

Appraisal Methodology

In estimating the market value of the subject properties, the three usual approaches to value were considered, i.e., the cost approach, the income capitalization approach, and the sales comparison approach. A brief explanation of each approach, as taken from *The Dictionary of Real Estate Appraisal, Fifth Edition*, follows.

Sales Comparison Approach: *The process of deriving a value indication for the subject property by comparing market information for similar properties with the property being appraised, identifying appropriate units of comparison, and making qualitative comparisons with or quantitative adjustments to the sales prices (or unit prices, as appropriate) of the comparable properties based on relevant, market-derived elements of comparison.*

Cost Approach: *A set of procedures through which a value indication is derived for the fee simple interest in a property by estimating the current cost to construct a reproduction of (or replacement for) the existing structure; including an entrepreneurial incentive, deducting depreciation from the total cost, and adding the estimated land value. Adjustments may then be made to the indicated fee simple value of the subject property to reflect the value of the property interest being appraised.*

Income Capitalization Approach: *A set of procedures through which an appraiser derives a value indication for an income-producing property by converting its anticipated benefits (cash flows and reversion) into property value. This conversion can be accomplished in two ways. One year's income expectancy can be capitalized at a market-derived capitalization rate or at a capitalization rate that reflects a specified income pattern, return on investment, and change in the value of the investment. Alternatively, the annual cash flows for the holding period and the reversion can be discounted at a specified yield rate.*

The cost approach was developed for all residential improved properties and all commercial properties in Stamford. The sales comparison and land extraction methodologies were utilized to arrive at land values for the cost approach, and to value improved residential and commercial properties. In cases where comparable sales data within Stamford was lacking, sales of properties in comparable municipalities in Connecticut were studied. The income approach was applied to all income-producing commercial properties. The final value conclusions can be found in the Vision CAMA system in the Stamford Assessor's Office, and are presented in the October 1, 2022 Stamford Grand List.



Cost Approach

In the application of the cost approach, the value of the subject site as if vacant and available for its highest and best use is first estimated. Second, the cost to construct a replacement for the existing structure and site improvements is estimated, including all direct and indirect costs. All accrued depreciation is then deducted from reproduction or replacement cost new, and the value of the site is added in order to estimate the fee simple market value of the property.

Estimate of Site Value

The determination of the value of the land as if vacant and available for its highest and best use is an essential first step in estimating the market value of a property via the cost approach. Several factors can be considered in the valuation of land in Stamford:

- ❖ The respective neighborhood of the property. Neighborhoods can be defined in terms of:
 - Uniformity of economic amenities
 - Typical land use
 - Zoning
 - Physical boundaries (natural or manmade)
 - Prevailing property characteristics, such as age, quality, and condition
- ❖ Highest and best use of the land
- ❖ Usability of the land in terms of:
 - Topography
 - Wetlands
 - Surplus land

Land values were established, primarily, through the sales comparison approach. If there was an absence of vacant land sales in a particular neighborhood or zone in Stamford, land values were also arrived at through a technique known as extraction.

Extraction is defined by *The Dictionary of Real Estate Appraisal, Fifth Edition* as follows:

Extraction - A method of estimating land value in which the depreciated cost of the improvements on the improved property is estimated and deducted from the total sale price to arrive at an estimated sale price for the land.

Land values were extracted from improved sales for both residential and commercial property. The resultant land values via sales and extraction served as the basis for establishing land tables in the development of the cost approach to value.

Replacement Cost Estimate

The replacement costs of improvements on a property were developed by studying actual historic construction costs over time in Stamford, and by reviewing the standards and estimates of Marshall & Swift Valuation Service. National costs are adjusted to the Stamford market via a local cost multiplier, including a market incentive for developer's profit.

Note that construction cost estimates are broken down by typical groups of occupancy and quality ratings. Adjustments are made to reflect differences in the major components that are considered to have the most significant impact on value. All other components of the building are considered to be equal to the general quality of the building. Refinements to the average costs for type of heating, sprinklers, area/perimeter ratio, and story height are considered.

The cost approach was developed for all residential and commercial properties in Stamford. The cost approach provides the most reliable indication of market value for special-purpose properties and small commercial buildings. This approach was utilized as the basis for separating out the land and building components of each property. Income-producing properties valued via the income approach were correlated to the cost approach as a final test for the reasonableness of the final value conclusion.

Depreciation Tables

The depreciation tables allow for graduated depreciation, accurately reflecting market conditions for both age and maintenance. Depreciation is a function of the actual age of the improvement, effective age considering renovations since initial construction, and its economic life. The building cost tables and depreciation tables can be found in the Vision CAMA system and Addenda of this report.



Sales Comparison Approach

The sales comparison approach involves a study of recent transfers of similar properties. This approach is based on the principle of substitution, which states that no commodity has a value greater than a similar commodity offering similar uses, utility, and function that can be purchased within a reasonable time frame. Comparable sales can be analyzed in terms of their units of comparison and elements of comparison.

Units of Comparison

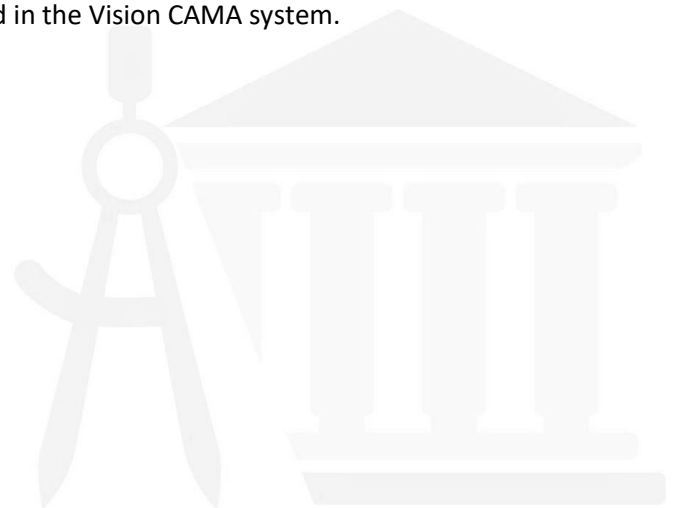
Using a common unit of comparison allows the application of adjustments to comparable sales while controlling for scale or other factors. For example, the predominant unit of comparison for land is sale price per acre or per square foot of land, adjusted on a curve. For commercial properties, the predominant unit of comparison is sale price per square foot of gross building area.

Elements of Comparison

There are 10 major comparison categories considered in the sales comparison approach. These include the following:

- Property rights conveyed
- Financing
- Conditions of Sale
- Expenditures Made Immediately After Purchase
- Market Conditions
- Location
- Physical Characteristics
- Economic Characteristics
- Use/Zoning
- Non-realty Components

The sales comparison and land extraction methodologies were utilized to arrive at land values for the cost approach, and to arrive at values for improved residential and commercial properties. In cases where comparable sales data within Stamford was lacking, sales of properties in comparable municipalities in Connecticut were studied. Stamford property sales are recorded in the Vision CAMA system.



Income Capitalization Approach

The income capitalization approach is reflective of the valuation process a typical buyer utilizes when contemplating the purchase of an income-generating property. The income approach was developed for income-generating commercial properties in Stamford.

The first step in the income capitalization approach is to estimate the net operating income applicable to the subject property. Potential gross income, less an allowance for vacancy and credit loss, less operating expenses, gives an indication of the net operating income. Second, an appropriate capitalization technique is applied to convert net operating income to a present value indication for the property.

In the Stamford revaluation, market value was estimated utilizing direct capitalization. *The Dictionary of Real Estate Appraisal, Fifth Edition*, defines this method of valuation as follows:

A method used to convert an estimate of a single year's income expectancy into an indication of value in one direct step, either by dividing the income estimate by an appropriate capitalization rate or by multiplying the income estimate by an appropriate factor. Direct capitalization employs capitalization rates and multipliers extracted from market data. Only a single year's income is used. Yield and value changes are implied, but not identified.

The formula for estimating value via direct capitalization is **Value = Income ÷ Overall Capitalization Rate**. Market value was estimated via direct capitalization through the application of an overall capitalization rate. *The Dictionary of Real Estate Appraisal, Fifth Edition*, defines an overall capitalization rate as follows:

Overall Capitalization Rate (Ro) - An income rate for a total real property interest that reflects the relationship between a single year's net operating income expectancy and the total property price or value ($Ro = Io / Vo$).



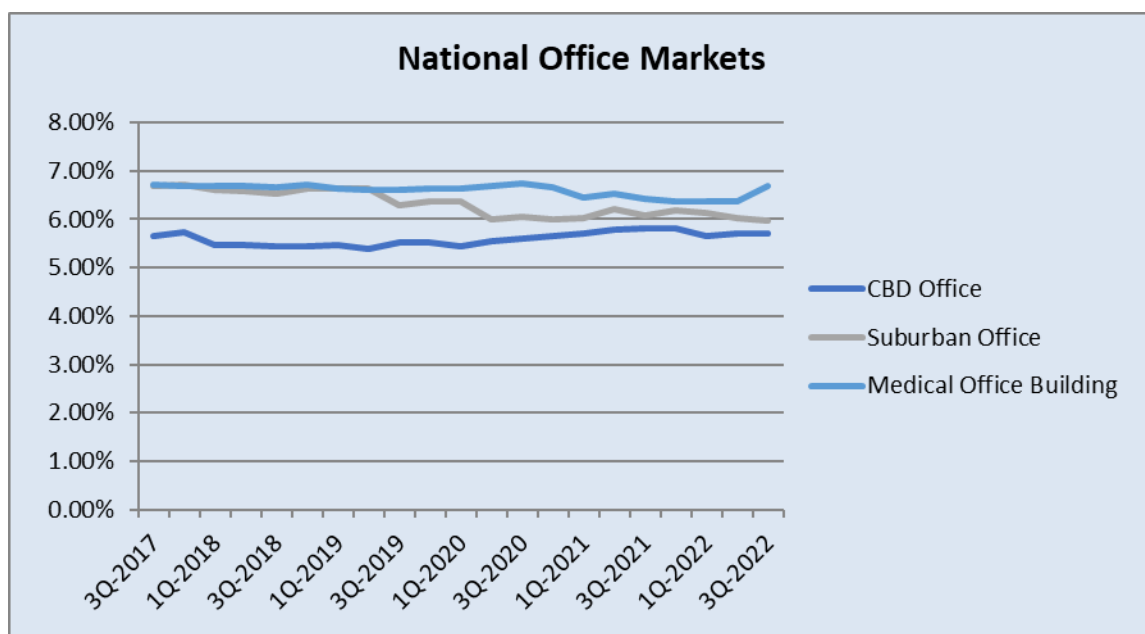
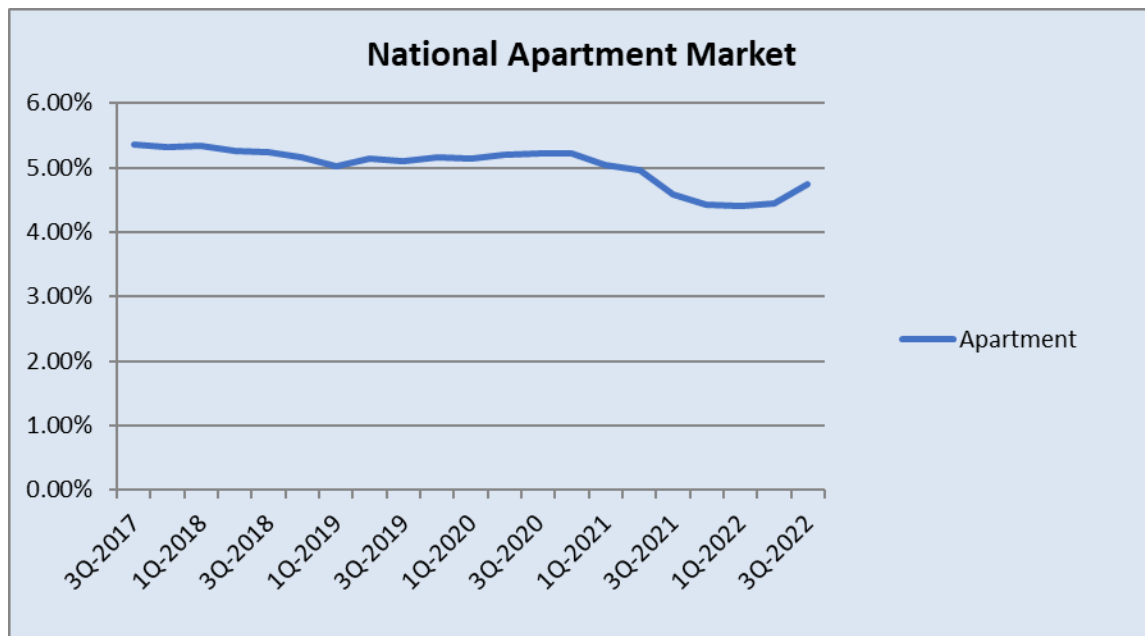
The steps utilized in developing the income approach are outlined as follows:

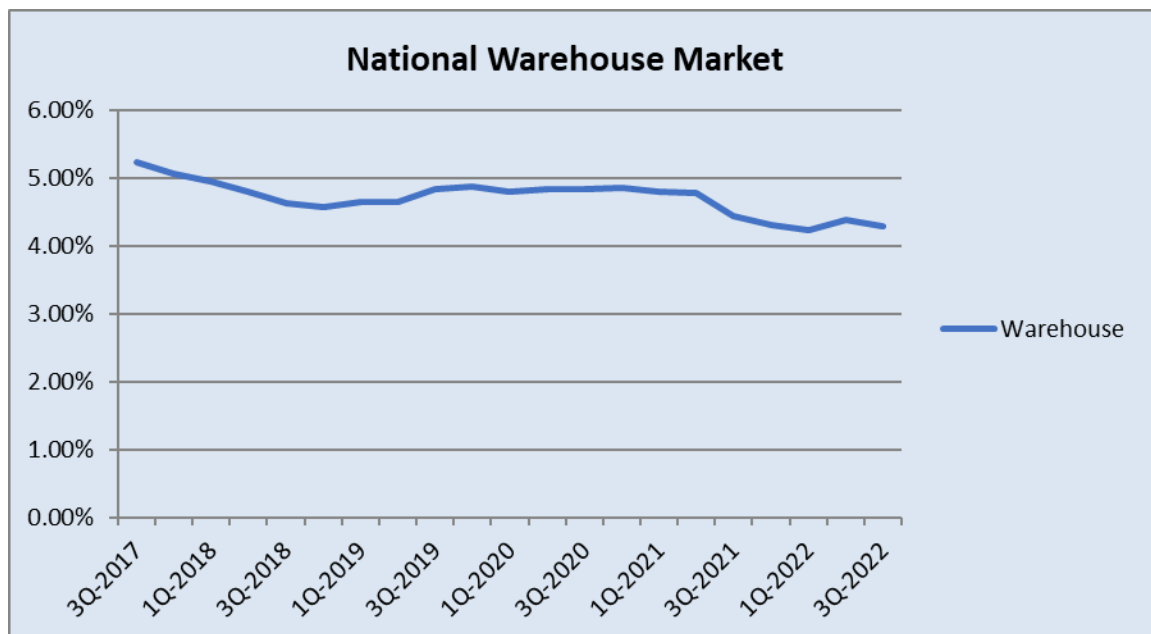
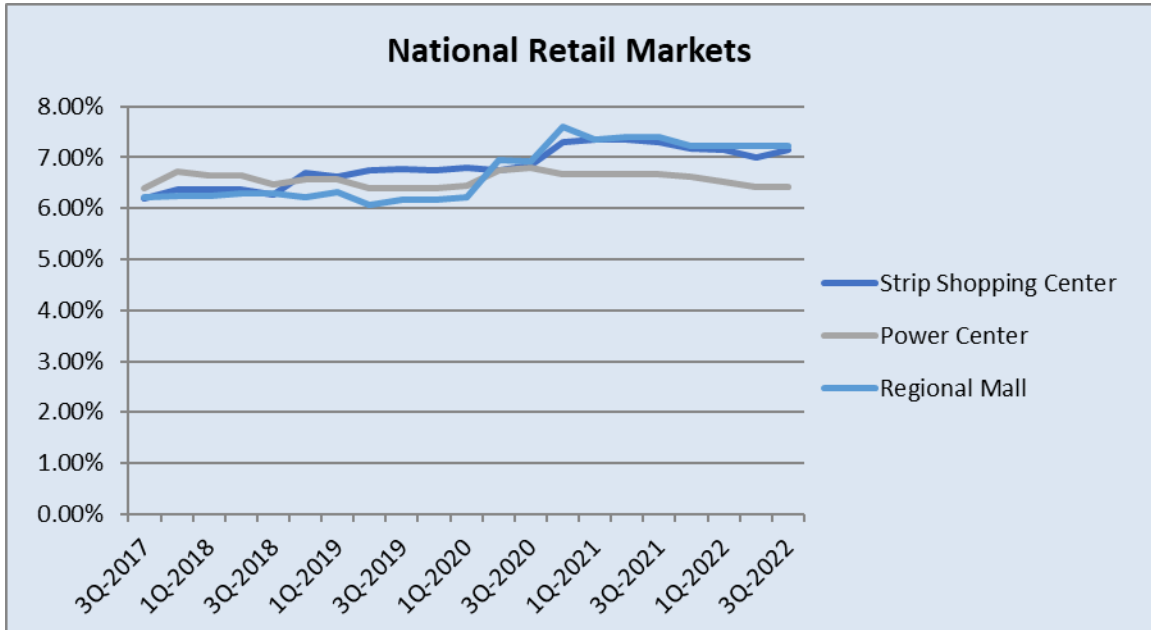
1. Income and Expense forms were mailed to commercial property owners.
2. Completed Income and Expense forms returned to the Stamford Assessor's office were analyzed in order to arrive at market income and expense tables applicable to the commercial properties in the city.
3. The exterior of many commercial properties in Stamford were inspected by an appraiser. Consideration was given to value-influencing variables such as overall grade, condition, effective year built, occupancy, property class, externalities, and topography.
4. The income and expense tables were inputted into the Vision CAMA system (including market rent, vacancy, expense ratio and overall capitalization rate) and assigned to each individual income-producing commercial property. Consideration was given to the actual income and expenses reported by the property owner (if applicable).
5. The resultant values via the income approach were verified for accuracy by:
 - a. comparison to comparable sales in the market;
 - b. correlation to the value conclusion via the cost approach;
 - c. statistical analyses reported by the Vision CAMA system;
 - d. final field review.



Overall Capitalization Rate Analysis

In estimating the Overall Capitalization Rate applicable to the income-producing properties, comparable sales in Stamford were analyzed, together with national survey data compiled by PricewaterhouseCoopers *Korpacz Real Estate Investor Survey*. PricewaterhouseCoopers surveys market participants and publishes a quarterly report containing capitalization rates for all major property types nationwide. The following graphs represent the change in key commercial sectors for the overall capitalization rate since the last revaluation.





Overall Capitalization Rate Summary

The surveyed overall capitalization rates are summarized in the table below.

National Market	Average Capitalization Rate		
	3rd Qtr 2017	3rd Qtr 2022	Change
Apartment	5.35%	4.75%	-60
CBD Office	5.66%	5.70%	4
Suburban Office	6.69%	5.97%	-72
Secondary Office	7.37%	7.46%	9
Medical Office Building	6.71%	6.69%	-2
Strip Shopping Center	6.19%	7.14%	95
Power Center	6.40%	6.43%	3
Regional Mall	6.23%	7.23%	100
Net Lease	6.71%	6.13%	-58
Warehouse	5.22%	4.29%	-93

