

## Mixed Use Model EXECUTIVE SUMMARY

**Appraisal Cycle Date** – January 1, 2025 to December 31, 2028

**Effective Date of Valuation** – January 1, 2023

**Date of Report** – March 5, 2025

### Residential Component Gross Rent Model

	<b>\$/Month</b>
<b>Base Rent (One Bedroom Apartment Unit)</b>	\$ 1,017
<b>Adjustments to Base Rent:</b>	
Bachelor Unit	\$ (77)
Two Bedroom Unit	\$ 69
Three Bedroom or Greater Unit	\$ 758
<b>Age:</b>	
Calculated Age * Condition Rating per year (Calculated Age= 2023-Year Built)	\$ (3.00)
<b>Location:</b>	
Study Area 2610 (North West)	\$ -
Study Area 2620 (North)	\$ (87)
Study Area 2630 (North Central)	\$ (103)
Study Area 2640 (Downtown, Cathedral, Transitional)	\$ (130)
Study Area 2650 (East of Downtown)	\$ -
Study Area 2670 (South)	\$ -
Study Area 2680 (South East)	\$ -

### Residential Component Vacancy

Suburbs (2610;2620;2670;2680)	14.3%
Inner City: (2630;2640;2650)	18.7%

## Commercial Component Gross Rent Model

	\$/sq.ft.
<b>Commercial Base Rent:</b>	\$ 27.91
<b>Adjustments to Base Rent:</b>	
Basement or Semi-basement Location	\$ (9.08)
<b>Location:</b>	
Study Area 2610 (North West)	\$ -
Study Area 2620 (North)	\$ (9.94)
Study Area 2630 (North Central)	\$(16.49)
Study Area 2640 (Downtown, Cathedral, Transitional)	
Study Area 2650 (East of Downtown)	\$ (9.94)
Study Area 2670 (South)	\$ -
Study Area 2680 (South East)	\$ -

## Commercial Vacancy

Suburbs (2610;2620;2670;2680)	16.7%
Inner City: (2630;2640;2650)	18.1%

## Effective Gross Income Multiplier (EGIM)

Description	EGIM
Base EGIM	8.080
<b>Adjustments to EGIM</b>	
Townhouse Developments Built prior to 1990	-3.833
Effective Year Built after 2009	2.951
<b>Location:</b>	
Study Area 2610 (North West)	-
Study Area 2620 (North)	-
Study Area 2630 (North Central)	-
Study Area 2640 (Downtown, Cathedral, Transitional)	1.940
Study Area 2650 (East of Downtown)	0.80
Study Area 2670 (South)	-
Study Area 2680 (South East)	-
Study Area 5207 (Industrial)	(2.711)

## Assessment to Sale Ratio Summary Results

Ratio Statistics for Assessment/Adjusted Price	
Number of Sales:	92
Median:	1.005
Coefficient of Dispersion	14.7%

# Mixed Use Model

## IDENTIFICATION of MODEL

The Mixed-Use model is an income model used to value those properties that have predominately commercial use, however, include one or more multi-residential units as well.

The income approach, sometimes referred to as the rental income approach, values a property based on the present worth of that property's anticipated income. Estimating the value of an income-producing multi-residential property for assessment purposes is done by using the Effective Gross Income Multiplier (EGIM) method of capitalization. An EGIM expresses the relationship between a property's value and its income before expenses. The effective gross income (EGI) is calculated using the potential gross income of the property (i.e. rents), minus an allowance for vacancy. The sale price of a property that has sold, divided by the property's EGI, will determine an EGIM.

$$\text{EGIM} = \text{Sale Price} / \text{EGI}$$

Once the multipliers have been determined, they are applied to multi-residential properties to estimate value.

$$\text{Value} = \text{Income (EGI)} \times \text{Rate (EGIM)}$$

## IDENTIFICATION of MODEL AREA

The Multi-Residential Model is applied city-wide. There are seven (7) distinct multi-residential neighbourhoods located within the City of Regina municipal boundaries, each with varying types and ages of multi-residential buildings, land sizes and locational characteristics. These neighbourhoods are defined on the enclosed map and are individually described below.

### Neighbourhood 2610

Neighbourhood 2610 is located in Northwest Regina and is bordered on its south side by 9<sup>th</sup> Avenue North between Pasqua Street and Courtney Street, and by the Canadian Pacific (CP) tracks between Courtney Street and the western municipal boundary of the city. Between Pasqua Street and Albert Street, the south boundary lies behind the subdivision known as Argyle Park; between Albert Street and Winnipeg Street, the south boundary wraps around north boundary of the Uplands subdivision. The east boundaries are Pasqua Street, 12<sup>th</sup> Avenue North and the city's municipal boundaries north of 9<sup>th</sup> Avenue North; south of 9<sup>th</sup> Avenue North, the east boundary is Courtney Street. The north and west boundaries are the city's municipal boundaries.

### Neighbourhood 2620

Neighbourhood 2620 encompasses properties located in north and west Regina. This neighbourhood is located east and south of Neighbourhood 2610 and is bordered on its south side by Dewdney Avenue west of Lewvan Drive to Courtney Street, and the CN tracks east of Lewvan Drive to Winnipeg Street. The west boundaries are Catherwood Crescent south to 12<sup>th</sup> Avenue North, then Pasqua Street south

to 9<sup>th</sup> Avenue North, then Courtney Street from 9<sup>th</sup> Avenue North south to the CP tracks. The east boundary is Winnipeg Street from Kowalchuk Crescent south to the CN tracks and then Lewvan Drive from there to the CP tracks.

### **Neighbourhood 2630**

Neighbourhood 2630 encompasses properties located in north central Regina. This neighbourhood is located east and south of Neighbourhood 2620 and is best described in three parts. One part lies west of Broad Street to Courtney Street, bordered on the south by Saskatchewan Drive to Lewvan, and the Creek west of Lewvan; the north boundary is CN tracks to Lewvan, Dewdney Avenue to Courtney. The second part lies between Broad and Winnipeg Street, bordered by Victoria Avenue to the south and the CN tracks to the north. The third part lies east of Winnipeg Street, with McDonald Street being the east boundary, again between Saskatchewan Drive and 4<sup>th</sup> Avenue.

### **Neighbourhood 2640**

Neighbourhood 2640 encompasses properties located in central Regina, encompassing the downtown area, the Cathedral area and the Transitional area. This neighbourhood is bordered on the south side by Wascana Lake and Wascana Creek, the west boundary is Lewvan Drive. The north boundary is Saskatchewan Drive between Wascana Creek and Broad Street, then Victoria Avenue from Albert Street to Winnipeg Street, which is the east boundary for the neighbourhood.

### **Neighbourhood 2650**

Neighbourhood 2650 lies immediately east of central Regina. This neighbourhood is bordered on the south side by Wascana Lake between Winnipeg Street and the Ring Road. The north boundary is the CP tracks, the west boundary is Winnipeg Street, and the east boundary is the Ring Road.

### **Neighbourhood 2670**

Neighbourhood 2670 is located in south Regina and is bordered entirely on the north side by Wascana Lake and Wascana Creek. The City's municipal boundary forms both the south and east boundaries of this neighbourhood. The west boundary is Lewvan drive from the creek to 25<sup>th</sup> Avenue, and thereafter the City's municipal boundaries.

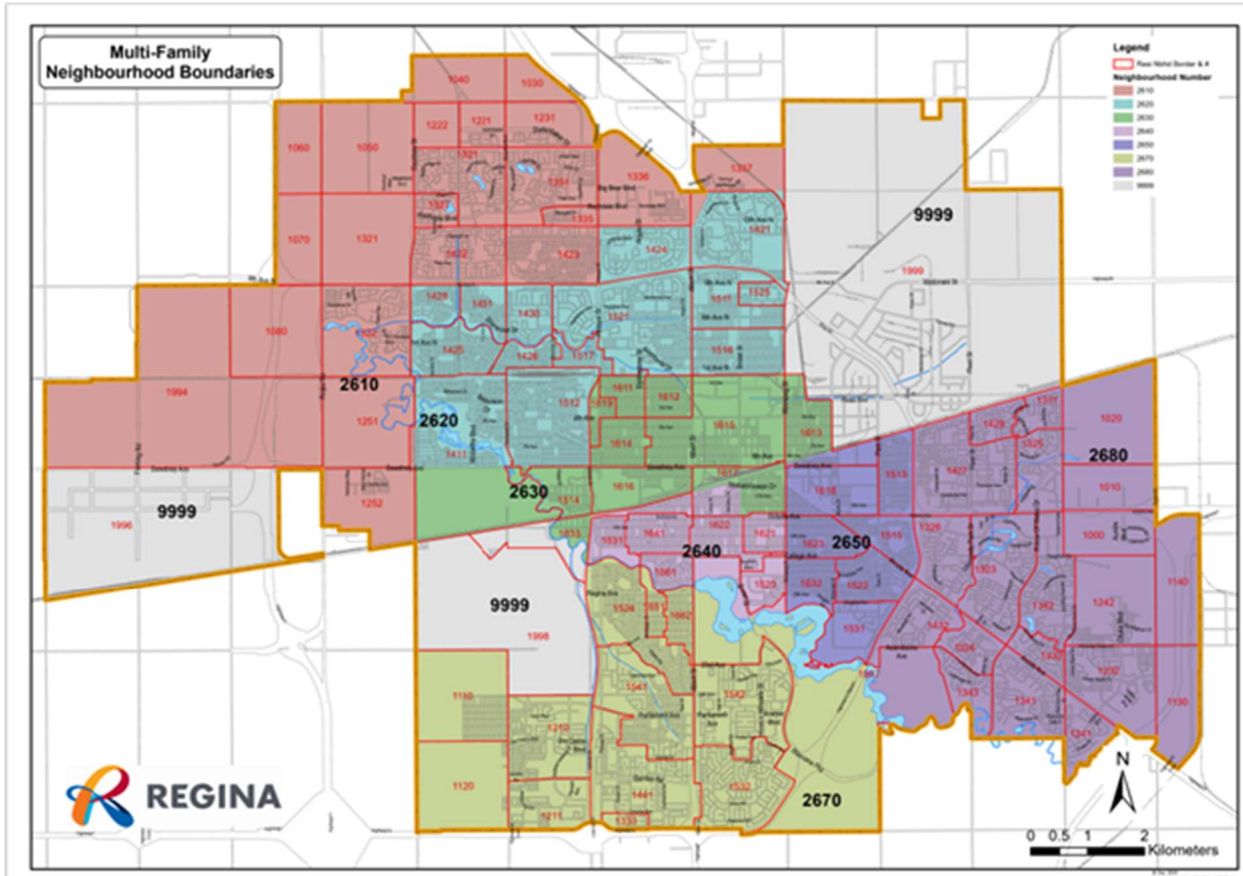
### **Neighbourhood 2680**

Neighbourhood 2680 is located in southeast Regina and is bordered on the north by the CP tracks; the south boundary is Wascana Creek and the city's municipal boundaries. The west boundary is the Ring Road; the east boundary is the city's municipal boundaries.

### **Neighbourhood 5207**

Neighbourhood 5207 is known as Tuxedo Park and is located in East Central Regina. This area is roughly bordered by Broad Street to the west, Park Street to the east, the CP tracks to the north and 10<sup>th</sup> Avenue, Arcola Avenue and Victoria Street to the south.

# MAP



## SCOPE of DATA and ANALYSIS

2025 is a revaluation year meaning all properties within Regina are valued as of January 1, 2023. Prior to 2023, the City Assessor requested copies of 2020, 2021, 2022 and 2023 rent rolls for all non-residential properties to develop a Mass Appraisal Net Rent Model.

A total of 12,825 multi-residential rents were analyzed using multiple regression analysis. The rent model is an additive model that predicts rents based on the type of unit and other factors such as the effective age of the building, location of the building, location of the unit within the building.

### Multi-Residential Rental Summary Results

Multi-Residential Rental Summary Statistics					
Property Type	Count	Minimum	Maximum	Mean	Median
High-Rise	1,121	\$ 600	\$ 1,815	\$ 1,062	\$ 990
Low-Rise	10,356	\$ 502	\$ 2,035	\$ 1,077	\$ 1,025
Mixed Use	108	\$ 550	\$ 1,800	\$ 817	\$ 797
Townhouse	1,240	\$ 740	\$ 2,035	\$ 1,294	\$ 1,299

The following table provides specific breakdown of the mixed-use property rents along with statistical measurements:

2023 Base Year Mixed-Use Residential Component Summary Statistics					
Strata	Count	Min	Max	Mean	Median
Overall	108	550	1,800	817	798
<b>Unit Type:</b>					
Bachelor	12	550	950	657	600
One Bedroom	57	550	1,045	759	730
Two Bedroom	35	650	1,200	886	900
Three Plus Bedroom	4	1,165	1,800	1,516	1,550
<b>Building Quality:</b>					
Below Average Quality	5	730	980	850	800
Average Quality	81	550	1,800	777	730
Above Average Quality	22	700	1,700	958	925
<b>Unit Location:</b>					
Main Floor	13	550	800	688	730
Upper Floor	95	550	1,800	835	800
<b>Building Location:</b>					
Study Area 2620 (North)	12	700	1,800	996	813
Study Area 2630 (North Central)	38	550	1,095	800	800
Study Area 2640 (Downtown, Cathedral, Transitional)	42	550	1,700	743	700
Study Area 2650 (East of Downtown)	16	720	1,045	918	900

2023 Base Year Mixed-Use Commercial Component Summary Statistics					
Strata	Count	Min	Max	Mean	Median
Overall	22	10.31	45.71	22.06	20.82
<b>Space Type:</b>					
Office	1	13.44	13.44	13.44	13.44
Restaurant	3	16.00	24.40	20.03	19.67
Retail	17	10.31	45.71	22.92	21.32
Storage	1	22.05	22.05	22.05	22.05
<b>Unit Location:</b>					
Main Floor	19	10.31	45.71	22.57	21.32
Upper Floor	3	16.91	22.05	18.84	17.55
<b>Building Location:</b>					
Study Area 2620 (North)	4	16.62	35.96	24.81	23.34
Study Area 2630 (North Central)	3	10.31	13.44	11.42	10.52
Study Area 2640 (Downtown, Cathedral, Transitional)	11	16.91	45.71	25.44	22.44
Study Area 2650 (East of Downtown)	4	15.09	22.00	17.98	17.41

### Residential Component Gross Rent Model

	\$/Month
<b>Base Rent (One Bedroom Apartment Unit)</b>	\$ 1,017
<b>Adjustments to Base Rent:</b>	
Bachelor Unit	\$ (77)
Two Bedroom Unit	\$ 69
Three Bedroom or Greater Unit	\$ 758
<b>Age:</b>	
Calculated Age * Condition Rating per year (Calculated Age= 2023-Year Built)	\$ (3.00)
<b>Location:</b>	
Study Area 2610 (North West)	\$ -
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Study Area 2630 (North Central)	\$ (103)
Study Area 2640 (Downtown, Cathedral, Transitional)	\$ (130)
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Study Area 2670 (South)	\$ -
Study Area 2680 (South East)	\$ -

\* Excluded variables (considered in the calibration stage; excluded as insignificant in predicting value): Below Average Quality and Above Average Quality,

## Condition Rating

The condition of buildings and structures is determined by taking into consideration the remaining economic life of the depreciated physical components of the property including both short-lived and long-lived items.

## Condition Rating Chart

Poor	1.3
Below Average	1.15
Average	1.0
Above Average	0.9
Good	0.8
Very Good	0.7
Superior	0.6
Excellent	0.5

## Residential Component Vacancy

The typical 2023 vacancy was estimated from the returned rent rolls and indicated an adjustment of 18.7 percent for the inner city; 14.3 percent for the suburbs (Study Area 2610; 2620; 2670; 2680)

## Commercial Component Gross Rent Model

	<b>\$/sq.ft.</b>
<b>Commercial Base Rent:</b>	\$ 27.91
<b>Adjustments to Base Rent:</b>	
Basement or Semi-basement Location	\$ (9.08)
<b>Location:</b>	
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## Commercial Vacancy

Suburbs (2610;2620;2670;2680)	16.7%
Inner City: (2630;2640;2650)	18.1%

The typical 2023 vacancy was estimated from the returned rent rolls and indicated the adjustments as set out in the table above.



## Gross Income Multiplier and Adjustments

Gross income multipliers were estimated by dividing the predicted 2023 net operating income generated from the rent model by adjusted sale prices. The 92 sales used in the analysis occurred between January 1, 2018 and December 31, 2022. The sales were verified by mailing questionnaires to both vendors and purchasers. Sales were adjusted for chattels as reported; an analysis of 68 sales reporting chattels indicated an median of .99 percent; a one (1) percent adjustment was applied to those sales where no adjustment was reported. The sales were also adjusted to reflect the market as of the base date January 1, 2023.

The reconciliation process for the resulting income multipliers involved reviewing multiple regression analysis results and reviewing results based on actual reported incomes.

The effective gross income multiplier analysis involved 92 sales, detailed in the following table.

2023 Base Year Sales - January 1, 2018 to December 31, 2022						
ACC_ID	Civic Address	Sale Month	Sale Year	Adjusted Price	Potential Effective Gross Income	Effective Gross Income Multiplier
10037124	2720 COLLEGE AVENUE	12	2020	\$ 10,890,563	\$ 832,300	13.08
10054878	4525 RAE STREET	9	2018	\$ 5,250,716	\$ 688,000	7.63
10007959	18 SCHEMMER BAY	2	2022	\$ 2,174,152	\$ 300,700	7.23
10007961	2140 9TH AVENUE N	10	2022	\$ 2,376,123	\$ 291,400	8.15
10007963	34 KLEISINGER CRESCENT	10	2021	\$ 9,337,782	\$ 1,012,000	9.23
10007964	45 KLEISINGER CRESCENT	8	2022	\$ 2,674,638	\$ 299,400	8.93
10007967	1940 9TH AVENUE N	4	2021	\$ 1,708,088	\$ 277,700	6.15
10007969	27 KLEISINGER CRESCENT	12	2018	\$ 5,160,994	\$ 545,500	9.46
10012306	15 ANGUS ROAD	12	2019	\$ 1,635,792	\$ 204,100	8.01
10012333	19 SHAW STREET	9	2022	\$ 1,045,494	\$ 148,800	7.03
10012336	16 SHAW STREET	2	2022	\$ 1,237,564	\$ 213,100	5.81
10012436	139 ANGUS ROAD	4	2021	\$ 2,611,135	\$ 267,600	9.76
10012833	443 N LORNE STREET	2	2022	\$ 1,630,084	\$ 202,000	8.07
10012921	2250 7TH AVENUE N	4	2022	\$ 1,645,085	\$ 202,500	8.12
10012928	411 N LORNE STREET	3	2021	\$ 1,662,586	\$ 204,200	8.14
10016532	3525 AVONHURST DRIVE	10	2020	\$ 7,415,383	\$ 837,400	8.86
10016639	2711 5TH AVENUE N	11	2021	\$ 1,622,584	\$ 206,200	7.87
10019961	936 MCINTOSH STREET	3	2019	\$ 819,508	\$ 134,600	6.09
10019981	817 EMPRESS STREET	8	2021	\$ 750,039	\$ 90,800	8.26
10019984	831 EMPRESS STREET	8	2018	\$ 570,658	\$ 53,800	10.61
10019998	815 GREY STREET	6	2021	\$ 474,425	\$ 59,400	7.99
10023604	1108 EMPRESS STREET	1	2018	\$ 386,996	\$ 45,200	8.56
10023611	1213 EMPRESS STREET	7	2019	\$ 211,615	\$ 45,200	4.68
10023611	1213 EMPRESS STREET	8	2022	\$ 442,553	\$ 49,500	8.94
10023625	1106 MCINTOSH STREET	10	2021	\$ 695,034	\$ 86,700	8.02
10024083	4731 4TH AVENUE	1	2021	\$ 358,691	\$ 38,500	9.32
10024087	4641 4TH AVENUE	11	2020	\$ 208,011	\$ 38,500	5.40
10024090	4611 4TH AVENUE	4	2022	\$ 336,617	\$ 36,800	9.15
10026389	1276 RAE STREET	2	2021	\$ 545,028	\$ 98,700	5.52
10026668	1440 ANGUS STREET	10	2019	\$ 2,497,669	\$ 298,700	8.36
10031594	1560 ALEXANDRA STREET	4	2021	\$ 971,050	\$ 92,000	10.55
10031881	1900 GARNET STREET	9	2022	\$ 987,051	\$ 88,000	11.22
10031901	3104 VICTORIA AVENUE	7	2021	\$ 1,584,082	\$ 178,500	8.87
10032048	1855 RAE STREET	11	2021	\$ 822,542	\$ 107,000	7.69
10032478	2731 9TH AVENUE	5	2018	\$ 618,008	\$ 93,800	6.59
10032756	1424 VICTORIA AVENUE	12	2018	\$ 2,162,389	\$ 345,700	6.26
10032802	1956 MONTREAL STREET	11	2018	\$ 479,202	\$ 52,300	9.16
10037066	2078 GARNET STREET	6	2021	\$ 988,051	\$ 80,900	12.21
10037375	2220 ROBINSON STREET	12	2018	\$ 8,608,259	\$ 904,900	9.51
10037696	2025 ROSE STREET	3	2018	\$ 3,026,985	\$ 311,000	9.73
10037850	2270 CORNWALL STREET	9	2020	\$ 2,088,106	\$ 198,300	10.53
10038304	2150 OSLER STREET	8	2021	\$ 824,543	\$ 91,800	8.98
10040114	5 VAUGHN STREET	8	2022	\$ 1,430,574	\$ 169,500	8.44
10040117	27 VAUGHN STREET	4	2022	\$ 2,559,629	\$ 292,100	8.76
10040119	85 FROMM CRESCENT	9	2019	\$ 3,878,894	\$ 584,600	6.64

2023 Base Year Sales - January 1, 2018 to December 31, 2022						
ACC ID	Civic Address	Sale Month	Sale Year	Adjusted Price	Potential Effective Gross Income	Effective Gross Income Multiplier
10040156	114 FROOM CRESCENT	8	2022	\$ 2,425,625	\$ 263,300	9.21
10040158	102 FROOM CRESCENT	11	2022	\$ 1,548,080	\$ 183,200	8.45
10040170	40 FROOM CRESCENT	12	2018	\$ 5,062,282	\$ 518,500	9.76
10040174	18 FROOM CRESCENT	7	2021	\$ 598,031	\$ 70,000	8.54
10041258	3809 PRINCESS DRIVE	8	2021	\$ 441,022	\$ 53,600	8.23
10041259	3815 PRINCESS DRIVE	9	2020	\$ 522,027	\$ 62,100	8.41
10041379	3800 REGINA AVENUE	1	2020	\$ 964,355	\$ 125,700	7.67
10041381	3812 REGINA AVENUE	5	2018	\$ 578,192	\$ 61,700	9.37
10042181	2801 OTTAWA STREET	2	2021	\$ 518,027	\$ 34,800	14.89
10043888	2439 HARVEY STREET	11	2022	\$ 523,527	\$ 58,000	9.03
10043891	2425 HARVEY STREET	3	2019	\$ 910,054	\$ 126,600	7.19
10043898	420 E 17TH AVENUE	7	2021	\$ 291,015	\$ 39,300	7.40
10043990	401 E COLLEGE AVENUE	4	2018	\$ 720,124	\$ 84,200	8.55
10046655	3218 WESTGATE AVENUE	9	2022	\$ 579,528	\$ 60,300	9.61
10046661	3319 ARGYLE ROAD	12	2018	\$ 4,057,737	\$ 420,000	9.66
10052994	4176 RAE STREET	6	2020	\$ 443,543	\$ 52,800	8.40
10053171	3008 PARLIAMENT AVENUE	11	2018	\$ 1,489,654	\$ 199,100	7.48
10053185	3842 RAE STREET	8	2022	\$ 361,369	\$ 48,000	7.53
10053192	3940 RAE STREET	2	2018	\$ 1,106,791	\$ 130,100	8.51
10053208	3820 RETALLACK STREET	2	2019	\$ 307,562	\$ 49,900	6.16
10053208	3820 RETALLACK STREET	12	2020	\$ 389,020	\$ 52,100	7.47
10053211	3848 RETALLACK STREET	12	2018	\$ 1,874,210	\$ 258,700	7.24
10053213	3870 RETALLACK STREET	5	2019	\$ 939,681	\$ 142,200	6.61
10053213	3870 RETALLACK STREET	3	2021	\$ 1,083,056	\$ 142,200	7.62
10053314	2524 PARLIAMENT AVENUE	1	2020	\$ 1,108,061	\$ 137,500	8.06
10053327	127 PROCTER PLACE	1	2018	\$ 2,729,253	\$ 295,800	9.23
10053529	34 SPENCE STREET	12	2018	\$ 4,491,352	\$ 582,100	7.72
10054865	2755 31ST AVENUE	4	2018	\$ 2,560,442	\$ 314,900	8.13
10087102	3102 EDINBURGH DRIVE	10	2021	\$ 11,029,470	\$ 1,179,800	9.35
10239754	5960 LITTLE PINE LOOP	10	2018	\$ 10,540,163	\$ 1,070,100	9.85
10271172	1291 N MCEACHERN DRIVE	10	2018	\$ 18,380,632	\$ 1,729,100	10.63
10274145	5200 PARLIAMENT AVENUE	6	2021	\$ 49,917,635	\$ 3,957,600	12.61
10304180	126 FROOM CRESCENT	1	2019	\$ 5,585,727	\$ 499,300	11.19
10065650	6222 DEWDNEY AVENUE	1	2022	\$ 495,024	\$ 74,443	6.65
10065663	3504 DEWDNEY AVENUE	2	2019	\$ 395,304	\$ 32,109	12.31
10065679	1347 WINNIPEG STREET	3	2019	\$ 254,815	\$ 52,433	4.86
10065681	436 DEWDNEY AVENUE	4	2018	\$ 298,116	\$ 49,721	6.00
10065681	436 DEWDNEY AVENUE	4	2022	\$ 340,578	\$ 49,721	6.85
10065717	1602 12TH AVENUE	8	2021	\$ 524,727	\$ 75,002	7.00
10065727	828 VICTORIA AVENUE	11	2018	\$ 195,450	\$ 19,523	10.01
10065785	401 VICTORIA AVENUE	10	2018	\$ 529,847	\$ 49,926	10.61
10065797	1225 E 14TH AVENUE	9	2020	\$ 413,841	\$ 46,533	8.89
10025490	1400 ARGYLE STREET	11	2018	\$ 405,617	\$ 66,123	6.13
10031132	3822 E 7TH AVENUE	1	2021	\$ 396,020	\$ 71,915	5.51
10031133	3830 E 7TH AVENUE	1	2022	\$ 277,214	\$ 71,915	3.85
10038085	1222 15TH AVENUE	11	2022	\$ 435,022	\$ 126,712	3.43
10065646	898 RETALLACK STREET	6	2022	\$ 130,000	\$ 21,120	6.16

The reconciliation process for determining economic gross income multiplier strata primarily involved multiple regression analysis, supported by a consultation process with individuals active in the Regina real estate market. Recognized published gross income multiplier data were also reviewed. The economic gross income multipliers are as follow:

<b>Description</b>	<b>EGIM</b>
Base EGIM	8.080
<b>Adjustments to EGIM</b>	
Townhouse Developments Built prior to 1990	-3.833
Effective Year Built after 2009	2.951
<b>Location:</b>	
Study Area 2610 (North West)	-
Study Area 2620 (North)	-
Study Area 2630 (North Central)	-
Study Area 2640 (Downtown, Cathedral, Transitional)	1.940
Study Area 2650 (East of Downtown)	0.80
Study Area 2670 (South)	-
Study Area 2680 (South East)	-
Study Area 5207 (Industrial)	(2.711)

## MODEL TESTING

In mass appraisal, the most effective means of evaluating the accuracy of appraisals is a ratio study. A ratio study compares the appraised values produced by the valuation models to arm's length sale transactions in the marketplace.

The legislated statistical requirement affecting the assessment of multi-residential properties in Saskatchewan is for the median ratio of a city-wide assessment-to-sale ratio study to be within the range of 0.95 to 1.05.

The primary measure of appraisal uniformity in ratio studies is the Coefficient of Dispersion (COD). Low CODs tend to be associated with good appraisal uniformity. The COD also indirectly measures the quality of the appraisal process by which mass appraisal modelled values are developed.

The median assessment-to-sale ratio and Coefficient of Dispersion for this Multi-Residential Model is provided below:

<b>Ratio Statistics for Assessment/Adjusted Price</b>	
Number of Sales:	92
Median:	1.005
Coefficient of Dispersion	14.7%

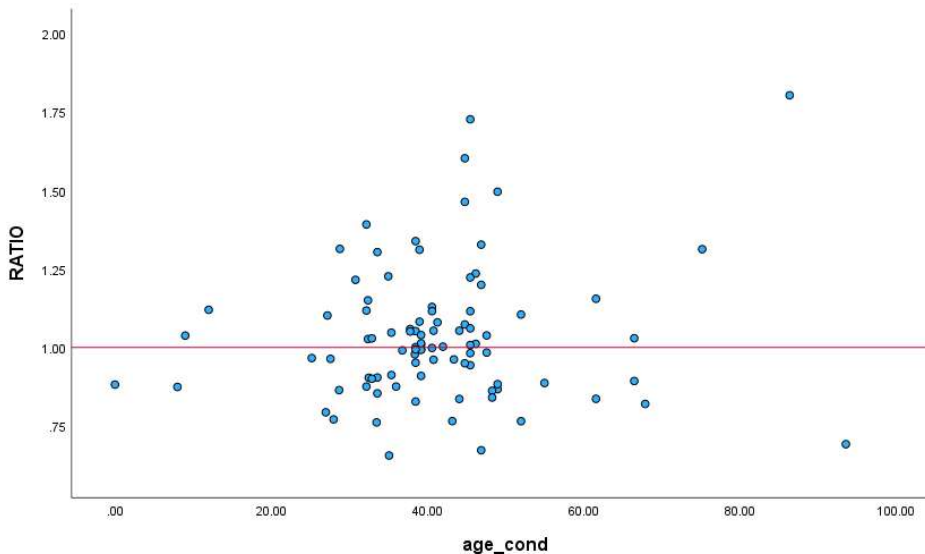
Additional statistical analysis can be performed, subject to sufficiency of available data, to ensure uniformity among characteristics found throughout the analyzed properties. The most common tools used are the ratio statistics, scatterplots and non-parametric tests.

Ratio Statistics by Study Area (Location):

<b>Ratio Statistics for MRAVAL / TASP by Study Area (Location)</b>			
Stratification	# of obs.	Median	COD
Study Area 2610 (North West)	2	1.079	0.038
Study Area 2620 (North)	28	0.998	0.158
Study Area 2630 (North Central)	8	0.924	0.245
Study Area 2640 (Downtown, Cathedral, Transitional)	12	1.041	0.230
Study Area 2650 (East of Downtown)	15	1.013	0.104
Study Area 2670 (South)	21	1.003	0.093
Study Area 2680 (South East)	3	0.864	0.127
Study Area 5207 (Industrial)	3	1.029	0.066
Overall	92	1.005	0.147

A scatterplot is a graphical analysis used to display the dispersion of an entire array of ASR ratio results for non-categorical, or linear, characteristics such as area or age.

Condition Age with Ratio



In mass appraisal, the two most widely used non-parametric tests are the Kruskal-Wallis test and the Mann-Whitney Test. The Kruskal-Wallis test is used when there are two or more groups being tested and the Mann-Whitney test is used when there is only one group being tested. In mass appraisal, both tests are used to determine if the Assessment to Sales Ratios (ASR's) of the groups are statistically different. The assumption in both tests (null hypothesis) is that the distribution of the ASR's for the group(s) being tested are not different.

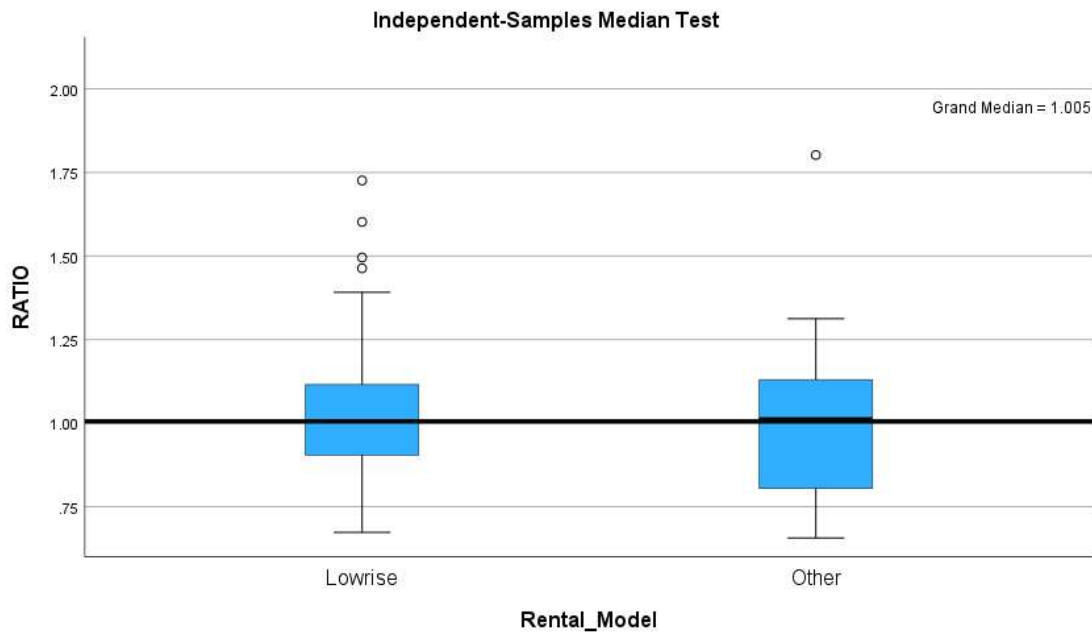
If the distribution of the ratio is the same among the different classifications, the model is assumed to be unbiased

Rental classifications, low-rise (predominate) vs. other (Townhouse, Highrise, Mixed Use):

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig. <sup>a,b</sup>	Decision
1	The distribution of RATIO is the same across categories of Rental_Model.	Independent-Samples Mann-Whitney U Test	.628	Retain the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.



Quality:

**Hypothesis Test Summary**

	Null Hypothesis	Test	Sig. <sup>a,b</sup>	Decision
1	The distribution of RATIO is the same across categories of QUAL2.	Independent-Samples Mann-Whitney U Test	.437	Retain the null hypothesis.

- a. The significance level is .050.
- b. Asymptotic significance is displayed.

