

Chapter 10

Mass Appraisal of Income-Producing Properties

Whether valuing income-producing property or residential property, you can use similar information and methods for collecting and analyzing data into base standards (benchmarks and units of comparison). However, because income-producing property includes a variety of building designs and construction materials as well as differences in quality, the program you use must encompass these variations.

Information is needed to measure the income-producing potential of properties that are primarily bought and sold for that purpose. Income and expense information is compiled and analyzed into units typical for the property type. Gather data relating to economic rent, typical expense items for each category, overall expense ratios, and supportable capitalization rates for each kind of property appraised.

With proper planning, you can obtain most of the information necessary to establish base standards before field inspection and inventory of properties. If preappraisal data collection is insufficient, then supporting data will need to be collected and developed by the field appraisers in the course of making inspections.

Mass Appraisal Procedures for Income-Producing Properties

The steps for conducting a mass appraisal program for income-producing property are:

- Establish a base appraisal date;
- Identify the reappraisal area;
- Mail requests for income and expense data three to four months before beginning the reappraisal;
- Collect neighborhood data (sales, zoning, utilities, neighborhood influences, etc.);
- Establish land values:
 - ◆ Base unit values, and
 - ◆ Adjustments to the base units;
- Establish quality class benchmarks;
- Conduct a local cost modifier study;

- Conduct a market depreciation study;
- Analyze income and expense data and complete benchmark worksheets to display findings;
- Develop capitalization rates:
 - ◆ Overall rates,
 - ◆ Tax rates,
 - ◆ Recapture rates, and
 - ◆ Discount rates;
- Develop market approach base standards;
- Field inspect properties;
- Compute the market-related cost approach value;
- Compute the income approach value;
- Compute the market approach value;
- Reconcile the three approaches to value; and
- Conduct supervisory review.

Base Appraisal Date

Establish a base appraisal date before starting any appraisals. Using a base appraisal date ensures that properties are appraised under the same market conditions.

All land and improvement data used to establish base standards for the appraisal program must reflect values as of the base appraisal date. You can accomplish this by applying appropriate time adjustments to all value indicators. The data analyst can help you develop time adjustments by a process called “time trend analysis.” A time trend can be developed from the resale of property or from analyzing sale price trends of similar property over time.

Once the base standards are established as of the base appraisal date, do not use other adjustments or modifiers other than those developed as of the base date. To do otherwise will create a general lack of uniformity, causing lack of equity in RMV between individual properties within the defined appraisal area.

Sales occurring after the base appraisal date must be considered in the final ratio analysis conducted at the conclusion of the appraisal program. Adjusting the completed appraisals to the January 1 assessment date would recognize any change in value level reflected by those sales.

During the annual maintenance program (when new construction is appraised) always refer to the base appraisal date using the same base standards. Compensate for any change in market value levels after the original base appraisal date by applying subsequent annual adjustments. This will help ensure equity and uniformity in the appraisal program.

Identify the Reappraisal Area

After setting the base appraisal date, determine which properties are to be appraised. Areas that do not comply with current appraisal standards, areas that have changed dramatically, or any combination of indicators, may trigger a need for reappraisal (See Chapter 2 “Ratio Analysis.”) Because income-producing properties normally have a different geographic distribution than residential properties, the reappraisal areas may not correspond with the residential reappraisal/recalculation areas.

Income and Expense Data

Before beginning reappraisal, start collecting information on income and operating expenses for all properties within the defined appraisal area.

To facilitate obtaining rental and expense information, mail the income and expense worksheets to owners of income-producing properties. Start this process several months before beginning the appraisal to allow enough time for the owners to return the completed worksheets. Here is a suggested procedure for mailing questionnaires:

- Obtain a complete computer printout listing the assessor’s account number, property class, owner’s name, and owner’s mailing address. This listing should include the following property classes: 200, 201, 300, 301 (light industrial), 700, and 701.
- Review the list for completeness. Order two complete sets of stick-on mailing labels that include the owner’s name, mailing address, and account number.
- Prepare and mail an income questionnaire to each property on your master listing. Include a letter of explanation (see example), a questionnaire with label attached, and a postage-paid, self-addressed return envelope.
- As the questionnaires are returned, mark off each on the master listing.
- After 30–45 days, send a second mailing (reminder) to those properties from which a questionnaire has not been received.

As the questionnaires are received, sort by the type of property, such as apartments, retail, office, and manufactured home parks.

Example Introductory Letter

Beneath your letterhead, type the date and a salutation followed by:

The County Assessor's Office will soon be reappraising property in your area. Determining the present real market value is the goal for all appraisals. To reach this goal, we consider the earning power of income-producing properties because the market value for properties of this type depends on their income-producing capabilities.

For your convenience, I have enclosed a form for listing the rental income and operating expenses for your property.

Please return the completed form to the County Assessor's Office at your earliest convenience. If you have questions, please call us at (insert phone number) and ask for the commercial appraisal supervisor.

Sincerely,

(name)

County Assessor

Enclosure

You may want to make some additions to the letter. For instance, if you want to accept the information via fax, add that number. If you want to accept via e-mail, add the address. If this information can be accessed via your Web site, provide the URL.

On the next page is an example of an Income and Expense Worksheet.

Income and Expense Worksheet

Account Number _____

Property Address _____

Is this property owner-occupied? Yes _____ No _____ Partial _____

Current Monthly Rental Data

Tenant/Building Name	Dates of Lease		Leased Area	Monthly Income
	From	Through		

Do leases include base rental plus percentage of revenue? Yes _____ No _____

Do leases include rent escalations? Yes _____ No _____

If yes to above, please indicate which leases.

Income History

20__	20__	20__

Total rental if 100% occupied

Actual rents received

Expense History

Expenses	Paid By		20__	20__	20__
	Own	Rent			
Management					
Salaries					
Utilities:					
Electric					
Gas					
Heat & Cooling					
Water & Sewer					
Garbage					
Janitorial					
Insurance:					
Fire					
Liability					
Maintenance:					
Exterior					
Interior					
Remodeling					
Reserves for Replacement:					
(root, carpet, siding, etc.)					
Misc. Expenses:					
Telephone					
Legal Fees					
Advertising					
Licenses					
Supplies					
Other Expenses:					
1. _____					
2. _____					
Property Taxes					

Contact Person: _____

Day Phone: _____

Collect Neighborhood Data

You will need to collect pertinent information at the beginning of the preappraisal setup. This includes information on each neighborhood and relevant area sales.

Request a list of current sales from the data analyst. Generally, the list should include sales that have occurred during the last three years. At the same time, obtain copies of all returned sales confirmation questionnaires and income and expense worksheets.

In addition to sales information, gather neighborhood data affecting the value of properties to be appraised.

A neighborhood is a group of properties that generally shares important characteristics. A neighborhood can be a distinct group of properties identified by a physical/geographic boundary or a group of properties that reacts in a similar manner to market influences.

Gather information that will help you understand the source of value changes in an area. These are best understood in terms of the four forces that affect value:

- Physical;
- Economic;
- Governmental; and
- Social.

Physical: The major physical factor affecting value is location. Other physical factors include topography, size and shape of a parcel, drainage, appearance of neighborhood, and availability of utilities.

Economic: Economic factors can be identified by such items as the pattern of land use, employment of residents, average household income, prevailing interest rates for borrowed money, and the availability of financing.

Governmental: Major governmental factors include local land use zoning, building codes and restrictions, and municipal services and their costs.

Social: Social factors affecting value closely follow the economic factors. They include characteristics of residents (age, size of families, educational levels, and income levels, etc.), population densities, and crime rate.

Although much of the above information, such as zoning, can be gathered from other governmental agencies, contact other real estate professionals, including fee appraisers, realtors, and property managers. Their insight may be useful.

After identifying the forces that cause any particular group of properties to function as a neighborhood, boundaries of the area must be defined on the field maps. Note any information that will help document the value influences of the area on the field maps as well. These will include such things as zoning, topographic features, location of utilities, and street improvements.

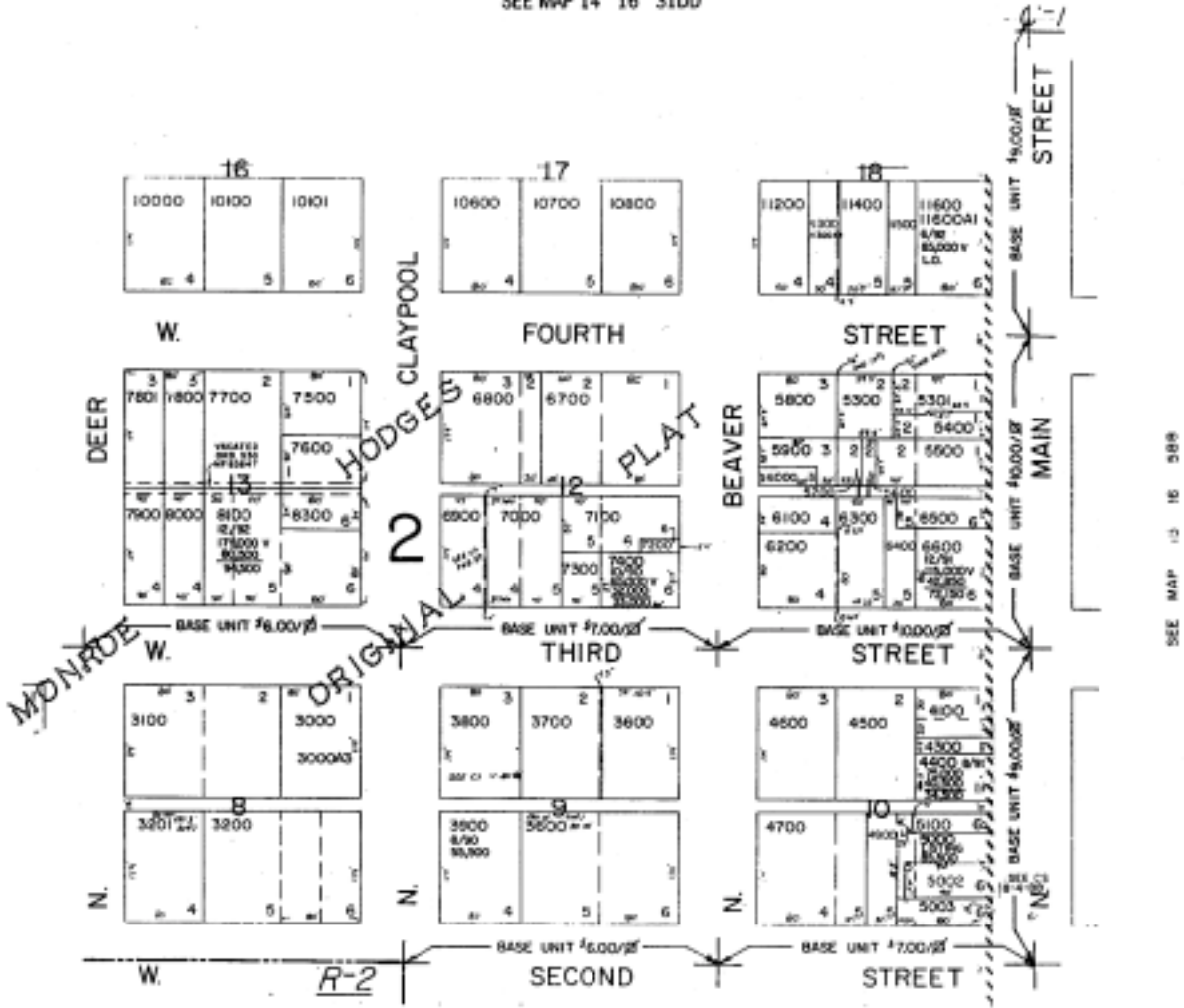
Prepared field maps will help you apply uniform standards to properties influenced by like value forces. The maps will help the supervisory review of completed appraisals and will serve as an important aid in reconstructing the thought process that led to your value conclusions. These maps also will be useful when answering property owners' questions at the counter and when preparing testimony for appeals.

A field map for a predominately commercial area with an explanation of the symbols, follows:

Portion of Commercial Field Map

NE 1/4 NE 1/4 SEC. 6 T15S R16E W.M.
CROOK COUNTY
1" = 100'

SEE MAP 14 16 31DD



Yellow	—	Asking
Green	—	Improved
Red	—	Bare Land
V	—	Verified
○	—	Sale Number

Establish Land Values

After preliminary data gathering, establish the base land values and the adjustments to them. By establishing base standards (benchmarks) and market-derived adjustments, you can expect to achieve an acceptable level of uniformity in the mass appraisal program. For an in-depth discussion of developing base land values and market-derived adjustments, see Chapter 8, “Mass Appraisal of Land.”

Once the land study is completed and the base land values are established, the base units of value should be noted on field maps. As always, you still must refer to land benchmarks for final land value determination.

In addition to setting base land values for bare land, you must also develop base land values for improved land, which includes a component for on-site development (OSD). The OSD component includes such items as sewer and water connections, landscaping, and other improvements to the land. The OSD component will generally be developed by one of two methods.

One approach is based on local contractor’s cost for each item, which is used to develop separate values for each element. Alternatively, where the individual components of OSD are difficult to isolate, the land residual technique is used to develop an improved land value. This results in a land value that includes OSD as a component. No separate or additional charge for OSD is needed or appropriate when the land residual technique is used.

Establish Quality Class Benchmarks

A cost factor book such as that published by the Marshall Valuation Service may serve as the basis for the market-related cost approach to value. When using cost factor manuals, be sure you understand what is—or is not—included in the cost number. The beginning point for using cost manuals for the appraisal of large numbers of improvements is to establish base standards or benchmarks. For an overview of the market-related cost approach as used in this chapter, refer to Chapter 9, “Mass Appraisal of Residential Properties.”

A benchmark is a reference point from which the value of other like properties is measured. To be consistent in determining the quality level of construction, establish quality class benchmarks for class, age, and type of structure.

Class benchmarks don’t need to be sold properties or new construction. They are selected only for their ability to illustrate quality of construction. These properties must be inspected and an accurate description of the improvements made. Select enough representative samples of

buildings for each type, quality class, and age to provide standards for achieving uniformity in classification among individual properties and individual appraisers.

Because of the variety of income-producing structures, you need a systematic method of establishing base standards. DOR recommends the use of Marshall Valuation Service.

Commercial cost manuals are divided into three basic categories: group, type, and class.

Group is the overall category for a building based on general use. Examples are apartments, motels, and restaurants.

Type is based on design characteristics within a group category. Examples of types found within the apartment group are low-rise, mid-rise and high-rise apartments.

Class is related to quality of construction.

Quality class benchmarks should be established using a standard format that includes exterior and interior color photos and a brief description of quality items. These worksheets are then combined into a notebook to be used by all appraisers assigned to the appraisal areas.

The supervising appraiser should field review all quality class benchmarks to ensure that uniformity is achieved.

Following is an example of a quality class benchmark worksheet.

Quality Class Benchmark

Benchmark # _____ Group _____ Type _____ Class _____

Account _____ Address _____



OUTSIDE PICTURE
3 x 5



INSIDE PICTURE
3 x 5



CONSTRUCTION DETAILS

Year Built _____
Foundation _____
Roof _____
Floor _____
Electrical _____
HVAC _____

Gross Floor Area _____
Ext Walls _____
Exterior _____
Ceiling _____
Plumbing _____
Other _____

Local Cost Modifier

Next, conduct a local cost modifier (LCM) study for use in the cost approach. Develop the LCMs from market data. Apply the LCMs to the cost factor book being used to reflect the current replacement cost new for the appraisal area as of the base appraisal date.

Conduct the LCM study according to the following guidelines:

- Select a representative sample of the type and class of new construction property sales from the current appraisal area. These sold properties should be typical of the current market and should not reflect abnormal discounts, unusual financing, or other atypical influences.
- Determine the sales price of the property. If necessary, time adjust the sale to the base appraisal date.
- Determine the improvement residual by subtracting estimated current land value and on-site development increment.
- Develop a replacement cost new estimate for the improvements in each sale.
- Within each building group, type, and class analyzed, total the improvement residual values and divide the result by the total of their replacement cost new.
- The result is a weighted LCM to apply to the cost factor book for that building group, type, and class. It will reflect current replacement cost new for the appraisal area as of the base appraisal date.

Because the commercial appraiser deals with a wide variety of building structures, individual modifiers would ideally be developed for each of the various groups, types, and classes of structures encountered. Since this is frequently not practical, we recommend you develop an overall LCM for the cost factor book. Do this by dividing the total of all improvement residuals by their total replacement costs new. Apply the generalized result to the remaining groups, types, and classes of structures for which there was insufficient data to develop a special modifier. Developing modifiers in this manner lends credibility to the completed market-related cost approach.

If adequate cost information for new construction is not available, other methods of establishing current costs to build may be used. A composite of local direct costs (labor and materials) plus indirect costs (fees, construction financing, and developer's profit) can be developed and compared to the factor book data.

Another method involves the use of cost models that yield a reliable indication of current cost. Several models should be developed using the base standards as described in the cost factor book for several types of structures. Estimates to build these structures should then be gathered from local contractors in the area. Take care to ensure that both direct and indirect costs are included. Once these cost estimates are gathered, compare them against the replacement costs from the factor book.

Following is a suggested worksheet for gathering information on recently built structures or cost models.

Structure Components

ITEM	COST
Site preparation: Soil condition, grading, excavating, fill, sewer & water, etc., (OAR 150-307.010)	_____
_____	_____
FOUNDATION: Footing, wall construction, excavating and backfill	_____
_____	_____
EXTERIOR WALLS: Frame, cover and wall construction, basement, parapet, openings	_____
_____	_____
ROOF: Frame, cover and ceiling construction, pitch, overhang, vents, gutters, insulation	_____
_____	_____
FLOORS: Frame, underpinning, ceiling and cover construction, mezzanines, balconies	_____
_____	_____
PARTITIONS: Frame and cover construction, openings	_____
_____	_____
INTERIOR COMPONENTS: Cabinets, counters, stairs	_____
_____	_____
ELECTRICAL: Wiring and fixtures	_____
_____	_____
PLUMBING: System and fixtures	_____
_____	_____
AIR CONDITIONING: Heating, cooling and ventilating system	_____
_____	_____
PROTECTIVE FINISH: Exterior and interior	_____
_____	_____
EXTERIOR COMPONENTS: Loading dock, balcony, canopy, stairs, fire escapes	_____
_____	_____
YARD IMPROVEMENTS: Paving, curbs, walks, fencing, walls, lighting, drainage	_____
_____	_____
MISCELLANEOUS: Financing, overhead and profit, appliances, equipment	_____
_____	_____
TOTAL COSTS	\$ _____

Whatever method is used for developing a LCM, the study must be well-documented and the information retained as part of the preappraisal set-up.

Market Depreciation Study

Depreciation Benchmarks

The next step is to develop depreciation benchmarks.

Accrued depreciation is the difference between the replacement cost new and the present value of an improvement. It reflects the total loss in value that occurred as of the date of appraisal. Depreciation can be divided into three categories:

- Physical deterioration;
- Functional obsolescence; and
- Economic obsolescence (externalities).

In the market-related cost approach, the appraiser develops a market depreciation guide that reflects remaining percent good that combines all three categories of depreciation.

Develop benchmarks by neighborhood and type of structure. Sales used must be confirmed and inspected.

Use the following procedures to establish depreciation benchmarks.

- Time-adjust the sale to the base appraisal date.
- Subtract the estimated land value, including the on-site development (OSD) component, from the sales price to determine the improvement residual.
- Estimate the contributory value of any minor improvements (which generally have a much shorter life expectancy than the major improvement); subtract them from the total improvement residual. The remainder is a residual value for the depreciated major improvement.
- Divide the major improvement residual by the replacement cost new to indicate its remaining percent good.
- Select the representative depreciation benchmarks by type, class, and effective age.

Example:

Adjusted sale price	\$150,000
Estimated land value	– 50,000
Estimated OSD value	<u>– 10,000</u>
Total improvement residual	\$ 90,000
Estimated DRC of minor improvements	– <u>2,500</u>
Major improvement residual	\$ 87,500
Improvement cost new	\$112,450

$\$87,500 \div \$112,450 = 78\%$ good (rounded)

Depreciation Schedule

Once the depreciation benchmarks are completed, combine the indications of market value (remaining percent good) into a depreciation schedule by type and class covering the typical actual ages of properties in the neighborhood/appraisal area.

Develop this schedule by plotting the remaining percent good indications correlated with the actual age on a graph (See example in Chapter 9, “The Mass Appraisal of Residential Properties”). A depreciation schedule can then be developed from the graph.

With adequate sales, depreciation benchmarks can be used to develop a percent good guide for the properties being appraised. However, if sales of income-producing properties are limited, you may find it necessary to use published depreciation tables. If so, make every effort to adjust the tables to local conditions through sales analysis.

Due to many factors of obsolescence in income-producing properties (such as upper floor areas of limited use) take care that all accrued depreciation is considered. Loss in value due to obsolescence can be measured by market analysis of rent loss. An example of this process is given in Chapter 6, the Cost Approach section.

Following is an example of an income-producing property benchmark worksheet:

Depreciation Benchmark—Income Properties

Benchmark # _____ Group _____ Type _____ Class _____
 Account _____ Address _____
 Confirmed? _____ With _____ Appraiser _____ Date _____

Summary Data

Sale Date _____
 Deed Reference _____
 Sale Price _____
 Year Built _____
 Market Remaining Good _____
 GIM _____ OAR _____
 Sale Price
 (Sq. Ft./Unit/Space) _____
 Building/Land Ratio _____
 Lot Coverage Ratio _____
 Income/Expense Ratio _____

Gross Floor Area _____
 Floor Area Breakdown _____

 Foundation _____ Ext. Walls _____
 Roof _____ Floor _____
 Interior _____
 Elec. _____ Plumbing _____
 Heating/Cooling _____
 Other _____

LAND DESCRIPTION

Lot or Acreage Size _____
 Description _____

 Yard/Site Impr. _____
 Remarks: _____

MARKET DEPRECIATION

Date of Sale _____ Sale Price \$ _____
 Trended to _____ @ _____ Per Mo x No. of Mo. _____ = Adjust. Sale Price \$ _____

RATING FOR ACTUAL AGE

Physical P F A G E
 Functional P F A G E
 Appearance P F A G E
 Remarks _____

Land Value _____ + Site Impr. _____ - \$ _____
 Residual to Building Improvements = \$ _____
 Depreciated Value of Minor Improvements - \$ _____
 Major Improvement Residual = \$ _____
 Replacement Cost New \$ _____
Indicated % Good from the Market % _____

RMV AND FINAL RATIO

Land \$ _____ OSD \$ _____ IMPS \$ _____ Total \$ _____
 Ratio of RMV to Adjusted Sale Price _____
 Remarks: _____

Analyze Income and Expense Data and Complete Benchmark Worksheets

Once income and expense data is gathered from area properties, analyze the information to establish economic rents and typical expenses. Apply these standards to the individual properties being appraised.

Following are sample analyses. First is a sample analysis of economic rent developed from information compiled from returned income questionnaires and from discussions with owners and occupants of properties during field inspections. The next example is a similar analysis conducted using the expense data gathered to estimate typical operating expenses.

Economic Rent Study—Spreadsheet

Group: Retail Store Type: Commercial

Appraisal Area _____
 Neighborhood _____
 Base Appraisal Date _____

Account # Address	Building Description	Bldg. Class	Year Built	Land Area	Bldg. Size	Rent per Month	Annual	Actual Rent Received	Vacancy & Credit Loss	Date of Lease	Lease Term	Remarks
7N 3E 23 CD 1750 4502 NE 42nd	1 Sty. Fr. Asb. Bk.	4	1925	5000	1920	\$365 0.18	\$4,380	\$4,167	5%	3-83	3 Yr	Average
7N 3E 23 CA 490 2833 NE 33rd	1 Sty. Fr. Stuc.	4	1925	12648	4664	\$875 0.18	\$10,500	\$10,185	3%	1-90	5 Yr	Average Cond
7N 3E 23 CA 610 3348 NE Ferry St.	1 Sty. Conc.	5	1923	3800	3227	\$742 0.23	\$8,904	\$8,904	0%	1-88	5 Yr	Good Cond
7N 3E 23 CD 550 4500 NE King Ave.	1 Sty. Fr. Bemt. 1600 sq. ft. NU	4	1924	8800	7100	\$1,066 0.15	\$12,780	\$12,141	5%	2-90	2 Yr	Bldg in Fair Cond
7N 3E 23 CB 290 2510 NE Wallace St.	1 Sty. Conc. & Cermfl.	4	1926	6526	6526	\$1,109 0.17	\$13,308	\$13,042	2%	10-88	4 Yr	Average
7N 3E 23CC 1010 4701 NE Tegner Ct.	1 Sty. Conc. Bk.	5	1927	5000	5000	\$1,250 0.25	\$15,000	\$14,400	4%	12-89	3 Yr	Good Cond New Remodel

Mean \$0.195 3%
 Median \$0.185 3.5%

Conclusions:	Fair	\$.15
	Average	\$.19
	Good	\$.25

Operating Expense Study—Spreadsheet

Appraisal Area _____
 Neighborhood _____
 Base Appraisal Date _____

Group: Retail Store Type: Commercial

Account # Address	Bldg Date & Class	Cond	Actual Rent Received	Manager %	Janitor %	Supplies %	Heat %	Lights %	Water %	Gas %	Insur %	Maint %	Repar %	Total Exp	Expenses to Income Ratio	
7N SE 23 CD 1750 4502 NE 42nd	1 Sty Fr (4)	Avg.	\$ 4,167	167	4	50	1	T	300	7	500	10	415	10	1482	35.8
7N SE 23 CA 490 2683 NE 33rd	1 Sty Fr (4)	Avg.	\$10,185	407	4	75	7	T	509	5	1120	11	900	9	3161	31.0
7N SE 23 CA 610 3346 NE Ferry St.	1 Sty Cere (5)	Good	\$ 8,904	445	5	100	1	T	400	4	801	9	890	10	2736	30.7
7N SE 23 CD 550 4500 NE King Ave.	1 Sty Fr (4)	Fair	\$12,141	364	3	50	4	T	485	4	1015	8	242	2	4906	33.0
7N SE 23 CB 260 2510 NE Wallace St.	1 Sty Cere (4)	Avg.	\$13,042	522	4	100	8	T	425	3	1300	10	390	3	4172	32.0
7N SE 2300 1070 4791 NE Tegner Ct.	1 Sty Cere Bk (4)	Good	\$14,400	576	4	95	7	T	450	3	1588	11	268	2	4833	33.7
T - Tenant Pays			Mean Median	4 4	4 4	8 .75		10 10	4 4		1.7 1.7	11 10.5	11 10.5		32.7 32.3	

After analyzing income and expense information and establishing typical rents and expenses, apply benchmarks and base standards to the reappraisal area.

Following is an example of an income and expense benchmark worksheet:

Income & Expense Benchmark

Group _____ Type _____ Class _____



OUTSIDE PICTURE
3 x 5



Property Location

Account # _____
Address _____

Property Description

Income & Expense Data

Rent \$ _____ sq. ft./unit/mo. x 12 mo. = \$ _____ x # _____ units = \$ _____
 Rent \$ _____ sq. ft./unit/mo. x 12 mo. = \$ _____ x # _____ units = \$ _____
 Rent \$ _____ sq. ft./unit/mo. x 12 mo. = \$ _____ x # _____ units = \$ _____
 Rent \$ _____ sq. ft./unit/mo. x 12 mo. = \$ _____ x # _____ units = \$ _____

Total \$ _____

Vacancy & Collection Loss (_____ % of Gross) \$ _____

Effective Gross Income \$ _____

Operating Expenses (_____ % of EGI) \$ _____

Reserves for Replacement (_____ % of EGI) \$ _____

Total Expense Ratio (% of EGI) _____ %

Land to Building Ratio _____ :

Develop Capitalization Rates and Components

Various methods of developing capitalization rates are discussed in Chapter 6, the Income Approach section, and in standard texts such as those published by the International Association of Assessing Officers and the Appraisal Institute. In the following discussion, we will develop an overall rate for use in direct capitalization and will discuss various components of the rate used in the straight-line method.

Overall Rate Development

In developing an overall capitalization rate, make sure when extracting the rates that sale properties and appraised properties are comparable in their physical, functional, and economic characteristics.

- Property sales must be confirmed and must represent market value.
- If sufficient sales are available, group them according to property type and comparability so that a reasonable range of rates can be developed for each.
- Net income for the sale property must represent the same market (time period) as the time of sale.
- The income and expense ratios between sale comparables and appraised properties should be similar.
- Overall rates applied to improved properties must be selected from sales with similar land-to-building ratios as the properties appraised.
- Improvements of comparable sales must have a similar remaining economic life as the appraised properties.

Using the basic capitalization formula $R = I \div V$, where

R = rate, I = income (net), and V = value (sale price), an overall rate can be developed.

Example:

$$\$25,000 \text{ (income)} \div \$175,000 \text{ (sales price)} = 0.143 \text{ (rate)}$$

Tax Rate Component

All counties in Oregon have many taxing districts, most with varying tax rates. An allowance for property taxes is included in the capitalization rate when the typical lease is a **gross** lease. If the typical lease is a **net** lease, the tenant pays the taxes and they are not a consideration. There are two ways to account for property taxes when developing an overall rate:

1. Exclude property taxes from expenses. If you exclude taxes from the expenses, dividing net income before discount, recapture, and taxes will produce an overall rate that includes a tax component. From this overall rate, the effective tax rate for the district can be subtracted, yielding the composite discount/recapture rate.
2. Include property taxes as an expense. The sold property may have been over or undervalued for assessment purposes, resulting in a sale price that varies widely from the RMV. As a result, the real estate taxes could be over or understated if based on RMV at the time of sale. A knowledgeable buyer will probably be aware of this. The taxes implied by the RMV will probably not reflect the best estimate of the buyer's expectations regarding their future property tax expense. Therefore, in developing the overall rate, calculate the taxes implied in the purchase price by multiplying the **assessed** value by the effective tax rate for that area. Subtract this amount along with the other expenses to derive a net income after taxes and before discount and recapture. The remaining net income after taxes (as implied by the sale price) will then yield a composite discount/recapture rate that accurately reflects the investors' expectations. In the example on the next page, this is displayed in columns 7, 8, and 9 of the Overall Rate Analysis spreadsheet. To develop an appropriate overall rate from the discount/recapture rate to appraise another comparable property, add the effective tax rate in the area of the property to be appraised to the composite rate.

Using sales of comparable properties, develop an overall rate as follows:

Overall Rate Analysis

015

GROUP: RETAIL STORE

OVERALL RATE
TYPE: COMMERCIAL

CLASS: B

Sale No.	Sale Price (1)	Land Value (2)	Residual to Buildings (3)	Effective Gross Income (4)	Expenses (5)	Net Income (6)	Taxes (7)	Net Income After Tax (8)	Indicated Rate W/O Tax (9)	Expense Ratio (10)	Building Portion (11)
1.	\$110,000	\$46,000	\$64,000	\$21,500	\$7,525	\$13,975	\$3,300	\$10,675	.0970	35%	58%
2.	\$175,000	\$68,250	\$106,750	\$32,000	\$10,500	\$21,500	\$4,900	\$16,600	.0919	32%	61%
3.	\$150,000	\$63,000	\$87,000	\$26,087	\$8,087	\$18,000	\$4,050	\$13,950	.0930	31%	58%
4.	\$136,000	\$61,200	\$74,800	\$25,576	\$8,440	\$17,136	\$4,080	\$13,056	.0960	33%	55%
5.	\$142,500	\$57,000	\$85,800	\$26,406	\$8,450	\$17,956	\$4,418	\$13,538	.0950	32%	60%
6.	\$138,750	\$58,275	\$80,475	\$25,301	\$8,096	\$17,205	\$4,024	\$13,181	.0950	32%	58%

Mean .0952 32.5% 58.3%
Median .0950 32% 58%

The range of overall rates as developed from these sales is 0.0919-0.097.

Conclusions: Overall Rate Without Taxes .0950
 Expense Ratio 32%
 Land to Building Ratio 42:58

1. Confirmed and adjusted price of income-producing property.
2. Land value established.
3. Sales price minus land.
4. Actual if considered economic by buyer. If not, buyer opinion of rent expected at time of purchase. If owner's estimate is not available, economic rent is used.
5. Buyer's estimate of expenses expected. Does not include tax. If unavailable, appraiser's estimate based upon typical expense study.
6. Effective gross minus expenses = net income before tax.
7. Property taxes based on sale price and tax rates in effect at time of sale.
8. Net income before tax minus taxes = net income after tax.
9. Net income after tax divided by selling price = overall rate without taxes.
10. Expenses (#5) divided by effective gross income (#4).
11. 100 divided by (building residual divided by sale price).

Recapture Rate Development

Recapture rates provide a means to recover the building value during its remaining economic life. In reality, the recapture rate has little relationship to the actual physical deterioration of a building. It measures the remaining period of time that a building would be expected to yield a profitable income.

The recapture rate applied to an improvement is based on an estimate of remaining economic life. Estimates of economic life can be derived from the period of time:

- Buildings have been in existence before being demolished;
- Before undergoing a major renovation;
- Before being vacant for an extended period;
- Investors are willing to tie up their capital in a particular property; and,
- Lenders are willing to make mortgage loans for the type and age of the properties being appraised.

Example:

From the study of comparable income-producing properties and through discussions with lenders and investors, it is estimated the remaining economic life of the subject property is 25 years. Dividing the economic life into 1 yields the indicated annual recapture rate.

$$1 \div 25 \text{ years} = 0.04 \text{ per year}$$

This means that 4 percent of the improvement value will be recovered annually on a straight-line basis. It also suggests that investors will invest equity and a lender will loan money on this property for 25 years. Furthermore, from the analysis of comparable properties, 25 years seems to be the typical recapture period for capital invested in improvements of this quality and condition.

When sales are available, the market's estimation of economic life can be determined using the basic capitalization formula:

$$R = I \div V \text{ where } R = \text{Rate, } I = \text{Income, and } V = \text{Value.}$$

Example:

Building age: 20 years	Sales price	\$200,000
.09 Discount rate	Land value	<u>40,000</u>
.03 Effective tax rate	Building value	\$160,000

Net annual income before discount, recapture, and taxes	\$30,000
Deduct taxes (\$200,000 × .03)	6,000
Deduct discount (\$200,000 × .09)	<u>18,000</u>
Net income before recapture, after discount and taxes	\$6,000

Indicated recapture rate: $\$6,000 \div \$160,000 = 0.0375$

Indicated remaining economic life $1 \div 0.0375 = 26.7$ years = 27.0 years (rounded)

By using the sales of several properties that have improvements of different ages, a range of remaining economic life indications can be developed. These ranges will help you estimate the remaining economic life of other buildings.

Discount Rate

The discount rate is best developed using the market comparison method. This method uses the basic capitalization formula:

$$R = I \div V$$

A reliable indication of discount can be calculated by following this format. An example of a discount rate analysis is provided in the spreadsheet on the following page.

When analyzing the indications of discount rates, consider the quality of the investment. The rate obtained from the sale of a property with a long-term lease to a quality tenant will probably be smaller than a rate indicated by a property that had a month-to-month lease from a relatively unstable tenant.

Reconstructing an Overall Rate from its Components

After completing the analysis to isolate each of the components of the overall rate (discount rate, recapture rate, and tax rate), the overall rate is easily reconstructed to accommodate the specific needs within the reappraisal area. First, select the discount rate that is best supported for the property to be appraised. Then, add the implied recapture rate to the discount rate based on your conclusion regarding the remaining economic life of the improvements. To complete the reconstruction, the appropriate effective tax rate is added to the composite discount and

recapture rate. This is the overall rate to apply to the estimated net income of the property being appraised. Following is an example of a discount rate analysis worksheet.

Discount Rate Analysis

Sale Number	Sale Price (1)	Land Value (2)	Residual to Buildings (3)	Effective Gross Income (4)	Expenses Including Tax (5)	NOI Before Recapture Discount (6)	Recapture Charges to Building (7)	Net Income Before Discount (8)	Indicated Discount Rate (9)
1	50,000	15,000	35,000	6,000	750	5,250	875	4,375	.0875
2	45,000	15,000	30,000	7,650	2,100	5,550	990	4,560	.1013
3	110,000	46,000	64,000	21,500	9,000	12,500	1,280	11,220	.1020
4	87,500	21,000	66,500	16,000	6,100	9,900	1,330	8,570	.0979
5	23,500	8,500	15,000	7,500	3,980	3,520	750	2,770	.1179
6	30,000	10,000	20,000	5,250	1,625	3,625	660	2,965	.0988
7	50,000	12,500	37,500	8,970	1,500	7,470	1,500	5,970	.1194
8	72,100	20,000	52,100	9,300	2,115	7,185	1,040	6,145	.0852
9	175,000	50,000	125,000	32,000	10,500	21,500	4,125	17,375	.0993
10	300,000	115,000	185,000	41,500	6,000	35,500	3,700	31,800	.1060
11	25,000	25,000	-----	2,890	310	2,580	-----	2,580	.1032
Range								.0852-.1194	
Mean								.1017	
Median								.1013	

Remarks and final opinion of Discount Rate (10): Sale #11 is vacant land. Equal weight applied to all verified sales resulting in a discount rate indication of .1015.

1. Confirmed and adjusted price of income-producing property.
2. Land value established in land appraisal.
3. Sale price minus land value.
4. Actual if considered economic by buyer. If not, buyer opinion of rent expected at the time of purchase. If owner estimate is unavailable, economic rent is used.
5. Buyer estimate of expenses including taxes, reserves for replacement, and any charges for personal property, if any. If unavailable, appraiser estimate based upon typical expense data is used. The taxes expense is based on the sale price (assumed to be at market) and the tax rate in effect in the area of the sale at the time it sold.
6. Net operating income before recapture and discount but after taxes.
7. The recapture rate times the building residual (3).
8. Net operating income before discount but after recapture and taxes.
9. Net income before discount divided by the sale price equals pure discount.
10. By analyzing the range of indicated discount rates by various statistical methods, the appraiser develops an opinion of the property rate to be used.

Develop Market Base Standards for Use in the Market Approach

Base standards are developed through analysis of information contained in the data file along with the information collected during field review and sale verification. Some examples of base standards include price per square foot (land), per apartment unit, per theater seat, per square foot of net rentable area, and per square foot of gross rentable area.

Gather as much comparable information as possible. From this, develop units of comparison. The units of comparison selected depend upon the type of property being appraised, the amount of information available, and the appraiser's opinion of the reliability of the data analyzed. Following is a list of units of comparison that may be extracted for use in mass appraisal of income-producing property:

Unit of Comparison	Unit Extraction Method
Price per unit	Sales price ÷ number of units
Price per space	Sales price ÷ number of spaces
Price per room	Sales price ÷ number of rooms
Price per square foot of gross leasable area	Sales price ÷ gross leasable area
Price per square foot of net leasable area	Sales price ÷ net leasable area
Gross income Multiplier	Sales price ÷ gross annual income

An important part of performing a market analysis is to identify the unit of comparison that buyers and sellers relate with in making their decisions to buy or sell property. In general, if the analysis results in a wide variation in unit values, this suggests that the unit to which the market responds has not yet been found. On the other hand, a narrow range in unit values between property sales suggests that the correct market unit has been found.

For example, consider an analysis of motel sales that are similarly located and in comparable condition. Suppose that one motel has an average unit size of 400 square feet, whereas the other has units of 320 square feet. You might display the sale information as follows:

	<u>Motel No. 1</u>	<u>Motel No. 2</u>
Sale price	\$1,400,000	\$1,792,000
Rentable units	40	50
Price per unit	\$35,000	\$35,840
Unit size	400 sq. ft.	320 sq. ft.
Price per sq. ft.	\$87.50	\$112.00

The motel with larger units has 40 rentable rooms and sells for \$1.4 million. This is equal to \$35,000 per room or \$87.50 per rentable square foot. The motel with smaller rooms has 50 rentable units and sells for \$1.792 million. This is equal to \$35,840 per room or \$112 per rentable square foot. The sale price per square foot varies by almost 25 percent. But the sale price per room differs by only \$840, a difference of less than 3 percent. From this analysis, you may conclude that in this market, buyers and sellers are relating more to the price per rentable room than to the price per square foot of rentable area. Thus, when using the market approach, the unit of comparison selected for motels in this example is the price per rentable room.

With the use of any unit of measure come a variety of considerations. You must be aware of the elements that can affect the level of each unit value. Some of the more common factors that may require adjustment to the units of comparison are outlined below.

- Age;
- Condition;
- Quality;
- Average size of unit, space, or room;
- Number of baths;
- Appliances;
- Amenities (view, pool, etc.); and
- Location.

Price per square foot of gross leasable area:

This unit is easy to extract from comparables, but needs to be adjusted for all differences. **Price**

per square foot of net leasable area:

This basis of comparison tends to be more accurate than price per square foot of gross leasable area because it concentrates the value indication on the area used to generate income, or that

part actually occupied by a tenant. The impact of areas not directly producing income, such as common areas, storage rooms and mechanical rooms, is minimized in this unit of comparison.

Gross income multiplier (GIM):

Previously mentioned units of comparison do not address the market rent of the units being compared. The rent received for income-producing properties normally reflects the amenities provided. A distinguishing feature of the GIM approach is its focus on gross income. In arriving at the GIM, take care to select comparables that are similar. They must have similar income and expense ratios, and similar land-to-building ratios. (See discussion on gross income multipliers in Chapter 6, the Income Approach section.)

Without strong market support, it is better to use the unadjusted GIMs from highly comparable properties than to try to adjust GIMs from sales to match the quality and marketability of somewhat noncomparable properties. This is because the GIM technique implies a direct relationship between gross income and value. An undesirable property will likely generate a low gross income, whereas a new and highly desirable property will be expected to generate a high gross income. Therefore, the two properties, though varying widely in desirability, might display the same GIM, reflecting a relationship of direct proportion between quality, income potential, and value.

The comparative units developed by sales analysis in preparation for the market approach should be tabulated so you can visually scan the various units of comparison and isolate the one most relevant for the property to be appraised. The following spreadsheet shows one way to tabulate the information. This example is for illustration and selects from among an indefinite number of possible columns you might choose to include.

Market Data Analysis Worksheet

Market Data Analysis								
Group: Office Bldg			Building Class: C		Building Type: Average			
Acct No. #	Bldg. Description	Eff. Age	Condition	Adj S/Price	Bldg Sq Ft.	# of units	SP/unit	SP/sq ft
20021	2-story block	20	ave	\$204,000	2800	4	\$51,000	\$72.86
200262	1-story brick	10	good	\$220,000	2400	3	\$73,333	\$91.67
200301	1-story block	12	ave	\$400,000	5400	8	\$66,667	\$74.07
200458	1-story brick	7	good	\$388,000	4000	4	\$96,500	\$96.50
200135	2-story block	15	good	\$285,000	3600	4	\$71,250	\$79.17
Totals		64		\$1,495,000	18200	21	\$358,750	\$414.27
Ave age: 13yrs (rd)								
Ave Sales Price: \$299,000								
Ave Sq Ft: 3640								
Ave # of Units: 4 (rd)								
Ave SP/Unit: \$71,750								
Ave SP/Sq Ft: \$82.85								
Comments: acct # 200135 remodeled last year								

Field Inspect Properties to be Appraised

Once you complete the local cost modifier and depreciation studies, the next step is to make the field inspections.

Field inspection of property is needed to obtain a complete and accurate inventory of property characteristics. Although an inside inspection of buildings is always preferred, it is not always possible.

In addition to the physical characteristics of property, some of the information you should gather includes:

- The amount of rent.
- Whether the rent is considered economic by owner and tenant.
- The date the rent was agreed upon.
- Length of lease and renewal options.
- Utilities or services, if any, paid by landlord.

- Ownership of fixtures or equipment.
- Whether the rent has been adjusted for improvements made by the tenant.
- Whether the rent includes a charge for personal property, if any, owned by landlord.
- Landlord expenses.
- Expected rental adjustments.

During physical inspection, confirm the accuracy of any existing appraisal records and note any factors that may affect the rentability of the property.

Following are the applications of the three approaches to value of a hypothetical concrete tilt-up warehouse:

Compute the Market-Related Cost Approach to Value

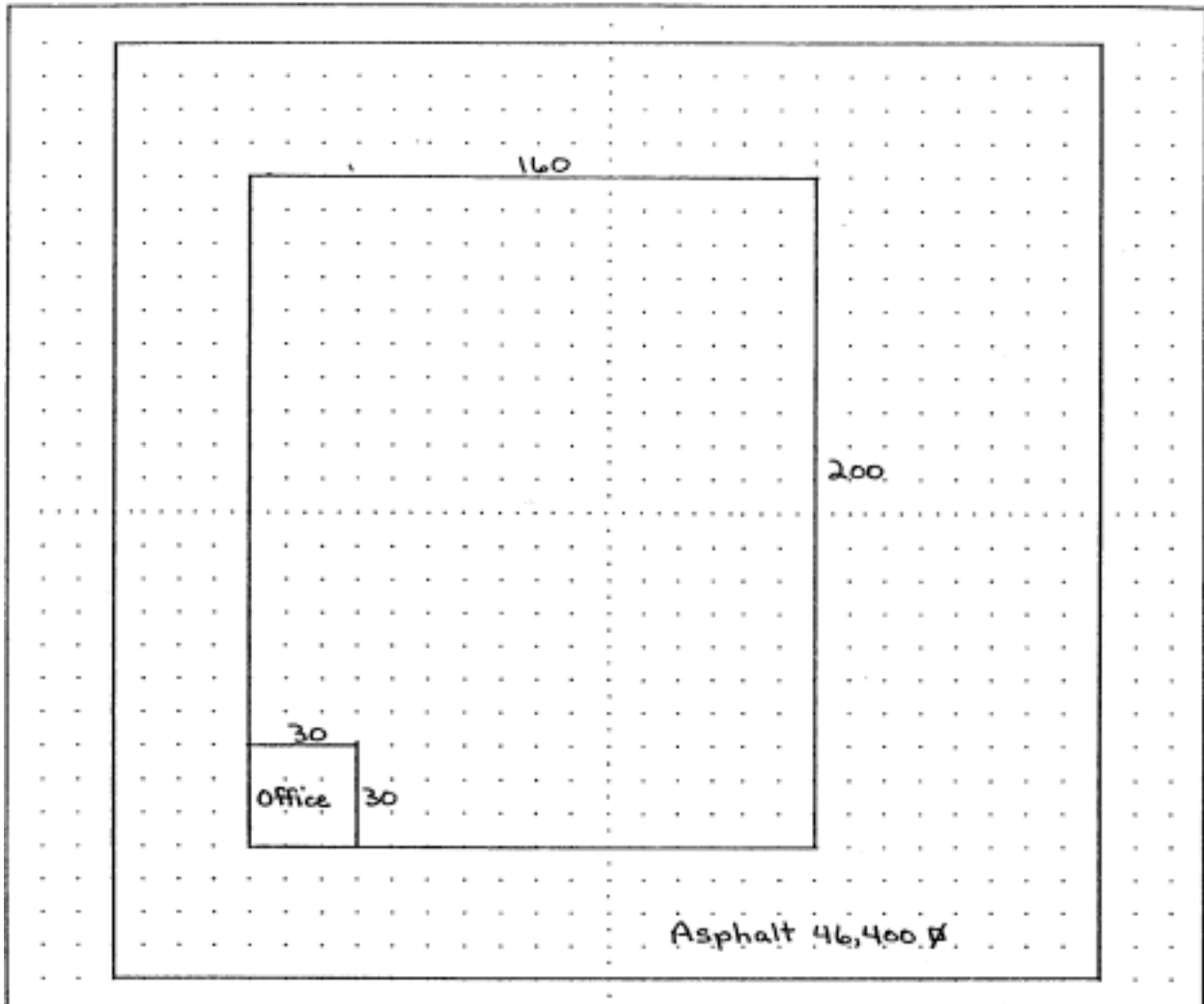
Using the cost factor book, compare the subject structure to one having comparable quality and utility as described in the base specifications. If needed, adjust the total base cost to bring it in line with the quality of the property being appraised. The costs are further modified by applying two market-derived adjustments:

- The LCM and
- Market depreciation.

When estimating market depreciation, compare the subject to depreciation benchmarks. See Chapter 9, "Mass Appraisal of Residential Properties," for details of developing replacement cost new estimates.

An example of the procedure used is shown by the market-related cost estimate for a concrete warehouse.

BUILDING DIAGRAM-AREA COMPUTATION



YARD AND MISCELLANEOUS IMPROVEMENTS

ITEM	UNIT COST	NO. OR AREA	BASE COST	% QUAL	% INDEX	REPL. COST	% GOOD	DEPREC. REPL. COST	
Asphalt Paving	1.15	46400	53360		115	61364	80	49090	
Utilities hookups & Systems development fees								11250	
Landscaping								11000	
TOTAL DEPRECIATED REPLACEMENT COST (TRANSFER TO SUMMARY)									\$ 71340

(Issued 7/94)

COST APPROACH

GROUP <u>Miscellaneous</u> TYPE <u>Conc. Whse</u> CLASS <u>5</u>		BASE FACTOR		LUMP SUM ADJ. FACTORS + OR -
GROUND FLOOR AREA <u>32000</u> <input checked="" type="checkbox"/> STORIES <u>1</u> GROSS FLOOR AREA <input checked="" type="checkbox"/>		<u>15.53</u> /SQ FT.		
UNITS	AVE. SIZE	<input checked="" type="checkbox"/> UNITS IN COMPLEX	UNIT	
FACTOR BOOK <u>1985</u>		BASE ADJ. FACTORS		
FOUNDATION	<u>CONC</u> BLK BRICK <u>REINF</u>			
FRAME	BEARING WALL <u>PILASTERS</u> COL & BEAMS: WD CONC STL			
EXTERIOR WALL	HGT <u>24'</u> WD FR: SGL DBL COVER: CONC: <u>FOURED TILT-UP</u> BLK BRICK: SOLID VEN OTHER: STUCCO MTL & GLASS MTL FR: BEAM & GIRDER TRUSS COVER			
ROOF	CONST: WD FR CONC <u>STL TRUSS</u> TYPE: FLAT SHED GAB COVER: <u>BUILT-UP</u> COMPO SHGL SHAKE MTL			
FLOOR	WD FR: SGL DBL CONC: <u>GRADE</u> ELEV. REINF. COVER: <u>NONE</u> LINO H. WD CARPET VINYL TILE			
PARTITIONS	CONST: WD FR MTL MASONRY COVER: DRYWALL PLAS PANEL CEILING: DRYWALL PLAS ACCOU. TILE SUS. SYSTEM <p style="text-align: center;"><u>None</u></p>			
INTERIOR COMPONENTS	APPLIANCES: RANGE DISHWASHER HOOD/FAN GD INTER.COM BUILT-INS: FR H.WD ELEVATOR ESCALATOR <u>FIRE SPRK</u>		<u>1.04</u>	
ELECTRICAL	<u>FLUO</u> IRCAN. SPEC. FEW <u>AVE</u> MANY			
PLUMBING	<u>TOIL</u> <u>LAV</u> <u>URINAL</u> TUB SHWR KIT SINK SERV SINK DR FOUN <u>HTR</u> <u>160</u> <u>170</u> <u>420</u> <u>325</u>			<u>1075</u>
HEATING-COOLING	HEAT: FA ELEC <u>SUBP</u> Gas HT WTR COOL: COMB. SYS UNIT COOLERS		<u>.55</u>	
BASEMENT	<u>NONE</u> FULL X WALLS: CONC FLR: CONC UNFIN: FIN: WALLS FLOOR CEIL USE: HEAT/COOL:			
UPPER STORIES	<u>NONE</u> FLOOR: WD FR CONC COVER: PARTITIONS: WD FR MTL COVER: USE: HEAT/COOL:			
EXT. COMP.	CANOPY DOCK			
MISC. ADDITIONS	<u>Office - Average Interior</u>			<u>13500</u>
	<u>900 @ 15.00</u>			
MISC. ADDITIONS	<u>4 Additional Overhead Doors - 14' x 14'</u>			<u>8000</u>
	<u>4 @ 2000</u>			
BUILT <u>1980</u>	COST \$	SUMMARY OF BUILDING COMPUTATIONS	SUB-TOTALS	<u>22575</u>
REMOD. <u>19</u>	COST \$		TOTALS	<u>22575</u>
EFFECTIVE AGE <u>10 years</u>		BLDG. AREA <u>32000</u> SQ FT UNITS X <u>17.13</u> = <u>547840</u>		
REMARKS:		TOTAL BASE COST \$ <u>570415</u>		
		19 <u>92</u> LCM <u>115</u> % X QUAL <u>100</u> % = <u>115</u> % MODIFIER		
		REPLACEMENT COST NEW \$ <u>655975</u>		
		DEPRECIATION <u>85</u> % PRY <u>100</u> % ORSOL <u>85</u> % GOOD		
		DEPRECIATED REPLACEMENT COST \$ <u>557580</u>		
APPRAISER: <u>ABC</u>	DATE: <u>7-1-93</u>	(TRANSFER TO SUMMARY)		

After completing the improvement card, the value of the land and OSD are added to the value of the improvements to complete the calculation of value.

Value indicated by the market-related cost approach:

Imps = \$ 593,230

Land = \$ 209,460

OSD = \$ 22,250

Total = \$ 824,940

Compute the Income Approach to Value

In the income approach, the value of a property is a measure of its ability to provide a return on (discount), and a return of (recapture) the investment to the property owner. Through capitalization, the net income is used to determine the value of the property being appraised.

Using the income and expense study prepared for the area, examine and adjust the property's income and expense statement. It should reflect economic rent and typical expenses for the type of property being appraised.

After analyzing the income, select a method and technique of capitalization. (See the Income Approach section of Chapter 6 for a discussion of methods and techniques of capitalization.)

The net income after all allowable expenses is then capitalized using a rate that includes a component for discount, recapture, and effective taxes.

The following example illustrates the use of the income approach to value. In the course of making calculations, any rounding should reflect the same level of precision as the appraiser finds in the market.

Property Data:

The property to appraise is a 32,000 square foot concrete tilt-up warehouse that includes a 900 square foot office. Actual monthly rent is \$.25 per square foot for the warehouse space and \$1 per square foot for the office space. Landlord expenses are limited to management, insurance, maintenance, and taxes. Economic rent indicates that average quality warehouse space is currently renting for \$.30 per square foot. Comparable office space is currently \$1 per square foot.

Estimate of Potential Gross Income:

From the investigation and analysis of the economic rent data and base standards, it has been determined that the warehouse should rent for \$.30 per square foot, and the office space for \$1 per square foot. The potential gross income is computed as follows:

Warehouse area	31,100 sq. ft. × \$.30 per mo. × 12 mos.	=	\$111,960
Office space	900 sq. ft. × \$1 per mo. × 12 mos.	=	<u>\$10,800</u>
Total			\$122,760

Vacancy and Collection Loss:

Based on the current level of occupancy reflected by the economic rent study, and assuming typical management and promotion, a reasonable allowance for vacancy and collection basis is 10 percent.

Effective Gross Income (EGI)

Potential Gross	\$ 122,760
Less 10%	<u>– 12,276</u>
EGI	\$ 110,484

Expenses:

Estimates of the expenses necessary for the operation of the warehouse, based on the comparison of the actual expenses incurred by the owner with the expense study and benchmarks, are:

Management: 5 percent of EGI ($\$110,480 \times .05$)	\$ 5,520
Insurance: According to the owner income and expense statement, the owner is currently paying \$5,550 for a 3-year fire and liability policy. ($\$5,550 \div 3 = \$1,850$)	\$1,850
Repairs and maintenance: Based on a long-term average estimated at \$.02 per sq. ft. ($32,000 \text{ sq. ft.} \times .02$)	\$ 640

Reserves for replacement:

Roofing: Built-up 15 year life ($32,000 \text{ sq. ft.} \times \$1.15 \text{ sq. ft.} \times 1.15 \text{ LCM} \div 15 \text{ yrs.}$)	\$2,820
Heating: 20 year life ($32,000 \text{ sq. ft.} \times \$5.50 \text{ sq. ft.} \times 1.15 \text{ LCM} \div 20 \text{ yrs.}$)	\$1,010
Hot water heater: 10 year life ($\$325 \times 1.15 \text{ LCM} \div 10 \text{ yrs.}$)	\$40

Capitalization Rate and Method:

A study of warehouse sales in the appraisal area, on which income and expense information was verified, indicates an overall rate excluding taxes in the range of .083 to .149. The average indication for the typical warehouse of the same effective age as the subject is .092. Typical expense ratios indicating 10–15 percent of effective gross income was normal. The land value portion was typically 25 percent of the total property value.

In comparing the subject property against the base standard, the subject is typical. Therefore, the .092 rate was selected. This rate is a composite rate that includes discount and recapture and was developed from sales using taxes as an expense. Since the property taxes have not been included as a projected expense for the subject, the effective tax rate will be added to the capitalization rate.

Value Estimate by the Income Approach:

Potential gross income

Warehouse area 31,100 sq. ft. × \$.30 × 12 =	\$111,960
Office space 900 sq. ft. × \$1.00 × 12 =	<u>10,800</u>
	\$122,760
Less vacancy and collection loss 10%	<u>– 12,280</u>
Effective gross income	\$110,480
Less operating expenses:	
Management	\$5,520
Insurance	1,850
Repairs and maintenance	640
Reserves:	
Roof	2,820
Heat	1,010
Water heater	40
	<u>– 11,880</u> (11% rounded)
Net income before discount, recapture, and taxes	<u>\$ 98,600</u>
Overall capitalization rate	
Composite discount and recapture rate	.0920
Effective tax rate	<u>.0300</u>
Overall rate	.1220
Value indicated by income approach ($\$98,600 \div .1220$)	\$ 808,200 (rounded)
Less land	<u>– 196,020</u>
Indicated improvement value	\$612,180

Compute the Market Approach to Value

The base standards developed for the market approach indicate a wide range of sale prices per square foot, including land and buildings. Prices range from a low of \$14.70 per square foot to a high of \$34.95 per square foot. The recent sales of average concrete tilt-up warehouses indicate a narrower range of \$23 to \$27 per square foot. Considering all variables, \$25 per square foot is selected as a reasonable unit of comparison including both land and buildings.

Value indicated by the market approach:

$$32,000 \text{ sq. ft.} \times \$25 = \$800,000$$

Reconciliation of the Three Approaches

Reconciliation is the final step in estimating value. It is the process of relating the data gathered, developing the three standard approaches to value, analyzing and weighing the strengths and weaknesses of each approach, and determining which approach is best supported.

Ultimately, the most relied on approach will be the most defensible and best supported approach. The other two approaches provide additional support.

Any of the approaches may be the best indicator of value. The type of property being appraised and the strength of the data usually determines the best approach. Each approach will probably produce a somewhat different estimate of value. Your choice of the best indicator should be supported in the reconciliation.

If the three approaches indicate large variations in value estimates, you should reexamine the appraisal. Example of the reconciliation process for an income-producing property:

The three indications of value:

Market-related cost approach	\$824,940
Income approach	\$808,200
Market approach	\$800,000

In this example, the three approaches indicate values within 3 percent of each other. It is still necessary to select one of the values as the best indicator.

Since the subject is an income-producing property and there is current market rental demand for warehouse space, the value indicated by the income approach provides the best estimate of market value. Good data from confirmed sales of comparable properties and the historic income and expenses of the subject further support the conclusion of this approach.

After consideration of all available data relevant to this appraisal, the conclusion of value for this property is \$808,000.

Conduct Supervisory Review

As the appraisers complete their work, the supervising appraiser reviews a sampling of each appraiser's work product. The review appraiser uses the base standards to ensure that uniformity and equity is being achieved between comparable types of properties and between appraisers.

At the completion of the reappraisal program, the data analyst conducts a final sales ratio study. If the study indicates a change in value level since the base appraisal date, adjustments are applied to the completed appraisals to reflect the value as of the January 1 assessment date.

Summary

The most effective approach to the valuation of income-producing properties uses all three approaches to value. Since income property is generally purchased for its ability to provide both a return on (discount) and a return of (recapture) the investment to the buyer, you will generally place more weight on the income approach, assuming enough supportable data is available.

By applying sound judgment to all available data, you can develop base standards that can be used to estimate supportable value conclusions.