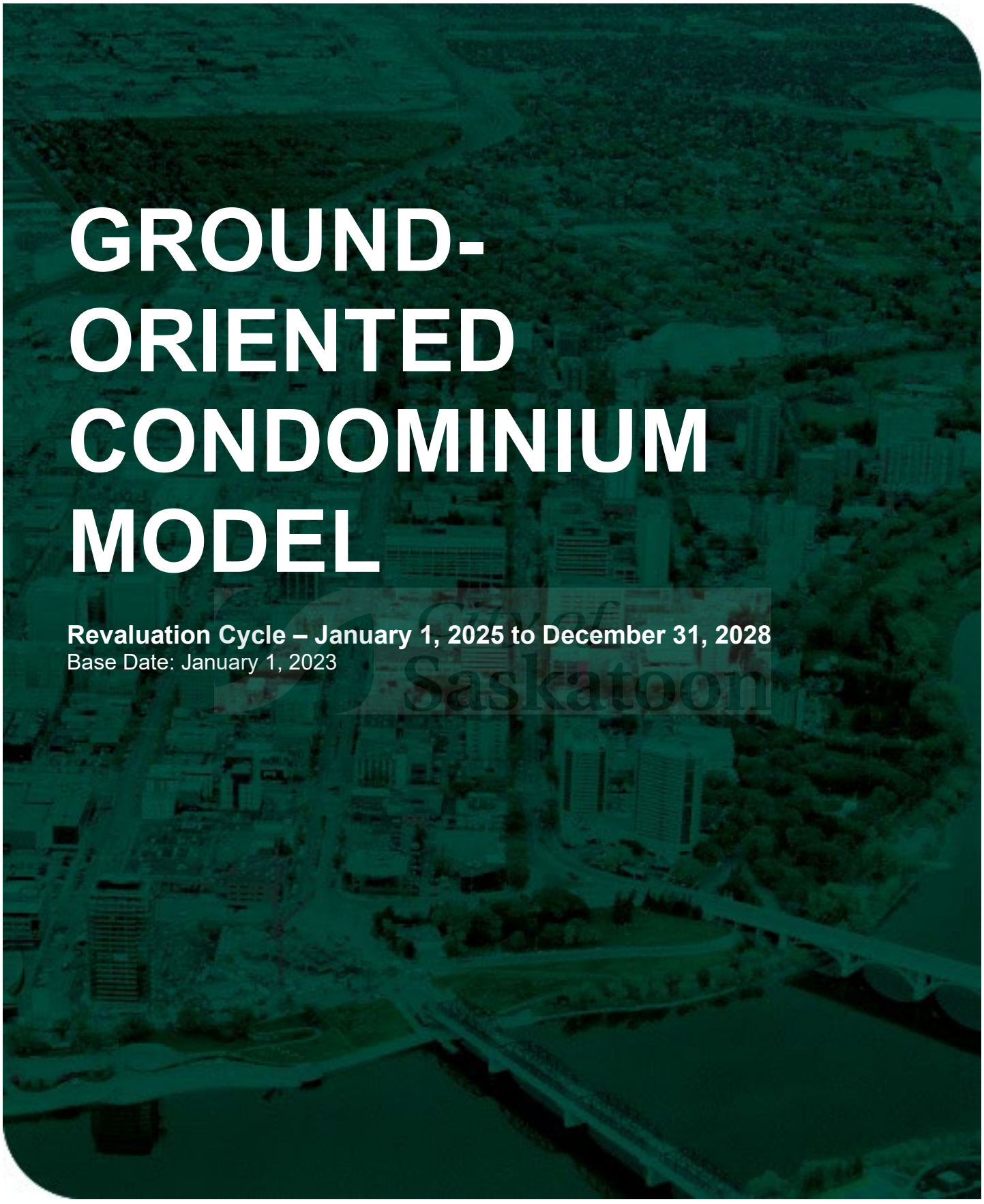

GROUND-ORIENTED CONDOMINIUM MODEL

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

GROUND-ORIENTED CONDOMINIUM MODEL

Revaluation Cycle – January 1, 2025 to December 31, 2028

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 ground-oriented condominium properties 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 ground-oriented condominiums.

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.

Quality control identifies valid sales for extraction and data cleaning. Once complete, sale prices are adjusted for non-realty components and time to the base date. The sales dataset is 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 Ground-oriented Condominium Multiple Regression Model’ section. The multiple regression model for the ground-oriented condominium group is citywide.

Ground-Oriented Condominium Summary

There are 2,584 sales used to establish Assessed Values for ground-oriented condominiums. A detailed summary of key characteristics for the city overall is listed below:

	Ground-Oriented Condominium
ASSESSMENT AND SALE STATISTICS	
Community Median Assessment For Properties Sold In Market Analysis Period	$300,334
Community Median Assessment Per Sq Ft For Properties Sold In Market Analysis Period	$238
Community Overall Median Adjusted Sale Price	$293,756
Community Overall Median Adjusted Sale Price Per Sq Ft	$236
Number of Sales Used In Market Analysis	2,584
DESCRIPTIVE STATISTICS (INVENTORY)	
Median Living Area (Sq Ft) of Residences	1,211
Median Year of Construction of Residences	2,007
Properties With Basement Finish	45%
Properties With a Garage -- Attached	30%
Properties With a Garage -- Built-in	27%
Properties With a Garage -- Detached	13%
One Storey Properties	21%
Two Storey Properties	70%
All Other Structure Properties	9%
Number of Inventory (Oct, 2024)	8,552

Development of Ground-Oriented Condominium Model

Introduction

The development of the multiple regression analysis (MRA) model is the major valuation tool in developing assessment values for residential ground-oriented condominium properties. However, MRA is only one of following six steps within the valuation process.

- Data Extraction
- Data Cleaning
- Non-realty Analysis
- Time Trend Analysis
- Multiple Regression Analysis (MRA)
- 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.

Non-realty Analysis

Once the sales dataset has passed the quality control phase, an analysis of non-realty items is undertaken. Assessed values reflect real estate only and should not include the non-realty component of the sale, often referred to as ‘chattels’. A chattel is a moveable item of property which is neither land nor permanently attached to land or a building and therefore is not considered real estate. The value of chattels is sourced and quantified from sales verification forms that ask property purchasers whether chattels such as appliances, draperies and/or furniture are included in the sale price and, if so, their approximate value. Based on a sample of this information, an adjustment for non-realty components of the sales is determined. For the 2023 base date, the adjustment for chattels is 1.4 %. Applying the non-realty adjustment to sold properties reduces individual sale prices by 1.4%.

Time Trend Analysis

Sales that have been adjusted for a non-realty component are analyzed for time influences. The real estate market is not always flat. In other words, in a rising market, a purchaser would expect to pay more for a house in 2020 than if it was purchased in 2019. 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 the sales prices compared to the current assessed value in ground-oriented condominium are factored on a monthly basis. For example, from the resulting monthly time adjustment factors for ground-oriented condominium table below, a January 2019 $350,000 sale price (adjusted for non-realty) would result in a fully adjusted sale price of $372,750 ($350,000 x 1.0650) that would be used in multiple regression analysis.

Sale Month	Time Adjustment Factors	Sale Month	Time Adjustment Factors
Jan-19	1.0650	Jan-21	1.0812
Feb-19	1.0663	Feb-21	1.0774
Mar-19	1.0676	Mar-21	1.0736
Apr-19	1.0689	Apr-21	1.0698
May-19	1.0702	May-21	1.0661
Jun-19	1.0715	Jun-21	1.0624
Jul-19	1.0728	Jul-21	1.0588
Aug-19	1.0741	Aug-21	1.0551
Sep-19	1.0754	Sep-21	1.0515
Oct-19	1.0768	Oct-21	1.0479
Nov-19	1.0781	Nov-21	1.0443
Dec-19	1.0794	Dec-21	1.0408
Jan-20	1.0808	Jan-22	1.0372
Feb-20	1.0821	Feb-22	1.0337
Mar-20	1.0834	Mar-22	1.0303
Apr-20	1.0848	Apr-22	1.0268
May-20	1.0861	May-22	1.0234
Jun-20	1.0875	Jun-22	1.0200
Jul-20	1.0888	Jul-22	1.0166
Aug-20	1.0902	Aug-22	1.0132
Sep-20	1.0916	Sep-22	1.0099
Oct-20	1.0927	Oct-22	1.0066
Nov-20	1.0889	Nov-22	1.0033
Dec-20	1.0850	Dec-22	1.0000

Multiple Regression Analysis (MRA)

In ground-oriented condominium, 2,584 valid, fully adjusted sales occurring between January 1st, 2019 and December 31st, 2022 were used in the 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 ground-oriented condominium valuation model below.

Ground-Oriented Condominium – Multiple Regression Analysis Model

Description	Variable	Coefficient ($)
Constant		113,812.45
Adjustment Based on Effective Age	Age	-7,363.31
Size by Quality per ft^2	Size - Low Quality	86.80
	Size - Low/Fair Quality	
	Size - Fair Quality	
	Size - Average Quality	106.76
	Size - Good Quality	138.01
	Size - Very Good Quality	244.77
	Size - Excellent Quality	
Size by Condition per ft^2	Condition - Poor	0.00
	Condition - Below Average	
	Condition - Above Average	
	Condition - Good	41.54
	Condition - Very good	
	Condition - Superior	
	Condition - Excellent	
Unit Style	Bi-Level	31,153.67
	Split Level	42,420.41
	Mixed Style	31,623.10
Garage area per ft^2	Attached Garage	207.27
	Built in Garage	160.29
	Detached Garage	138.18
Basement area per ft^2	Basement Structure	100.63

Description	Variable	Coefficient ($)
Finished basement area per ft^2	Finished Basement	48.42
	Walkout Basement	42.06
Site Influences	Adjacent to Railroad	-35,967.32
Pool Area per ft^2	Indoor Swimming Pool	42,750.38
View Influences	Willows View	132,663.58
	Adjacent Park	21,402.10
	View of River	
Improvement Style	3 Storey Condo with Built In Garage on Main Floor	19,830.84
	Townhouse Basement Condo	38,965.67
	Stacked Style	35,826.55
	Finished Over Detached Garage Residence/ Carriage home style	-50,880.85
Location	Market Area 1	0.00
	Market Area 2	15,757.50
	Market Area 3	39,982.30
	Market Area 4	0.00
	Market Area 5	112,424.46
	Market Area 6	-28,804.90
	Market Area 7	-15.845.50
	Market Area 8	0.00
Zoning	M2	-14,734.25
	M3	-24,900.08
	PUD	68,329.90
	RM1	-39,194.77
	RM3	-28,343.23
	RMTN1	-17,493.15
Project Geographic Adjustment	PROJ2025_435801400	-56,180.00
	PROJ2025_455820800	-46,182.88
	PROJ2025_486029450	-35,563.01
	PROJ2025_455830000	-43,801.28
	PROJ2025_435302100	23,297.08
	PROJ2025_464514600	-43,460.17
	PROJ2025_504929050	161,167.03
	PROJ2025_475805890	-41,631.32
	PROJ2025_505901350	52,968.83
	PROJ2025_465627000	-35,743.25

Description	Variable	Coefficient ($)
	PROJ2025_535708680	-60,955.71
	PROJ2025_445211000	-32,224.51
	PROJ_464511700_464514100_118 Hampton Circ _119 Hampton Circ_NWSB1.4	-44,797.31
	PROJ_504200810_504208100_715 Hart Rd _107 Hart Rd_WSB1.1	-19,172.55
	PROJ_504400460_504400660_143 Gropper CRES _127 Gropper CRES_WS2.7	37,501.06

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 Ground-Oriented Condominium

The result of the ASR study for the ground-oriented condominiums is displayed in the table below.

Number of Sales	2,584
Median Assessment to Sale Price Ratio (ASR)	1.00
Coefficient of Dispersion (COD)	6.4%
Price-Related Differential (PRD)	1.01

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.