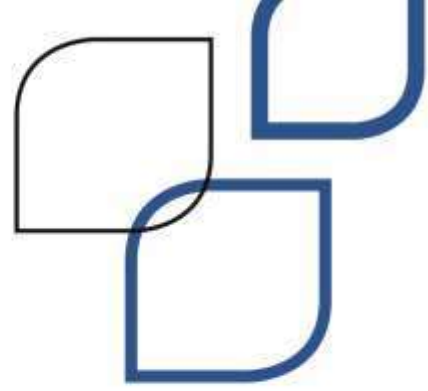




MUNICIPAL
PROPERTY
ASSESSMENT
CORPORATION



MARKET VALUATION REPORT

ASSESSING SPECIAL PURPOSE PROPERTIES IN ONTARIO: AEROSPACE MANUFACTURING PLANTS

2016 Assessment Update

Valuation Date: January 1, 2016

Acknowledgements

As part of the preparation of the Market Valuation Reports, MPAC consulted with affected property taxpayers, municipalities, and representatives. MPAC engaged the International Property Tax Institute as an independent facilitator to undertake industry-specific consultation sessions.

MPAC would like to acknowledge and thank all parties who participated in the consultation process through industry-specific forums.

We would also like to thank those property owners who provided information submissions as part of MPAC's formal information request.

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Introduction

The Municipal Property Assessment Corporation (MPAC) – mpac.ca – is responsible for accurately assessing and classifying property in Ontario for the purposes of municipal and education taxation.

In Ontario, property assessments are updated on the basis of a four-year assessment cycle. The most recent province-wide Assessment Update was in 2016 when MPAC updated the assessments of Ontario’s more than five million properties to reflect the legislated valuation date of January 1, 2016. Assessments updated for the 2016 base year are in effect for the 2017–2020 property tax years. Ontario’s assessment phase-in program prescribes that assessment increases are phased in over a four-year period. Any decreases in assessment are applied immediately.

Achieving an accurate valuation of special purpose industrial properties, such as aerospace manufacturing plants, for property tax purposes is challenging due to the size and specialized nature of the properties concerned and the fact that very few, if any, of them are bought, sold or leased in the market on a regular basis.

For that reason, it is important to ensure that the valuation methodology applied is capable of providing a realistic estimate of current value at the relevant valuation date and, in turn, enables all stakeholders to understand the valuation process and have confidence in the fairness and consistency of its outcome.

This Market Valuation Report (MVR) has been prepared for the benefit of MPAC assessors, property owners and their representatives, municipalities and their representatives, Assessment Review Board members, provincial officials, and the general public. MPAC reserves the right to amend the Market Valuation Reports as appropriate. Updates will be posted on mpac.ca.

The following definitions of “special purpose properties” may be helpful in reviewing this MVR:

- “A limited market property with a unique physical design, special construction materials, or layout that restricts its utility to the use for which it was built.”¹
- “A property that is rarely if ever sold in the market, except by way of sale of the business or entity of which it is part, due to the uniqueness arising from its specialized nature and design, its configuration, size, location or otherwise.”²

Special purpose properties are likely to have the following characteristics:

¹ *Dictionary of Real Estate Appraisal*, Fifth Edition (Appraisal Institute, 2010).

² “Glossary,” International Valuation Standards Council, last modified January 1, 2016, <http://www.ivsc.org/standards/glossary>.

- They are unique in improvements, design, layout, size, construction materials and/or building services that facilitate one or a limited number of uses.
- Generally contain machines and machine fittings that are designed to facilitate one purpose.
- Adaptation to other uses is typically challenging, requiring significant alterations and rarely finding economically viable uses for all of the improvements.
- There are limited market possibilities, except as a going concern business.
- They typically have specialized building services.
- They tend to serve large market areas that are more regional, national or international in scope.
- The expansive geographic scope of these properties typically requires research of regional, national or international data to support a market value analysis.
- Understanding the “market” for special purpose properties also requires understanding of the industry in which it operates (i.e., the nature, condition and financial health of the potential buyers and sellers).

Special Purpose Business Property Assessment Review

MPAC’s disclosure efforts support one of the key objectives of MPAC’s 2013–2016 Strategic Plan to deliver fair and accurate 2016 assessed values and align with the recommendations made in the [2013 Ministry of Finance’s Special Purpose Business Property Assessment Review \(SPBPAP\)](#).

The SPBPAP highlighted issues regarding the assessment of specialized and unique types of business properties that are not commonly bought and sold and often involve complex assessment methodologies.

As part of the review process, feedback was gathered from municipalities, MPAC, the Assessment Review Board (ARB) and business taxpayer representatives. The recommendations outlined in the SPBPAP promote changes to improve the assessment of special purpose properties and, generally, the property assessment system in Ontario. Included in the recommendation are the three levels of disclosure outlined below.

Three Levels of Disclosure

There are three levels of disclosure.

Level	Title	Description
1	Methodology Guides	Comprehensive guides that explain assessment methodology
2	Market Valuation	Comprehensive guides that explain how methodology was applied to value properties for the 2016 Assessment Update
3	Property Specific Valuation Information	Detailed information that is available through secure access only or upon written request from taxpayers, representatives and municipalities

There are no discrete current values shared at the first two levels of disclosure.

The Property Specific Valuation Information for each of the special purpose aerospace manufacturing plants will be provided at Level 3, where property taxpayers, municipalities and their respective representatives can review how the current values is calculated.

How to Best Use This Report

This report is best reviewed in association with the Methodology Guide for aerospace manufacturing plants.

The Methodology Guide offers a comprehensive overview of the assessment procedures MPAC has carried out to arrive at estimates in current value for aerospace manufacturing plants.

This MVR will share and discuss the data parameters and calculations that MPAC has used to determine the assessed values for all special purpose aerospace manufacturing plants in Ontario.

Description of the Subject Properties

Aircraft, Engine & Parts Manufacturing

“Industry operators provide one or more of the following: the manufacture of complete aircraft; the manufacture of aircraft engines, propulsion units and other related equipment or parts; the development and creation of aircraft prototypes; aircraft conversions (i.e., major modification to systems); and complete aircraft overhaul and rebuilding (i.e., periodic restoration of aircraft to original design specifications).”³

The primary activities of this industry are:

- manufacturing complete aircraft
- manufacturing aircraft components, parts and subassemblies
- manufacturing aircraft engines
- manufacturing aircraft engine components, parts and subassemblies
- modifying aircraft, aircraft parts or engines
- restoring and overhauling aircraft, aircraft parts or engine⁴

This report will focus on aerospace manufacturing plants where the gross floor area exceeds 125,000 square feet. The size benchmark is consistent with the description of properties included in the Large Industrial Property Class as defined in Ontario Regulation 282/98.

See Schedule A for a list of special purpose aerospace manufacturing plants in Ontario.

³ IBISWorld, “Aircraft, Engine & Parts Manufacturing in Canada: Market Research Report,” NAICS 33641aCA (Dec 2015).

⁴ Ibid.

Responsibility of MPAC

Role of the Assessor

MPAC has a statutory responsibility to estimate the current value of the fee simple interest in the land as of January 1, 2016. The assessed values will be relied upon to allocate property taxes for the 2017 to 2020 taxation years.

More simply, MPAC has an obligation to estimate what a property would realize if it were to sell on January 1, 2016.

The definition of current value is commonly accepted to represent the concept of value in exchange.

With this in mind, it is important to determine how the subject properties would be exchanged. There are three scenarios involving the subject properties that would be considered by the participants involved in the exchange:

- continued use of the improvements
- alternate use of the improvements
- raze the improvements and redevelop the land

This reality is the rationale for determining the highest and best use of the land while undertaking an appraisal of the subject properties.

The processes involved with manufacturing aerospace are highly specialized, and the real property is highly integrated with the dedicated manufacturing equipment; in fact, the subject's design, sheer size and configuration to accommodate this special purpose causes it to not be feasible to adapt much of the plant to another purpose.

As stated above, each subject property's design prevents alternate uses from being practical. This leaves two potential scenarios under which a subject property would exchange: continued use or razing all or a portion of the improvements to accommodate redevelopment.

Analysis contained in this report is based upon the assumption that the current use is highest and best; therefore, the value in exchange of the subject contemplates a willing seller and buyer who each make value judgments based upon the utility derived by the subject property to manufacture aerospace products.

Appraisal Theory

Highest and Best Use

The highest and best use of a property may be defined as “the reasonably probable and legal use of vacant land or improved property that is physically possible, appropriately supported, financially feasible, and that results in the highest value.”⁵

This economic concept measures the interaction of four criteria: legal permissibility, physical possibility, financial feasibility and maximum profitability. Estimating the highest and best use of a property is the most critical component of an appraisal as it sets the valuation context for the selection of comparable properties and analysis undertaken in the report.

Physical Possible Uses

This refers to the legal, physically possible uses of the subject that can be accomplished on the site considering the size, shape, topography, soils and environmental conditions.

Legal Permissible Uses

This refers to the possible uses of the subject permitted legally by land use controls, any existing leases, easements, deed restrictions or subdivision controls, covenants and restrictions or any other public or private limitations.

Financially Feasible Uses

This refers to the legal, physically possible uses of the subject that will produce a positive net financial or economic return to the owner of the site.

Maximally Productive Use

This refers to the use that satisfies the three criteria listed above and that produces the highest value.

Summary

The highest and best uses of the subject properties are assumed to be the current uses of each property. Each of the properties was in operation as of the date of the report; therefore, it is assumed that each of the four criteria has been satisfied.

⁵ *The Appraisal of Real Estate, Third Canadian Edition* (Appraisal Institute of Canada, UBC Commerce, Real Estate Division, 2010), 12.1.

Due to the design of the subject properties, there is likely only one use that is financially feasible.

How to Derive Current Value

There are traditionally three approaches to value estimation employed by an assessor: the cost approach, the direct comparison approach and the income approach. There may not always be sufficient data for development of all value methods and varying degrees of reliability may be achieved based on the quality and quantity of data gathered for each approach. The process of value correlation seeks to determine the most representative estimate of value for the subject property based on the strengths and weaknesses of each approach. For complete descriptions of each of the three approaches, please refer to *The Appraisal of Real Estate*.

How to Derive Current Values for the Subject Properties

As previously stated in this report, there may not always be sufficient data for development of all valuation methods. For most property types, there is an active market of sales and leases that are instructive to an assessor estimating current value; however, that is not the case for the subject properties.

A dearth of sales precludes the use of the direct comparison approach, and a lack of lease agreements prevents the use of the income approach; therefore, the assessor is left with only the cost approach to derive current value.

A more detailed explanation for sole reliance upon the cost approach follows.

Why the Direct Comparison Approach Was Not Developed

In the direct comparison approach, properties similar to the subject that have been sold recently or for which listing prices or offers are known are compared to the subject.

Comparable properties “should have the same or similar highest and best use as the improved subject property.”⁶

It is important to note that when special purpose manufacturing plants transact they are often repurposed or razed, resulting in a change in use.

A change-in-use sale involves the sale of a property where the designed and intended use was no longer viable. As a result, production had ceased and the plant sits idle. A large plant is expensive to maintain after production has ceased, and it becomes a liability as opposed to a profitable asset; this greatly motivates a vendor to part with its property. The desire to sell such a property is

⁶ *The Appraisal of Real Estate*, 7.11.

How the Subject Properties Are Assessed

How MPAC Derives the Current Value of the Subject Properties

The guide Assessing Aerospace Manufacturing Plants in Ontario recommends a valuation process comprising six steps:

1. Determine the property's functionality and utility (i.e., what it can do).
2. Establish the costs to construct the improvements as new.
3. Identify all forms of depreciation.
4. Quantify the depreciation identified.
5. Add the market value of the land to the depreciated value of the improvements.
6. Validate the result of the above process.

Step 1 – Determine the functionality and utility of the property for comparison to a modern plant

The first step requires the assistance of the owner of the subject property to determine the property's functionality and utility (what it can do and the expected benefits to be derived).

As a result of concluding that the subject property is special purpose and that the current use is highest and best, the first step in the process is very straightforward – the property's function is to manufacture aerospace products. However, the assessor requires the assistance of the owner of the subject property to evaluate its functionality and utility. Evaluating the functionality and utility of an aerospace manufacturing plant requires a broad understanding of the processes occurring within the plant – with few exceptions, this is beyond the scope of an assessor.

The assessor should ask one preliminary question and follow the answer with a series of subsequent questions that begin with "Why." The assessor may ask as many subsequent questions as required in order to understand.

The assessor should encourage the owner to compare the existing plant against an ideal or contemporary plant that could perform the same function when considering his/her answers.

This preliminary discussion with the owner will afford the assessor a thorough understanding of the manufacturing of aerospace products and will help to frame many of the mathematical adjustments that are made later in the valuation process.

In the absence of shared insight, MPAC had reference to the work files associated with each of the plants to gauge how any excess capital costs were accounted for in prior assessments.

Historically, MPAC would have reflected functional obsolescence resulting from excess capital costs and from excess operating costs as a single adjustment. In most instances the allotment for excess operating costs would have been five per cent; therefore, if a historical adjustment exceeded five per cent the remainder could be attributed to excess capital costs (e.g., if total functional obsolescence was 13 per cent the loss resulting from excess capital costs was 8 per cent).

In many instances the assessor has carried forward the historical adjustment from the previous reassessment [i.e., 2012 Current Value Assessment (CVA)] to account for excess capital costs during this reassessment.

The following data provides an overview of the allotments made to account for excess capital costs realized in the aerospace sector:

Allotment	Instances
0	3
1 to 10	2
11 to 20	1
21 to 30	0
31 to 40	1
41 to 50	1
51 to 60	0
61 to 70	1
71 to 80	0
81 to 90	0
91 to 100	0
Total	9

The average allotment for the sector is 21 per cent.

Step 4 – Quantify the depreciation identified

This step in the valuation process is the result of subtracting total depreciation from the reproduction cost new to arrive at the current value of the buildings and other site improvements. The total depreciation includes physical deterioration, functional obsolescence and external obsolescence.

Step 4a – Apply physical deterioration

This step in the valuation process is to account for normal and abnormal wear and tear. Apply physical deterioration due to age from the typical depreciation tables found in the cost manual and make adjustments as required to age-related depreciation due to the actual state and condition of the property.

Within ACS there are life tables that calculate the loss in value resulting from the normal wear and tear that buildings and structures suffer from over their estimated useful life. It is important to note that there is a difference between an improvement's useful and economic life. The economic life of a structure is the period over which the improvements contribute to property value, and the useful life is the period over which the improvement is expected to function according to its design.

The useful life is used to estimate physical deterioration.

The life tables within ACS do not assign different rates of physical deterioration to long-lived and short-lived items. Instead, the varying useful lifespans of the items are blended and the overall useful life estimation is applied to the entire building or structure.

See Schedule B for an example of the 50-year useful life table.

In addition to the useful life determination, MPAC's estimate of physical deterioration is affected by the effective age of the improvements. It is important to note that there is a difference between actual age and effective age. The actual age refers to the time that has passed since the building was completed. The effective age refers to the building's condition and is based on the assessor's judgment and interpretation of the market.

The effective age of a structure is impacted by the level of maintenance that it has received. If a structure has been well maintained, the effective age may be less than the actual age; conversely, if a structure has been poorly maintained, the effective age may be greater. If a structure has received typical maintenance, its effective and actual age may be the same.

An example of the methodology for physical deterioration follows:

Line	Parameter	Formula	Details
1	Cost New		\$1,350,000
2	Year Built		1993
3	Level of Maintenance		Typical
4	Effective Year of Valuation		2016
5	Actual Age	Line 4 – Line 2	23 years
6	Effective Age		23 years
7	Estimated Useful Life		50 years
8	Remaining Useful Life	Line 7 – Line 6	27 years
9	MPAC Life Table		OR 50
10	Per cent Good Allotment		54%
11	Estimated Physical Deterioration (%)	100% – Line 10	46%
12	Estimated Physical Deterioration (\$)	Line 1 * Line 11	\$621,000

Step 4b – Apply functional obsolescence

This is the step in the valuation process that accounts for any functional obsolescence not already captured by comparing the reproduction cost new to the replacement cost new.

The assessor must estimate the loss in value resulting from inefficiencies or inadequacies that impair the utility and/or cause the owner to incur excess operating costs. The most common example of this is for piecemeal construction that creates a disjointed manufacturing process and results in the owner incurring excess operating costs.

The assessor can account for the loss in value by way of a quantitative or qualitative adjustment.

A quantitative adjustment to account for a loss in value resulting from excess operating costs is derived by summing the annual excess operating costs and selecting the appropriate discount rate and term to determine the present value of the loss in value caused by the deficiency.

The quantitative adjustment proved to be difficult to account for. In order to determine excess costs, the assessor must be aware of normal costs. Normal operating costs are not within an assessor’s area of expertise and would need to be provided by the owner of the building – most owners are either disinclined to provide such information or find it challenging to discern and display normal operating costs. As a result, this method was not broadly applied in the assessments of the subject properties.

The absence of the data required a quantitative adjustment, and the assessor relied on a qualitative adjustment to account for the loss in value. A qualitative adjustment is not inconsistent with what had been completed in previous reassessments (i.e., 2012 CVA); however, the adjustments are now greater in many circumstances. The adjustment was formerly applied as an allotment of 5% regardless of the age of the plant. MPAC consulted with property owners who stated that 5% was often too low and the assessor also made reference to recent ARB decisions where the tribunal found that amounts greater than 5% may be appropriate in certain circumstances. Throughout the consultations and after having reference to the decisions, the assessor noted a positive relationship between age and deficiencies – the greater the age, the greater the presence of deficiencies. To account for this reality, the assessor developed a more dynamic approach to account for the loss in value.

The qualitative adjustment made to estimate a loss in value resulting from inefficiencies or inadequacies that impair the utility and/or cause the owner to incur excess operating costs range from 0–15% of the replacement cost new. The following table illustrates the allotments made:

Actual Age of Plant	Allotment for Excess Operating Costs	Actual Age of Plant	Allotment for Excess Operating Costs
1	0%	16	8%
2	1%	17	8%
3	1%	18	9%

4	2%	19	9%
5	2%	20	10%
6	3%	21	10%
7	3%	22	11%
8	4%	23	11%
9	4%	24	12%
10	5%	25	12%
11	5%	26	13%
12	6%	27	13%
13	6%	28	14%
14	7%	29	14%
15	7%	30	15%

The rationale for the sliding scale is that deficiencies become more prominent over the normal passage of time.

Step 4c – Apply external obsolescence

This step in the valuation process takes into consideration the external factors that influence current value by applying external obsolescence as required.

There are two subcategories that fall under the heading of external obsolescence:

- economic obsolescence
- locational obsolescence

Schedule A: Special Purpose Aerospace Manufacturing Plants in Ontario

Roll Number	Address	City
180504000609400	574 Monarch Ave	Ajax T
190805211000252	Wilson Ave	Toronto C
190805211001101	Plewes Rd	Toronto C
210505011648500	1801 Courtneypark Dr E	Mississauga C
210505011726201	3160 Derry Rd E	Mississauga C
240102029000101	1400 S Service Rd W	Oakville T
270302002616300	1011 Gilmore Rd	Fort Erie T
270302002702104	1100 Gilmore Rd	Fort Erie T
311104007005500	801 Ontario St	Stratford C

Schedule B: 50-Year Useful Life Table

50-Year Average Life		
Year Built	Effective Age	ACS % Good
2017		100
2016	1	99
2015	2	98
2014	3	98
2013	4	97
2012	5	96
2011	6	95
2010	7	94
2009	8	94
2008	9	92
2007	10	91
2006	11	89
2005	12	87
2004	13	86
2003	14	84
2002	15	83
2001	16	81
2000	17	80
1999	18	78
1998	19	75
1997	20	73

