



**Valuation Guide**  
Office Buildings



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# Office Valuation Guide

## *1.0 Introduction*

Office buildings are properties that return revenues to their owner(s) in the form of income. They are typically purchased for investment purposes, and thus the properties' ability to earn income is the critical element affecting its value from a market point of view. The potential income from an office building is affected by many factors including building amenities, location, availability of parking, condition of the building, economic conditions, and competition. All these conditions affect the potential income from an office building and how the market views such properties, and therefore its market value.

## 1.1 Types of Office Buildings Covered in this Guide

The methods described in this Valuation Guide are designed to suit the following types of office properties:

- **Class A Offices-** Prestige or flagship buildings.
- **Class B Offices-** Standard quality.
- **Class C Offices-** Below average quality; minimal amenities.
- **Class M Offices-** Medical and dental office buildings.

The methods presented here may be applicable to other types of offices located in commercial centres or to industrial offices, but the material in this Valuation Guide does not directly address these or any other types of office properties.

## 1.2 Scope of Valuation Manual

- This Valuation Guide is designed as an aid for the valuation of office building properties for assessment purposes.
- It sets out a procedure to follow to derive office building market values using an income approach.
- With the accompanying spreadsheets, the Valuation Guide provides a practical tool to estimate the market values of office buildings.
- Valuation parameters provide the guidelines and controls that establish statistically sound market values for office buildings as of various valuation dates.
- The manual and methods presented are tools to enable the assessor to derive market values; it is meant to aid the valuation process but does not replace the assessor's judgment.
- The method presented in this Valuation Guide is aimed at deriving values for a range of office buildings with typical attributes and conditions.

## *2.0 Analysis of Valuation Approaches*

### 2.1 Approaches

#### Market Sales Comparison Approach

Office sales data are relatively easy to come by in most larger jurisdictions. Conversely, the expectation for smaller towns and cities is that there may not be enough appropriate sales to complete a market sales comparison approach. Even in large municipalities there may not be sufficient sales data for all types of offices in every valuation period.

When and where information is available, the market sales comparison approach can produce appropriate conclusions and should be considered. Also, any office building sale that does occur should be researched and verified as such analysis is useful in establishing capitalization rates and in confirming the values derived using other approaches to value.

## Income Approach

Office buildings frequently rent, and it is generally possible to obtain such rental information for all types of offices. Furthermore, there are generally sufficient sales available to establish the risk and capitalization rates required in a market value estimate using the income approach. Therefore, the income approach can be employed to establish the market value of office buildings.

## Cost Approach

The value of an office building on the open market varies according to its potential income. The rents and income that can be generated are a reflection of general economic conditions, as well as the supply and demand for office space. Therefore, the values of office buildings tend to fluctuate over time. Without close analysis of inflationary or deflationary pressures, of changes in land values, and of proper application of depreciation, the cost approach does not deal with such fluctuations very well. Therefore the approach is not recommended for the valuation of office buildings.

## 2.2 Recommendation

Because office buildings are bought, sold, and developed on the basis of their expected net income, the income approach to value reflects the manner in which the market views these properties. Since the income approach applies well to mass appraisal applications, the following recommendation is made:

<p>In the assessment of properties in Alberta, the income approach is recommended for use in the valuation of office building properties.</p>
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The theory behind the income approach to value is that property values reflect the present worth of anticipated or forecasted future benefits from the real estate. As such, the income approach analyses the rents and income from an office building and converts this net revenue into an estimate of current value.

## 2.3 Application of the Income Approach

### Income Approach Methods

In general there are two methods available to convert future income into a present value:

- A direct capitalization method<sup>1</sup>; and
- Discounted cash flow analysis.

Either type of analysis recognizes that money has a “time value”, i.e., that given a choice people would rather receive \$100 today than \$100 one year from now. However, certain people would rather receive \$110 (\$100 + 10 percent) in one year than \$100 today. The interest rates applied to convert future dollars to “cash in the pocket” today reflect the time value of money.

The valuation technique commonly used by assessors across Canada is based upon the direct capitalization method. It is widely accepted as a mass appraisal technique and under existing jurisprudence<sup>2</sup>. Also, it is relatively easy to use.

*The valuation method presented here employs the direct capitalization method.*

### Overview of the Direct Capitalization Method

**The analysis in this section presents a direct capitalization method that is suited for mass appraisal applications. Therefore, the analysis focuses upon typical office building properties.**

Direct capitalization converts or “capitalizes” the expected level of current net earnings into an estimate of market value using a capitalization rate. Therefore, the conversion factor or capitalization rate is a reflection of all of the investor’s relative and comparative feelings and aspirations about the property in light of the investment characteristics offered by the asset and in comparison to other investment opportunities on the market.

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<sup>1</sup> Re: Campeau Developments Ltd. and the Regional Assessment Commissioner Region No. 29 (1982) 144 D.L.R. (3d) 632 (C.A.) Leave to appeal to S.C.C. refused 51 N.R. 154 m.

British Columbia v. 359042 B.C.Ltd. [1997] BC No. 1459

<sup>2</sup> Bramalea Ltd. v. British Columbia Assessor Area # 9, Vancouver (1990) 76 D.L.R. (4<sup>th</sup>) 53. (C.A.) Leave to appeal to S.C.C. refused 79 D.L.R. (4<sup>th</sup>) vi. 135 N.R. 318 m.



## 2.4 Practical Valuation Process

**In this Valuation Guide, the direct capitalization method has been developed into a practical valuation tool utilizing spreadsheets.**

Guidelines and instructions on:

- Use of these spreadsheets.
- Collecting the data.
- Analysis of information.
- Development of the valuation parameters.
- The estimation of market value; and
- Controlling the quality of assessment values.

are contained in section 3.0 of this guide.

## 3.0 Steps in the Valuation Process

### 3.1 Overview of Office Procedure

- 1) **Collect appropriate information.**
- 2) **Analyze data and establish office classes and office valuation parameters.**
- 3) **Determine the potential gross income (PGI)<sup>4</sup>.**
  - Establish **market rents** for all types of space in the property
  - Multiply rentable areas by the market rents to determine **PGI** to the owner.

$$\text{PGI} = \text{RENTABLE AREA} \times \text{MARKET RENT}$$

- 4) **Determine effective gross income (EGI):**
  - Deduct for typical long-term vacancies and collection loss.
  - Add miscellaneous income to obtain **EGI**.

$$\text{EGI} = \text{PGI} - \text{VACANCY AND BAD DEBTS} + \text{MISCELLANEOUS INCOME}$$

- 5) **Establish net operating income (NOI):**

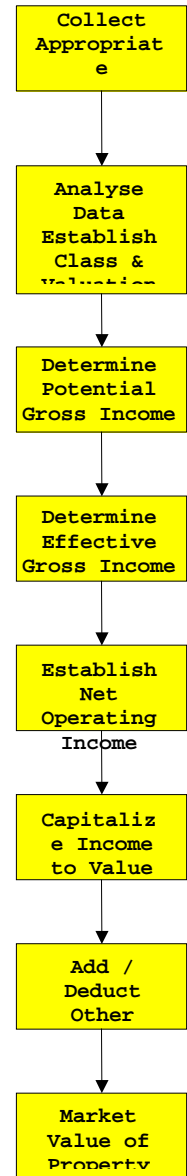
Make appropriate deductions for management and unrecovered operating expenses.

$$\text{NOI} = \text{EGI} - \text{MANAGEMENT} - \text{UNRECOVERED EXPENSES}$$

- 6) **Capitalize NOI into value.**

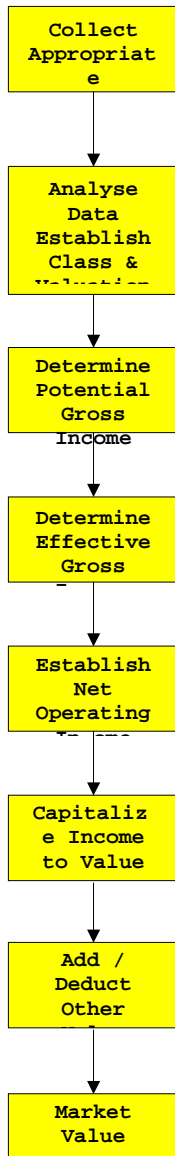
$$\text{VALUE} = \text{NET OPERATING INCOME} \div \text{CAPITALIZATION RATE}$$

- 7) **Add / deduct any other value to produce MARKET VALUE OF THE PROPERTY.**



<sup>4</sup> *Gross income* does not necessarily imply or rely upon the analysis of “gross” rents. In this analysis potential gross income refers to the potential amount of “net” rental income that can be generated by the property.

## How the Approach Works



### Start with Net Market Rents for Finished Space

The analysis undertaken relies on the premise that net market rents can be identified for the various types of finished space in the different types of office buildings:

- Typical office area;
- Ground floor (excluding retail) / premium office area;
- Basement / storage space;
- Retail areas; and
- Parking space.

The use of net market rents means that very few adjustments are required to determine the market value of the real estate. Establishing rents for finished space also incorporates the value of leasehold improvements.

Adjustments are then made for:

- Typical, long-term, vacancy and bad debt;
- Vacant space shortfall; and
- Unrecovered management expenses;

to derive the net operating income.

Capitalizing NOI produces a value attributable to the real estate.

The use of net market rents also means that non-real estate factors such as:

- Business value,
- Building operational costs; and
- Property taxes.

do not enter the calculations except in the determination of net market rents.

## 3.2 Collecting the Appropriate Data

More than any other factor, the type and quality of information that is available dictates the methods that can be used to value properties. The efforts put in at the information collection stage will determine the quality of the final analysis.

Sources of helpful information which can be used in the development of valuation parameters for office buildings include office building owners, real estate consultants and brokers, real estate publications, and industry associations.

### Information from Landlord

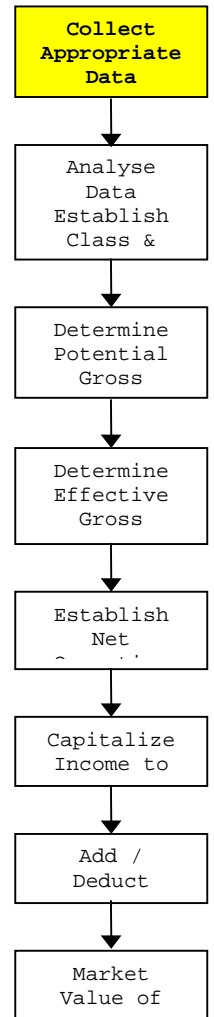
To begin this task of collecting data, it is recommended that the following information be collected from office building landlords by means of a Request for Information Form, of the type included in Appendix A:

- Detailed rent rolls;
- Rentable areas per tenant;
- Landlord's income and expense statements;
- Records and details of tenant inducements;
- Basis for rents charged (for finished or unfinished space); and
- Copies of current leases and accepted offers to lease.

### Property Inspection

The assessor should visit the office buildings and complete the office building data entry form to determine the following type of information:

- Quality of building;
- Nature and quality of common facilities, amenities, and finishes;
- Quality of finishes in tenant spaces;
- Type and quality of tenants;
- Presence of surplus land;
- Parking;

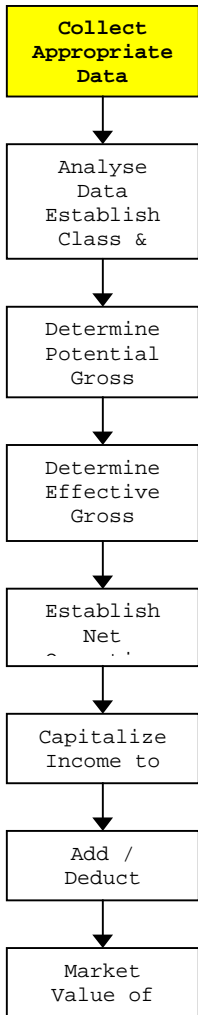


- Level of occupancy; and
- Where there appears to be surplus land the assessor should also review the building and land use by-laws governing each office building.

An analysis of the above information will enable the assessor to arrive at conclusions about:

- The characteristics and nature of the office building market in the municipality
- Typical vacancy and collection loss factors
- Typical management and operating expenses, and
- Typical market rents for various types of buildings and various types of space (office, retail, storage, etc.)

Information on sales of office buildings in the market must also be collected to assist in the development of appropriate capitalization rates. (This step is an essential part of the income approach.)



## 3.3 Analyze the Data, Establish Class of Office and Valuation Parameters

### Data Analysis

For the assessor to gain full value from the data collected, the data has to be organized in such a way that meaningful comparisons can be made and valuation conclusions drawn. By collecting and organizing the data on a number of office buildings it becomes possible to establish the typical performance, characteristics, and valuation parameters to apply in the valuation of other office buildings.

Collecting and tabulating such data also enables the assessor to distinguish between the typical value of real estate components and not the actual performance of a specific property, which may be reflecting other non-real estate factors, such as management.

### Using Current Market Rents

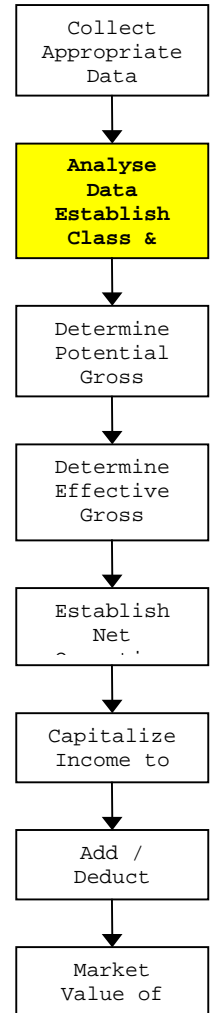
In determining gross potential income the assessor is not bound by the contractual rent between the landlord and the tenant<sup>5</sup>. Current market rents should be used to form the basis of valuation as opposed to actual rents because actual rents may reflect what market rents were at the time (before the valuation date) a given lease was negotiated. Therefore, in order to capture the fee simple value of the real estate as of a particular date, rents that reflect the market conditions as of that date should be employed.

### Fee Simple Interest

For assessment purposes, the market value of a property is its “fee simple” value. *A fee simple title is regarded as an estate without limitations or restrictions.* (The Appraisal of Real Estate, 8<sup>th</sup> Edition, American Institute of Real Estate Appraisers, p 8-9.) A fee simple title is the ultimate ownership estate in real property and reflects all rights, title, and interests in the property.

### Leasehold Interests

Leasehold interests are created in a property where tenants pay less than the current market rent. Such tenants could conceivably sublet



<sup>5</sup> A. Merkur & Sons Ltd. v Ontario Regional Assessment Commissioner (Region No. 14) (1977) 91 DLR(3d) 764 (CA). Leave to Appeal to S.C.C. refused. See also Canadian Plaza Ltd. and Regional Assessment Commissioner Region No. 19 (1985) 15 DLR 4<sup>th</sup> 156.

their space for higher rents and enjoy some of the value of the property. To obtain a proper current market value under these circumstances it is necessary to value interests of both the property owner and the tenants.

Following this line of thought, if all office space is valued on the basis of "current" market rents, the expected potential income represents both the income collected by the owner and the fee simple estate in the property.

### Analyzing Current Market Rents for Office Space

The assessment valuation procedure for office buildings relies upon the derivation of net rent for the typical finished space in a building and then the application of these appropriate net rental rates to each space type to derive the potential gross income. The essential task in this procedure is to determine the market rent that should be applied to the space at the time of valuation<sup>6</sup>.

This task requires two steps:

- Determine the types and amount of space in the office building; and
- Determine the current market rents for that space.

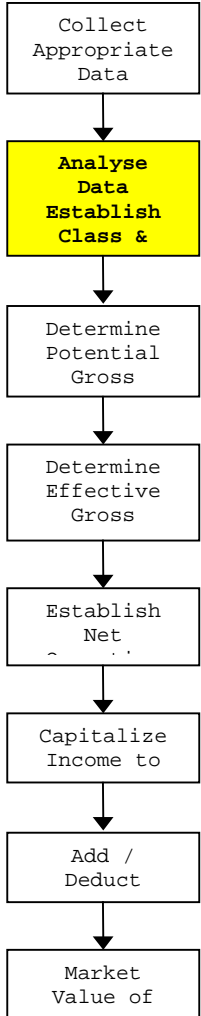
### Classification of Office Buildings

As rent varies by class of office building, the first step in the analysis of rental data is to classify all office buildings by type and function.

Office buildings range in size, quality, type, location, and number of tenants. In order to estimate the potential gross income from such properties it is necessary to consider all these factors and how they influence the market rents and capitalization rates. Building class and quality are indicative of the rents that can be charged, the inducement packages offered, and the risks associated with the investment.

Classifications of office buildings are as follows:

**Class A** - Prestigious or "flagship" buildings. Materials and finishes meet the highest standards. Located in downtown core, generally high rise buildings.



<sup>6</sup> A. Merkur & Sons Ltd. [op.cit.]

**Class B** - Buildings are of standard quality. Average materials and finishes. Location of the buildings is not strictly limited to the downtown core. Generally older than Class A buildings.

**Class C** - Below average quality and standard of office buildings. Public areas are minimal and lack definition. Building services and mechanical/ electrical systems provide little or no flexibility for future change. Public transportation access may be infrequent, and shopping and restaurant facilities may be minimal.

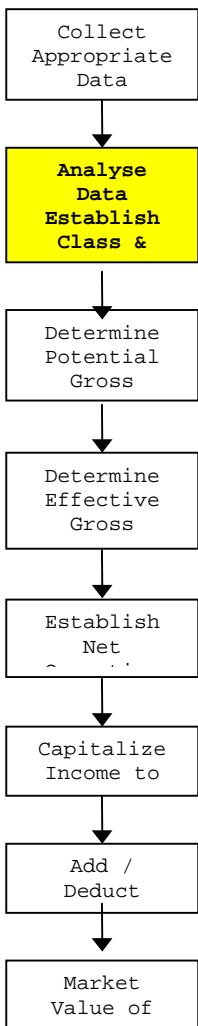
**Class M** - Medical and Dental office buildings.

## Types of Space Found in an Office Building

There are a wide variety of uses and types of space found in office buildings. However, the following classifications describe the most common types of space found in an office:

- Typical office area;
- Ground floor (excluding retail) and premium office areas (applies to penthouses, if any);
- Basement / storage space;
- Retail areas; and
- Parking space.

These classes also define the different rental rates and income sources for offices.



## Organizing the Data

The income information collected from the property owner and the inspection notes taken by the assessor should be organized in a table by class of building and type of space. As more buildings are classified and added to the table, patterns will emerge. The assessor can use these patterns to begin to establish the typical mean and range of valuation parameters to be applied to the type of space and class of office building:

- Typical market rents for various types of buildings and various types of space (office, retail, storage, etc.);
- Typical vacancy and collection loss factors;
- Typical inducements; and
- Typical management and operating expenses.

Analysis of these factors (as outlined in sections 3.4, 3.5, and 3.6) produces some of the “typical” valuation parameters required in the assessment process. An example of these findings is provided on Table 1.

Table 1: Example of Office Building Valuation Parameters - 1996

These numbers are for illustrative purposes only - not to be used in property valuations

Parameter	Class A			Class B			Class C			Medical		
	Low	Median	High	Low	Median	High	Low	Median	High	Low	Median	High
Vacancy allowance	3.0%	5.0%	7.0%	4.5%	7.0%	9.0%	4.5%	8.0%	11.0%	2.0%	4.0%	15.0%
Unrecovered operating expense		6.5%			8.0%			8.0%			7.0%	
Vacancy shortfall (\$ per sf)	\$4.00	\$6.00	\$8.00	\$3.25	\$4.50	\$7.00	\$2.00	\$3.50	\$5.00	\$2.00	\$2.75	\$4.00
Capitalization rates	6.5%	7.5%	8.0%	7.0%	8.0%	9.5%	8.0%	9.0%	11.0%	7.0%	7.8%	9.0%

## 3.4 Determine Potential Gross Income

### Establish Market Rents

This income approach procedure requires that typical net market rents be established for finished office building space. The amount of rent and degree of “finish” will vary according to the type of space and the class of office building.

### Actual Market Rents

Establishing typical net market rents for finished space in a particular office building can be accomplished in the following manner:

- First analyze current lease arrangements for the type of space found in the subject office building.
- The best evidence of the market rent for a particular property is the net rental rate for finished space reflected in leases established in and around the valuation date.

### Full Floor Rents

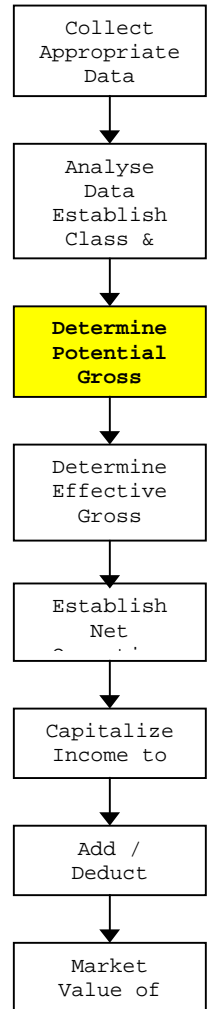
All other factors being equal, the expectation is that a small office in a building will have higher rent than a larger office in the same building. In order to ensure that the rental rates established for the types of space in the building reflect typical current market rents, typical rental areas should be considered. As a general rule, and in order to compare one office building to another, the assessor should attempt to determine the current market rents for a full office floor.

### Consolidation of Rental Rates

The rents in a particular property should also be in line with the rents established for similar space in other office buildings of the same class.

Once the rent rolls and other financial information have been analyzed from a sufficient number of office buildings, it should be possible to establish the median and acceptable range of market rents for types of space by class of office.

Therefore, all rental and other information collected should be organized in such a way as to produce a typical range of rents for each type of space and each class of office building. *Refer to Table 2 for an example of typical office rental rates.*



## Issues with Market Rents

### Understanding Office Market Conditions

Lease arrangements tend to vary according to the current state of the market including the supply and demand for office space and the negotiating power of the parties involved. Estimation of office building market values therefore requires some understanding of the current office market and the types of leases being offered. Copies of current leases and accepted offers to lease are important factors in understanding this market. For example, if the current practice, because of market conditions, is to give tenants inducements to lease, this impacts the “net” rent received by the owner.

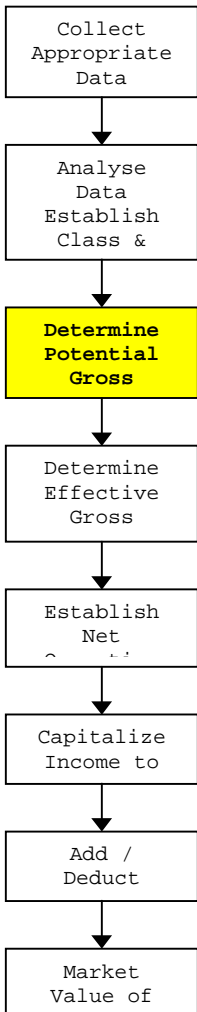
### Tenant Inducements

In order to establish the typical net market rent in situations where the tenants receive inducements, it is necessary to analyze the terms and conditions of these inducements.

Landlords often offer inducements to tenants in order to attract them into a building. Generally speaking, the value of inducements is higher in times of higher vacancies. Inducements can consist of one or more of the following:

- Leasehold improvements.
- Cash payments for various reasons.
- Periods of free rent.
- Lease buy-outs.

Inducements affect both the net income received by the owner and the effective rent paid by the tenant. For example, a five year net lease for 2,500 square feet at a rental rate of \$20 per square foot per annum is a fairly straightforward rental arrangement (total rent over five years =  $\$20 \times 2,500 \times 5 = \$250,000$ ). If, however, the tenant negotiates one year of free rent or a \$50,000 "signing" bonus, then the effective rent paid by the tenant is something less than \$20 per square foot stated on the rent rolls. Instead of paying \$250,000 over the five year lease the tenant now pays \$200,000, or (without considering the time value of money) an average rate of \$16 per square foot.



## Leasehold Improvement Allowances

The most common form and application of inducements is the provision of leasehold improvements by the landlord either through actual construction or through a direct cash payment to the tenant.

Since the valuation procedure presented in this guide is based on the net effective rent for finished space, the income analysis incorporates the value of leasehold improvements. Because of this approach, **inducements that are attributable to leasehold improvements should not affect the net market rents used in the assessment of a property. Therefore, no deduction or adjustments to the Base Rent should be made for inducements attributable to leasehold improvements.**

## Leases for Unfinished Space

Situations may arise where a particular office building has leases that reflect the value of non-finished space. There are two ways to handle this to derive the appropriate market value.

- The recommended approach is to establish the appropriate market rent for finished space. This can be accomplished by completing a study of finished office space as demonstrated in Table 2.
- The other method of capturing the value of leasehold improvements is to value the office space on the basis of rents for unfinished space; then add the depreciated value of the leasehold improvements at the end of the valuation process. (*Refer to section 3.7 “Add / Deduct Other Value”.*)

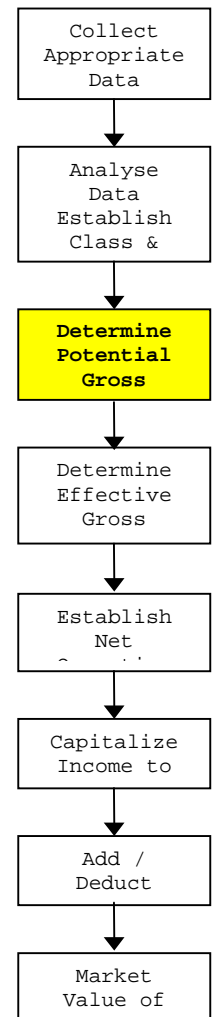


Table 2: Example of Typical Office Building Rents - 1996

These numbers are for illustrative purposes only - not to be used in property valuations

Typical rent per square foot	Class A			Class B			Class C			Class M		
	Low	Median	High	Low	Median	High	Low	Median	High	Low	Median	High
Office space	\$15.00	\$18.00	\$22.00	\$8.00	\$12.00	\$16.00	\$2.00	\$6.00	\$9.00	\$15.00	\$17.00	\$24.00
Ground floor / premium office	\$25.00	\$27.00	\$32.00	\$15.50	\$17.50	\$22.00		\$7.00			na	
Retail	\$31.00	\$36.00	\$40.00	\$18.00	\$20.00	\$25.00		\$15.00		\$40.00	\$50.00	\$80.00
Basement / storage	\$4.00	\$5.00	\$7.00	\$2.50	\$3.00	\$5.00		\$2.00			\$6.50	
Parking spaces		\$1,800			\$1,200			\$600			na	

## Gross and Partially Net Leases

Where the rents reported include some or all operating expense items, an occurrence which is more likely to exist in Class B and C buildings, it becomes necessary to deduct these expense items from the reported rent in order to achieve a rental rate which is “net”, and therefore, comparable to other rents.

Example of Gross Rent Conversion to Net Rent (1,000 Sf office)

	Total	Per Sq. Foot
Gross Rent	\$10,000	\$10.00
Operating Expenses	- \$1,250	- \$1.25
Taxes	- \$2,800	- \$2.80
Net Rent	\$5,950	\$5.95

## Calculation of Potential Gross Income

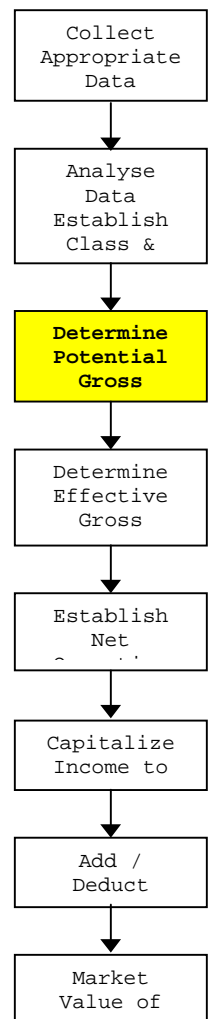
Upon completing the analysis of all the information, the assessor should be able to establish the median and range of rents for the typical types of space found in each class of office building.

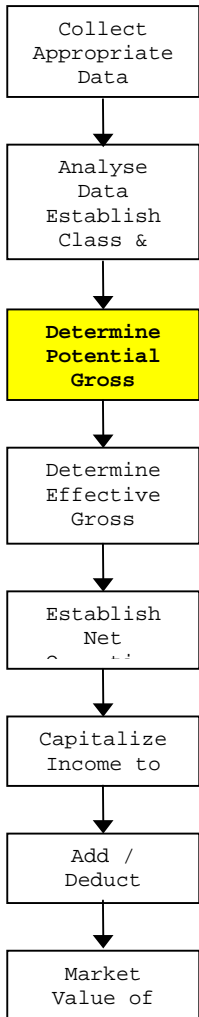
**The estimation of the PGI is completed by adding the potential income that could be generated from each type of space (office, retail, storage) to any other income generated by the property. See Table 3 for example.**

The office building may, for example, contain ground floor retail space or a special penthouse floor. Whereas a majority of the space in most office buildings will command typical market rents, it may be necessary to establish other market rental rates to apply to this other type of space.

**Ground floor** or concourse retail space can command higher rents than general office space.

**Premium space** commands premium prices. If the nature of the building is such that rental rates change on a floor-by-floor basis due to such things as the view or some type of unique architectural amenity such as a roof garden or balcony, then the market rent must be adjusted to account for these differences in actual rental rates.





In order to calculate PGI, the basic rentable area of each type of space is multiplied by the market rent for that type of space. The total of such calculations added together with the income from parking forms the PGI. The calculation of PGI can be illustrated as follows:

**Table 3 Example of Potential Gross Income Calculation**

Type of space	Rentable area	Net market rent	Total rent
Office	79,750	\$12.00	\$957,000
Premium / ground floor office	2,200	\$18.00	\$39,600
Retail	3,750	\$20.00	\$75,000
Basement/ storage	1,400	\$3.00	\$4,200
Parking	100	\$1,200	\$120,000
<b>Total potential gross income</b>			<b>\$1,195,800</b>

**Economies of Scale**

In establishing market rents for individual offices, it is also necessary to keep in mind the economic theory behind "economies of scale" which dictates that smaller offices command higher per square foot rents than larger offices, all other factors being equal.

**Comparison of Types of Space**

The categorization of property and office space types makes the task of calculating the PGI easier by enabling the comparison of one property to another similar property and one tenant to another similar tenant. So, in the case where no data is received on a property, it will still be possible to establish the income for the property through an analysis of the type and quality of the tenants and the size of the areas they occupy.

## Issues with Analysis of Space

### Common Standard of Measurement

Rents can be reported in any number of standards, including gross measured area, usable area, and rentable area. It is important that a common measurement standard be used to measure space so that useful comparisons can be made. The assessor should be aware of this and attempt to convert all measurements of space to rentable area (as per the definitions contained in the glossary).

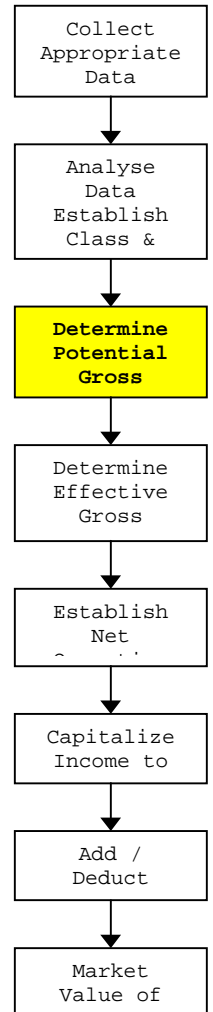
### Large Retail Components

Note also that if the building contains a commercial component then this area can be valued as follows. The market rents for such commercial space would be allocated to the commercial space in accordance with the valuation parameters that the assessor has developed in section 3.3 of this guide.

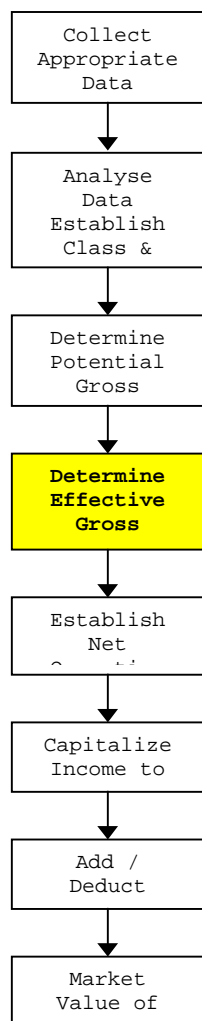
If the commercial area is sufficiently large, it could be analyzed as if it were a separate entity. The resulting value of the commercial space would then be added to the overall value of the office component.

### Parking Income – Hourly Rates

Where annual parking rates per space can be established parking income should be included as part of the PGI. For parking facilities with attendants and hourly rates, it may not be possible or appropriate to determine the annual rental rate per parking space. For example, many medical buildings charge parking on an hourly basis. **In these instances it may be more appropriate to add the net income from parking (after deduction for operating expenses) to the EGI.**



## 3.5 Determine Effective Gross Income



**The PGI must now be reduced to reflect vacancies and produce the EGI.**

### Vacancy Rates

The vacancy rate in office buildings tends to fluctuate with supply and demand for offices. As the demand for office space increases, vacancies decrease and the market conditions shift in favour of the seller or landlord. An office market experiencing low vacancy is also an indicator for developers to construct new projects. Once these projects come on stream, or if there has been a decline in the demand for office space, vacancies rise and the bargaining power in the market shifts toward the purchaser or tenant. In the latter instance, landlords attempt to fill their buildings by offering larger inducements. This fluctuation of vacancy rates and inducement payments generally follows in cycles of from seven to ten years in duration.

### Establish Long-term Vacancy Rates for Each Class of Office

Since vacancy rates are cyclical and the objective of the assessment process is to establish the typical real estate value, typical, long-term vacancy rates should be applied in the assessment of office buildings.

Information on vacancy rates can be derived from many sources. The primary source is the information supplied on the questionnaires that are returned by the property owners. There are also a number of real estate firms that keep statistics on such matters. Finally, it is possible to obtain such information from the landlords and managers of office buildings. The collection of this information is part of the process of developing the valuation parameters in section 3.3 of this valuation guide.

To determine Effective Gross Income:

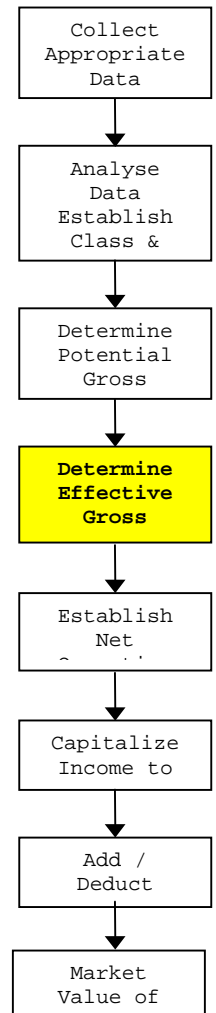
**Start with the PGI.**

1. Multiply the PGI arising from the office space by the typical, long-term vacancy rate for that class of office.
2. If the retail component is large, it may be more appropriate to apply the typical commercial vacancy rate to the income from the retail component. If retail space is not significant, the office vacancy rate can be applied.
3. Deduct these vacancy allowances from the total PGI.
4. Add the actual net miscellaneous or sundry income from the landlord's income/expense statement. Where required add the net parking income (see section 3.4) to produce EGI.

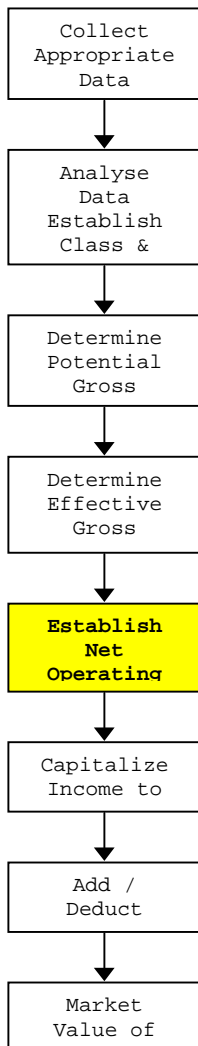
**The result is the Effective Gross Income.**

Table 4: Example of Effective Gross Income Calculation

Potential gross income		\$1,195,800
Class A long-term vacancy rate	5.0%	-\$59,790
Retail vacancy rate	n/a	0
Sub-total		\$1,136,010
Other net income (parking, etc.)		\$4,700
<b>Total effective gross income</b>		<b>\$1,140,710</b>



## 3.6 Establish Net Operating Income



The operating expenses that are not recovered must be deducted from the EGI to obtain the NOI from the property.

Where current leases are signed on a net rent basis, the tenant also agrees to pay his or her share (as defined in the lease) of the operating expenses associated with the property (also as defined in the lease). In a typical office building, the operating costs such as real property taxes, heating, air conditioning, and cleaning are apportioned amongst the tenants on a square foot basis. Net rent analysis attempts to consider the value of the income net to the owner, that is, the income after all expenses have been paid. Even on a net rental basis, however, there are two areas where the property owner must cover expenses:

- **Non-recoverable operating expenses** which are not passed on to the tenants, and
- The expenses associated with operating the vacant space, or **the vacant space shortfall**.

Thus the EGI must be reduced by the amount of these unrecovered expenses in order to determine the NOI received by the owner.

### Unrecovered Operating Expenses

Non-Recoverable Operating Expenses (typically not included in a lease)

The operating expenses that are typically not recovered from tenants under the terms of a lease are as follows:

- **Legal and audit fees.**
- **Structural repairs and repairs which are capital in nature** and outside standard maintenance and repair work. This would include such things as roof and wall repairs and parking lot resurfacing. In the general operation of an office building these types of expenses would not generally occur every year.
- **Advertising and promotion** – This only includes advertisements by the management in the operation of the building; for example, advertising to fill vacant space.
- **Leasing commissions** - In times of high vacancies and when the building is first being leased-up, leasing commissions, even though amortized over the term of the lease for which they are incurred, can have a large effect on the net income generated for the landlord. Leasing commissions should be taken into account when establishing the net effective rent paid by a tenant, but if they

have not been properly accounted for in the determination of rent, they form part of the deduction for unrecovered operating expenses.

## Vacant Space Shortfall

**Expenses related to the cost of carrying vacant space** are also not chargeable to other tenants under typical lease arrangements. When space becomes vacant, the owner of the office building carries the operating costs of that space. These costs include such things as heating and security associated with the unoccupied space as well as some operating expenses and realty tax payments that would otherwise have been made by a tenant. The expense represents a shortfall to the owner and, therefore, a deduction from the amount of income received from the office building. In assessing the office building the vacant space expense shortfall should be based on typical vacancy levels, that is, the same vacancy factor that is used in the determination of EGI.

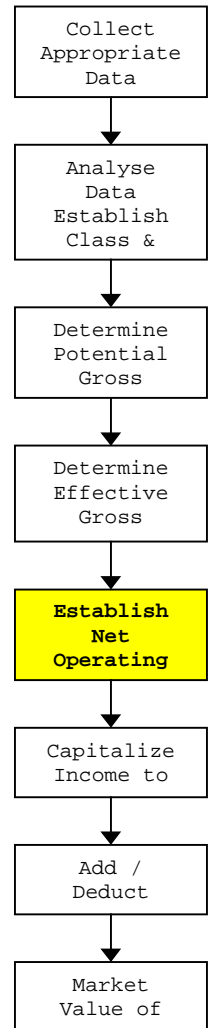
$$\text{Vacant space shortfall} = \text{Typical vacant space} \times \text{Vacant space operating cost per SF}$$

Studies completed as part of the office building valuation parameters indicate the appropriate range of costs to be deducted due to vacant space shortfall.

**Note: Unless there are extenuating circumstances, which must be noted by the assessor,** typical vacancy rates should be used as opposed to actual vacancy rates in order to derive the appropriate education for vacant space shortfall. The aim is to derive the value of the real estate under the typical existing market conditions.

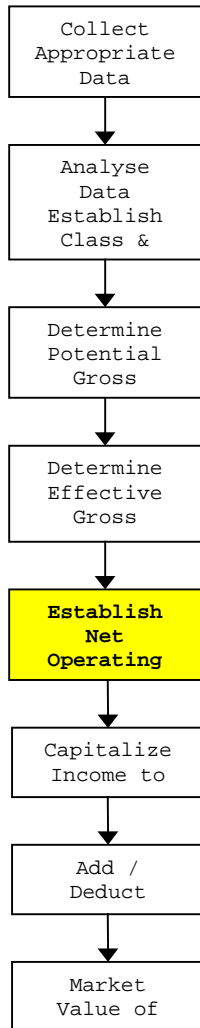
## Operating Expense Surcharge

A common clause contained in office leases is an administration charge or surcharge on operating expenses. This surcharge usually amounts to 15 percent of the operating expenses. In normal circumstances, part of the surcharge is attributed to the management and administration of the building, and therefore, covers the value of the management interest in the property. The other part of the surcharge contributes to the costs of non-recoverable operating expenses and the vacant space shortfall. As a result the operating expense surcharge serves to reduce the deduction made for non-recoverable operating expenses.



## Determination of Net Operating Income

As stated at the beginning, the objective of this valuation process is to determine the annual net operating income. When making the deductions for non-recoverable operating expenses (as noted above) from the EGI the assessor must annualize such expenses as structural repairs and other extraordinary repairs over a reasonable period of years. The same applies to leasing commissions that should be charged over the course of the lease term. By deducting the annualized portion of these expenses from the EGI a more realistic picture of NOI is given and provides the foundation for a more stabilized market value for the office building.



**Table 5: Example of Net Operating Income Calculation**

Typical vacancy	4,355	
Shortfall per Sf	\$4.50	
Vacant space shortfall	\$19,598	
Effective gross income		\$1,140,710
Vacant space shortfall		-\$19,598
Management allowance	8.0%	-\$91,257
<b>Net operating income</b>		<b>\$1,029,855</b>

## 3.7 Capitalize the Net Operating Income into Value

After estimating the operating income we arrive at a point where an indication of value can be produced through the direct capitalization of the NOI.

$$\text{Value} = \text{Net operating income} / \text{Capitalization rate}$$

### Establishing Capitalization Rates

#### Sales of Office Buildings – Recommended Approach

Turning the equation in the capitalization method around produces the appropriate formula for establishing capitalization rates:

$$\text{Capitalization rate} = \text{Net operating income} \div \text{Property value}$$

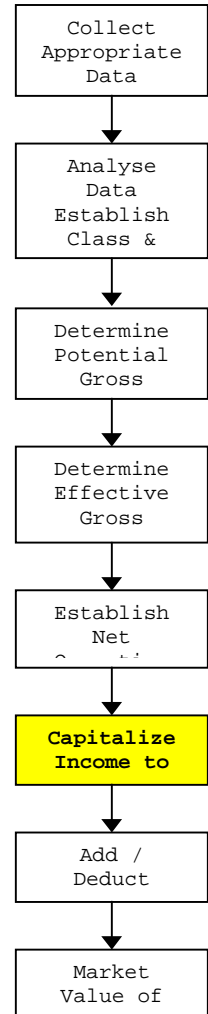
In the same manner that income and rents are analyzed for property valuation purposes, the income and other data should be analyzed for office properties that sold in and around the valuation date in order to establish the capitalization rates to be applied to office buildings.

#### Other Approaches

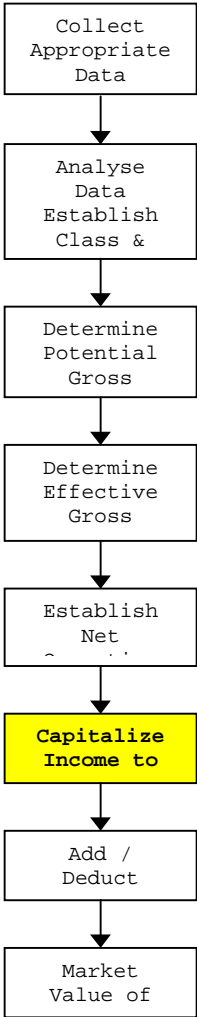
If there is insufficient market sales evidence to establish capitalization rates, there are other possible ways such as mortgage-equity, or band of investments to derive rates. These other approaches are not as well received under current jurisprudence and should only be employed when comparable sales evidence is not available.

#### Other Sources

Other than sales data and mortgage-equity cap rate analysis, annual publications from national realtors can be used in some markets as a guide or to check on the rates employed.



## Selection of a Capitalization Rate



Selection of an appropriate capitalization rate is essential to the estimation of an equitable and realistic value for the property. The selection task starts with an analysis of the capitalization rates demonstrated in the sales of similar office building properties.

After a review of the available information, the median and range of capitalization rates can be set for each class of office building. From this range of capitalization rates the appropriate rate can be selected for the property being valued. The rate applied to the subject property should be determined through consideration of the specific quality and nature of the individual property. Such things as age, state of repair, and location affect the risk associated with the property and therefore the capitalization rate that should be applied. Generally speaking, superior and/or newer properties have lower capitalization rates.

### Effective Tax Rates

In some income valuation procedures, the capitalization rate employed is adjusted for taxation considerations. Because net incomes are being considered, this adjustment is not required in this office building valuation procedure.

### 3.8 Add / Deduct Other Components of Value

From time to time there may be properties where the value is not entirely captured by the foregoing application of the income approach, and a lump sum addition or deduction will be required. For example, a single property may encompass an office, a hotel, and a commercial component. In this instance, the value of these other components can be estimated independently and added to the value of the office component to derive an overall market value for the property.

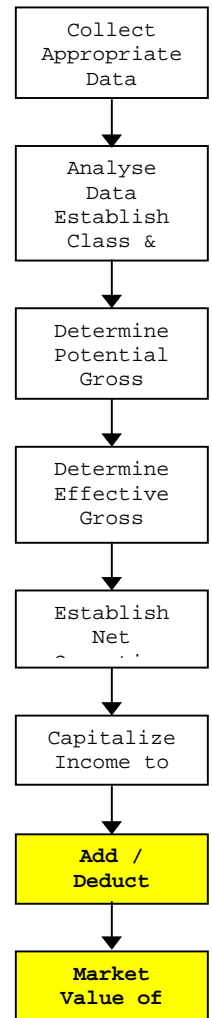
In other situations when circumstances dictate that the market value of unfinished office space is what should be determined, then the value of leasehold improvements in the office building must be included in the estimate of the market value.

In other situations there may be surplus lands as part of the property, which, because of market conditions, may be undeveloped. This surplus land would have to be valued separately and added to the market value arrived at above. If the vacant land were currently being used for paid parking, the amount of revenue attributed to it in calculating PGI would have to be factored out of the PGI calculation. If the surplus land has a value for development, it cannot have income attributed to it for parking.

### 3.9 To Produce Market Value of Property

**In summation, market value is determined by establishing the net operating income generated through the foregoing analysis and applying to it a capitalization rate. Then, if required, any additional value is added to this total to produce an overall market value for the property.**

A complete example of an office building valuation using the spreadsheets provided is presented in section 5.0 of this guide.



## 4.0 *Validation of Results*

The strength of an assessment system rests on two tenets: 1) its ability to produce appropriate market values, and 2) that it treats similar properties in a fair and consistent manner.

In order to accomplish these ends, the valuation process should reflect the views and methods used in the market place and be applicable to all properties. It should also have the flexibility to deal with the variations and market conditions encountered.

The office building valuation process in this valuation guide employs an approach that is accepted and understood in the marketplace, and has built-in controls that ensure fair and consistent treatment while allowing some flexibility for the realities of the marketplace.

There are three areas where the quality of the results can be ensured quickly and efficiently:

- 1) valuation parameters,
- 2) check against sales values, and
- 3) data filters.

### Valuation Parameters

The system as proposed sets up a table of local valuation parameters. Ideally, this information would be collected by local assessors, and assembled and researched by a central committee. The results would then be disseminated to the local assessment offices. For each valuation parameter, a range of potential values is provided.

If, when valuing a property, the assessor stays within these valuation parameters, the whole system has been applied in a fair and consistent manner. In other words, the results of any office building analysis are validated within certain given parameters.

The process also requires that whenever the assessor applies a different parameter, he or she must provide a reason for the extenuating circumstances. Again, in this way the process incorporates flexibility and accountability.

## Check against Sales Values

To ensure that the values developed are in line with the local market, the assessment values should be checked against any sales that take place. Such sales also have inferences for values of similar properties. As such, a level of comfort can be developed about the assessment values on a dollar per square foot building rentable area measure.

## Data Filters

Another way to ensure consistent and reliable results is to place data filters on the input. For example, for Class A office space, all rents must fall between \$5 and \$50 per square foot.

## 5.0 Example of Office Building Valuation

The following three pages present an example of an Office Building market value analysis. The analysis is set up on a three page (or worksheet) spreadsheet. Values and pertinent data are to be entered in the blank (white) cells. All shaded cells are either formulas or “look-up” cells and should not be over-written.

### Form OF1 – Office Building Data Entry

On this form, the assessor should enter all the pertinent physical and descriptive data about the subject property. The data entered on this worksheet will be carried forward onto Form OF2 and Form OF3 as required.

**Note:** *The valuation process works better if the actual “rentable areas” are determined for each type of space in the subject office building and this information is entered on Form OF1.*

### Form OF2 – Office Building Rent Analysis

The second form is provided to assist the assessor in the determination of the appropriate rent to be applied to the space in both the subject and all similar class of office buildings. Only pertinent rental data should be entered onto this form, i.e., rents that reflect market conditions in and around the valuation date. If actual rents as determined from the subject are within the range of rents for that class of office (as determined in the rent analysis study) then apply actual rents. Otherwise, use the typical rents indicated from the market study.

**Note:** *It will be possible to value each property without completing Form OF2, however, if the subject building has appropriate rental information pertaining to the current valuation period it may be beneficial to record (and possibly use) this information.*

### Form OF3 – Office Building Valuation Summary

In the third form the assessor should enter the net market rents, the vacancy rates, and the other valuation parameters. Given this information and the correct building areas, the spreadsheet will calculate the appropriate market value for the subject property.

## Form OF1 – Office Building Data Entry - Example

LINE

1.1	Address	1201 6th Street
1.2	Building name	New-Age Life
1.3	Municipality	Calgary
1.4	Roll #	1245901
1.5	Office class	Class B

Value date	1-Jul-97
------------	----------

Measurements in	feet
-----------------	------

Inspection notes		
1.6	Inspection date	1-May-97
1.7	Office quality	Good Class B building - appears to date from early 1970s
1.8	Vacancies	Limited - partial vacancies on 3 floors
1.9	Extra features	Large foyer - used to be Class A building
1.10	Parking	Underground - 100 spaces
1.11	Location	West end of office core
1.12	Tenant type	Multiple tenancies, New-Age Life occupies 3 full floors
1.13	Condition	Good
1.14	Other comment	No +15 walkway connections

Building data		In sq. feet
1.15	Total building area	98,550
1.16	Typical floor rentable area	7,250
1.17	Building efficiency	88.4%
1.18	No. of storeys	12
1.19	No. of parking spaces	100
1.20	Year built	1973
1.21	Year renovated	

Rentable area breakdown	
Office	79,750
Ground flr/ prem.*	2,200
Retail	3,750
Bsmnt. / storage*	1,400
<b>Total rentable</b>	<b>87,100</b>

\* Not including Retail rentable area

Land / density		
1.22	Site area in sq. feet	26,454
	Density ratio	372.5%

# Form OF2 – Office Building Rent Analysis

COLUMNS

2.1      2.2      2.3      2.4      2.5      2.6      2.7      2.8      2.9      2.10      2.11      2.12      2.13      2.13      2.14      2.15

<b>1201 6th Street</b>	Roll # <b>1245901</b>	Value date: <b>2-Jul-01</b>
------------------------	-----------------------	-----------------------------

Date of rent roll:	
Indicated vacancy	

## Analysis of tenant leases used in the estimation of typical rent

Flrs	Tenant	Use	Rentable area: sf	Fin / Unfin	Lease dates				Rents per sf		Total inducements				Effective induce/ sf	Net rent / sf
					Term	Start	End	Yrs	Base	Overage	Fit up	Rent free	Other	Total /sf		
5	MBC Computers	OFFICE	7,250	fin	1st	2-Dec-00	1-Dec-02	2.0	\$12.00							\$ 12.00
6	ABC Oil Co.	OFFICE	3,250	fin	1st	2-Mar-01	29-Feb-04	3.0	\$15.50		\$178,000	\$35,000	\$3,000	\$ 66.46	\$ 3.90	\$ 11.60
Grnd	New-Age Life	PREMIUM	2,200	fin	2nd	2-Mar-97	1-Mar-02	5.0	\$17.00					-	-	\$ 17.00
7	Cab Engineering	OFFICE	7,250	fin	2nd	2-Sep-99	1-Sep-03	4.0	\$11.75		\$75,000		\$3,000	\$ 10.76	\$ 0.10	\$ 11.65
Grnd	Cafeteria	RETAIL	2,240	fin	1st	16-Mar-99	16-Nov-02	3.5	\$20.00					-	-	\$ 20.00
8	Cab Engineering	STRG	1,400		2nd	2-Sep-99	1-Sep-03	4.0	\$3.00					-	-	\$ 3.00
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# Form OF3 – Office Building Valuation Summary - Example

LINE

Office address	<b>1201 6th Street</b>	Value date	<b>1-Jul-97</b>
Class of building	Class B	Roll #	1245901

Type of Space	Rentable area in sf	Net market rent per sf	Market rent - Total
3.2 Office	79,750	\$12.00	\$ 957,000
3.3 Ground floor/ premium*	2,200	\$18.00	\$ 39,600
3.4 Retail	3,750	\$20.00	\$ 75,000
3.5 Basement / storage*	1,400	\$3.00	\$ 4,200
3.6 No. of parking spaces	100	\$1,200.00	\$ 120,000
<b>Potential gross income</b>		<b>87,100 sf</b>	<b>\$1,195,800</b>

\* Excluding retail areas

Vacancy rates		Comments
3.7 Typical long-term office %	5.0%	
3.10 Retail %		not applicable
Valuation parameters		
3.11 Other net income	\$ 4,700	temporary lobby rentals
3.12 Vacant space shortfall \$/sf	\$4.50	
3.13 Management allowance %	8.00%	
3.14 Capitalization rate %	9.00%	
3.15 Land value \$ per sf		
3.16 Other \$ value	\$ 0	

Effective gross income		
3.17 PGI		\$ 1,195,800
3.18 Office vacancy	5.0%	\$ 59,790
3.19 Retail vacancy	na	\$ 0
3.20 Sub-total		\$ 1,136,010
3.21 Other net income		\$ 4,700
3.22 <b>EGI</b>		<b>\$ 1,140,710</b>

Net operating income		
3.23 Vacant space shortfall		\$ 19,598
3.24 Management allowance	8.0%	\$ 91,257
3.25 <b>NOI</b>		<b>\$ 1,029,856</b>

Vacant space shortfall	
Typical vacancy	4,355
Costs per sf	\$ 4.50
Shortfall	\$ 19,598

3.26 <b>Market value</b>	
3.27 Capitalization rate	9.00%
3.28 Value sub-total	\$11,442,000
3.29 Other value	\$ 0
3.30 <b>Value conclusion</b>	<b>\$11,442,000</b>

Value breakdown	
Site area	26,454
Land value per sf	\$ 0
Land value	na
Building value	na
<b>Market value</b>	<b>\$11,442,000</b>

3.31 <b>Value per sf</b>	<b>\$131</b>
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## 6.0 Appendices

### A. Request for Property Information

Province of Alberta Assessment Department			
As part of the ongoing assessment process, the Assessment Department requires certain income and expense information from you pertaining to the property identified as:			
Building name			
Address			
City			
Roll #			
Authorization for such requests arises out of section 295 of the Alberta Municipal Government Act (the <i>Act</i> ).			
Any information received will be treated in a confidential manner as outlined in the <i>Act</i> .			
Failure to provide information has potential consequences as outlined in the <i>Act</i> .			
<b>Information Required</b>			
<b>Rent Roll</b>	pertaining to the subject property for the period covering:		<b>July 1997</b>
<b>1996 Income and Expense Statement</b>	pertaining to the subject property		
<b>1997 Income and Expense Statement</b>	pertaining to the subject property		
<b>Information Format</b>			
Information can be submitted in either <b>electronic</b> (by computer disk), or <b>paper format</b> , or by filling in the <b>enclosed forms</b> . Our preference is to receive <b>both electronic and paper formats</b> .			
Information can be submitted in the format used by the property owner but at a <b>minimum</b> the following information should be provided:			
<b><u>Minimum Information Requirement on Each Tenant - Rent Roll Information</u></b>			
*	Location/ floor/ suite number		
*	Tenant (trade) name		
*	Rentable area		
*	Lease start date		
*	Lease end date		
*	Rent		
*	Type of inducement, if any		
*	Amount of inducement		
<b>Include information on all tenants and vacant space. Indicate the date of the rent roll</b>			
<b><u>Minimum Information Requirement from Income and Expense Statement</u></b>			
*	Rental income totals (all forms of rent)		
*	Other income		
*	Expense recoveries		
*	Tax recoveries		
*	Other recoveries		
*	Operating expense total		
*	Realty taxes		







# Income and Expense Information - Request Form

THE INFORMATION REQUESTED ON THIS FORM CAN BE SENT IN YOUR OWN FORMAT (HARD COPY)

ALTERNATIVELY, THIS FORM IS TO BE FILLED OUT.

Building name:
Address:

<b>RENTAL INCOME</b>	<b>1996</b>	<b>1997</b>
RENTAL INCOME		
STORAGE RENT		
OTHER RENT (PARKING ETC.)		
OTHER INCOME (LAUNDRY, LOCKERS, ETC.)		
<b>TOTAL RENT</b>		
EXPENSE RECOVERIES		
RECOVERIES - OTHER		
RECOVERIES - REALTY TAXES		
MISCELLANEOUS		
<b>TOTAL INCOME</b>		

<b>OPERATING EXPENSES</b>		
INSURANCE		
OPERATING		
MAINTENANCE		
CLEANING		
UTILITIES		
ADMINISTRATION		
MANAGEMENT		
LEASING AND PROMOTION		
TENANT ALLOWANCE		
OTHER EXPENSE		
<b>TOTAL OPERATING EXPENSE</b>		
REALTY TAXES		
<b>TOTAL EXPENSE</b>		