

CONDO TITLED PARKING MODEL

Revaluation Cycle – January 1, 2025 to December 31, 2028
Base Date: January 1, 2023



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Effective Date of Valuation – January 1, 2023

Date of Report – January 1, 2025



Scope of Data and Analysis

Valuation Approach

The appraisal method employed for condo titled parking spots is the sales comparison approach using the multiple regression analysis technique. Multiple regression analysis (MRA) is an accepted statistical technique used in the mass appraisal of property. MRA determines the statistical relationship between property characteristics and sale prices and is used in determining an estimate of value.

Regression analysis helps one understand how the typical value of the dependent variable changes when any one of the independent variables is varied, while the other independent variables are held fixed. A dependent variable is something that depends on other factors.

For assessment valuation purposes, the dependent variable is the predicted adjusted sale prices whereas, independent variables are factors that cause a change in the dependent variable; for example, property characteristics such as age, size and quality. Multiple regression is a statistical technique widely used for prediction and forecasting. In this case, it is used for predicting the sale price of houses.

Section 163(f.3) of The Cities Act defines mass appraisal as “...the process of preparing a group of properties...”

Quality control identifies valid sales for extraction and data cleaning. The sales dataset is now ready to be analyzed using the multiple regression technique to identify and estimate the relationship between an adjusted sale price and property characteristics (variables). A detailed explanation follows in the ‘Development of the Multiple Regression Model’ section.

The development of a multiple regression model is determined by utilizing statistical software that simultaneously identifies and analyzes property characteristics of sold properties. Multiple regression determines the coefficient values representing statistically significant property characteristics to establish the multiple regression model. The application of the regression model to the subject property characteristics represents its assessed value. It is important to note that although there may be discussion on the relative value of an individual variable (property characteristic) within the multiple regression model, any changes to the value of one variable will shift or, affect, the value of the other variables.

The MRA technique predicts property values on sales price and will always compensate for any deviation of established variables and/or its corresponding value. Another important note is that the coefficient value in the MRA model does not represent the replacement cost or reproduction cost of the variable.

Development of the Multiple Regression Model

Introduction

The development of the multiple regression analysis (MRA) model is the major valuation tool in developing assessment values for condo titled parking spots. However, MRA is only one of following steps within the valuation process.

1. Data Extraction
2. Data Cleaning
3. Time Trend Analysis
4. Resales
5. Multiple Regression Analysis (MRA)
6. Ratio Study

Data Extraction

The primary source of sales information is from Information Services Corporation (ISC). This information is stored in a digital format from which the Assessment Branch extracts sales data for analysis. All relevant variables are captured in this data set that is ready for cleaning.

Data Cleaning

Since it is practically impossible to check every sale, there is a quality control process that helps identify extreme sales. Extreme sales are often referred to as outliers or sales that seem out of context with the majority of the property group and/or neighbourhood. Outliers are identified by querying and assembling sold properties based on some key attributes, such as size, age, and quality. This quality review process helps to identify missing data, re-sales, low-price properties, high price properties and questionable data characteristics. Extreme (outlier) sales are investigated and changes made as required as part of the Assessment Branch quality control process.

Time Trend Analysis

A time trend analysis measures the influence of time on sales price. This is particularly relevant for the current revaluation cycle as the valuation process uses four years of sales, occurring between 2019 and 2022. These sales are examined for time influence and adjusted to reflect the assessment base date of January 1, 2023.

The sales assessment ratio (SAR) technique is used to measure time trends. The result of the time trend analysis shows that there is no indication of time influence for condo titled parking spots, therefore the sale prices were used for multiple regression analysis.

Multiple Regression Analysis (MRA)

For residential condo titled parking, 691 valid, fully adjusted sales occurring between 2019 and 2022 are used in multiple regression analysis (MRA). MRA estimates relationships between multiple variables simultaneously. For assessment purposes, it is the relationship between adjusted sale prices and property characteristics as determined by multiple regression algorithms. These model variables proved to significantly affect sales price and are represented in the residential condo titled parking valuation model below.

Condo Titled Parking – Multiple Regression Analysis Model

Description	Variable	Coefficient (\$)
Constant		41,134.24
Location	10170_Lakewood Suburban Centre	-25,676.10
	10179_Stonebridge	-23,663.02
	10182_University Heights Suburban Centre	-18,427.10
	10185_Willowgrove	-27,222.69
	10186_The Willows	-27,144.90
	10188_Evergreen	-19,231.27
	10190_Brighton	-27,222.69
	10217_Lawson Heights Suburban Centre	-25,509.42
	10277_Silverspring	-24,553.80
	10363_Greystone Heights	-24,469.29
	10384_Wildwood	-26,046.27
	10572_Nutana	4,634.27
	10611_Hampton Village	-24,941.80
	10707_Confederation Park	-26,689.80
	10831_Riversdale	
Type	1588_Detached_Garage_Low_Rise	-10,692.44
	1590_Detached_Garage_Non_Gated	
	1591_Non_Gated_Surface	
	1594_Non_Gated_Covered	
	1597_Low_Rise_Surface	
	1599_High_Rise_Surface	

The appraisal level of the final multiple regression model is tested using a ratio study.

Ratio Study

The median assessment to sales ratio (ASR) study is used in measuring the level of mass appraisals. The median is the middle value of the ratios when arrayed in order of magnitude. It divides the ratios into two equal groups, and is therefore only minutely affected by extreme ratios. The closer this value is to 1, the better.

ASR Results for Condo Title Parking

The result of the ASR study for the residential condo title parking is displayed in the table below.

Number of Sales	691
Median Assessment to Sale Price Ratio (ASR)	1.01
Coefficient of Dispersion (COD)	28.4%
Price-Related Differential (PRD)	1.11

The median ASR is 1.00 which is within the I.A.A.O. range of acceptable A.S.R.s between 0.90 and 1.10.