

2016

ASSESSMENT METHODOLOGY

COST APPROACH

A summary of the methods used by the City of Edmonton in determining the value of residential and non-residential properties valued using the cost approach in Edmonton for assessment purposes.

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Edmonton

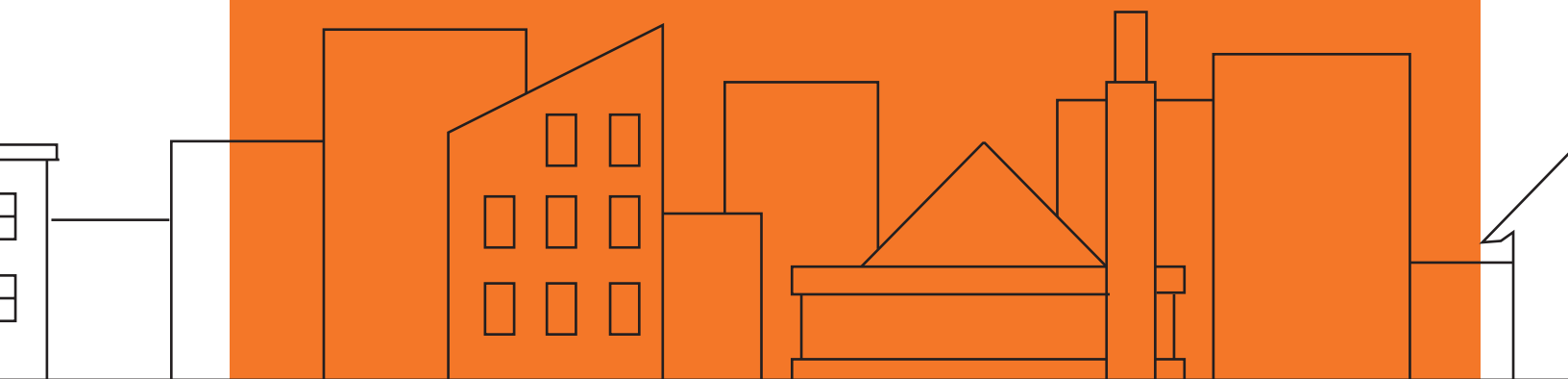


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Scope

This guide is an aid in explaining how properties are valued for assessment purposes. It sets out the valuation method and procedure to derive market values. The information presented in this guide is aimed at deriving values for a group of properties with similar property characteristics. In some circumstances, not every property's valuation parameters will be covered.

The guide is intended as a tool; it is not intended to replace the assessor's judgment in the valuation process.

This icon  signifies when legislation is quoted.

Introduction

The Alberta assessment and taxation system is based on the laws outlined in the *Municipal Government Act*, RSA 2000, cM-26 [MGA], and all associated regulations, including, for example *Matters Relating to Assessment and Taxation Regulation*, Alta Reg 220/04 [MRAT].

The MGA requires the assessment of property be prepared using mass appraisal. Properties are valued based on a valuation date of July 1, 2015 and the property's condition of December 31, 2015. Many of these terms are defined in the legislation.



s.284(1)(r) “**property**” means

- (i) a parcel of land
- (ii) an improvement, or
- (iii) a parcel of land and the improvements to it

MGA s.284(1)(r)

s.1(n) “**regulated property**” means

- (i) land in respect of which the valuation standard is agricultural use value,
- (ii) a railway,
- (iii) linear property, or
- (iv) machinery and equipment

MRAT s.1(1)(n)

s.6(1) the **valuation standard** for the land and improvements is market value unless subsection (2)... applies

MRAT s.6(1)

s.1(1)(n) “**market value**” means the amount that a property, as defined in section 284(1)(r), might be expected to realize if it is sold on the open market by a willing seller to a willing buyer

MGA s.1(1)(n)

s.2 An assessment of property based on **market value**

- (a) must be prepared using mass appraisal,
- (b) must be an estimate of the value of the fee simple estate in the property, and
- (c) must reflect typical market conditions for properties similar to that property

MRAT s.2

s.289(2) Each assessment must reflect

- (a) the characteristics and physical condition of the property on **December 31** of the year prior to the year in which a tax is imposed

MGA s.289(2)(a)

s.3 Any assessment prepared in accordance with the Act must be an estimate of the value of a property on **July 1** of the assessment year

MRAT s.3

s.1(k) “**mass appraisal**” means the process of preparing assessments for a group of properties using standard methods and common data and allowing for statistical testing

MRAT s.1(k)

While there are many forms of ownership, the legislation requires the City of Edmonton to assess the fee simple estate. The fee simple estate is unencumbered by any other interest or estate, and subject only to the limitations of government.

fee simple: in land ownership, complete interest in a property subject only to governmental powers

Glossary for Property Appraisal and Assessment, p. 56

In summary, a property assessment is:

- an estimate of the property's market value on July 1, 2015
- prepared using mass appraisal
- an estimate of the value of the fee simple estate in the property
- a reflection of the property's condition on December 31, 2015
- prepared assuming typical market conditions on the open market by a willing seller to a willing buyer

Mass Appraisal

Mass appraisal is the legislated methodology used by the City of Edmonton for valuing individual properties, and involves the following process:

- properties are stratified into groups of comparable properties
- common property characteristics are identified for the properties in each group
- a uniform valuation model is created for each property group

property characteristic: A feature that helps to identify, tell apart, or describe recognizably, a distinguishing mark or trait

www.thefreedictionary.com



27.1(c) "***valuation model***" means the representation of the relationship between property characteristics and their value in the real estate marketplace using a mass appraisal process

MRAT s.27.1(c)

The following two quotations indicate how the International Association of Assessing Officers distinguishes between mass appraisal and single-property appraisal:

... “single-property appraisal is the valuation of a particular property as of a given date; mass appraisal is the valuation of many properties as of a given date, using standard procedures and statistical testing.”

... “Also, mass appraisal requires standardized procedures across many properties. Thus, valuation models developed for mass appraisal purposes must represent supply and demand patterns for groups of properties rather than a single property.”

Property Appraisal and Assessment Administration, pg.88-89.

For both mass appraisal and single-property appraisal, the process consists of the following stages:

	Mass Appraisal	Single Appraisal
Definition and Purpose	Mass appraisal is used to determine the assessment base for property taxation in accordance with legislative requirements	The client specifies the nature of the value to be estimated, including rights to be valued, effective date of valuation, and any limiting conditions
Data Collection	Mass appraisal requires a continuing program to maintain a current database of property characteristics and market information	The extent of data collection is specific to each assignment and depends on the nature of the client’s requirements
Market Analysis	Mass appraisal is predicated on highest and best use	Market analysis includes the analysis of highest and best use
Valuation Model	Valuation procedures are predicated on groups of comparable properties	Subject property is the focus of the valuation. The analysis of comparable properties is generally six or less
Validation	The testing of acceptable analysis and objective criteria	The reliability of the value estimate is more subjective. Acceptability can be judged by the depth of research and analysis of comparable sales

Valuation Models

A valuation model creates an equation of variables, factors and coefficients that explains the relationship between estimated market value and property characteristics.



s.27.1(a) **“coefficient”** means a number that represents the quantified relationship of each variable to the assessed value of a property when derived through a mass appraisal process

(b) **“factor”** means a property characteristic that contributes to a value of a property;

(d) **“variable”** means a quantitative or qualitative representation of a property characteristic used in a valuation model

MRAT, s.27.1 (a), (b) and (d)

s.27.3(1) ...information that is required to be provided...does not include coefficients

MRAT, s.27.3(1)

Valuation Model

- variables are created from property characteristics
- analysis of how variables affect market value
- factors and coefficients are determined
- the resulting valuation models are applied to property characteristics

Depending on the property type multiple regression analysis or other mass appraisal techniques are used to determine variables, factors and coefficients.

“Multiple Regression Analysis (MRA): a statistical technique used to analyze data to predict market value (dependent variable) from known values of property characteristics (independent variables)”

Property Appraisal and Assessment Administration, p. 653

An assessed value is calculated by applying the appropriate valuation model to individual properties within a group.

Approaches to Value

The most common approaches to determine market value are the sales comparison, income, and cost. Each emphasizes a particular kind of market evidence.

Sales Comparison Approach

Typical market value (or some other characteristic) is determined by referencing comparable sales and other market data. It is often used when sufficient sales or market data is available. It may also be referred to as the Direct Comparison Approach

Income Approach

This approach considers the typical actions of renters, buyers and sellers when purchasing income-producing properties. This approach estimates the typical market value of a property by determining the present value of the projected income stream. Often used to value rental or leased property

Cost Approach

Typical market value is calculated by adding the depreciated replacement cost of the improvements to the estimated value of land. It is often used for properties under construction or when there is limited market data available

Property Groups

The use of a property determines the property groupings and the valuation model applied.



use: is the purpose or activity a property is designed, arranged, developed or intended for, or is occupied or maintained as

Zoning Bylaw No. 12800, 2014, s. 6.1(108)

Property groups that can be valued on the Cost approach while under construction include residential, multi-residential, commercial, and industrial. The general definitions for each group are defined below. For a more detailed definition for a specific sub-group, refer to the applicable Assessment Methodology Guide. For example, if the property is residential, refer to the Residential Assessment Methodology Guide.

Residential

Residential properties are the lands and improvements, which are intended or developed to be self-contained dwelling units having one or more rooms accommodating sitting, sleeping, sanitary facilities and a principal kitchen for food preparation, cooking and serving.

Multi-Residential

Multi-Residential group are investment properties of four or more dwelling units, each having one or more rooms accommodating sitting, sleeping, sanitary facilities and a principal kitchen for food preparation, cooking and serving.

Commercial

Commercial properties serve the needs of those in a trade area, and include office, retail, entertainment, cultural and personal service uses.

Industrial

Industrial properties are principally used for the processing, manufacturing, servicing or storage of materials, goods and equipment. Industrial properties may include a commercial business for the distribution and sales of materials, goods and services.

Special Purpose

A special purpose property is defined as a property that has a limited utility and marketability other than for its original use”, (The Appraisal Institute, 2015). Often these properties are purpose built (to suit) which generate a very limited set of alternative uses. In fact most of the time, a special purpose property needs significant investment to be converted to an alternative use, making most conversions financially infeasible. To be special purpose the property itself, not the use, needs to be unique. Special purpose properties may include churches, schools, manufacturing plants, prisons, museums, legislative buildings, recreational facilities and railway property.

Zoning

The rules and regulations for land development within Edmonton are contained in the Zoning Bylaw, No. 12800. For a zone description, refer to the identified account zone found in the Land Assessment Methodology Guide.



*s.6.1(111) **zone**: is a specific group of listed use classes and development regulations which regulate the use and development of land within specific geographic areas of the City*

Zoning Bylaw No. 12800, 2014, s. 6.1(111)

Residential land use zones vary in part due to density.



*s.6.1(23) **density**: is the number of dwellings on a site expressed as dwellings per hectare when referring to residential related development*

Zoning Bylaw No. 12800, 2014, s. 6.1(23)

For zoning information, please see zoning bylaw 12800.

Not all property conforms to the zoning use set out in the Zoning Bylaw. In these cases, an effective zoning is applied to reflect the current use of the property. The effective zoning may differ from the actual zoning when the current use differs from the Zoning Bylaw (e.g., a legal nonconforming use).



643(1) If a development permit has been issued on or before the day on which a land use bylaw or a land use amendment bylaw comes into force in a municipality and the bylaw would make the development in respect of which the permit was issued a non-conforming use or non-conforming building, the development permit continues in effect in spite of the coming into force of the bylaw

MGA, s. 643(111)

Cost Approach

For this property, the assessment is determined using the cost approach. It is the most appropriate method of valuation for this property in the City of Edmonton.

The Cost approach produces the most accurate assessment for properties that are not actively traded in the market place due to their features or use, or where there is insufficient income and expense data available to effectively apply an income approach, or where the property is under construction.

The cost approach rationale is that an informed purchaser will pay no more for a property than the cost of building a similar one. The cost approach determines the replacement cost new of improvements less depreciation plus land value. The replacement cost is determined using a cost manual that identifies variables, factors and schedules for determining depreciation. The land value is determined using the sales comparison approach.



Replacement Cost New: *the cost, including material, labor, and overhead, that would be incurred in constructing an improvement having the same utility to its owner as a subject improvement, without necessarily reproducing exactly any particular characteristics*

Glossary for Property Appraisal and Assessment, p.120

Depreciation: *loss in value of an object, relative to its replacement cost new*

Glossary for Property Appraisal and Assessment, p.41

Sales

The City of Edmonton validates all land title transactions (sales). The validation process can include site inspections, interviews with parties involved, a review of land title documents, corporate searches, third party information, and sale validation questionnaires. A time adjustment is applied to the sale price to account for any market fluctuations occurring between the sale date and the legislated valuation date.

Sale price reflects the condition of a property on the sale date and may not be equal to the assessment.

Land

Land is grouped based on use and a valuation model is developed. Please see the relevant Land Assessment Methodology Guide for more information.

- 2016 Residential Land Assessment Methodology
- 2016 Multi Residential Land Assessment Methodology
- 2016 Commercial Land Assessment Methodology
- 2016 Industrial Land Assessment Methodology
- 2016 Agriculture Development and Dual Use Methodology

Improvements

The City uses the following cost manual to determine the replacement cost new of improvements.

- for residential improvements - the Residential Module Manual
- for other-residential improvements – the Marshall and Swift Cost Manual
- for commercial improvements - the Marshall and Swift Cost Manual
- for industrial improvements - the Marshall and Swift Cost Manual

Variables

The variables used to determine the replacement cost new are defined in the applicable cost manual. The following are sample assessment detail reports accompanied with corresponding terms.

Assessment Detail Report using the Residential Module Manual



Assessment Detail Report
ANNUAL REALTY ASSESSMENT DETAILS 2016

Tax Roll Account 10001001 Taxation year 2016 Date of mailing 04-JAN-2016 Date of request 04-JAN-2016 15:15
Property Address 10010 SAMPLE AVENUE NW Property Assessment \$543,000

Property Details

Unit Of Measure METRIC

Legal Plan: 1000000 Block: 11 Lot: 11
Neighborhood 3120 - CHAMBERY

Effective Zoning RSL - Residential Small Lot District
Actual Zoning RSL - Residential Small Lot District
Lot Size 434.380 M2 .043 Ha Site Coverage Percent 37 %

Tax Class / Land Use / Taxable Status
RESIDENTIAL
100 % 100 - SINGLE FAMILY DWELLING
01-JAN-2015 To 31-DEC-2015 100 % FULLY TAXABLE

Property Characteristics

Property Inspection History	
18-NOV-2014	EXTERIOR INSPECTION

Building Details							
No.	Market Building Class	%Comp	Condition	Yr Built	Eff Yr Built	Gross Area	Net Area
1	2 STOREY WITH BASEMENT	67	AVERAGE	2014	2014	281.100	234.900

Replacement Cost Summary

Variables

Factors

Land Summary

SITE Lot Size 434.38 Land Value 213,049

Building 1 - 2 STOREY WITH BASEMENT									
Structure	Cond	Yr Built	Eff Yr	%Comp	Gross Area	Net Area	RCN	Depreciation	DRCN
1	SF. A.1940/CU/2STY BSMT	Average	2014	67	234.900	234.900	312,064	0	312,064
2	GARAGE/CU/ATTACHED	Average	2014	67	46.200	0.000	17,600	0	17,600
Building Total									329,664
Total For All Buildings									329,664

Property Assessment 543,000

If you have any questions concerning this information, please return to the website (<http://assessmentinfo.edmonton.ca>) and click on FAQ (Frequently Asked Questions) located at the top right hand corner of the webpage.

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Assessment Detail Report using the Marshall and Swift Manual



Assessment Detail Report
ANNUAL REALTY ASSESSMENT DETAILS 2016

Tax Roll Account 9999999 Taxation year 2016 Date of mailing 04-JAN-2016 Date of request 04-JAN-2016 09:31
Property Address 1000 SAMPLE AVENUE NW Property Assessment \$3,995,000

Property Details

Unit Of Measure IMPERIAL

Legal Plan: 9999HW Block: 11 Lot: 1
Neighborhood: 6110 - CPR IRVINE
Effective Zoning: IM - Medium Industrial District
Actual Zoning: IM - Medium Industrial District
Lot Size: 68,257.411 Ft² 1.567 Ac **Site Coverage Percent:** 69 %

Tax Class / Land Use / Taxable Status
COMMERCIAL
 100 % 250 - MINI-WAREHOUSE
 01-JAN-2015 To 31-DEC-2015 100 % FULLY TAXABLE

Site Attributes	
Paving	Y
Study Area	99INDAREA13

Building Details							
No.	Market Building Class	%Comp	Condition	Yr Built	Eff Yr Built	Gross Area	Net Area
1	WAREHOUSE MINI STORAGE	100	AVERAGE	2011	2011	46,800.000	46,799.997



Replacement Cost Summary

Land Summary

ACCOUNT
ACCOUNT
ACCOUNT
ACCOUNT
ACCOUNT
ACCOUNT

LOT SIZE
NBHDGRP
UTILITY REMNANT LOT
LAND MARKET ADJUSTMENT
PAVING
SANITARY SEWER
STORM SEWER
WATER SERVICE
STREET LIGHTING
CURB/GUTTER AND SIDEWALK
SHAPE
EASEMENT
ACCESS/EGRESS
EXPOSURE
RESTRICTIVE COVENANT
CONTAMINATION
TOPOGRAPHY
LOT LOCATION

68,257.41112
12
N
N
Y
Y
Y
Y
Y
Y
Y
N
N
N
N
N
N
N
N
MAJ RDWAY INTERIOR

Land Value 1,400,950

Building	Structure	Cond	Yr Built	Eff Yr	%Comp	Gross Area	Net Area	RCN	Depreciation	DRCN
1 - WAREHOUSE MINI STORAGE	RGNOUNIT - WHSEMINI - S - AVERAGE	Average	2011	2011	100	46,800.000	46,799.997	2,630,360	105,214	2,525,146
Building Total										2,525,146
Total For All Buildings										2,525,146

Property Assessment 3,995,000

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Provincial Quality Standards

For Cost Approach properties the City of Edmonton used the cost approach to calculate the 2016 assessments. The assessment models, the process utilized, and the results are submitted annually to the Assessment Services Branch of the Department of Municipal Affairs for audit purposes. This audit is used to determine the accuracy of our predictions relative to the market place, and is a direct reflection on the accuracy of our models. The results indicated that our assessments meet Provincial Quality Standards as set out in *MRAT*.

References

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Appendix

Measure Conversion Chart

Imperial to Metric – Length	Imperial to Metric – Area
1 inch (in) = 2.54 centimetres (cm)	1 square foot (sqft) = 0.09290 square metre (m ²)
1 foot (ft) = 0.3048 metres (m)	1 acre (ac) = 4,046.86 square metre (m ²)
Imperial Conversions	1 acre (ac) = 0.40469 hectares (ha)
1 acre (ac) = 43,560 square feet (sqft)	Metric Conversions
1 square mile = 640 acres (ac)	1 square kilometer (sq km) = 100 hectares (ha)
1 section = 640 acres (ac)	1 hectare (ha) = 10,000 square metres (m ²)