

# **CABARRUS COUNTY 2024 APPRAISAL MANUAL**

## **INCOME PROPERTY VALUATION**

### **PREFACE**

It should be noted that this chapter is not designed to be a comprehensive text on income properties but only a summary and outline of the income approaches to value which can be calculated through the PASCO Appraisal System. This capability enables mass property appraisers to consider techniques which heretofore proved too time consuming for mass appraisal. The income approach is one of three approaches considered by the appraisers using this system.

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## INCOME PROPERTY VALUATION

### BASIC STEPS IN INCOME APPRAISING

In order to simplify the understanding of the basic steps of income appraising, we have briefly outlined them here before taking a more in depth look at each step.

#### **STEP I** Estimate Gross Annual Income

- A. Determine type of rental unit (i.e. per apt., per s.f., etc.)
- B. Calculate other income (i.e. parking fees, etc.)
- C. Identify vacancy and collection loss

#### **STEP II** Identify Operating Expenses

- A. Fixed Expenses (Taxes and Insurance)
- B. Variable Expenses
- C. Repairs and Replacements
- D. Sources of Operating Expense Data

#### **STEP III** Net Operating Income

#### **STEP IV** Determine Income Projection Period

- A. Remaining Economic Life
- B. Investment Holding Period

#### **STEP V** Determine Discount Rate; Select Method of Rate Estimation

- A. Band of Investment
- B. Built-Up

#### **STEP VI** Identify Method of Depreciation

- A. Straight Line
- B. Level Annuity

#### **STEP VII** Identify Method of Capitalization to use

- A. Land Residual Straight Line
- B. Land Residual Level Annuity
- C. Building Residual Straight Line
- D. Building Residual Level Annuity
- E. Property Residual Level Annuity
- F. Equity - Ellwood
- G. Gross Income Multiplier

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## **ESTIMATED GROSS ANNUAL INCOME**

The primary measure of a commercial property's worth is the amount of income which a property can earn or command in the local market. Therefore, it is important to derive a good understanding of the rental income that the space would command on the open market.

The basic question which needs to be answered is, "What is the current market rent of the subject properties". The gross income is what the property will produce over a period of one year or a term of a lease. It is defined as the total amount of revenue a property is capable of producing prior to the deduction for vacancy and expenses.

## **ESTIMATED GROSS ANNUAL MARKET RENTS BY IMPROVEMENT TYPES**

Improvement types 60 - 63 Apartments - Generally the market rent for apartment complexes is determined by their monthly rent per unit. The total square feet of a unit included into the monthly rent gives you a monthly square foot rate. To determine the annual rent of the entire complex you simply add up the yearly rent of each unit type.

### **COMMERCIAL / INDUSTRIAL**

Improvement types used with Model 07 - Generally your commercial, retail outlets will rent from \$5.00 to \$55.00 per square foot depending on the location, age and use of the retail outlet.

Improvement types used with Model 04 are office buildings and vary from a minimum of \$5.00 to \$30.00 per square foot per year. Generally high rise office buildings demand a higher rent per square foot, due to the annual expenses running close to \$25.00 per square foot per year.

Improvement types used with Model 06 are typically industrial, manufacturing, distribution or storage facilities. The market rent for buildings of this nature run from \$3.00 to \$29.00 per square foot for typical good warehouse construction; however, the range can vary from \$1.00 for mostly storage up to \$50.00 for a warehouse that has more than 50% office space in a good location.

These rates will be developed further throughout the revaluation project and established for the County.

## **IDENTIFY VACANCY AND COLLECTION LOSS**

The amount of income which can be produced is determined not only by the size of the property but also the degree to which the property is utilized. Commonly, most properties experience some vacancies throughout the year along with collection losses. This amount is usually expressed as a percentage of the possible gross.

These measures of losses from vacancies and collections are particularly applicable to multi-tenant properties. There are basically three sources of such information; past experience of the subject, market experience of similar properties, and other published studies and reports.

## **IDENTIFY OPERATING EXPENSES**

In order to estimate a net annual income it is necessary to calculate the amount that goes to the purchaser-investor after deductions for the actual operation of the property are made. These deductions are called operating expenses, however, these deductions DO NOT include mortgage payments and depreciation. There are three basic categories of operating expenses.

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## FIXED EXPENSES

These are expenses which vary very little, if at all, with occupancy from year to year and have to be paid whether the property is occupied or vacant. Taxes and Property Insurance are the two major items in this category. It must be remembered that these expenses need be deducted only insofar as they are an expense incurred by the property.

## VARIABLE EXPENSES

Included in this category are such expenditures as management fees, payroll and personnel, supplies and materials, utilities, grounds care, etc. These tend to vary, at least in part, with the percentage of occupancy. Much depends on the type of property, the climate and the landlord-tenant relationship as to expenses incurred.

## REPAIRS AND REPLACEMENTS

These items vary from year to year and tend to be concentrated in some years. For valuation purposes it is necessary to spread the cost of certain major repairs and/or replacements over their useful life. Dividing the replacement cost for each category by the forecast useful life yields an annual payment to cover replacement. Some typical items would be air conditioners, heating systems and roof covers.

## **SOURCE OF OPERATING EXPENSE DATA**

There are basically three sources for providing information on operating expenses of properties. Sources are past experience of the subject, market experience of similar properties and published studies and reports on local, regional and national fronts.

## **NET OPERATING INCOME**

Net operating income (NOI) is the annual dollar amount that a property is capable of producing under typical conditions and is equal to the gross income less vacancy and collection losses and operating expenses.

Example:	Gross Income (20 apt. @ \$21,000/year)	\$420,000
	Less 4.5% Vacancy & Collection	<u>18,900</u>
		\$401,100
	Less 30% Operating Expenses	<u>120,330</u>
	Net Operating Income (NOI)	\$280,770

The net operating income usually takes into consideration the lease agreement presently in force to determine the dollar amount (income) to the investor and/or owner.

The County also analyzes the leases of competitive properties to estimate contract rent, market rent, and other forms of income.

Under General Statute 105-317 (a) (2) which states in part that it shall be the duty of the persons making appraisals to determine the true value to consider in part: past income, probable future income and any other factors that may affect its value. Lease analysis is important and all characteristics of leases must be fully understood.

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## **DETERMINE INCOME PROJECTION PERIOD**

So far the emphasis has been on computing what the net annual income for a property would be. However, what must not be overlooked is that this net annual income is assumed to generate over a period of years during which the investor earns interest on his capital and also receives a proportionate return of his investment. In order to determine the duration of the income stream and/or the amount of time an investor has to recover his capital two things must be considered, the remaining economic life of the property and the typical holding or investment period depending on the valuation technique to be used.

## **REMAINING ECONOMIC LIFE**

In order to apply any of the residual income techniques, it is necessary to estimate the remaining life of the improvements. By definition the economic life of improvements is the time period over which the improvements will be able to produce an income at a competitive rate of return on the portion of the investment represented by the improvements. Another term frequently used is capital recovery period. At the end of this time period, the improvements will be used up or depreciated to the point that they will no longer make any contribution to total property value over and above the contribution made by the site.

Remaining economic life is directly related to the effective age of a given property. This is the difference between the total economic life less the remaining economic life. Remaining economic life and its complements, effective age, are dependent on tastes, standards-customs, and the effect of competition plus, perhaps most important to the property appraiser, the observed condition of the improvements.

Elsewhere, in the discussion on depreciation, we have shown some typical building lives for various commercial improvement types. Reference to this table will give some indication as to the expected economic life new; however, the appraiser should look for buildings within the area that no longer produce income. The age of these buildings should give you some idea of the economic life of a building.

## **INVESTMENT HOLDING PERIOD**

The Investment Holding Period is pertinent in the Ellwood or equity method; because of income tax considerations, it has been shown for instance, that most income producing properties are held by the average investor approximately twelve years. This, of course, can vary depending on specific properties and investor's requirements. A change in tax laws directly affects the holding period of all properties.

## **DETERMINE DISCOUNT RATE: SELECT METHOD OF RATE ESTIMATION**

The Discount Rate, the basic building block in five of the income approaches, is also called a RATE OF RETURN ON INVESTMENT. It is determined by the forces of supply and demand for investment funds. A rate of return on an investment or "discount rate" is paid or offered in order to attract investment capital. The Discount Rate is generally estimated from one of two methods: Band of Investment or Build-up and the rate must compensate the investor for:

- 1) Overcoming time preference
- 2) Giving up liquidity
- 3) Assuming investment management burdens
- 4) Assuming the risks of investment and ownership

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## BAND OF INVESTMENT

The Band of Investment method recognizes the Discount Rate as the weighted average of mortgage interest rate(s) based on typical financing; and the equity yield rate, derived from market data. It is based on the premise that investments in income-producing properties are usually financed with a mortgage at the best available terms. The weighting factor is the percentage of the total investment represented by each component contributing thereto. The procedure involved in the Band of Investment method is illustrated as follows:

Assume a property is financed with an 80% mortgage at 5 1/2% interest. Equity investors are seeking a 15% return on this type of investment. The indicated Discount Rate would be developed as follows:

### BAND OF INVESTMENT

#### METHOD FOR DISCOUNT RATE

	RATE		WEIGHT		WEIGHTED RATE
First Mortgage:	.0550	x	.80	=	.0380
Equity Investment:	.1500	x	.20	=	<u>.0300</u>
Indicated Discount Rate					.0680

## BUILT-UP METHOD

The Built-Up Method involves the "building" of a discount. The discount rate is "built" by taking the current "safe rate" or non-risk of ownership, the illiquidity of the investment, and the burden of management.

The SAFE RATE is that rate of return which can be earned annually on a risk free, highly liquid investment requiring virtually no rate which can be earned on a savings account or negotiable 1 year certificate of deposit to the prime lending rate corresponding to the size of the investment.

RISK arises from the possibility that the net income forecast will not be realized and refers to the investments continued ability to earn income caused by uncertainties and instabilities in the market place.

The allowance for ILLIQUIDITY refers to the marketability or ease with which the investment can be converted to cash. This allowance can be considerable in large or valuable parcels because substantial negotiations may be required and the number of potential local investors may be significantly reduced.

The MANAGEMENT allowance refers to the time and effort required to manage THE INVESTMENT, not the property itself. The cost of managing THE PROPERTY is an operating expense which is reflected in the net income statement.

Generally, for assessment purposes, real estate taxes are removed from expenses and the applicable county millages are added to the discount rate to arrive at the discount rate applicable to the subject property.

## BUILT-UP METHOD OF FINDING DISCOUNT RATE

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For example:

Safe Rate	3.4%
Risk	2.0%
Illiquidity	1.5%
Management	0.5%
Ad Valorem Taxes	1.2%
Total Discount Rate	8.6%

The idea of the built-up method is to load the safe rate with rates which reflect the quality of the income stream. The higher the quality, the lower the rate necessary to attract investors. Conversely, the poorer the quality, the higher the rate would be. In essence, the proper interest rate is that rate necessary to attract capital to the investment.

## IDENTIFY METHOD OF DEPRECIATION

The wearing out and/or obsolescence of the improvements is reflected in the projected holding period or in the remaining life of which enables the investor to recoup or recapture his initial capital investment while also receiving a return on his capital.

Every method of providing for capital recovery can be expressed in the form of a sinking fund. A specific sum is to be recovered over a specific period of time. Periodic annual payments are made as part of NOI to cumulate to the full amount of capital to be recovered by the end of the capital recovered period.

There are basically two methods of providing for capital recovery each with specific assumptions as to the risk, timing, and stability of the net income stream.

## STRAIGHT-LINE CAPITAL RECOVERY

This method consists of recovery by equal annual payments to a sinking fund which cumulate at zero compound interest. Each successive payment reduces the amount of investment remaining; each successive income payment also declines. A declining dollar return from the investment is therefore forecast. Capital recovery payments are the largest under this method.

The rate determined by dividing the amount of capital loss to be recovered (100%) by the number of years of remaining ECONOMIC LIFE.

For example: remaining Economic Life of Improvement - 25 years

$$100\%/25 = 1.00/25 = .04\%$$

Value of Improvements: \$500,000

Annual portion of NOI required to cover capital recovery:  $\$500,000 \times .04 = \$20,000$

The forecast loss of 100% of the improvements is fully recovered over the Remaining Economic Life of the improvements. Hence, straight-line capital recovery always results in a lower estimate of present worth or value than

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does any other method. Straight-line capital recovery is widely held applicable to nearly all income flows that are not based on a long-term lease with a highly rated tenant.

### **LEVEL ANNUITY CAPITAL RECOVERY**

This method can be described as equal annual payments to a sinking fund which are reinvested by the investor to cumulate at compound interest at the Discount Rate. The amount of capital recovery payments is relatively small compared to the straight-line method. As a result the portion of NOI available each year as a return on the investment is larger.

The rate is calculated using the compound interest table or in the case of PASCO the capital recovery rate is internally computed saving the property appraiser from having to compute the figures manually or have on hand volumes of financial tables.

The Sinking Fund Factor Formula is included here solely for reference purposes:

$$1/SN = i / (1+i)^n$$

Where

1 = The number one

i = The discount rate (also the rate at which capital recovery payments are compounded).

n = The number of compounding periods (usually the remaining economic life).

1/sn = The Capital Recovery Rate

Annuity Capital Recovery can be applied to those properties that have a relatively stable income producing capability. By calculating the necessary factors internally, PASCO saves the appraiser from many of the "mechanical" steps which would otherwise be necessary.

The preceding discussion has detailed how the net operating income is derived and also the various components of the Capitalization Rate. A Capitalization Rate can be derived arithmetically by adding together the discount rate and the capital recovery rate. It must be remembered that the central objective is the valuation of a finite income stream with the "infinite" value of the site.

### **IDENTIFY METHOD OF CAPITALIZATION TO USE**

Capitalization is a process whereby an income stream of future payments is discounted to a figure which represents the present worth of the right to receive the income. The basic relationship between the income and value is expressed as follows:

$$\text{Value} = \text{Net Operating Income} / \text{Capitalization Rate}$$

There are seven methods in PASCO which employ the capitalization technique to derive a value for an income producing property. Each has the same basic theory - that a right to receive a future value may be determined by discounted cash flow analysis which properly corresponds to the characteristics of the inflows and outflows of income.

Each of these methods is detailed in the following pages with specific examples.

### **METHODS OF CAPITALIZATION**



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## LAND RESIDUAL

When the building is fairly new, free of obsolescence, and the replacement cost accurately determined, a land residual technique may be used to estimate the value.

### Land Residual Straight Line

If economic rent is applicable (short term lease or rental or less than first class tenants), straight line technique should be used as follows:

Given: Building Value (based on replacement cost new) \$100,000

Net Operating Income	\$15,000
Discount Rate	10%
Remaining Economic Life	50 years
Straight Line Capital Recovery Rate	$1/50 = 2\%$

Net Operating Income	\$15,000
Less Annual Income allocated to building ( $\$100,000 \times .12$ )	<u>-\$12,000</u>

Equals Income allocated to Land \$3,000

Present value of the Land equals annual income allocated to land capitalized at the discount rate.

(\$3,000 divided by .10)	\$30,000
Plus current building value	<u>\$100,000</u>

Estimated value via Income Capitalization Straight Line Land Residual Technique	\$130,000
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## LAND RESIDUAL - LEVEL ANNUITY

If contract rent is applicable (long-term lease with prime tenants) the land residual, level annuity technique should be used as follows:

Net Operating Income	\$15,000
Less annual income allocated to building (Building value divided by PW of 1 per Annum @ 10% for 50 years) <u>100,000</u> 9.915	<u>-\$10,086</u>

Equals income allocated to land \$4,914

Present Value of Land equals  
Annual Income allocated to land capitalized at the Discount Rate

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(\$4,914 divided by .10)	\$49,140
Plus current building value	<u>\$100,000</u>

Estimated Value via Income Capitalization Level	\$149,140
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### BUILDING RESIDUAL TECHNIQUE

When the land value can be accurately estimated using the market and the improvements are older buildings or other than the highest and best use, a Building Residual Technique can be employed.

#### Building Residual - Straight Line

Given: Land Value (from Market or Sales Comparison)	\$30,000
Net Operating Income	\$15,000
Discount Rate	10%
Remaining Economic Life	50 years
Straight Line Capital Recovery	1/50 = 2%

(Straight Line Capital Recovery assumes a declining income stream and may be appropriate when short term leases or economic rent figures are utilized.)

Net Operating Income	\$15,000
Less annual income allocated to site capitalized at the DISCOUNT RATE (\$30,000 X .10)	
Plus CAPITAL RECOVERY RATE ((.02) = .12) \$12,000/12) =	\$100,000
Plus current Land Value	<u>\$30,000</u>

Straight Line Building Residual Technique	\$130,000
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### BUILDING RESIDUAL TECHNIQUE - LEVEL ANNUITY

Again, when contract rent is applicable (long term lease with prime tenants) the level annuity technique should be used as follows:

Net Operating Income	\$15,000
Less annual income allocated to land	<u>-\$3,000</u>

Equals income allocated to improvements	\$12,000
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Present worth of Improvements equals Annual Income allocated to building capitalized at the capitalization rate: (i.e. \$12,000/.100857) =	\$118,980
Plus current land value	<u>\$30,000</u>

Level Annuity Building Residual Technique	\$148,980
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### PROPERTY RESIDUAL LEVEL ANNUITY

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When total property income is difficult to allocate to either land or building, as in the case where building improvements are old, and where there is doubt about the land value because of location and specialized character, the property appraiser may want to use the property residual technique.

Net Annual Income is capitalized over the remaining economic life of the property. To this must be added the projected value of the land at the end of the property's expected economic life discounted at the appropriate rate. PASCO allows the appraiser to compensate for expected growth trends in land values by entering an annual land growth rate. However, for properties with relatively long remaining economic lives, the difference is minimal.

Given: NOI, \$15,000  
Discount Rate, 9%  
REL, 25 years  
Estimated Reversionary Value of Land, \$2,000

Net Operating Income	\$15,000
Present Worth of Income Stream:	
NOI / (Discount Rate & Capital Recovery Rate)	
NOI / (.09 + .0118)	
\$15,000 / .10181 =	\$147,333
Plus Present Worth of Reversion	
\$20,000 x .115968	<u>\$2,319</u>
Present Worth of Property	\$149,652
Estimated value of Property via Property Residual Technique	\$149,652

### ELLWOOD MORTGAGE EQUITY

Where applicable, this technique is the superior method as it most accurately simulates investor behavior. It is applicable when sufficient qualified data is available concerning the present, the future and behavior of typical investors in the market.

In addition to discounted cash flows, reversion and required yields by investors which can be accounted for in residual techniques, the Ellwood techniques takes into account leverage, appreciation or depreciation of the property (based on the expectations of the investor) and the investment holding periods based on the behavior of typical investors in the local market.

The whole analysis focuses on the development of an overall rate as a weighted average of the several claims against Net Operating Income that must be met in order to make the investment competitively attractive. Either Market Value or Investment Value can be estimated through the Ellwood formula, depending upon the data used in the analysis.

In deriving an overall capitalization rate using the Ellwood Mortgage Equity Technique there are several variables which must be supplied by the appraiser. They are as follows:

Investment Holding Period  
Mortgage Loan Term  
Mortgage Loan Rate

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Loan to value Percentage  
Equity Yield Rate  
Plus or Minus Appreciation or Depreciation at the end of the holding period

Given these, the method utilizes the necessary calculations to determine the overall rate which is divided into the Net Operating Income. The result is the present worth estimate of value based on knowledgeable investment criteria.

For a more thorough discussion and mathematical explanation of the technique the appraiser should consult one of the more detailed texts such as Dr. William N. Kinnard's INCOME PROPERTY VALUATION.

## GROSS INCOME MULTIPLIER

Because of the time and expense required to determine the correct net income for use in the capitalization of income technique, the gross income multiplier has been developed into an effective mass appraisal income tool.

Since sales data is required to develop a gross income multiplier, care must be taken to use only qualified sales of COMPARABLE property types.

The key to good values using gross income multiplier is the same as any other appraisal technique, good data. Time spent qualifying the sales and determining the details of a commercial transaction is time well spent as the transaction may produce not only a useful income multiplier but also a useful sales comparable and data to derive a useful capitalization rate.

To apply a gross income multiplier, assemble the recent qualified, comparable sales and income data to determine the price at which properties comparable to the property being appraised sell and the typical sales price by the typical income, to obtain the gross income multiplier. This multiplier can then be applied to the rent being received or reasonably expected from the subject property to produce an estimate of the property value.

## MONTHLY GROSS INCOME MULTIPLIER APPLICATION

Typical sale price for properties comparable to the subject property	\$350,000
Typical gross monthly income for properties comparable to the subject parcel	\$1200
Gross Income Multiplier (GIM) (Sale/Income)	280
Subject parcel gross monthly income	\$1400
Estimated Value (GIM x Income)	\$392,000

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## ANNUAL GROSS INCOME MULTIPLIER APPLICATION

Typical comparable sale price	\$350,000
Typical comparable gross annual income	\$14,400
Gross Income Multiplier (GIM)	24.30
Subject parcel gross annual income	\$15,000
Estimated Value	\$364,500

Care must be exercised in the use of gross income multiplier. This method is only applicable where there is a high degree of comparability of properties sold in the market to the property being appraised. There must also be a sufficient number of qualified sales of comparable properties since a sound multiplier cannot be determined from only one or two sales.

## OVERALL RATE

This is the most applicable method to use in Revaluation Projects. The Overall Rate is the ratio of NOI to present worth of the property. Overall rates are expressed as an annual percentage rate and are most effective when derived directly from market sales.

GIVEN - Gross Annual Income	=	\$80,000
Vacancy/Rent Loss	=	5%
Expenses	=	30%
OVERALL RATE FROM MARKET	=	7%

Gross Annual Income	\$80,000
Less Vacancy/Rent Loss	- \$4,000
Less Expenses	<u>- \$24,000</u>

Net Annual Income	\$52,000
Divided by Overall Rate	<u>.07</u>

Total Present Value	\$742,850
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## INCOME APPLICATION TABLE

APPLICATION	DESCRIPTION	CODE	REQUIRED DATA	
APPLICABILITY				
#1	Land Residual Straight Line	LRST	1- Net Annual Income 2- Current Bldg. Value 3- Remaining Economic Life	Short-term lease & rental properties. New or nearly new buildings. (Known building value.)
#2	Land Residual Present Value or Discounted Cash Flow	LRLA	1- Net Annual Income 2- Current Bldg. Value 3- Remaining Economic Life 4- Discount Rate	Long-term lease & new or nearly new buildings. (Known building value.)
#3	Building Residual, Straight-line	BRST	1- Net Annual Income 2- Current Land Value 3- Remaining Economic Life 4- Discount Rate	Short-term lease & rental properties. (Known land value.)
#4	Building Residual Present Value	BRLA	1- Net Annual Income 2- Current Land Value 3- Remaining Economic Life 4- Discount Rate	Long-term lease & good land comparables. (Known land value.)
#5	Property Residual with land reversion at the end of period	PRLA	1- Net Annual Income 2- Current Land Value 3- Expected Land Grow Rate 4- Discount Rate 5- Remaining Economic Life	Long-term lease, overall rate obtained from comparable sales.
#6	Ellwood Mortgage Equity	EQTY	1- Net Annual Income 2- Investment Period 3- Mortgage Term 4- Annual Mortgage Rate 5- Loan to Total Ratio 6- Desired Yield 7- Expected Appreciation (+) or Depreciation (-).	Sophisticated, short-term (5-10 yr.), investors, recent refinancing and current dependable growth forecast.
#7	Annual Gross Income Multiplier	AGIM	1- Gross Annual Income 2- Annual Gross Income Multiplier	Sufficient sales with a high degree of comparability to establish a reliable Annual Gross Income Multiplier