919E+11	180.422
	Residual	1.092E+12	675	1617769891	
	Total	6.346E+12	693		

a. Dependent Variable: Time Adjusted Sale Price

b. Predictors: (Constant), Lin_FinishedArea, MountView, Lot Size sqft, PoolNum, OutBuildingsNum, ExcellentViewNum, Number of Single Car Garages, AlexandraHeights, OutstandingViewNum, Number of Carports, Lin_DeckCoveredArea, CairnWood, Number of Fireplaces, WestHill, Lin_DeckUncoveredArea, Number of Bedrooms, Number of Multi-car Garages, SouthCove

Coefficients ^a						
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics
	B	Std. Error	Beta			
1	(Constant)	315587.854	9123.136	34.592	.000	
	Lot Size sqft	8.467	.529	.272	16.012	.000
	Number of Bedrooms	4104.453	1841.336	.050	2.229	.026
	Number of Fireplaces	15659.244	2445.277	.123	6.404	.000
	Number of Multi-car Garages	23626.127	5560.537	.101	4.249	.000
	Number of Single Car Garages	6009.553	6661.926	.018	.902	.367
	Number of Carports	-5315.770	7621.024	-.013	-.698	.486
	AlexandraHeights	18697.699	7239.671	.052	2.583	.010
	CairnWood	4904.290	6139.873	.018	.799	.425
	WestHill	-22439.954	5795.559	-.090	-3.872	.000
	SouthCove	21928.201	5795.174	.099	3.784	.000
	MountView	-7473.469	5460.403	-.033	-1.369	.172
	Lin_DeckCoveredArea	24.939	22.370	.022	1.115	.265
	Lin_DeckUncoveredArea	19.146	10.164	.041	1.884	.060
	PoolNum	4275.901	6808.970	.010	.628	.530
	OutBuildingsNum	-8099.220	9288.804	-.015	-.872	.384
	OutstandingViewNum	54081.857	9666.156	.095	5.595	.000
	ExcellentViewNum	15031.876	6891.221	.036	2.181	.030
	Lin_FinishedArea	24.058	1.271	.532	18.931	.000

a. Dependent Variable: Time Adjusted Sale Price

The coefficient signs are as predicted. All positive except for Number of Carports, WestHill, MountView, and OutBuildingNum. WestHill and MountView are negative as they are less desirable than the reference. Number of Carports and Outbuildings are negative as shown in the box plots.

There are t-statistics that are less than ± 1.64 . T-statistic is a measure of the significance or importance of a regression variable in explaining differences in the dependent variable. We are less than 90% confident that the following variables explain variation in the dependent variable: Number of Single Car Garages., Number of Carports, CairnWood, Mount View., Lin_DeckCoveredArea, PoolNum, and OutBuildingsNum.

Adjusted R square is high at 0.823. F is over 4 at 180.422. F-statistic shows the overall quality of the regression. This F means we can trust this model to accurately estimate Adjusted Sales Price.

Significance for F is less than 0.05 at 0 meaning there is 0% probability that the results are by chance. The COV is (40221.510302 / 531913.78) 7.56%. Less than 10% indicate a very good result. Overall, Model 1 should accurately predict sale prices. It can be improved if variables with low t-statistic are removed.

Model 2

Model 2 is only run once. The following are the regression outputs.

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.915 ^a	.838	.832	39167.265	.838	157.527	22	671	.000

a. Predictors: (Constant), Effective Age, MountView, OutstandingViewNum, PoolNum, ExcellentViewNum, AlexandraHeights, Lin_DeckCoveredArea, OutBuildingsNum, Number of Single Car Garages, CairnWood, Number of Carports, Lot Size sqft, Lin_BasementFinishedArea, Number of Fireplaces, WestHill, Number of Bedrooms, Lin_DeckUncoveredArea, Lin_First_Floor, Lin_Second_Floor, Number of Multi-car Garages, SouthCove, Number of Full Bathrooms

ANOVA ^a					
Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.316E+12	22	2.417E+11	157.527
	Residual	1.029E+12	671	1534074677	
	Total	6.346E+12	693		

a. Dependent Variable: Time Adjusted Sale Price
b. Predictors: (Constant), Effective Age, MountView, OutstandingViewNum, PoolNum, ExcellentViewNum, AlexandraHeights, Lin_DeckCoveredArea, OutBuildingsNum, Number of Single Car Garages, CairnWood, Number of Carports, Lot Size sqft, Lin_BasementFinishedArea, Number of Fireplaces, WestHill, Number of Bedrooms, Lin_DeckUncoveredArea, Lin_First_Floor, Lin_Second_Floor, Number of Multi-car Garages, SouthCove, Number of Full Bathrooms

Coefficients ^a							
Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	VIF
	B	Std. Error					
1	(Constant)	318523.226	10476.762	30.403	.000		
	Lot Size sqft	8.658	.665	.278	13.026	.000	.531 1.884
	Number of Bedrooms	4799.518	1857.860	.059	2.583	.010	.465 2.149
	Number of Fireplaces	13864.762	2445.458	.109	5.670	.000	.658 1.521
	Number of Multi-car Garages	10634.501	5954.018	.045	1.786	.075	.375 2.669
	Number of Single Car Garages	2221.466	6553.521	.007	.339	.735	.633 1.581
	Number of Carports	-2949.000	7562.885	-.007	-.390	.697	.729 1.372
	AlexandraHeights	18364.335	7060.204	.051	2.601	.009	.618 1.618
	CairnWood	2442.273	6002.004	.009	.407	.684	.510 1.959
	WestHill	-23533.692	5662.283	-.095	-4.156	.000	.464 2.155
	SouthCove	18487.020	5689.503	.084	3.249	.001	.364 2.751
	MountView	-9762.437	5339.858	-.043	-1.828	.068	.437 2.288
	Lin_DeckCoveredArea	22.452	21.814	.020	1.029	.304	.631 1.584
	Lin_DeckUncoveredArea	22.370	10.075	.048	2.220	.027	.517 1.936
	PoolNum	4272.615	6640.693	.010	.643	.520	.945 1.058
	OutBuildingsNum	-3037.325	9225.402	-.005	-.329	.742	.885 1.130
	OutstandingViewNum	52837.189	9434.432	.092	5.600	.000	.887 1.127
	ExcellentViewNum	14368.011	6721.248	.035	2.138	.033	.923 1.084
	Number of Full Bathrooms	2214.680	2269.393	.027	.976	.329	.315 3.176
	Lin_First_Floor	36.298	3.293	.282	11.021	.000	.370 2.704
	Lin_Second_Floor	18.905	2.661	.181	7.105	.000	.374 2.677
	Lin_BasementFinishedArea	14.921	2.260	.155	6.601	.000	.440 2.270
	Effective Age	-516.375	234.198	-.066	-2.205	.028	.271 3.687

a. Dependent Variable: Time Adjusted Sale Price

All VIF values are under 3.33 which means there is no multicollinearity. The coefficient signs are as predicted. Everything is positive except Number of Carports, WestHill, MountView, OutBuildingNum, and EffectiveAge. WestHill and MountView are negative as they are less desirable

than the reference. Number of Carports and Outbuildings are negative as shown in the box plots. EffectiveAge normally is negatively correlated with Adjusted Sale Price.

There are t-statistics that are less than ± 1.64 for the following: Number of single car garages. Number of Carpots, CairnWood, Lin_DeckCoveredArea, PoolNum, OutBuildingsNum, and Number of Full Bathrooms.

Mount View has a t-statistic significant over 0.1 which means we are less than 90% confident that the variable coefficient is significantly different from 0.

Adjusted R square is a respectable 0.832. F is over 4 at 157.527. This F means we can trust it to accurately estimate the Time Adjusted Sales Price. Significance for F is less than 0.05 at 0 meaning the computer is telling us there is 0% probability that the results are by chance. The COV is $(39167.27 / 531913.78) 7.36\%$. Less than 10% indicate a very good result.

Overall, Model 2 is a reliable predictor of sale prices. It would be better if variables with low t-statistic are removed.

Since Model 2 has a higher Adjusted R^2 , less SEE and lower COV than Model 1, it will be used for testing.

Separating MODEL And TEST Databases

Mass appraisal models should be fully tested before they are used in real application. The performance of a model can be tested by comparing the estimates produced by the model to actual sales observations. However, if the sales used to calibrate the model are also used in testing the model, then the results can appear better than they really are. This is because a few properties with specific characteristics may skew the results as they would be "chasing the sales". A better practice in mass appraisal model building is to withhold a portion of the sales database when calibrating the model and then test the model against this group of sales. Because the model will eventually be applied to properties outside of the database, this testing method ensures that generalizing the results outside of the sample database will produce accurate results.

The model should only be tested in this manner if there are sufficient sales remaining to calibrate the model. Most model builders prefer to have a database with at least five times as many sales as there are variables in the original database. The Midsize City database contains 42 original variables, so the desired minimum number of sales for calibration is 210.

For testing a model, it is desirable to have at least 100 sales to allow some stratification in the testing process (stratification refers to separation into subgroups, i.e. by neighbourhood). Since the Midsize City database contains 694 sales, the desirable levels can be attained for both the MODEL and TEST

databases. Given 694 sales in the entire database, two-thirds or 463 sales will be used to create the model and 231 sales will be reserved for testing the model.

We will now look at the variable named Random. This is a random number between 0 and 1000. We will use the Random variable to create two subsets of the database. The 463 sales with the lowest values for RANDOM would become "MidsizeModel", used to calibrate the model; the 231 sales with the highest values for RANDOM will become "MidsizeTest", the database we will use for testing the model.

Go to the Data View window, locate the Random, and scroll down to rows 463 and 464.

The value of the random number at row #463 in the spreadsheet display is 636.08 and #464 is 638.22. We will use these numbers to split the database randomly. If you click on the #463 Random cell the value displayed in the variable information box at the top of the spreadsheet is 636.0767083242536. Because the spreadsheet display is rounded, we will use a value between those displayed for these two rows to split the file (i.e., 636.08).

Now, set a filter to select value of Random < 636.08 and specify that unselected cases should be deleted.

Data → Select Cases → If Condition is Satisfied If...

Random < 636.08

Continue Delete unselected cases

OK (deletes cases not meeting the selection criterion).

Click Save As and name the resulting file MidsizeModel.sav.

To create the TEST database, proceed as follows:

- File → Open Data Midsize694.sav (re-opens the Midsize database with all 694 cases).

Data → Select Cases → If Condition is Satisfied If..

Random > 636.08

Continue → Delete unselected cases

OK.

Click File-Save As and name the file MidsizeTest.sav. This saves the test file for future use.

At this point there are three data files:

1. Midsize694.sav with 694 cases;
2. MidsizeModel.sav with 463 cases; and
3. MidsizeTest.sav with 231 cases.

Stepwise Regression

See Appendix E for full regression output. The following output only relates to the final models.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.785 ^a	.616	.615	59369.125	.616	1108.400	1	692	.000
2	.822 ^b	.675	.674	54598.592	.060	127.209	1	691	.000
3	.855 ^c	.731	.729	49781.743	.055	141.191	1	690	.000
4	.883 ^d	.780	.779	45020.329	.049	154.669	1	689	.000
5	.891 ^e	.793	.792	43669.247	.013	44.293	1	688	.000
6	.897 ^f	.805	.804	42391.521	.012	43.099	1	687	.000
7	.902 ^g	.814	.812	41510.593	.008	30.468	1	686	.000
8	.906 ^h	.821	.819	40762.447	.007	26.413	1	685	.000
9	.908 ⁱ	.825	.823	40270.931	.005	17.823	1	684	.000
10	.910 ^j	.829	.826	39906.484	.003	13.550	1	683	.000
11	.912 ^k	.831	.829	39604.782	.003	11.446	1	682	.001
12	.913 ^l	.834	.831	39383.357	.002	8.690	1	681	.003
13	.914 ^m	.835	.832	39251.031	.001	5.599	1	680	.018
14	.914 ⁿ	.836	.833	39147.359	.001	4.606	1	679	.032
15	.915 ^o	.837	.833	39059.458	.001	4.060	1	678	.044

- a. Predictors: (Constant), Lin_First_Floor
- b. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor
- c. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft
- d. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea
- e. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove
- f. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces
- g. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill
- h. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum
- i. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights
- j. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights, Effective Age
- k. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights, Effective Age, Lin_DeckUncoveredArea
- l. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights, Effective Age, Lin_DeckUncoveredArea, Number of Bedrooms
- m. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights, Effective Age, Lin_DeckUncoveredArea, Number of Bedrooms, MountView
- n. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights, Effective Age, Lin_DeckUncoveredArea, Number of Bedrooms, MountView, ExcellentViewNum
- o. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights, Effective Age, Lin_DeckUncoveredArea, Number of Bedrooms, MountView, ExcellentViewNum, Number of Multi-car Garages

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
15	Regression	5.311E+12	15	3.541E+11	232.098	.000 ^p
	Residual	1.034E+12	678	1525641245		
	Total	6.346E+12	693			

Model	Coefficients ^a					
	Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance
15	(Constant)	322891.878	9080.383		35.559	.000
	Lin_First_Floor	36.935	3.221	.287	11.466	.000
	Lin_Second_Floor	19.315	2.578	.185	7.494	.000
	Lot Size sq/ft	8.542	.650	.274	13.144	.000
	Lin_BasementFinishedArea	15.810	2.027	.164	7.801	.000
	SouthCove	17922.911	4867.958	.081	3.682	.000
	Number of Fireplaces	13883.912	2424.936	.109	5.725	.000
	WestHill	-24622.901	4559.091	-.099	-5.401	.000
	OutstandingViewNum	52400.537	9380.111	.092	5.586	.000
	AlexandraHeights	16998.022	6422.169	.048	2.647	.008
	Effective_Age	-598.683	220.660	-.076	-2.713	.007
	Lin_DeckUncoveredArea	27.022	8.637	.058	3.129	.002
	Number of Bedrooms	5371.221	1792.508	.066	2.996	.003
	MountView	-11047.551	4328.431	-.049	-2.552	.011
	ExcellentViewNum	14346.311	6683.927	.035	2.146	.032
	Number of Multi-car Garages	9593.433	4761.406	.041	2.015	.044

a. Dependent Variable: Time Adjusted Sale Price

Model	Excluded Variables ^a							
	Beta		Partial Correlation		Collinearity Statistics			
	In	t	Sig.	n	Tolerance	VIF		
15	Number of Single Car Garages	.007 ^b	.377	.707	.014	.658	1.519	.302
	Number of Carports	-.009 ^b	-.518	.604	-.020	.756	1.323	.295
	CairnWood	.010 ^b	.443	.658	.017	.513	1.949	.304
	Lin_DeckCoveredArea	.022 ^b	1.155	.249	.044	.643	1.556	.304
	PoolNum	.012 ^b	.738	.461	.028	.962	1.039	.304
	OutBuildingsNum	-.006 ^b	-.347	.729	-.013	.890	1.124	.292
	Number of Full Bathrooms	.027 ^b	.994	.321	.038	.316	3.163	.291

The variables with a t-statistic less than ± 1.6 are excluded from the model. There is 90% confidant that the variables kept in the model explain variation in the dependent variable. The adjusted R^2 improves from 0.832 to 0.833. The SEE improves from 39167.27 to 39059.36.

Step 7: Model Calibration

Using the variables listed in the final step of the Coefficients Table form the STEPWISE regression, the final model is run again as ENTER regression.

Model	Model Summary ^b									
	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	
1	.915 ^a	.837	.833	39059.458	.837	232.098	15	678	.000	

a. Predictors: (Constant), Effective_Age, MountView, OutstandingViewNum, ExcellentViewNum, AlexandraHeights, Lin_DeckUncoveredArea, WestHill, Lot Size sq/ft, Number of Fireplaces, Number of Bedrooms, Number of Multi-car Garages, Lin_BasementFinishedArea, SouthCove, Lin_Second_Floor, Lin_First_Floor

b. Dependent Variable: Time Adjusted Sale Price

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.311E+12	15	3.541E+11	232.098	.000 ^b
	Residual	1.034E+12	678	1525641245		
	Total	6.346E+12	693			

a. Dependent Variable: Time Adjusted Sale Price

b. Predictors: (Constant), Effective Age, MountView, OutstandingViewNum, ExcellentViewNum, AlexandraHeights, Lin_DeckUncoveredArea, WestHill, Lot Size sqft, Number of Fireplaces, Number of Bedrooms, Number of Multi-car Garages, Lin_BasementFinishedArea, SouthCove, Lin_Second_Floor, Lin_First_Floor

Coefficients^a

Model		Unstandardized Coefficients		t	Sig.	Collinearity Statistics	
		B	Std. Error			Tolerance	VIF
1	(Constant)	322891.878	9080.383	35.559	.000		
	Lot Size sqft	8.542	.650	.274	.13144	.000	.552
	Number of Bedrooms	5371.221	1792.508	.066	2.996	.003	.497
	Number of Fireplaces	13883.912	2424.936	.109	5.725	.000	.665
	Number of Multi-car Garages	9593.433	4761.406	.041	2.015	.044	.583
	AlexandraHeights	16998.022	6422.169	.048	2.647	.008	.743
	WestHill	-24622.901	4559.091	-.099	-5.401	.000	.712
	SouthCove	17922.911	4867.958	.081	3.682	.000	.494
	MountView	-11047.551	4328.431	-.049	-2.552	.011	.661
	Lin_DeckUncoveredArea	27.022	8.637	.058	3.129	.002	.699
	OutstandingViewNum	52400.537	9380.111	.092	5.586	.000	.893
	ExcellentViewNum	14346.311	6683.927	.035	2.146	.032	.928
	Lin_First_Floor	36.935	3.221	.287	11.466	.000	.384
	Lin_Second_Floor	19.315	2.578	.185	7.494	.000	.396
	Lin_BasementFinishedArea	15.810	2.027	.164	7.801	.000	.545
	Effective Age	-598.683	220.660	-.076	-2.713	.007	.304
							3.291

a. Dependent Variable: Time Adjusted Sale Price

Casewise Diagnostics^a

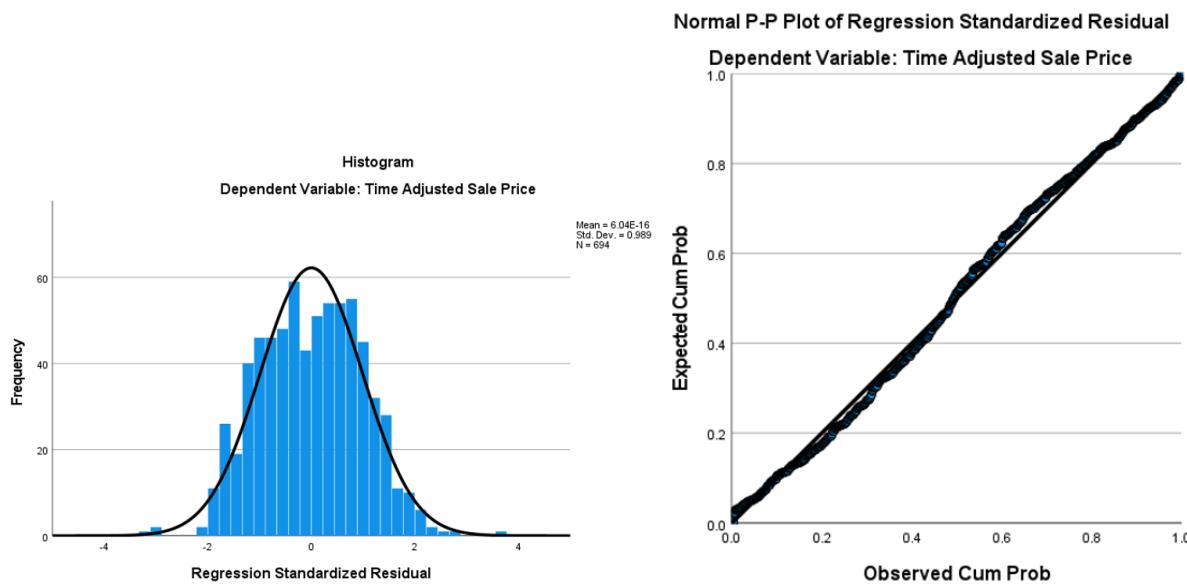
Case Number	Std. Residual	Time Adjusted Sale Price	Predicted Value	Residual
532	3.567	758388	619070.82	139317.184
648	-3.120	667038	788893.93	-121855.927
689	-3.008	660000	777508.36	-117508.364

a. Dependent Variable: Time Adjusted Sale Price

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	366375.56	906854.69	531913.78	87546.905	694
Residual	-121855.930	139317.188	.000	38634.424	694
Std. Predicted Value	-1.891	4.283	.000	1.000	694
Std. Residual	-3.120	3.567	.000	.989	694

a. Dependent Variable: Time Adjusted Sale Price



The results are good. The Histogram curve looks normal. The normal P-P plot examines the same distribution another way: the closer the plot is to a straight line, the more normal the distribution. The only issue is that the Casewise Diagnostics report shows three sales with a residual (error) of more than three standard errors (standard deviations from the mean): sales 532, 648, and 689. The histogram confirms the existence of three outliers.

These three properties will be filtered out by setting a filter to eliminate properties with residuals outside of the range of $\pm 115,000$ (roughly, three times the standard deviation of the residuals: $38,634 \times 3$). We will then re-run the regression without these three sales. The following is the regression output.

Model	Model Summary ^b								
	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.918 ^a	.843	.839	38172.402	.843	241.387	15	675	.000

a. Predictors: (Constant), Effective Age, MountView, OutstandingViewNum, ExcellentViewNum, AlexandraHeights, Lin_DeckUncoveredArea, WestHill, Lot Size sqft, Number of Fireplaces, Number of Bedrooms, Number of Multi-car Garages, Lin_BasementFinishedArea, SouthCove, Lin_Second_Floor, Lin_First_Floor

b. Dependent Variable: Time Adjusted Sale Price

ANOVA ^a					
Model		Sum of Squares	df	Mean Square	F
1	Regression	5.276E+12	15	3.517E+11	241.387
	Residual	9.836E+11	675	1457132288	
	Total	6.260E+12	690		

a. Dependent Variable: Time Adjusted Sale Price

b. Predictors: (Constant), Effective Age, MountView, OutstandingViewNum, ExcellentViewNum, AlexandraHeights, Lin_DeckUncoveredArea, WestHill, Lot Size sqft, Number of Fireplaces, Number of Bedrooms, Number of Multi-car Garages, Lin_BasementFinishedArea, SouthCove, Lin_Second_Floor, Lin_First_Floor

Model	Coefficients ^a							
	Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics			
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF	
1	(Constant)	321599.591	8892.616		36.165	.000		
	Lot Size sqft	8.771	.642	.280	13.670	.000	.557	1.797
	Number of Bedrooms	5618.306	1757.962	.069	3.196	.001	.495	2.019
	Number of Fireplaces	12916.184	2376.681	.102	5.435	.000	.666	1.501
	Number of Multi-car Garages	8637.990	4664.386	.037	1.852	.064	.580	1.723
	AlexandraHeights	15793.418	6288.249	.045	2.512	.012	.740	1.351
	WestHill	-24586.935	4455.567	-.100	-5.518	.000	.712	1.404
	SouthCove	18510.261	4760.958	.084	3.888	.000	.498	2.010
	MountView	-12276.954	4235.653	-.054	-2.898	.004	.663	1.507
	Lin_DeckUncoveredArea	24.894	8.465	.054	2.941	.003	.699	1.430
	OutstandingViewNum	51023.704	9176.544	.090	5.560	.000	.891	1.122
	ExcellentViewNum	21091.670	6673.330	.050	3.161	.002	.934	1.070
	Lin_First_Floor	37.602	3.154	.291	11.922	.000	.392	2.553
	Lin_Second_Floor	19.582	2.528	.187	7.745	.000	.399	2.506
	Lin_BasementFinishedArea	15.900	1.991	.165	7.986	.000	.546	1.832
	Effective Age	-624.368	215.945	-.080	-2.891	.004	.303	3.295

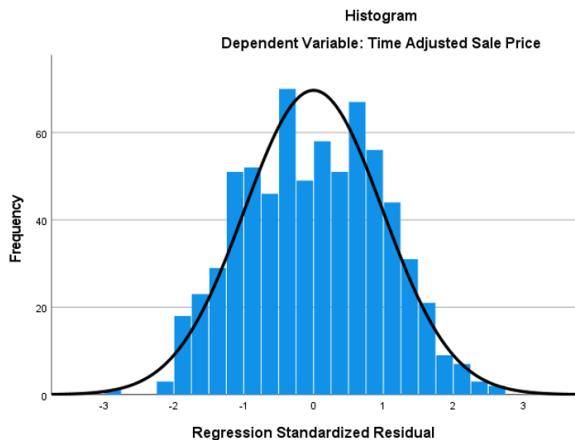
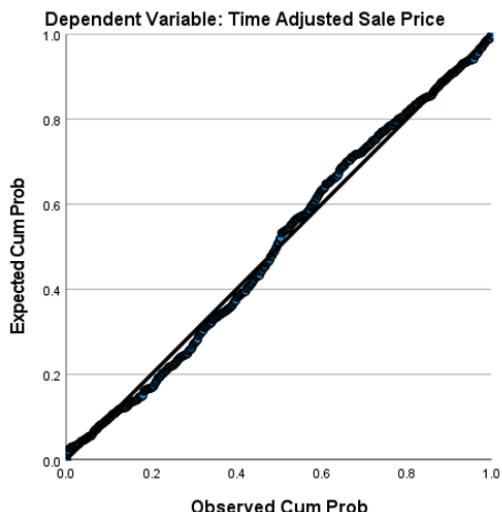
a. Dependent Variable: Time Adjusted Sale Price

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	366600.50	910895.13	531205.12	87443.476	691
Residual	-113296.117	104953.734	.000	37755.205	691
Std. Predicted Value	-1.882	4.342	.000	1.000	691
Std. Residual	-2.968	2.749	.000	.989	691

a. Dependent Variable: Time Adjusted Sale Price

Normal P-P Plot of Regression Standardized Residual



From eliminating the outliers, the adjusted R² improves from 0.833 to 0.839, the SEE improves from 39059.36 to 38172.40. The histogram curve looks even more normal.

Step 8: Model Testing

A predicted value transformation is created based on the coefficients in their previous model. The following is the syntax.

```
COMPUTE Pred_Val = 321599.591 + LotSizeSqft*8.771 + Bedrooms*5618.306 + Fireplcs*12916.184 +
  MultiCarGarage*8637.990 + AlexandraHeights*15793.418 + WestHill*-24586.935 + SouthCove*18510.26
  + MountView*-12276.954 + Lin_DeckUncoveredArea*24.894 + OutstandingViewNum*51023.704 +
  ExcellentViewNum*21091.670 + Lin_First_Floor*37.602 + Lin_Second_Floor*19.582 +
  Lin_BasementFinishedArea*15.900 + Effective_Age*-624.368.
EXECUTE.
```

The Predicted Values to Adjusted Sales Price (PAR) is created. The following is the syntax.

COMPUTE PAR = Pred_Val/Adj_Price. EXECUTE.

The existing neighbourhood variable has to be recoded into a new numeric variable. The following is the syntax.

```
RECODE Nbhd ('005'=1) ('014'=2) ('015'=3) ('036'=4) ('046'=5) ('072'=6) INTO Neigh_num.  
VARIABLE LABELS Neigh_num 'Neigh'.  
EXECUTE.
```

Ratio statistics will provide an in-depth look at the results. If the model does a good job predicting the selling price of the houses, the mean and median PAR should be close to 1.000 - in other words, in general, predicted values are equal to Adjusted Sale Prices.

We will also examine the PARS in each neighbourhood, to confirm the PARS are equally distributed.

Ratio Statistics for Pred_Val / Time Adjusted Sale Price												
Group	Mean	95% Confidence Interval for Mean			95% Confidence Interval for Median			Actual Coverage	Minimum	Maximum	Range	Coefficient of Dispersion
		Lower Bound	Upper Bound	Median	Lower Bound	Upper Bound						
005	1.004	.986	1.022	1.010	.984	1.028	96.0%	.868	1.134	.266	.053	
014	1.003	.989	1.017	.993	.973	1.035	95.8%	.870	1.140	.269	.060	
015	1.006	.991	1.021	1.002	.974	1.018	95.2%	.880	1.157	.278	.057	
036	1.007	.993	1.022	1.007	.974	1.025	96.0%	.831	1.212	.381	.069	
046	1.007	.997	1.018	.994	.980	1.016	96.0%	.856	1.201	.345	.060	
072	1.003	.992	1.015	.997	.987	1.020	95.2%	.815	1.165	.350	.063	
Overall	1.005	1.000	1.011	.998	.990	1.009	95.6%	.815	1.212	.397	.061	

The confidence interval for the median is constructed without any distribution assumptions. The actual coverage level may be greater than the specified level. Other confidence intervals are constructed by assuming a Normal distribution for the ratios.

The overall statistics for the MODEL database (bottom of table) show a median PAR of 0.998 and a mean PAR of 1.005. This shows our prediction is quite good, with predicted results very close to actual sales prices (within 0.2% for the median and 0.5% for the mean). As the mean is greater than the median, we suspect there may be some high outliers. The coefficient of dispersion (COD) is 6.1%, which is less than the desired 10%.

The report also shows acceptable levels for all neighbourhoods. The least valued median PAR is 0.993 and the greatest is 1.010. The means range from 1.003 to 1.007. All of the 95% confidence intervals around the medians bracket 1.000, meaning there is less than 5% probability that the median PAR is not equal to 100%, or we can be 95% confident that the predicted values are statistically equal to sale prices across the neighbourhoods in this database. We can conclude no adjustments are needed for any of the neighbourhoods.

A Kruskal-Wallis test is used to confirm our conclusion that no neighbourhood adjustment is needed.

Ranks			Test Statistics ^{a,b}		
	Neigh	N	Mean Rank	PAR	
PAR	1.00	54	347.00	Kruskal-Wallis H .147	
	2.00	97	348.21	df 5	
	3.00	83	348.98	Asymp. Sig. 1.000	
	4.00	126	351.37		
	5.00	174	348.18	a. Kruskal Wallis Test	
	6.00	160	342.69	b. Grouping Variable: Neigh	
	Total	694			

The mean ranks here should be approximately 374 (half of 694). This report shows excellent results, with all 6 of the neighbourhoods close to the target value. The chi-square test (here reported as the Kruskal-Wallis H statistic), with the Asymp. Sig. at 100%, tells us that we cannot reject the hypothesis that all neighbourhoods have had their predicted selling prices equally modeled. This is a strong result.

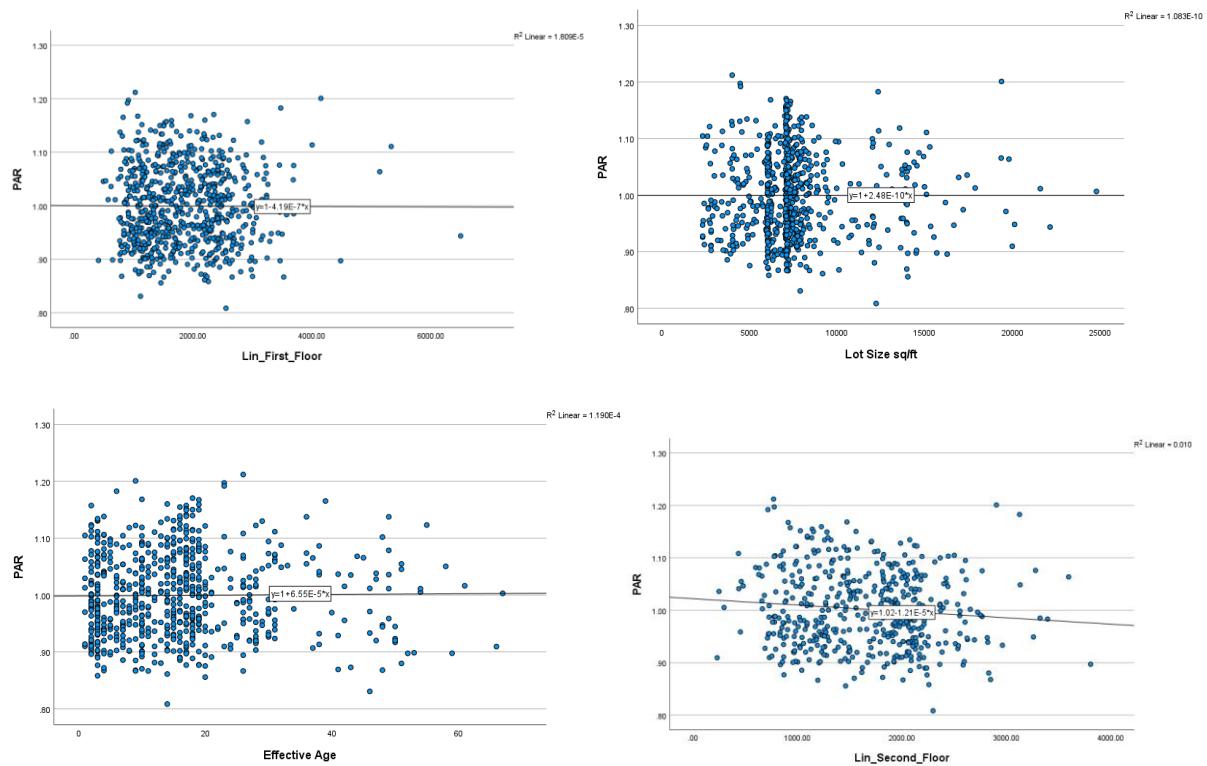
Examination of Property Characteristics

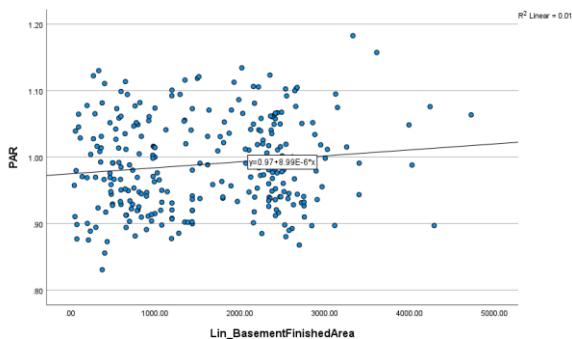
There should be no relationship between any particular variable and PAR. For example, a positive relationship between PAR and Lot Size would indicate that as Lot Size increases, the predicted selling price to actual selling price ratio increases. Therefore, the predicted selling prices of properties with larger Lot Sizes would be much higher than selling prices for properties with Small Lot Sizes. The properties with large Lot Sizes are over-valued more than those with smaller Lot Sizes.

Any significant relationship between PAR and a property characteristic indicates that selling prices developed by the model are biased.

We will use scatterplots and boxplots to look for relationships. Scatterplots are useful for comparing PARS with continuous data, while boxplots are useful for comparing PARs with discrete data.

Consider scatterplots for Lin_First_Floor, Lot Size, effage, Lin_Second_Floor, and Lin_BasementFinishedArea. For the latter two, any sales with a zero value are filtered out.





There is no relationship with PAR with any of these variables.

For boxplots, the following variables will be examined with PAR: Number of Multi-car Garages, Number of Single Car Garages, Number of Bedrooms, Neigh, Outstanding View Lot, Excellent View Lot.

The boxplot shows our model is producing fairly consistent results. The model does a good job of predicting.

A correlation matrix is used to see if any of the variables have a relationship with PAR.

Correlations							
	PAR	Lin_Finished Area	Lot Size sq/ft	Number of Fireplaces	Effective Age	PoolNum	Number of Stories
PAR	1	-.021	.000	-.001	.011	-.033	.044
Lin_FinishedArea	-.021	1	.074	.487**	-.635**	.166**	.536**
Lot Size sq/ft	.000	.074	1	.023	.358**	.006	-.221**
Number of Fireplaces	-.001	.487**	.023	1	-.454**	.060	.446**
Effective Age	.011	-.635**	.358**	-.454**	1	-.121**	-.621**
PoolNum	-.033	.166**	.006	.060	-.121**	1	.070
Number of Stories	.044	.536**	-.221**	.446**	-.621**	.070	1

**. Correlation is significant at the 0.01 level (2-tailed).

There is no relationship with PAR and the other variables.

A regression is run to see if any other variables cause variation in PAR. The following are the regression results.

Model	Model Summary							Change Statistics	
	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.080 ^a	.006	-.002	.07335	.006	.741	6	687	.617

a. Predictors: (Constant), Number of Stories, PoolNum, Lot Size sq/ft, Number of Fireplaces, Lin_FinishedArea, Effective Age

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.024	6	.004	.741	.617 ^b
	Residual	3.696	687	.005		
	Total	3.720	693			

a. Dependent Variable: PAR

b. Predictors: (Constant), Number of Stories, PoolNum, Lot Size sq/ft, Number of Fireplaces, Lin_FinishedArea, Effective Age

Model	Coefficients ^a						
	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	Collinearity Statistics	
	B	Std. Error				Tolerance	VIF
1	(Constant)	.976	.018	55.003	.000		
	Lin_FinishedArea	-1.636E-6	.000	-.047	-.825	.410	.441
	Lot Size sqft	3.487E-7	.000	.015	.321	.748	.698
	Number of Fireplaces	-.001	.004	-.006	-.129	.897	.690
	Effective Age	.000	.000	.029	.462	.644	.374
	PoolNum	-.009	.012	-.028	-.721	.471	.970
	Number of Stories	.015	.008	.095	1.860	.063	.551

a. Dependent Variable: PAR

The Adjusted R² is -0.002. The changes in the variable do not cause variation in PAR.

A Kruskal-Wallis Test is run with various variables used in the model to see if adjustments are needed.

Ranks				PAR	
Number of Half Bathrooms		N	Mean Rank	Kruskal-Wallis H	df
PAR	0	254	343.24	a. Kruskal Wallis Test	b. Grouping Variable: Number of Half Bathrooms
	1	403	347.15		
	2	37	380.51		
	Total	694			

Ranks				PAR	
Number of Carports		N	Mean Rank	Kruskal-Wallis H	df
PAR	0	655	346.34	a. Kruskal Wallis Test	b. Grouping Variable: Number of Carports
	1	39	366.92		
	Total	694			

The Asymp. Sig. are over 0.05. Therefore, no adjustments are needed.

A Mann-Whitney test is run to test the level of valuation between the two aspects of a binary variable.

Ranks				PAR	
Number of Carports		N	Mean Rank	Sum of Ranks	Mann-Whitney U
PAR	0	655	346.34	226855.00	Wilcoxon W
	1	39	366.92	14310.00	Z
	Total	694			Asymp. Sig. (2-tailed)

a. Grouping Variable: Number of Carports

Ranks					Test Statistics ^a	
		N	Mean Rank	Sum of Ranks	PAR	
PAR	.00	655	348.90	228531.00	Mann-Whitney U	11854.000
	1.00	39	323.95	12634.00	Wilcoxon W	12634.000
	Total	694			Z	-.755
					Asymp. Sig. (2-tailed)	.450
a. Grouping Variable: PoolNum						

Ranks					Test Statistics ^a	
		N	Mean Rank	Sum of Ranks	PAR	
PAR	OutstandingViewNum	674	348.03	234571.00	Mann-Whitney U	6384.000
	1.00	20	329.70	6594.00	Wilcoxon W	6594.000
	Total	694			Z	-.403
					Asymp. Sig. (2-tailed)	.687
a. Grouping Variable: OutstandingViewNum						

Ranks					Test Statistics ^a	
		N	Mean Rank	Sum of Ranks	PAR	
PAR	ExcellentViewNum	655	347.19	227412.00	Mann-Whitney U	12572.000
	1.00	39	352.64	13753.00	Wilcoxon W	227412.000
	Total	694			Z	-.165
					Asymp. Sig. (2-tailed)	.869
a. Grouping Variable: ExcellentViewNum						

The Asymp. Sig are all higher than 0.05 meaning sales with these variables are valued at the same level as those that do not. This means, at a 95% confidence level, we can conclude sales with or without these variables are appraised equally in our model.

Step 9: Conclusion

The Model should accurately predicted sales price in Midsize City. There are only three outliers. The Model had a high adjusted R^2 and low SEE before the outliers were removed. After the outliers were removed, the adjusted R^2 and SEE only improved. The model also undergone extensive testing to prove its validity. There were no issues.

Appendix A

Age					Effective Age				
	Frequency	Percent	Valid Percent	Cumulative Percent		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	7	1.0	1.0	Valid	1	7	1.0	1.0
	2	45	6.5	6.5		2	45	6.5	6.5
	3	56	8.1	8.1		3	60	8.6	8.6
	4	33	4.8	4.8		4	31	4.5	4.5
	5	19	2.7	2.7		5	17	2.4	2.4
	6	17	2.4	2.4		6	20	2.9	2.9
	7	23	3.3	3.3		7	23	3.3	3.3
	8	14	2.0	2.0		8	14	2.0	2.0
	9	22	3.2	3.2		9	19	2.7	2.7
	10	38	5.5	5.5		10	38	5.5	5.5
	11	18	2.6	2.6		11	18	2.6	2.6
	12	12	1.7	1.7		12	12	1.7	1.7
	13	11	1.6	1.6		13	11	1.6	1.6
	14	32	4.6	4.6		14	32	4.6	4.6
	15	31	4.5	4.5		15	31	4.5	4.5
	16	27	3.9	3.9		16	29	4.2	4.2
	17	48	6.9	6.9		17	47	6.8	6.8
	18	38	5.5	5.5		18	39	5.6	5.6
	19	29	4.2	4.2		19	33	4.8	4.8
	20	19	2.7	2.7		20	18	2.6	2.6
	21	7	1.0	1.0		21	6	.9	.9
	22	3	.4	.4		22	3	.4	.4
	23	6	.9	.9		23	6	.9	.9
	24	4	.6	.6		24	5	.7	.7
	25	4	.6	.6		25	4	.6	.6
	26	15	2.2	2.2		26	16	2.3	2.3
	27	10	1.4	1.4		27	9	1.3	1.3
	28	15	2.2	2.2		28	14	2.0	2.0
	29	5	.7	.7		29	4	.6	.6
	30	10	1.4	1.4		30	10	1.4	1.4
	31	11	1.6	1.6		31	12	1.7	1.7
	32	2	.3	.3		32	3	.4	.4
	33	1	.1	.1		33	1	.1	.1
	34	2	.3	.3		34	2	.3	.3
	35	1	.1	.1		35	1	.1	.1
	37	2	.3	.3		37	2	.3	.3
	38	4	.6	.6		38	5	.7	.7
	39	1	.1	.1		39	1	.1	.1
	40	1	.1	.1		40	1	.1	.1
	41	3	.4	.4		41	3	.4	.4
	42	2	.3	.3		42	2	.3	.3
	43	2	.3	.3		43	2	.3	.3
	44	1	.1	.1		44	1	.1	.1
	45	1	.1	.1		45	1	.1	.1
	46	3	.4	.4		46	4	.6	.6
	47	5	.7	.7		47	3	.4	.4
	48	6	.9	.9		48	4	.6	.6
	49	3	.4	.4		49	5	.7	.7
	50	3	.4	.4		50	4	.6	.6
	51	4	.6	.6		51	3	.4	.4
	52	2	.3	.3		52	1	.1	.1
	53	1	.1	.1		53	1	.1	.1
	54	1	.1	.1		54	2	.3	.3
	55	1	.1	.1		55	1	.1	.1
	56	1	.1	.1		56	1	.1	.1
	58	4	.6	.6		58	1	.1	.1
	59	1	.1	.1		59	1	.1	.1
	61	1	.1	.1		61	1	.1	.1
	62	1	.1	.1		62	1	.1	.1
	66	1	.1	.1		66	1	.1	.1
	67	1	.1	.1		67	1	.1	.1
	68	1	.1	.1					
	70	1	.1	.1					
	78	1	.1	.1					
Total	694	100.0	100.0	100.0		Total	694	100.0	100.0

Uncovered Deck Area

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	276	39.8	39.8
	28	12	1.7	41.5
	36	11	1.6	43.1
	40	9	1.3	44.4
	48	20	2.9	47.3
	70	13	1.9	49.1
	75	12	1.7	50.9
	80	9	1.3	52.2
	84	7	1.0	53.2
	85	3	.4	53.6
	86	2	.3	53.9
	87	2	.3	54.2
	88	1	.1	54.3
	90	1	.1	54.5
	91	2	.3	54.8
	92	3	.4	55.2
	94	1	.1	55.3
	95	1	.1	55.5
	96	8	1.2	56.6
	100	4	.6	57.2
	101	2	.3	57.5
	102	6	.9	58.4
	104	5	.7	59.1
	105	6	.9	59.9
	107	1	.1	60.1
	108	2	.3	60.4
	109	4	.6	61.0
	110	3	.4	61.4
	111	2	.3	61.7
	112	2	.3	62.0
	113	2	.3	62.2
	114	3	.4	62.7
	115	1	.1	62.8
	116	2	.3	63.1
	117	1	.1	63.3
	118	3	.4	63.7
	119	1	.1	63.8
	120	4	.6	64.4
	124	1	.1	64.6
	125	5	.7	65.3
	126	3	.4	65.7
	128	6	.9	66.6
	129	3	.4	67.0
	130	2	.3	67.3
	131	1	.1	67.4
	132	1	.1	67.6
	134	1	.1	67.7
	135	5	.7	68.4
	136	2	.3	68.7
	137	2	.3	69.0
	140	2	.3	69.3
	141	1	.1	69.5
	144	2	.3	69.7
	145	2	.3	70.0
	148	3	.4	70.5
	149	2	.3	70.7
	150	5	.7	71.5

151	3	.4	.4	71.9
152	2	.3	.3	72.2
154	1	.1	.1	72.3
156	1	.1	.1	72.5
158	1	.1	.1	72.6
160	1	.1	.1	72.8
161	1	.1	.1	72.9
162	1	.1	.1	73.1
166	1	.1	.1	73.2
167	1	.1	.1	73.3
168	1	.1	.1	73.5
171	1	.1	.1	73.6
173	2	.3	.3	73.9
174	1	.1	.1	74.1
175	1	.1	.1	74.2
177	1	.1	.1	74.4
178	1	.1	.1	74.5
180	5	.7	.7	75.2
182	1	.1	.1	75.4
184	2	.3	.3	75.6
185	1	.1	.1	75.8
186	3	.4	.4	76.2
188	2	.3	.3	76.5
190	2	.3	.3	76.8
194	1	.1	.1	76.9
197	1	.1	.1	77.1
200	8	1.2	1.2	78.2
202	1	.1	.1	78.4
204	1	.1	.1	78.5
206	2	.3	.3	78.8
210	3	.4	.4	79.3
211	1	.1	.1	79.4
212	1	.1	.1	79.5
213	1	.1	.1	79.7
214	2	.3	.3	80.0
219	1	.1	.1	80.1
220	1	.1	.1	80.3
221	1	.1	.1	80.4
222	4	.6	.6	81.0
223	1	.1	.1	81.1
224	1	.1	.1	81.3
225	2	.3	.3	81.6
227	1	.1	.1	81.7
228	1	.1	.1	81.8
230	2	.3	.3	82.1
231	1	.1	.1	82.3
232	1	.1	.1	82.4
235	1	.1	.1	82.6
236	2	.3	.3	82.9
237	2	.3	.3	83.1
239	1	.1	.1	83.3
240	3	.4	.4	83.7
242	1	.1	.1	83.9
245	2	.3	.3	84.1
247	2	.3	.3	84.4
249	1	.1	.1	84.6
251	1	.1	.1	84.7
253	2	.3	.3	85.0
254	3	.4	.4	85.4
255	1	.1	.1	85.6
256	2	.3	.3	85.9
257	1	.1	.1	86.0
260	1	.1	.1	86.2
261	2	.3	.3	86.5
263	1	.1	.1	86.6

265	1	.1	.1	86.7
270	2	.3	.3	87.0
274	1	.1	.1	87.2
275	1	.1	.1	87.3
276	1	.1	.1	87.5
279	1	.1	.1	87.6
280	2	.3	.3	87.9
283	1	.1	.1	88.0
285	1	.1	.1	88.2
286	1	.1	.1	88.3
288	2	.3	.3	88.6
292	1	.1	.1	88.8
294	2	.3	.3	89.0
295	2	.3	.3	89.3
296	1	.1	.1	89.5
298	1	.1	.1	89.6
300	2	.3	.3	89.9
301	1	.1	.1	90.1
307	1	.1	.1	90.2
308	3	.4	.4	90.6
309	1	.1	.1	90.8
312	1	.1	.1	90.9
315	2	.3	.3	91.2
316	2	.3	.3	91.5
317	1	.1	.1	91.6
318	2	.3	.3	91.9
320	1	.1	.1	92.1
329	1	.1	.1	92.2
331	1	.1	.1	92.4
332	1	.1	.1	92.5
333	1	.1	.1	92.7
336	1	.1	.1	92.8
337	1	.1	.1	92.9
340	1	.1	.1	93.1
343	2	.3	.3	93.4
350	2	.3	.3	93.7
352	2	.3	.3	93.9
358	1	.1	.1	94.1
360	1	.1	.1	94.2
368	1	.1	.1	94.4
384	1	.1	.1	94.5
387	2	.3	.3	94.8
390	1	.1	.1	95.0
395	1	.1	.1	95.1
398	1	.1	.1	95.2
405	1	.1	.1	95.4
415	1	.1	.1	95.5
418	1	.1	.1	95.7
424	1	.1	.1	95.8
428	1	.1	.1	96.0
432	1	.1	.1	96.1
441	1	.1	.1	96.3
442	1	.1	.1	96.4
444	1	.1	.1	96.5
447	1	.1	.1	96.7
450	1	.1	.1	96.8
458	1	.1	.1	97.0
463	2	.3	.3	97.3
480	1	.1	.1	97.4
489	1	.1	.1	97.6
495	1	.1	.1	97.7
496	2	.3	.3	98.0
500	2	.3	.3	98.3
506	1	.1	.1	98.4

Covered Deck Area				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	603	86.9	86.9
	48	.9	.3	88.2
	60	.7	1.0	89.2
	64	.8	1.2	90.3
	66	.2	.3	90.6
	67	.1	.1	90.8
	71	.1	.1	90.9
	72	.2	.3	91.2
	78	.1	.1	91.4
	79	.1	.1	91.5
	85	.1	.1	91.6
	87	.1	.1	91.8
	90	.1	.1	91.9
	92	.1	.1	92.1
	93	.1	.1	92.2
	95	.1	.1	92.4
	96	.1	.1	92.5
	98	.1	.1	92.7
	100	.5	.7	93.4
	101	.2	.3	93.7
	102	.2	.3	93.9
	103	.1	.1	94.1
	108	.1	.1	94.2
	109	.1	.1	94.4
	110	.1	.1	94.5
	112	.1	.1	94.7
	113	.1	.1	94.8
	114	.1	.1	95.0
	116	.1	.1	95.1
	119	.1	.1	95.2
	123	.1	.1	95.4
	124	.1	.1	95.5
	127	.1	.1	95.7
	131	.1	.1	95.8
	138	.1	.1	96.0
	140	.1	.1	96.1
	143	.1	.1	96.3
	149	.1	.1	96.4
	153	.1	.1	96.5
	155	.1	.1	96.7
	157	.1	.1	96.8
	166	.1	.1	97.0
	169	.1	.1	97.1
	171	.1	.1	97.3
	176	.1	.1	97.4
	190	.1	.1	97.6
	200	.2	.3	97.8
	202	.1	.1	98.0
	209	.1	.1	98.1
	210	.2	.3	98.4
	212	.1	.1	98.6
	213	.1	.1	98.7
	228	.1	.1	98.8
	241	.1	.1	99.0
	255	.1	.1	99.1
	267	.1	.1	99.3
	289	.1	.1	99.4
	308	.1	.1	99.6
	341	.1	.1	99.7
	365	.1	.1	99.9
	480	.1	.1	100.0
Total	694	100.0	100.0	

Foundation Type

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	BSMT	364	52.4	52.4
	CRAWL	243	35.0	87.5
	PBSMT	54	7.8	95.2
	SLAB	33	4.8	100.0
Total	694	100.0	100.0	

Number of Stories

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	225	32.4	32.4
	1.5	20	2.9	35.3
	2.0	449	64.7	100.0
Total	694	100.0	100.0	

Number of Bedrooms

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	.1	.1
	2	25	3.6	3.7
	3	306	44.1	47.8
	4	201	29.0	76.8
	5	87	12.5	89.3
	6	43	6.2	95.5
	7	29	4.2	99.7
	8	2	.3	100.0
Total	694	100.0	100.0	

Number of Full Bathrooms

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	4	.6	.6
	1	249	35.9	35.9
	2	252	36.3	72.8
	3	104	15.0	87.8
	4	42	6.1	93.8
	5	39	5.6	99.4
	6	4	.6	100.0
Total	694	100.0	100.0	

Number of Three-quarter Bathrooms

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	505	72.8	72.8
	1	170	24.5	97.3
	2	19	2.7	100.0
Total	694	100.0	100.0	

Number of Half Bathrooms

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	254	36.6	36.6
	1	403	58.1	94.7
	2	37	5.3	100.0
Total	694	100.0	100.0	

Number of Multi-car Garages

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	137	19.7	19.7
	1	553	79.7	99.4
	2	4	.6	100.0
Total	694	100.0	100.0	

Number of Single Car Garages

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	632	91.1	91.1
	1	62	8.9	100.0
Total	694	100.0	100.0	

Number of Fireplaces

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	93	13.4	13.4
	1	208	30.0	43.4
	2	377	54.3	97.7
	3	16	2.3	100.0
Total	694	100.0	100.0	

Number of Carports

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	655	94.4	94.4
	1	39	5.6	100.0
Total	694	100.0	100.0	

Pool (Y/N)

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	N	655	94.4	94.4
	Y	39	5.6	100.0
Total	694	100.0	100.0	

Outbuildings (Y/N)

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	N	673	97.0	97.0
	Y	21	3.0	100.0
Total	694	100.0	100.0	

Corner Lot (Y/N)

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	N	648	93.4	93.4
	Y	46	6.6	100.0
Total	694	100.0	100.0	

Outstanding View Lot (Y/N)

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	N	674	97.1	97.1
	Y	20	2.9	100.0
Total	694	100.0	100.0	

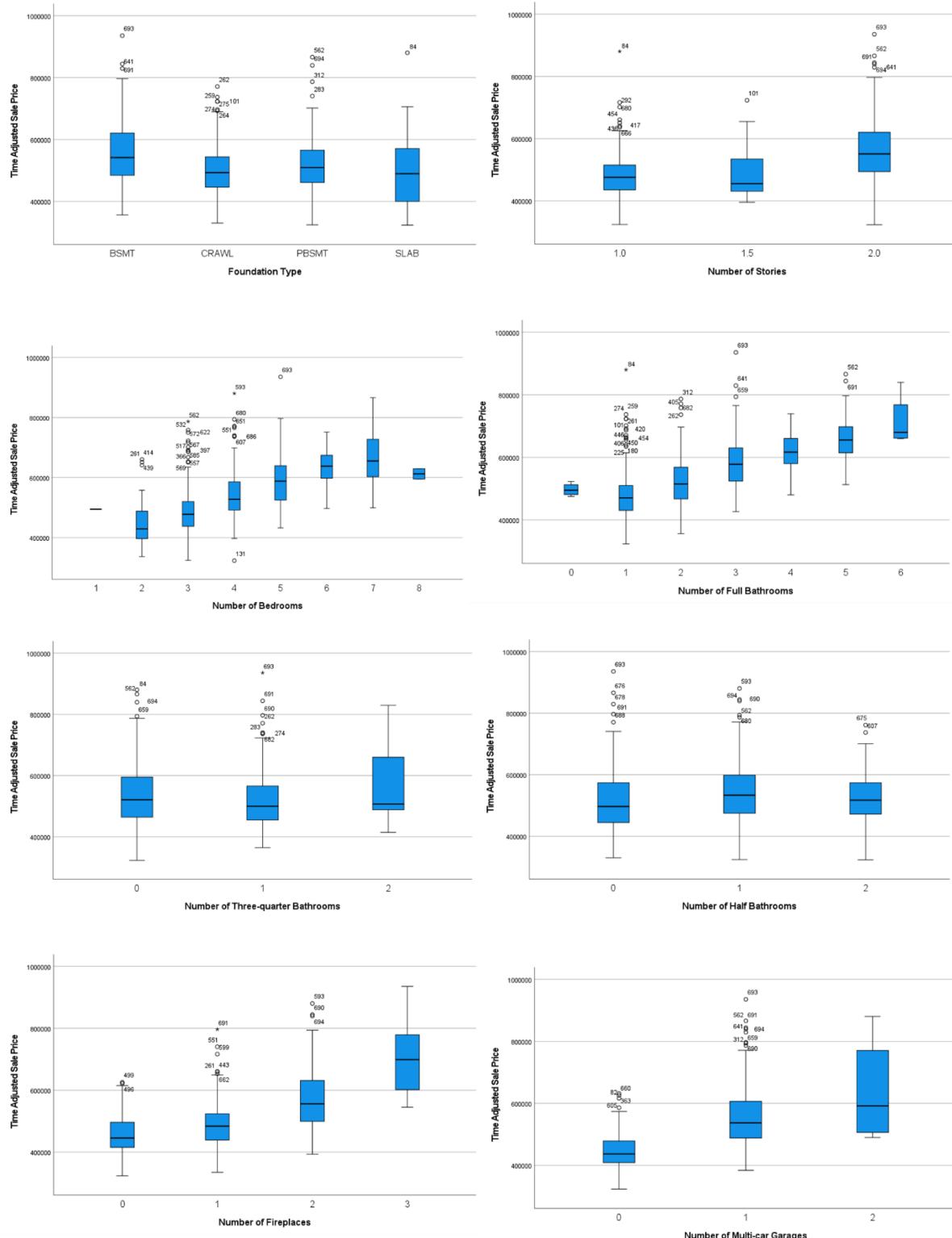
Excellent View Lot (Y/N)

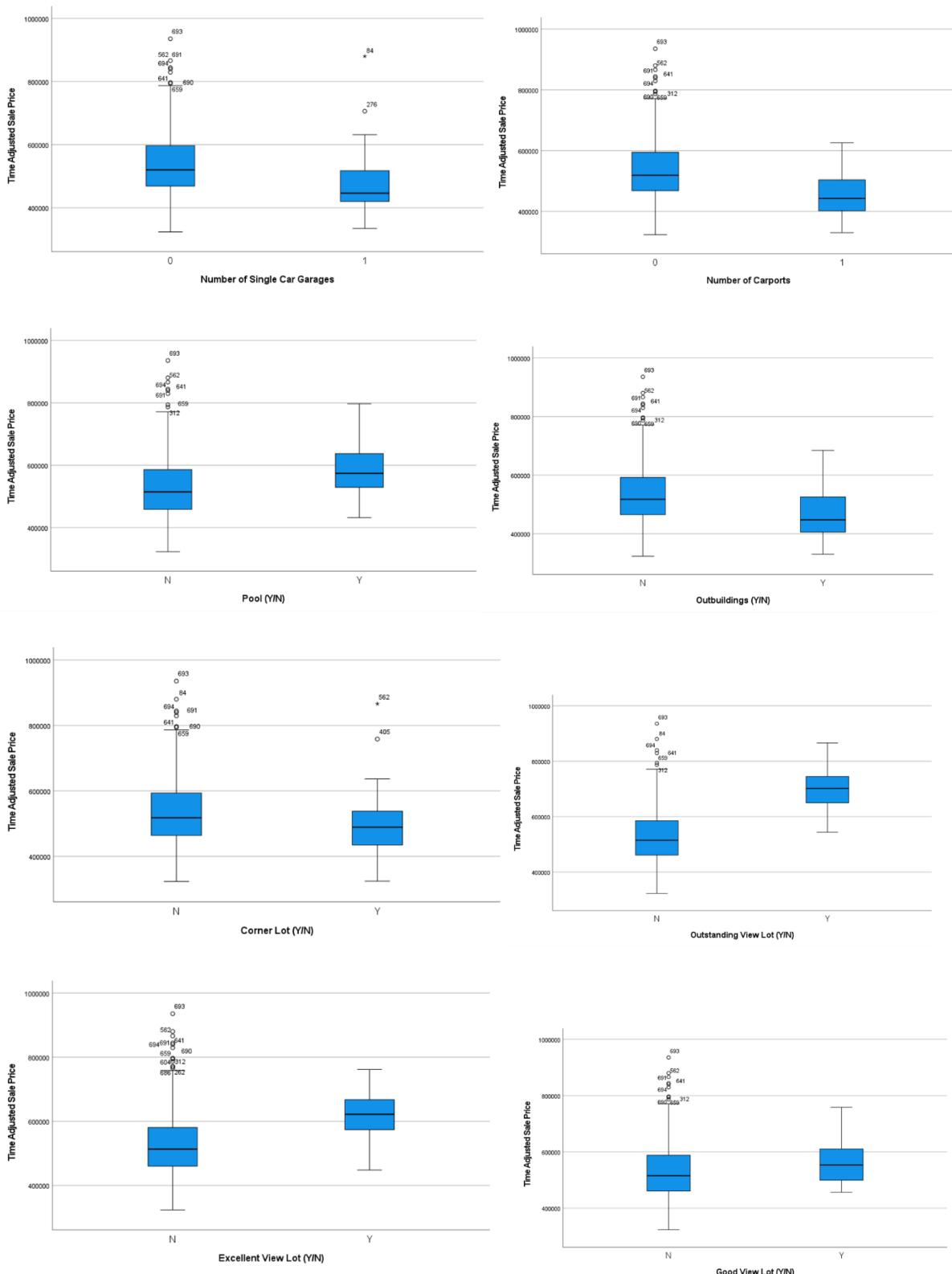
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	N	655	94.4	94.4	94.4
	Y	39	5.6	5.6	100.0
Total		694	100.0	100.0	

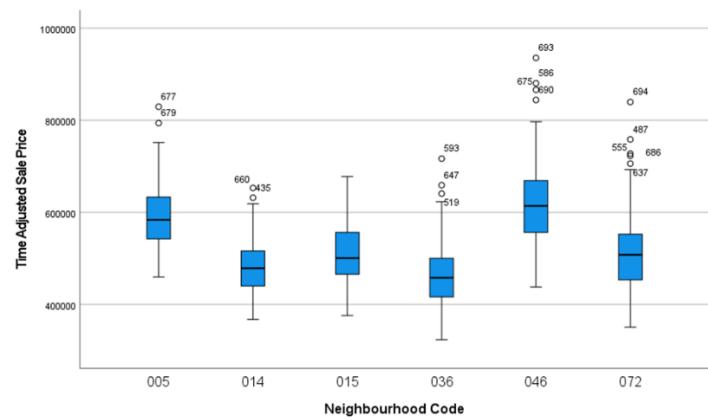
Good View Lot (Y/N)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	N	667	96.1	96.1	96.1
	Y	27	3.9	3.9	100.0
Total		694	100.0	100.0	

Appendix B







Appendix C

		Correlations																											
		Time Adjusted Sale Price	Lot Size sqft	Effective Age	Number of Full Bathrooms	Number of Bedrooms	Number of Fireplaces	Number of Multi-Car Garages	Number of Single-Car Garages	Number of Carports	Aleasant old	Carmel old	Capitola old	Highland old	Westhill old	SouthCove old	MountView old	Un_Finished Area	Un_First Floor	Un_Second Floor	Un_Basement	Un_Deck	Un_Dek	Un_Untere daga	Pool	OutBuildings	Outstanding	ExcellentView	Num
Time_Adjusted_Sale_Price	1	.357**	-.491**	.581**	.561**	.518	.461**	-.188**	-.211**	.179**	-.217**	.338**	.524**	-.108**	.821**	.785**	.674**	.541**	.300**	.461**	.147**	-.136**	.299**	.215**					
Lot_Size_sqft	.357**	1	.358**	-.140**	-.024	.023	.028	.086*	.060*	.008	-.072	-.040	.183**	-.057	.074	.241**	-.028	.003	-.043	.103**	.006	.085*	.152**	.035					
Effective_Age	-.491**	.358**	1	-.602**	.425**	-.454**	-.557**	.298**	.309**	-.114**	.179**	.239**	-.286**	-.009	-.635**	-.540**	-.644**	-.355**	-.337**	-.254**	-.12**	.204**	-.097*	-.151**					
Number_of_Full_Bathrooms	.581**	-.140**	-.602**	1	.655**	.307**	.276**	-.142**	-.198**	.120**	-.171**	-.204**	.324**	-.049	.773**	.546**	.611**	.574**	.300**	.419**	.141**	-.108**	.134**	.141**					
Number_of_Bedrooms	.561**	-.024	-.425**	.655**	1	.315**	.273**	-.111**	-.133**	.143**	-.164**	-.167**	.263**	-.047	.589**	.505**	.537**	.505**	.300**	.421**	.150**	-.066	.078*	.107**					
Number_of_Fireplaces	.518**	.023	-.454**	.367**	.315**	1	.308**	-.183**	-.207**	.139**	-.212**	-.196**	.274**	.005	.487**	.446**	.524**	.222**	.149**	.183**	.060	-.186**	.079*	.127**					
Number_of_Multi-Car_Garages	.46**	.028	-.357**	.276**	.273**	.398**	1	-.559**	-.437**	.084**	-.208**	-.191**	.239**	.031	.433**	.511**	.424**	.150**	.136**	.130**	.099**	-.185**	.081*	.115**					
Number_of_Single_Car_Garages	-.186**	.066*	.290**	-.142**	-.111**	-.183**	-.559**	1	.121**	-.034	.136**	.006*	-.111**	-.028	-.206**	-.197**	-.252**	-.065	-.090*	-.043	-.076*	.063	-.054	-.076*					
Number_of_Carparks	-.211**	.090*	.399**	-.196**	-.133**	-.207**	-.437**	-.121**	1	-.048	.100**	.112**	-.098**	-.059	-.227**	-.224**	-.274**	-.063	-.055	.006	-.032	.140**	-.042	-.060					
AlexanderHeights	.179**	.008	-.114**	.120**	.143**	.139**	.004*	-.034	-.048	1	.117**	-.137**	.165**	-.159**	.164**	.101**	.155**	.132**	.031	.095*	.001	-.051	-.050	.139**					
CalmWood	-.217**	-.072	.179**	-.171**	-.164**	-.212**	-.208**	.136**	.100**	-.117**	1	.190**	-.233**	-.221**	-.260**	-.214**	-.264**	-.151**	-.101**	-.133**	-.080*	.026	-.069	-.080*					
WashHill	-.338**	-.040	.239**	-.204**	-.167**	-.196**	-.191**	.088**	.112**	-.137**	-.190**	1	-.272**	-.288**	-.260**	-.227**	-.258**	-.146**	-.035	-.135**	-.034	.135**	-.059	-.099**					
SouthCove	.524**	.183**	-.286**	.324**	.283**	.274**	.239**	-.111**	-.098**	.168**	-.233**	-.272**	1	-.317**	.446**	.415**	.408**	.264**	.233**	.258**	.104**	-.044	.288**	.090*					
MountainView	-.108	-.057	-.019	-.049	-.047	.005	.031	-.028	-.059	-.159**	-.221**	-.258**	-.317**	1	-.057	-.031	-.014	-.085*	-.089*	-.063	-.030	-.057	-.074	.015					
Lin_FinishableArea	.821**	.074	-.635**	.773**	.669**	.487**	.433**	-.206**	-.227**	.164**	-.260**	-.260**	.446**	-.057	1	.807**	.820**	.771**	.337**	.491**	.166**	-.144**	.198**	.208**					
Lin_First_Floor	.785**	.241**	-.540**	.549**	.505**	.446**	.511**	-.197**	-.224**	.101**	-.214**	-.227**	.415**	-.031	-.007**	1	.613**	.407**	.251**	.367**	.135**	-.141**	.186**	.182**					
Lin_Second_Floor	.674**	-.028	-.644**	.611**	.537**	.524**	.424**	-.252**	-.274**	.155**	-.264**	-.258**	.408**	-.014	.820**	.613**	1	.368**	.256**	.305**	.114**	-.162**	.129**	.163**					
Lin_Basement_FinishedA	.541**	.003	-.355**	.674**	.505**	.222**	.150**	-.005	-.063	.132**	-.151**	-.146**	.264**	-.085	.771**	.407**	.368**	1	.295**	.490**	.147**	-.052	.166**	.156**					
Lin_DeckCoveredArea	.300**	-.043	-.337**	.306**	.300**	.149**	.136**	-.009	-.055	.031	-.101**	-.035	.233**	-.089*	.337**	.251**	.256**	1	.568**	.150**	-.032	.054	.112**						
Lin_DeckUncoveredArea	.461**	.103**	-.256**	.419**	.421**	.183**	.130**	-.006	.005	-.133**	-.135**	.258**	-.063	.491**	.367**	.305**	.490**	.568**	1	.079*	.009	.153**	.120**						
PoolNum	.147**	.006	-.121**	.141**	.160**	.060	.099**	-.076**	-.032	-.001	-.080*	-.034	.104**	-.030	.166**	.135**	.114**	.147**	.150**	.079*	1	-.043	.033	-.005					
OutBuildingsNum	-.136**	.085*	.394**	-.108**	-.066	-.186**	-.185**	.063	.140**	-.051	-.026	.135**	-.044	-.057	-.144**	-.141**	-.162**	-.052	-.032	-.009	-.043	1	-.030	-.043					
ExcellentViewNum	.299**	.162**	-.097**	.134**	.078**	.079**	.061**	-.004	-.042	-.050	-.068	-.059	.255**	-.074	.196**	.196**	.129**	.156**	.112**	.120**	-.005	-.043	-.042	1					
ExcellentViewNum	.215**	.035	-.151**	.141**	.107**	.127**	.115**	-.006	-.060	.139**	-.009**	-.009**	.000	.015	.208**	.182**	.163**	.156**	.112**	.120**	-.005	-.043	-.042	1					

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Appendix D

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.911 ^a	.831	.826	39910.643	.831	174.207	19	674	.000

a. Predictors: (Constant), Lin_FinishedArea, MountView, Lot Size sq/ft, PoolNum, OutBuildingsNum, ExcellentViewNum, Number of Single Car Garages, AlexandraHeights, OutstandingViewNum, Number of Carports, Lin_DeckCoveredArea, CairnWood, Number of Fireplaces, WestHill, Lin_DeckUncoveredArea, Number of Bedrooms, Number of Multi-car Garages, SouthCove, Effective Age

ANOVA^a

Model		Sum of Squares		df	Mean Square	F	Sig.
		Regression	Residual				
1	Regression	5.272E+12		19	2.775E+11	174.207	.000 ^b
	Residual	1.074E+12		674	1592859462		
	Total	6.346E+12		693			

a. Dependent Variable: Time Adjusted Sale Price

b. Predictors: (Constant), Lin_FinishedArea, MountView, Lot Size sq/ft, PoolNum, OutBuildingsNum, ExcellentViewNum, Number of Single Car Garages, AlexandraHeights, OutstandingViewNum, Number of Carports, Lin_DeckCoveredArea, CairnWood, Number of Fireplaces, WestHill, Lin_DeckUncoveredArea, Number of Bedrooms, Number of Multi-car Garages, SouthCove, Effective Age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	Collinearity Statistics	
		B	Std. Error				Tolerance	VIF
1	(Constant)	330719.908	10087.834		32.784	.000		
	Lot Size sq/ft	9.699	.638	.311	15.209	.000	.599	1.670
	Effective Age	-772.484	227.238	-.098	-3.399	.001	.299	3.343
	Number of Bedrooms	4504.061	1830.882	.055	2.460	.014	.498	2.010
	Number of Fireplaces	14636.299	2444.966	.115	5.986	.000	.683	1.464
	Number of Multi-car Garages	17311.053	5821.894	.074	2.973	.003	.407	2.458
	Number of Single Car Garages	5155.471	6615.210	.015	.779	.436	.645	1.551
	Number of Carports	-942.350	7670.776	-.002	-.123	.902	.735	1.360
	AlexandraHeights	18548.533	7183.850	.052	2.582	.010	.620	1.613
	CairnWood	4967.769	6092.447	.018	.815	.415	.514	1.944
	WestHill	-21610.670	5755.937	-.087	-3.755	.000	.466	2.145
	SouthCove	20919.250	5758.038	.095	3.633	.000	.368	2.714
	MountView	-7420.374	5418.223	-.033	-1.370	.171	.441	2.269
	Lin_DeckCoveredArea	25.699	22.199	.023	1.158	.247	.633	1.580
	Lin_DeckUncoveredArea	17.934	10.092	.039	1.777	.076	.535	1.871
	PoolNum	3915.899	6757.174	.009	.580	.562	.948	1.055
	OutBuildingsNum	-2057.729	9386.787	-.004	-.219	.827	.888	1.127
	OutstandingViewNum	53001.932	9596.707	.093	5.523	.000	.890	1.123
	ExcellentViewNum	14386.446	6840.595	.035	2.103	.036	.925	1.081
	Lin_FinishedArea	22.028	1.395	.487	15.788	.000	.264	3.788

a. Dependent Variable: Time Adjusted Sale Price

Appendix E

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.785 ^a	.616	.615	59369.125	.616	1108.400	1	692	.000
2	.822 ^b	.675	.674	54598.592	.060	127.209	1	691	.000
3	.855 ^c	.731	.729	49781.743	.055	141.191	1	690	.000
4	.883 ^d	.780	.779	45020.329	.049	154.669	1	689	.000
5	.891 ^e	.793	.792	43669.247	.013	44.293	1	688	.000
6	.897 ^f	.805	.804	42391.521	.012	43.099	1	687	.000
7	.902 ^g	.814	.812	41510.593	.008	30.468	1	686	.000
8	.906 ^h	.821	.819	40762.447	.007	26.413	1	685	.000
9	.908 ⁱ	.825	.823	40270.931	.005	17.823	1	684	.000
10	.910 ^j	.829	.826	39906.484	.003	13.550	1	683	.000
11	.912 ^k	.831	.829	39604.782	.003	11.446	1	682	.001
12	.913 ^l	.834	.831	39383.357	.002	8.690	1	681	.003
13	.914 ^m	.835	.832	39251.031	.001	5.599	1	680	.018
14	.914 ⁿ	.836	.833	39147.359	.001	4.606	1	679	.032
15	.915 ^o	.837	.833	39059.458	.001	4.060	1	678	.044

- a. Predictors: (Constant), Lin_First_Floor
- b. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor
- c. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft
- d. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea
- e. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove
- f. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces
- g. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill
- h. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum
- i. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights
- j. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights, Effective Age
- k. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights, Effective Age, Lin_DeckUncoveredArea
- l. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights, Effective Age, Lin_DeckUncoveredArea, Number of Bedrooms
- m. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights, Effective Age, Lin_DeckUncoveredArea, Number of Bedrooms, MountView
- n. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights, Effective Age, Lin_DeckUncoveredArea, Number of Bedrooms, MountView, ExcellentViewNum
- o. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights, Effective Age, Lin_DeckUncoveredArea, Number of Bedrooms, MountView, ExcellentViewNum, Number of Multi-car Garages

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.907E+12	1	3.907E+12	1108.400	.000 ^b
	Residual	2.439E+12	692	3524692989		
	Total	6.346E+12	693			
2	Regression	4.286E+12	2	2.143E+12	718.882	.000 ^c
	Residual	2.060E+12	691	2981006230		
	Total	6.346E+12	693			
3	Regression	4.636E+12	3	1.545E+12	623.550	.000 ^d
	Residual	1.710E+12	690	2478221920		
	Total	6.346E+12	693			
4	Regression	4.949E+12	4	1.237E+12	610.482	.000 ^e
	Residual	1.396E+12	689	2026830048		
	Total	6.346E+12	693			
5	Regression	5.034E+12	5	1.007E+12	527.932	.000 ^f
	Residual	1.312E+12	688	1907003173		
	Total	6.346E+12	693			
6	Regression	5.111E+12	6	8.519E+11	474.047	.000 ^g
	Residual	1.235E+12	687	1797041054		
	Total	6.346E+12	693			
7	Regression	5.164E+12	7	7.377E+11	428.107	.000 ^h
	Residual	1.182E+12	686	1723129311		
	Total	6.346E+12	693			
8	Regression	5.208E+12	8	6.510E+11	391.772	.000 ⁱ
	Residual	1.138E+12	685	1661577048		
	Total	6.346E+12	693			
9	Regression	5.237E+12	9	5.818E+11	358.775	.000 ^j
	Residual	1.109E+12	684	1621747858		
	Total	6.346E+12	693			
10	Regression	5.256E+12	10	5.258E+11	330.177	.000 ^k
	Residual	1.088E+12	683	1592527463		
	Total	6.346E+12	693			
11	Regression	5.276E+12	11	4.796E+11	305.792	.000 ^l
	Residual	1.070E+12	682	1568538723		
	Total	6.346E+12	693			
12	Regression	5.290E+12	12	4.408E+11	284.194	.000 ^m
	Residual	1.056E+12	681	1551048813		
	Total	6.346E+12	693			
13	Regression	5.298E+12	13	4.076E+11	264.536	.000 ⁿ
	Residual	1.048E+12	680	1540643437		
	Total	6.346E+12	693			
14	Regression	5.305E+12	14	3.789E+11	247.272	.000 ^o
	Residual	1.041E+12	679	1532515725		
	Total	6.346E+12	693			
15	Regression	5.311E+12	15	3.541E+11	232.098	.000 ^p
	Residual	1.034E+12	678	1525641245		
	Total	6.346E+12	693			

a. Dependent Variable: Time Adjusted Sale Price

b. Predictors: (Constant), Lin_First_Floor

c. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor

d. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft

e. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea

f. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove

g. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces

h. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill

i. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum

j. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights

k. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights, Effective Age

l. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights, Effective Age, Lin_DeckUncoveredArea

m. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights, Effective Age, Lin_DeckUncoveredArea, Number of Bedrooms

n. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights, Effective Age, Lin_DeckUncoveredArea, Number of Bedrooms, MountView

o. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights, Effective Age, Lin_DeckUncoveredArea, Number of Bedrooms, MountView, ExcellentViewNum

p. Predictors: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sqft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights, Effective Age, Lin_DeckUncoveredArea, Number of Bedrooms, MountView, ExcellentViewNum, Number of Multi-car Garages

Model		Coefficients ^a						Collinearity Statistics	
		Unstandardized Coefficients		Standardized Coefficients		t	Sig.		
		B	Std. Error	Beta	d Coefficients		Tolerance	VIF	
1	(Constant)	345340.50	6040.205			57.174	.000		
	2								
	Lin_First_Floor	101.069	3.036	.785	.785	33.293	.000	1.000	1.000
2	(Constant)	354647.80	5615.812			63.152	.000		
	0								
	Lin_First_Floor	76.660	3.532	.595	.595	21.702	.000	.625	1.601
	Lin_Second_Floor	32.353	2.869	.309	.309	11.279	.000	.625	1.601
3	(Constant)	312265.05	6240.245			50.041	.000		
	8								
	Lin_First_Floor	63.459	3.407	.493	.493	18.626	.000	.558	1.791
	Lin_Second_Floor	39.639	2.686	.379	.379	14.756	.000	.592	1.689
	Lot Size sq/ft	7.739	.651	.248	.248	11.882	.000	.893	1.120
4	(Constant)	316916.01	5655.769			56.034	.000		
	6								
	Lin_First_Floor	53.251	3.189	.413	.413	16.701	.000	.521	1.918
	Lin_Second_Floor	35.254	2.455	.337	.337	14.361	.000	.580	1.724
	Lot Size sq/ft	8.274	.591	.266	.266	14.011	.000	.888	1.126
	Lin_BasementFinished Area	23.868	1.919	.247	.247	12.437	.000	.807	1.239
5	(Constant)	324595.02	5606.058			57.901	.000		
	7								
	Lin_First_Floor	50.271	3.125	.390	.390	16.086	.000	.511	1.959
	Lin_Second_Floor	31.515	2.447	.301	.301	12.882	.000	.549	1.820
	Lot Size sq/ft	7.667	.580	.246	.246	13.219	.000	.866	1.154
	Lin_BasementFinished Area	22.686	1.870	.235	.235	12.132	.000	.800	1.250
	SouthCove	29100.108	4372.451	.132	.132	6.655	.000	.765	1.307
6	(Constant)	311850.49	5777.912			53.973	.000		
	7								
	Lin_First_Floor	46.835	3.078	.364	.364	15.214	.000	.496	2.017
	Lin_Second_Floor	26.146	2.512	.250	.250	10.409	.000	.491	2.036
	Lot Size sq/ft	7.757	.563	.249	.249	13.772	.000	.866	1.155
	Lin_BasementFinished Area	22.852	1.815	.237	.237	12.588	.000	.800	1.250
	SouthCove	27966.283	4248.029	.127	.127	6.583	.000	.764	1.309
	Number of Fireplaces	16849.969	2566.638	.132	.132	6.565	.000	.699	1.430

7	(Constant)	320601.51	5875.767		54.563	.000		
		2						
	Lin_First_Floor	46.305	3.016	.359	15.353	.000	.495	2.019
	Lin_Second_Floor	24.980	2.469	.239	10.118	.000	.487	2.051
	Lot Size sq/ft	7.763	.552	.249	14.076	.000	.866	1.155
	Lin_BasementFinished Area	22.634	1.778	.235	12.729	.000	.800	1.251
	SouthCove	24043.946	4220.009	.109	5.698	.000	.742	1.347
	Number of Fireplaces	16106.602	2516.907	.126	6.399	.000	.697	1.434
8	WestHill	-23853.882	4321.518	-.096	-5.520	.000	.895	1.118
	(Constant)	323803.07	5803.400		55.795	.000		
		4						
	Lin_First_Floor	45.462	2.966	.353	15.326	.000	.494	2.025
	Lin_Second_Floor	25.086	2.424	.240	10.348	.000	.487	2.051
	Lot Size sq/ft	7.498	.544	.241	13.782	.000	.858	1.166
	Lin_BasementFinished Area	21.928	1.751	.227	12.520	.000	.795	1.259
	SouthCove	20129.625	4213.364	.091	4.778	.000	.718	1.393
9	Number of Fireplaces	16332.174	2471.935	.128	6.607	.000	.697	1.435
	WestHill	-24347.410	4244.717	-.098	-5.736	.000	.894	1.118
	OutstandingViewNum	49848.352	9699.423	.087	5.139	.000	.909	1.100
	(Constant)	324307.20	5734.666		56.552	.000		
		9						
	Lin_First_Floor	45.383	2.931	.352	15.486	.000	.494	2.025
	Lin_Second_Floor	23.824	2.414	.228	9.871	.000	.480	2.083
	Lot Size sq/ft	7.343	.539	.236	13.630	.000	.854	1.171
10	Lin_BasementFinished Area	21.085	1.742	.219	12.105	.000	.784	1.275
	SouthCove	25575.591	4357.860	.116	5.869	.000	.655	1.527
	Number of Fireplaces	15533.696	2449.441	.122	6.342	.000	.693	1.443
	WestHill	-21663.915	4241.434	-.087	-5.108	.000	.874	1.144
	OutstandingViewNum	51100.855	9587.059	.089	5.330	.000	.908	1.101
	AlexandraHeights	25890.774	6132.706	.073	4.222	.000	.866	1.155
	(Constant)	340093.53	7119.349		47.770	.000		
		3						
11	Lin_First_Floor	40.813	3.158	.317	12.923	.000	.417	2.395
	Lin_Second_Floor	20.755	2.533	.198	8.194	.000	.428	2.337
	Lot Size sq/ft	8.719	.652	.280	13.378	.000	.573	1.745
	Lin_BasementFinished Area	20.597	1.731	.213	11.898	.000	.780	1.283
	SouthCove	24915.856	4322.139	.113	5.765	.000	.654	1.529

	Number of Fireplaces	14150.928	2456.169	.111	5.761	.000	.677	1.478
	WestHill	-20280.274	4219.824	-.082	-4.806	.000	.867	1.153
	OutstandingViewNum	49516.621	9510.040	.087	5.207	.000	.907	1.103
	AlexandraHeights	25509.443	6078.089	.071	4.197	.000	.866	1.155
	Effective Age	-767.894	208.606	-.098	-3.681	.000	.355	2.818
11	(Constant)	339789.43	7066.097		48.087	.000		
		7						
	Lin_First_Floor	39.844	3.147	.309	12.660	.000	.414	2.415
	Lin_Second_Floor	20.468	2.515	.196	8.138	.000	.427	2.339
	Lot Size sq/ft	8.589	.648	.276	13.255	.000	.571	1.752
	Lin_BasementFinishedArea	18.224	1.856	.189	9.820	.000	.668	1.497
	SouthCove	23965.729	4298.646	.109	5.575	.000	.651	1.536
	Number of Fireplaces	14330.832	2438.179	.112	5.878	.000	.676	1.479
	WestHill	-20144.403	4188.113	-.081	-4.810	.000	.867	1.153
	OutstandingViewNum	48244.660	9445.628	.084	5.108	.000	.905	1.105
	AlexandraHeights	24696.778	6036.918	.069	4.091	.000	.864	1.157
	Effective Age	-754.239	207.068	-.096	-3.642	.000	.355	2.819
	Lin_DeckUncoveredArea	29.321	8.667	.063	3.383	.001	.714	1.401
12	(Constant)	325567.55	8523.337		38.197	.000		
		5						
	Lin_First_Floor	38.185	3.180	.296	12.008	.000	.401	2.494
	Lin_Second_Floor	18.562	2.583	.177	7.185	.000	.401	2.496
	Lot Size sq/ft	8.756	.647	.281	13.537	.000	.567	1.765
	Lin_BasementFinishedArea	15.788	2.022	.164	7.809	.000	.557	1.797
	SouthCove	24232.923	4275.574	.110	5.668	.000	.651	1.537
	Number of Fireplaces	14272.378	2424.629	.112	5.886	.000	.676	1.479
	WestHill	-20158.449	4164.701	-.081	-4.840	.000	.867	1.153
	OutstandingViewNum	50132.851	9414.632	.088	5.325	.000	.901	1.110
	AlexandraHeights	24272.034	6004.895	.068	4.042	.000	.864	1.158
	Effective Age	-779.883	206.094	-.099	-3.784	.000	.354	2.824
	Lin_DeckUncoveredArea	26.139	8.686	.056	3.009	.003	.703	1.423
	Number of Bedrooms	5315.828	1803.234	.065	2.948	.003	.499	2.002
13	(Constant)	329022.09	8619.233		38.173	.000		
		6						
	Lin_First_Floor	38.550	3.173	.299	12.149	.000	.400	2.499
	Lin_Second_Floor	19.108	2.585	.183	7.392	.000	.398	2.516
	Lot Size sq/ft	8.783	.645	.282	13.622	.000	.566	1.766

	Lin_BasementFinishedArea	15.676	2.016	.162	7.777	.000	.556	1.798
	SouthCove	18577.889	4885.601	.084	3.803	.000	.495	2.020
	Number of Fireplaces	14536.245	2419.054	.114	6.009	.000	.675	1.482
	WestHill	-24746.149	4581.174	-.100	-5.402	.000	.712	1.405
	OutstandingViewNum	50162.561	9383.008	.088	5.346	.000	.901	1.110
	AlexandraHeights	18838.316	6410.131	.053	2.939	.003	.753	1.328
	Effective Age	-780.859	205.402	-.100	-3.802	.000	.354	2.824
	Lin_DeckUncoveredArea	26.365	8.657	.057	3.046	.002	.703	1.423
	Number of Bedrooms	5256.060	1797.353	.064	2.924	.004	.499	2.003
	MountView	-10273.234	4341.460	-.045	-2.366	.018	.664	1.506
14	(Constant)	328896.679	8596.667		38.259	.000		
	Lin_First_Floor	38.169	3.170	.296	12.042	.000	.399	2.507
	Lin_Second_Floor	19.005	2.579	.182	7.370	.000	.397	2.517
	Lot Size sq/ft	8.746	.643	.281	13.595	.000	.566	1.767
	Lin_BasementFinishedArea	15.326	2.017	.159	7.598	.000	.553	1.809
	SouthCove	18075.054	4878.326	.082	3.705	.000	.494	2.025
	Number of Fireplaces	14469.673	2412.864	.113	5.997	.000	.675	1.482
	WestHill	-24721.194	4569.089	-.100	-5.411	.000	.712	1.405
	OutstandingViewNum	52054.324	9399.643	.091	5.538	.000	.893	1.120
	AlexandraHeights	17261.234	6435.290	.048	2.682	.007	.743	1.346
	Effective Age	-765.579	204.983	-.098	-3.735	.000	.354	2.827
	Lin_DeckUncoveredArea	25.871	8.637	.056	2.995	.003	.702	1.424
	Number of Bedrooms	5482.060	1795.696	.067	3.053	.002	.498	2.010
	MountView	-10743.644	4335.537	-.047	-2.478	.013	.662	1.510
	ExcellentViewNum	14377.619	6698.951	.035	2.146	.032	.928	1.078
	(Constant)	322891.878	9080.383		35.559	.000		
	Lin_First_Floor	36.935	3.221	.287	11.466	.000	.384	2.601
	Lin_Second_Floor	19.315	2.578	.185	7.494	.000	.396	2.526
	Lot Size sq/ft	8.542	.650	.274	13.144	.000	.552	1.811
	Lin_BasementFinishedArea	15.810	2.027	.164	7.801	.000	.545	1.835
	SouthCove	17922.911	4867.958	.081	3.682	.000	.494	2.025
	Number of Fireplaces	13883.912	2424.936	.109	5.725	.000	.665	1.504
	WestHill	-24622.901	4559.091	-.099	-5.401	.000	.712	1.405
	OutstandingViewNum	52400.537	9380.111	.092	5.586	.000	.893	1.120

AlexandraHeights	16998.022	6422.169	.048	2.647	.008	.743	1.346
Effective Age	-598.683	220.660	-.076	-2.713	.007	.304	3.291
Lin_DeckUncoveredArea	27.022	8.637	.058	3.129	.002	.699	1.430
Number of Bedrooms	5371.221	1792.508	.066	2.996	.003	.497	2.011
MountView	-11047.551	4328.431	-.049	-2.552	.011	.661	1.512
ExcellentViewNum	14346.311	6683.927	.035	2.146	.032	.928	1.078
Number of Multi-car Garages	9593.433	4761.406	.041	2.015	.044	.583	1.716

a. Dependent Variable: Time Adjusted Sale Price

Excluded Variables^a

Model		Beta		Partial Correlatio	Collinearity Statistics				
		In	t		Sig.	n	Toleran		
1	Lot Size sq/ft	.178 ^b	7.630	.000		.279	.942	1.061	.942
	Number of Bedrooms	.221 ^b	8.505	.000		.308	.745	1.343	.745
	Number of Fireplaces	.210 ^b	8.384	.000		.304	.802	1.248	.802
	Number of Multi-car Garages	.082 ^b	3.006	.003		.114	.739	1.353	.739
	Number of Single Car Garages	-.033 ^b	-1.364	.173		-.052	.961	1.041	.961
	Number of Carports	-.037 ^b	-1.549	.122		-.059	.950	1.053	.950
	AlexandraHeights	.101 ^b	4.299	.000		.161	.990	1.010	.990
	CairnWood	-.052 ^b	-2.153	.032		-.082	.954	1.048	.954
	WestHill	-.169 ^b	-7.233	.000		-.265	.949	1.054	.949
	SouthCove	.240 ^b	9.883	.000		.352	.828	1.208	.828
	MountView	-.084 ^b	-3.572	.000		-.135	.999	1.001	.999
	Lin_DeckCovered Area	.110 ^b	4.564	.000		.171	.937	1.067	.937
	Lin_DeckUncoveredArea	.199 ^b	8.244	.000		.299	.865	1.156	.865
	PoolNum	.042 ^b	1.759	.079		.067	.982	1.019	.982
	OutBuildingsNum	-.025 ^b	-1.066	.287		-.041	.980	1.020	.980
	OutstandingViewNum	.151 ^b	6.468	.000		.239	.962	1.040	.962
	ExcellentViewNum	.075 ^b	3.147	.002		.119	.967	1.034	.967

	Number of Full Bathrooms	.224 ^b	8.341	.000	.302	.699	1.431	.699
	Lin_Second_Floor	.309 ^b	11.279	.000	.394	.625	1.601	.625
	Lin_BasementFini shedArea	.265 ^b	11.133	.000	.390	.834	1.199	.834
	Effective Age	-.095 ^b	-3.424	.001	-.129	.708	1.412	.708
2	Lot Size sq/ft	.248 ^c	11.882	.000	.412	.893	1.120	.558
	Number of Bedrooms	.143 ^c	5.462	.000	.204	.662	1.511	.555
	Number of Fireplaces	.130 ^c	5.108	.000	.191	.701	1.427	.546
	Number of Multi-car Garages	.036 ^c	1.424	.155	.054	.719	1.390	.548
	Number of Single Car Garages	.010 ^c	.429	.668	.016	.934	1.071	.607
	Number of Carports	.008 ^c	.334	.738	.013	.920	1.087	.605
	AlexandraHeights	.073 ^c	3.333	.001	.126	.976	1.025	.616
	CairnWood	-.009 ^c	-.406	.685	-.015	.926	1.080	.606
	WestHill	-.133 ^c	-6.062	.000	-.225	.926	1.080	.610
	SouthCove	.191 ^c	8.194	.000	.298	.790	1.266	.592
	MountView	-.085 ^c	-3.969	.000	-.149	.999	1.001	.624
	Lin_DeckCovered Area	.077 ^c	3.451	.001	.130	.920	1.087	.614
	Lin_DeckUncoveredArea	.173 ^c	7.680	.000	.281	.855	1.170	.589
	PoolNum	.032 ^c	1.466	.143	.056	.980	1.020	.620
	OutBuildingsNum	-.001 ^c	-.065	.948	-.002	.971	1.030	.619
	OutstandingViewNum	.148 ^c	6.927	.000	.255	.962	1.040	.611
	ExcellentViewNum	.059 ^c	2.670	.008	.101	.963	1.039	.618
	Number of Full Bathrooms	.124 ^c	4.413	.000	.166	.578	1.730	.517
	Lin_BasementFini shedArea	.227 ^c	10.104	.000	.359	.812	1.232	.586
	Effective Age	.053 ^c	1.830	.068	.070	.552	1.813	.486
3	Number of Bedrooms	.175 ^d	7.445	.000	.273	.655	1.528	.513
	Number of Fireplaces	.135 ^d	5.845	.000	.217	.700	1.428	.522

	Number of Multi-car Garages	.059 ^d	2.532	.012	.096	.715	1.399	.487
	Number of Single Car Garages	-.016 ^d	-.797	.426	-.030	.923	1.083	.554
	Number of Carports	-.021 ^d	-1.022	.307	-.039	.907	1.102	.552
	AlexandraHeights	.070 ^d	3.541	.000	.134	.976	1.025	.558
	CairnWood	.006 ^d	.306	.760	.012	.922	1.084	.557
	WestHill	-.128 ^d	-6.415	.000	-.237	.925	1.081	.555
	SouthCove	.155 ^d	7.123	.000	.262	.772	1.295	.542
	MountView	-.073 ^d	-3.744	.000	-.141	.996	1.004	.558
	Lin_DeckCoveredArea	.098 ^d	4.827	.000	.181	.914	1.094	.547
	Lin_DeckUncoveredArea	.162 ^d	7.923	.000	.289	.853	1.172	.533
	PoolNum	.037 ^d	1.837	.067	.070	.980	1.021	.554
	OutBuildingsNum	-.027 ^d	-1.330	.184	-.051	.960	1.042	.554
	OutstandingViewNum	.122 ^d	6.172	.000	.229	.949	1.054	.552
	ExcellentViewNum	.057 ^d	2.853	.004	.108	.962	1.039	.553
	Number of Full Bathrooms	.224 ^d	8.755	.000	.316	.536	1.867	.489
	Lin_BasementFinishedArea	.247 ^d	12.437	.000	.428	.807	1.239	.521
	Effective Age	-.188 ^d	-5.941	.000	-.221	.373	2.684	.373
4	Number of Bedrooms	.060 ^e	2.393	.017	.091	.511	1.956	.504
	Number of Fireplaces	.138 ^e	6.637	.000	.245	.700	1.428	.505
	Number of Multi-car Garages	.089 ^e	4.242	.000	.160	.706	1.417	.450
	Number of Single Car Garages	-.029 ^e	-1.568	.117	-.060	.920	1.087	.516
	Number of Carports	-.038 ^e	-2.030	.043	-.077	.903	1.108	.513
	AlexandraHeights	.052 ^e	2.878	.004	.109	.969	1.032	.521
	CairnWood	.018 ^e	.961	.337	.037	.920	1.087	.521
	WestHill	-.120 ^e	-6.631	.000	-.245	.924	1.082	.519
	SouthCove	.132 ^e	6.655	.000	.246	.765	1.307	.511
	MountView	-.055 ^e	-3.067	.002	-.116	.989	1.011	.521

	Lin_DeckCovered Area	.055 ^e	2.892	.004	.110	.879	1.137	.517
	Lin_DeckUncoveredArea	.080 ^e	3.825	.000	.144	.720	1.389	.514
	PoolNum	.015 ^e	.841	.401	.032	.971	1.030	.519
	OutBuildingsNum	-.034 ^e	-1.854	.064	-.071	.959	1.042	.517
	OutstandingViewNum	.101 ^e	5.624	.000	.210	.940	1.064	.518
	ExcellentViewNum	.039 ^e	2.134	.033	.081	.956	1.046	.518
	Number of Full Bathrooms	.071 ^e	2.368	.018	.090	.352	2.839	.352
	Effective Age	-.157 ^e	-5.451	.000	-.203	.370	2.705	.370
5	Number of Bedrooms	.066 ^f	2.715	.007	.103	.511	1.958	.493
	Number of Fireplaces	.132 ^f	6.565	.000	.243	.699	1.430	.491
	Number of Multi-car Garages	.086 ^f	4.222	.000	.159	.705	1.417	.442
	Number of Single Car Garages	-.027 ^f	-1.496	.135	-.057	.920	1.087	.506
	Number of Carports	-.039 ^f	-2.160	.031	-.082	.903	1.108	.503
	AlexandraHeights	.092 ^f	5.106	.000	.191	.893	1.119	.510
	CairnWood	.033 ^f	1.796	.073	.068	.907	1.102	.510
	WestHill	-.102 ^f	-5.707	.000	-.213	.897	1.114	.510
	MountView	-.018 ^f	-.971	.332	-.037	.878	1.139	.508
	Lin_DeckCovered Area	.041 ^f	2.184	.029	.083	.866	1.154	.508
6	Lin_DeckUncoveredArea	.071 ^f	3.487	.001	.132	.717	1.395	.504
	PoolNum	.011 ^f	.597	.551	.023	.969	1.032	.509
	OutBuildingsNum	-.036 ^f	-2.045	.041	-.078	.959	1.043	.506
	OutstandingViewNum	.083 ^f	4.622	.000	.174	.910	1.099	.509
	ExcellentViewNum	.040 ^f	2.248	.025	.085	.956	1.046	.508
	Number of Full Bathrooms	.063 ^f	2.173	.030	.083	.352	2.843	.352
	Effective Age	-.145 ^f	-5.155	.000	-.193	.368	2.718	.368
	Number of Bedrooms	.065 ^g	2.779	.006	.105	.511	1.958	.458

	Number of Multi-car Garages	.065 ^g	3.212	.001	.122	.684	1.463	.438
	Number of Single Car Garages	-.021 ^g	-1.210	.227	-.046	.918	1.090	.484
	Number of Carports	-.032 ^g	-1.814	.070	-.069	.899	1.112	.483
	AlexandraHeights	.083 ^g	4.696	.000	.176	.887	1.128	.482
	CairnWood	.042 ^g	2.359	.019	.090	.902	1.109	.485
	WestHill	-.096 ^g	-5.520	.000	-.206	.895	1.118	.487
	MountView	-.022 ^g	-1.225	.221	-.047	.877	1.140	.488
	Lin_DeckCovered Area	.042 ^g	2.314	.021	.088	.866	1.154	.490
	Lin_DeckUncoveredArea	.073 ^g	3.702	.000	.140	.717	1.396	.490
	PoolNum	.012 ^g	.720	.472	.027	.969	1.032	.491
	OutBuildingsNum	-.024 ^g	-1.378	.169	-.053	.947	1.056	.490
	OutstandingViewNum	.085 ^g	4.898	.000	.184	.910	1.099	.491
	ExcellentViewNum	.036 ^g	2.104	.036	.080	.955	1.047	.490
	Number of Full Bathrooms	.059 ^g	2.082	.038	.079	.351	2.845	.351
	Effective Age	-.119 ^g	-4.283	.000	-.161	.359	2.788	.359
7	Number of Bedrooms	.065 ^h	2.826	.005	.107	.511	1.958	.455
	Number of Multi-car Garages	.058 ^h	2.940	.003	.112	.681	1.468	.438
	Number of Single Car Garages	-.019 ^h	-1.131	.259	-.043	.917	1.090	.481
	Number of Carports	-.028 ^h	-1.615	.107	-.062	.897	1.114	.480
	AlexandraHeights	.070 ^h	3.980	.000	.150	.867	1.154	.480
	CairnWood	.012 ^h	.660	.509	.025	.809	1.237	.477
	MountView	-.066 ^h	-3.515	.000	-.133	.762	1.312	.487
	Lin_DeckCovered Area	.049 ^h	2.778	.006	.106	.862	1.161	.486
	Lin_DeckUncoveredArea	.071 ^h	3.688	.000	.140	.716	1.396	.486
	PoolNum	.013 ^h	.804	.421	.031	.969	1.032	.487
	OutBuildingsNum	-.015 ^h	-.875	.382	-.033	.938	1.066	.487
	OutstandingViewNum	.087 ^h	5.139	.000	.193	.909	1.100	.487

	ExcellentViewNum	.032 ^h	1.886	.060	.072	.953	1.049	.487
	Number of Full Bathrooms	.056 ^h	2.018	.044	.077	.351	2.846	.351
	Effective Age	-.106 ^h	-3.869	.000	-.146	.356	2.811	.356
8	Number of Bedrooms	.073 ⁱ	3.228	.001	.122	.508	1.967	.455
	Number of Multi-car Garages	.059 ⁱ	3.021	.003	.115	.681	1.468	.437
	Number of Single Car Garages	-.017 ⁱ	-.993	.321	-.038	.916	1.091	.481
	Number of Carports	-.026 ⁱ	-1.538	.125	-.059	.897	1.115	.480
	AlexandraHeights	.073 ⁱ	4.222	.000	.159	.866	1.155	.480
	CairnWood	.011 ⁱ	.608	.544	.023	.808	1.237	.477
	MountView	-.067 ⁱ	-3.654	.000	-.138	.762	1.312	.486
	Lin_DeckCovered Area	.052 ⁱ	2.987	.003	.113	.861	1.162	.486
	Lin_DeckUncoveredArea	.067 ⁱ	3.551	.000	.135	.715	1.398	.486
	PoolNum	.014 ⁱ	.864	.388	.033	.969	1.032	.487
	OutBuildingsNum	-.013 ⁱ	-.759	.448	-.029	.937	1.067	.487
	ExcellentViewNum	.040 ⁱ	2.397	.017	.091	.945	1.058	.487
	Number of Full Bathrooms	.055 ⁱ	2.027	.043	.077	.351	2.846	.351
	Effective Age	-.100 ⁱ	-3.708	.000	-.140	.355	2.817	.355
9	Number of Bedrooms	.070 ^j	3.148	.002	.120	.508	1.968	.449
	Number of Multi-car Garages	.058 ^j	3.003	.003	.114	.681	1.469	.437
	Number of Single Car Garages	-.017 ^j	-1.007	.314	-.039	.916	1.091	.474
	Number of Carports	-.026 ^j	-1.563	.118	-.060	.897	1.115	.473
	CairnWood	.024 ^j	1.340	.181	.051	.786	1.272	.472
	MountView	-.045 ^j	-2.313	.021	-.088	.664	1.506	.476
	Lin_DeckCovered Area	.050 ^j	2.940	.003	.112	.861	1.162	.478
	Lin_DeckUncoveredArea	.064 ^j	3.424	.001	.130	.714	1.400	.479
	PoolNum	.015 ^j	.934	.350	.036	.969	1.033	.480
	OutBuildingsNum	-.013 ^j	-.757	.449	-.029	.937	1.067	.480

	ExcellentViewNum	.033 ^j	1.999	.046	.076	.935	1.069	.480
	Number of Full Bathrooms	.056 ^j	2.094	.037	.080	.351	2.847	.351
	Effective Age	-.098 ^j	-3.681	.000	-.139	.355	2.818	.355
10	Number of Bedrooms	.073 ^k	3.328	.001	.126	.507	1.971	.354
	Number of Multi-car Garages	.037 ^k	1.770	.077	.068	.586	1.706	.306
	Number of Single Car Garages	-.009 ^k	-.518	.604	-.020	.899	1.112	.348
	Number of Carports	-.010 ^k	-.571	.568	-.022	.827	1.209	.327
	CairnWood	.027 ^k	1.519	.129	.058	.784	1.275	.354
	MountView	-.045 ^k	-2.344	.019	-.089	.664	1.506	.355
	Lin_DeckCovered Area	.050 ^k	2.917	.004	.111	.860	1.162	.355
	Lin_DeckUncoveredArea	.063 ^k	3.383	.001	.128	.714	1.401	.355
	PoolNum	.013 ^k	.819	.413	.031	.967	1.034	.355
	OutBuildingsNum	.000 ^k	.012	.991	.000	.896	1.116	.339
	ExcellentViewNum	.031 ^k	1.879	.061	.072	.934	1.071	.354
	Number of Full Bathrooms	.042 ^k	1.561	.119	.060	.343	2.916	.343
11	Number of Bedrooms	.065 ^l	2.948	.003	.112	.499	2.002	.354
	Number of Multi-car Garages	.041 ^l	2.000	.046	.076	.584	1.713	.305
	Number of Single Car Garages	-.011 ^l	-.637	.524	-.024	.898	1.113	.348
	Number of Carports	-.016 ^l	-.937	.349	-.036	.818	1.223	.326
	CairnWood	.028 ^l	1.581	.114	.060	.784	1.275	.354
	MountView	-.046 ^l	-2.394	.017	-.091	.664	1.506	.355
	Lin_DeckCovered Area	.028 ^l	1.424	.155	.054	.646	1.549	.355
	PoolNum	.014 ^l	.869	.385	.033	.967	1.034	.354
	OutBuildingsNum	-.004 ^l	-.238	.812	-.009	.891	1.122	.339
	ExcellentViewNum	.030 ^l	1.826	.068	.070	.933	1.071	.354
	Number of Full Bathrooms	.037 ^l	1.364	.173	.052	.342	2.927	.342

12	Number of Multi-car Garages	.039 ^m	1.923	.055	.074	.583	1.714	.304
	Number of Single Car Garages	-.012 ^m	-.714	.476	-.027	.898	1.114	.348
	Number of Carports	-.016 ^m	-.932	.352	-.036	.818	1.223	.326
	CairnWood	.028 ^m	1.563	.119	.060	.784	1.275	.353
	MountView	-.045 ^m	-2.366	.018	-.090	.664	1.506	.354
	Lin_DeckCovered Area	.026 ^m	1.334	.183	.051	.645	1.551	.354
	PoolNum	.012 ^m	.723	.470	.028	.965	1.037	.354
	OutBuildingsNum	-.005 ^m	-.319	.750	-.012	.890	1.123	.338
	ExcellentViewNum	.033 ^m	2.016	.044	.077	.930	1.075	.354
	Number of Full Bathrooms	.019 ^m	.691	.490	.026	.322	3.101	.322
13	Number of Multi-car Garages	.041 ⁿ	2.014	.044	.077	.583	1.716	.304
	Number of Single Car Garages	-.013 ⁿ	-.778	.437	-.030	.897	1.115	.348
	Number of Carports	-.018 ⁿ	-1.046	.296	-.040	.816	1.225	.326
	CairnWood	.005 ⁿ	.235	.814	.009	.519	1.926	.353
	Lin_DeckCovered Area	.026 ⁿ	1.317	.188	.050	.645	1.551	.354
	PoolNum	.011 ⁿ	.713	.476	.027	.965	1.037	.354
	OutBuildingsNum	-.006 ⁿ	-.354	.724	-.014	.890	1.123	.338
	ExcellentViewNum	.035 ⁿ	2.146	.032	.082	.928	1.078	.354
	Number of Full Bathrooms	.018 ⁿ	.665	.506	.026	.322	3.102	.322
14	Number of Multi-car Garages	.041 ^o	2.015	.044	.077	.583	1.716	.304
	Number of Single Car Garages	-.012 ^o	-.714	.476	-.027	.896	1.116	.347
	Number of Carports	-.018 ^o	-1.043	.297	-.040	.816	1.225	.326
	CairnWood	.005 ^o	.222	.824	.009	.519	1.926	.353
	Lin_DeckCovered Area	.024 ^o	1.223	.222	.047	.643	1.554	.354
	PoolNum	.013 ^o	.797	.426	.031	.963	1.038	.353
	OutBuildingsNum	-.006 ^o	-.355	.723	-.014	.890	1.123	.338

	Number of Full Bathrooms	.019 ^o	.706	.481	.027	.322	3.103	.322
15	Number of Single Car Garages	.007 ^p	.377	.707	.014	.658	1.519	.302
	Number of Carports	-.009 ^p	-.518	.604	-.020	.756	1.323	.295
	CairnWood	.010 ^p	.443	.658	.017	.513	1.949	.304
	Lin_DeckCovered Area	.022 ^p	1.155	.249	.044	.643	1.556	.304
	PoolNum	.012 ^p	.738	.461	.028	.962	1.039	.304
	OutBuildingsNum	-.006 ^p	-.347	.729	-.013	.890	1.124	.292
	Number of Full Bathrooms	.027 ^p	.994	.321	.038	.316	3.163	.291

- a. Dependent Variable: Time Adjusted Sale Price
- b. Predictors in the Model: (Constant), Lin_First_Floor
- c. Predictors in the Model: (Constant), Lin_First_Floor, Lin_Second_Floor
- d. Predictors in the Model: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sq/ft
- e. Predictors in the Model: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sq/ft, Lin_BasementFinishedArea
- f. Predictors in the Model: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sq/ft, Lin_BasementFinishedArea, SouthCove
- g. Predictors in the Model: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sq/ft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces
- h. Predictors in the Model: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sq/ft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill
- i. Predictors in the Model: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sq/ft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum
- j. Predictors in the Model: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sq/ft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights
- k. Predictors in the Model: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sq/ft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights, Effective Age
- l. Predictors in the Model: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sq/ft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights, Effective Age, Lin_DeckUncoveredArea
- m. Predictors in the Model: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sq/ft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights, Effective Age, Lin_DeckUncoveredArea, Number of Bedrooms

n. Predictors in the Model: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sq/ft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights, Effective Age, Lin_DeckUncoveredArea, Number of Bedrooms, MountView

o. Predictors in the Model: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sq/ft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights, Effective Age, Lin_DeckUncoveredArea, Number of Bedrooms, MountView, ExcellentViewNum

p. Predictors in the Model: (Constant), Lin_First_Floor, Lin_Second_Floor, Lot Size sq/ft, Lin_BasementFinishedArea, SouthCove, Number of Fireplaces, WestHill, OutstandingViewNum, AlexandraHeights, Effective Age, Lin_DeckUncoveredArea, Number of Bedrooms, MountView, ExcellentViewNum, Number of Multi-car Garages