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Introduction and Rate Tables

Tax Administration

OFFICE OF TAX ADMINISTRATION

2016 GENERAL REAPPRAISAL

UNIFORM SCHEDULES OF VALUES, STANDARDS, AND RULES

VOLUME 01

INTRODUCTION AND RATE TABLES

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OVERVIEW - GENERAL REAPPRAISAL/REVALUATION

What is Revaluation?

North Carolina's 100 counties use a process of general reappraisal based on an octennial plan, meaning every eighth year. This octennial plan, adopted circa 1970 by legislative action, was based on creation of (8) divisions of the 100 counties.

Division (1) counties completed their initial general reappraisal January 1, 1972, Division (2) counties January 1, 1973 etc. Division (6), which includes Durham County, completed their initial general reappraisals, also known as "revaluation," on January 1, 1977.

The octennial plan also provided for: "...Advancing Scheduled Octennial Reappraisal – Any county desiring to conduct a reappraisal of real property earlier than required may do so upon adoption by the Board of County Commissioners of a resolution so providing..."

General Reappraisal/Revaluation information...

- Authority to conduct the reappraisal Legislature of North Carolina
- Administration of the reappraisal – County Assessor
- Scope of the reappraisal – All Real Estate (Real Property) within county's territorial limits
- Appraisal Standard – 100% Market Value as of the effective date of the reappraisal (January 1 of the reappraisal year)

Durham County's next general reappraisal becomes effective January 1, 2016.

The Appraisal Process

Durham County's next revaluation becomes effective on January 1, 2016. This means that, for property tax purposes, 1) all real property will be appraised as of January 1, 2016; and 2) all real property will be appraised at 100% of its market value on that date.

If no physical change occurs to the property after the reappraisal date, the market value established for January 1, 2016 will generally remain constant until the county's next revaluation. Moreover, should a physical change occur, the adjusted appraisal reflects market conditions, as they existed on January 1, 2008. This criterion also applies when new structures and/or land are added each year to county's real estate roll. In other words, any legally permitted value changes that occur between reappraisals are always valued as if they had occurred in time for the January 1, 2016 reappraisal date.

In summary...

- A revaluation's effective date is always January 1
- Counties with a revaluation date of January 1, 2016 carry forward their appraised values and valuation procedures each succeeding January 1 until the next revaluation (general reappraisal)
- There are a few exceptions to carrying the same value forward year after year, such as physical changes to the property or changes in how the property is zoned.
- When the county conducts its next revaluation, all real estate is reappraised at 100% market value, with the effective date of the appraisal being January 1 of the revaluation year.

Why Appraise Property?

Tax appraisals in North Carolina counties reflect market conditions as they exist on January 1 of the revaluation year. While the appraisal process and procedure is "frozen" as of that date, the continued activity of the real estate market over time creates inequity.

In almost all cases, the value of individual properties fluctuates. These fluctuations may cause groups of properties to be under or over appraised, as compared to their current market values.

The goal and intent of a general reappraisal is to value all property at its current market value in an equitable and uniform way. "Fair Share Taxation" is based on the concept that if all property is appraised at its current market value then each property pays only its fair share of the tax burden—no more, and no less.

How is Revaluation Done?

Durham County Office of Tax Administration has and continues to implement business practices and systems to better serve property owners and increase general reappraisal/revaluation efficiency.

- Geographic Information System (GIS)
- X-Y Coordinate Parcel Identification Number (PIN)
- Cadastre (methodically arranged property inventory)
- Enhanced Computer Assisted Mass Appraisal System (CAMA)
- Digital Photographs of all primary structures (Images)
- Integration of GIS, PIN, Cadastre, CAMA, and Digital Images

Using these tools, the market value of each property is determined by comparing…

- Sales of comparable property in the same local area
- Cost to replace structures and improvements
- Potential income that a property may command
- Any other factors that affect market value

Computer-generated data models consider…

- Location
- Property type
- Improvement age, size, quality, state-of-repair, style of construction, obsolescence, and replacement cost

Appraisal Accuracy

At the conclusion of the valuation phase of the General Reappraisal/Revaluation project, each property owner will receive a "Notification of Change of Value" indicating revaluation results.

This new value will take effect on January 1, 2016 and represents an estimate of market value for the property as of the effective date of appraisal (January 1, 2016).

County appraisers use appraisal methods that are very similar to those used by other real estate professionals. As a result, we would generally expect appraised values to be consistent with other indicators of market value, such as purchase price or an independent appraisal. When comparing the tax appraisal to other indicators of value, however, it is very important to ensure that the values being compared are all representative of typical market value for the particular property as of January 1, 2016.

Our value opinions are the result of analyzing the Durham County real estate market to develop estimates of value for many different property types and locations. We then analyze our value opinions by testing them against actual property sales for accuracy and consistency. All of our work is conducted in a manner consistent with industry-wide mass appraisal guidelines.

While we are very confident in the quality of the 2016 reappraisal as a whole, we recognize that each property is unique, and a mass approach to appraisal may not produce an accurate value estimate for a property that is not typical for the market. The appeals process serves to help us gather more information about the unique characteristics of unusual properties, and to refine values accordingly.

Appeals

All property owners have the right to appeal the assessed value of their property. If a property owner believes that the 2016 appraised value of their property is not **a reasonable estimate of what it could have sold for on January 1, 2016**, an appeal should be considered.

There are often issues other than tax value that concern property owners, such as:

- The value changed too much from the last reappraisal
- The taxes on this value will not be affordable
- The county/city doesn't provide enough services for the tax dollars paid
- The taxes are just too high
- The national news says market values are down

While these are all understandable concerns, the only issue the tax office can address is the appraised value in the local real estate market. **Remember that the big question here is, "What was the market value of**

the property on January 1, 2016?"

There are two common situations in which an appeal should be considered:

(1) The property owner believes that the Assessor's appraised value is substantially higher than what the property could have reasonably sold for on January 1, 2016.

N.C.G.S. 105-283 requires all taxable property to be appraised at its "true value," which is defined as:

"[T]he price estimated in terms of money at which the property would change hands between a willing and financially able buyer and a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of all the uses to which the property is adapted and for which it is capable of being used."

Note that this definition of value is not necessarily the same as the property's construction cost, its insured value, its liquidation value, or its purchase price. Rather, the "true value" is the value which is typical for the particular type of property, when compared to similar properties that sold in transactions that meet the statutory requirements.

Information that is helpful in presenting this type of appeal include*:

- An independent professional fee simple appraisal developed for the property
- A market analysis prepared by a real estate brokerage
- A market analysis created by the property owner
- Sales contracts or listing information for the property

*Any information developed for the appeal must be consistent with the statutory definition of "true value," and must also be relevant to the January 1, 2016 appraisal date.

(2) The property owner believes that the Assessor has inaccurate or incomplete information concerning the property's physical characteristics

Typically in this situation, a property owner reviews (through the county web site) the information that the county has on file for their property and notices a discrepancy. For example, the square footage of the house or the number of bathrooms listed may be more or less than the property owner's information indicates. In cases like these, an appeal will often result in a field visit by a staff appraiser to verify the data and help reconcile any difference between the records of the county and the property owner. Many times, the correction of any data discrepancies will resolve valuation concerns.

Less frequently, the property has a unique issue, unknown to the county that could affect its market value. For example, if a vacant residential lot will not support a conventional septic system (that is, it fails to "perc"), the lot is typically worth less in the market because it can't be used for building a residence without unusual expense. Another example could be foundation or other structural failure that is substantial enough to affect the property's market value. In these situations, the county will require documentation from the property owner concerning the nature of the problem, and if the problem requires repair, an estimate of the cost to repair it from two or more licensed contractors.

Repairs needed for roofing, siding, windows, plumbing, electrical, mechanical, and other such systems that require normal maintenance and occasional replacement are not considered for individual adjustments.

How to Appeal

The "Notice of Change of Value" is expected to be mailed to all Durham County property owners in late 2015. The Notice will include both the January 1, 2016 taxable value of the property, along with instructions for filing an appeal. It is critical that all appropriate documentation be included with the appeal. Simply writing that the value is "too high" does not provide sufficient information, and will result in a finding of "No Change".

All 2016 real property appeals will be managed using Durham County's online appeals system, available through the county web site. This system allows the county to communicate directly with property owners by email; it provides a way for property owners to upload documents to share with county staff; and preserves a record of all communications made through the system. Each appeal is handled in confidence by the system, so that no one other than County representatives will be able to access a property owner's appeal. Most importantly, the system helps to ensure that no appeal gets misplaced or "falls through the cracks."

There are three primary methods for filing a real property appeal:

(1) Sign into the online appeal system, providing contact information and the basic appeal information; or
(2) Complete the "Appeal Request" portion of the Notice of Change of Value and return it to the tax office by mail, email, or in person; or
(3) If a property owner is unsure about whether they want to appeal, they are invited to make a pre-appeal appointment to speak with one of the staff about their options. Pre-appeal appointments will be available for a limited time following the mailing of the Notice of Change of Value.

All appeals must be presented either in writing or directly through the online system. However a property owner submits an appeal, the appeal will be entered into the online system and managed through the system.

All appeals must be submitted prior to the advertised adjournment date of the Board of Equalization and Review. This date will be determined by the Board in the spring of 2016 and will be advertised in the newspaper, in addition to being posted on the county web site.

After the Appeal is Submitted

Appeals are evaluated based on documentation and other information submitted.

County appraisal staff may make additional contact with the property owner if they have questions or require other documentation.

In some situations, a field visit by county staff may be necessary.

After review of the appeal, county appraisal staff will make any appropriate changes to the county's records, along with any resulting changes in the appraised value.

There are three possible outcomes to the review:

(1) The property value is lowered;
(2) The property value is raised; or
(3) There is no change to the value

County appraisal staff will notify the property owner of the results of their review, along with information on further appeal options.

If they are not satisfied with the results of the county review of their appeal, property owners will have the opportunity to present their appeal at a hearing before the Board of Equalization and Review.

Appraisal Versus Taxation.

The Assessor, by law, determines market value. This applies both to the general reappraisal and to physical changes made to property in non-revaluation years. Tax rates and subsequent tax bills are not considered in the valuation process, because these elements of the overall tax process are not relevant to the market value of a property.

The Board of County Commissioners, by law, determines county tax rates. The tax rate applicable to valuations established on January 1, 2016 will not be set until the Board of Commissioners determines the fiscal 2016-2017 budget. For those who also reside within city/town limits, contact the appropriate municipality. Budget adoption procedure (and tax rates determination) concludes in late June, and becomes effective on July 1, 2016, resulting tax bills coming due on September 1, 2016.

The 2015 tax rates are not a reliable indicator of 2016 tax bills, since the 2016 tax rates could be substantially different from those adopted for 2015.

STATUTORY REQUIREMENTS

§ 105-286. Time for general reappraisal of real property.

a) Octennial Cycle. - Each county must reappraise all real property in accordance with the provisions of G.S. 105-283 and G.S. 105-317 as of January 1 of the year set out in the following schedule and every eighth year thereafter, unless the county is required to advance the date under subdivision (2) of this section or chooses to advance the date under subdivision (3) of this section.

(1) Schedule of Initial Reappraisals.

…

Division Six - 1977: Alamance, Durham, Edgecombe, Gates, Martin, Mitchell, Nash, Polk, Randolph, Stanly, Warren, and Wilkes.

…

(2) Mandatory Advancement. - A county whose population is 75,000 or greater according to the most recent annual population estimates certified to the Secretary by the State Budget Officer must conduct a reappraisal of real property when the county's sales assessment ratio determined under G.S. 105-289(h) is less than .85 or greater than 1.15, as indicated on the notice the county receives under G.S. 105-284. A reappraisal required under this subdivision must become effective no later than January 1 of the earlier of the following years:

a. The third year following the year the county received the notice.

b. The eighth year following the year of the county's last reappraisal.

(3) Optional Advancement. - A county may conduct a reappraisal of real property earlier than required by subdivision (1) or (2) of this subsection if the board of county commissioners adopts a resolution providing for advancement of the reappraisal. The resolution must designate the effective date of the advanced reappraisal and may designate a new reappraisal cycle that is more frequent than the octennial cycle set in subdivision (1) of this subsection. The board of county commissioners must promptly forward a copy of the resolution adopted under this subdivision to the Department of Revenue. A more frequent reappraisal cycle designated in a resolution adopted under this subdivision continues in effect after a mandatory reappraisal required under subdivision (2) of this subsection unless the board of county commissioners adopts another resolution that designates a different date for the county's next reappraisal.

§ 105-317. Appraisal of real property; adoption of schedules, standards, and rules.

(a) Whenever any real property is appraised it shall be the duty of the persons making appraisals:

(1) In determining the true value of land, to consider as to each tract, parcel, or lot separately listed at least its advantages and disadvantages as to location; zoning; quality of soil; waterpower; water privileges; dedication as a nature preserve; conservation or preservation agreements; mineral, quarry, or other valuable deposits; fertility; adaptability for agricultural, timber-producing, commercial, industrial, or other uses; past income; probable future income; and any other factors that may affect its value except growing crops of a seasonal or annual nature.

(2) In determining the true value of a building or other improvement, to consider at least its location; type of construction; age; replacement cost; cost; adaptability for residence, commercial, industrial, or other uses; past income; probable future income; and any other factors that may affect its value.

(3) To appraise partially completed buildings in accordance with the degree of completion on January 1.

(b) In preparation for each revaluation of real property required by G.S. 105-286, it shall be the duty of the assessor to see that:

(1) Uniform schedules of values, standards, and rules to be used in appraising real property at its true value and at its present-use value are prepared and are sufficiently detailed to enable those making appraisals to adhere to them in appraising real property.

(2) Repealed by Session Laws 1981, c. 678, s. 1.

(3) A separate property record be prepared for each tract, parcel, lot, or group of contiguous lots, which record shall show the information required for compliance with the provisions of G.S. 105-309 insofar as they deal with real property, as well as that required by this section. (The purpose of this subdivision is to require that individual property records be maintained in sufficient detail to enable property owners to ascertain the method, rules, and standards of value by which property is appraised.)

§ 105-317. Appraisal of real property; adoption of schedules, standards, and rules. (Continued)

(4) The property characteristics considered in appraising each lot, parcel, tract, building, structure and improvement, in accordance with the schedules of values, standards, and rules, be accurately recorded on the appropriate property record.

(5) Upon the request of the owner, the board of equalization and review, or the board of county commissioners, any particular lot, parcel, tract, building, structure or improvement be actually visited and observed to verify the accuracy of property characteristics on record for that property.

(6) Each lot, parcel, tract, building, structure and improvement be separately appraised by a competent appraiser, either one appointed under the provisions of G.S. 105-296 or one employed under the provisions of G.S. 105-299.

(7) Notice is given in writing to the owner that he is entitled to have an actual visitation and observation of his property to verify the accuracy of property characteristics on record for that property.

(c) The values, standards, and rules required by subdivision (b)(1) shall be reviewed and approved by the board of county commissioners before January 1 of the year they are applied. The board of county commissioners may approve the schedules of values, standards, and rules to be used in appraising real property at its true value and at its present-use value either separately or simultaneously. Notice of the receipt and adoption by the board of county commissioners of either or both the true value and present-use value schedules, standards, and rules, and notice of a property owner's right to comment on and contest the schedules, standards, and rules shall be given as follows:

(1) The assessor shall submit the proposed schedules, standards, and rules to the board of county commissioners not less than 21 days before the meeting at which they will be considered by the board. On the same day that they are submitted to the board for its consideration, the assessor shall file a copy of the proposed schedules, standards, and rules in his office where they shall remain available for public inspection.

§ 105-317. Appraisal of real property; adoption of schedules, standards, and rules. (Continued)

(2) Upon receipt of the proposed schedules, standards, and rules, the board of commissioners shall publish a statement in a newspaper having general circulation in the county stating:

a. That the proposed schedules, standards, and rules to be used in appraising real property in the county have been submitted to the board of county commissioners and are available for public inspection in the assessor's office; and

b. The time and place of a public hearing on the proposed schedules, standards, and rules that shall be held by the board of county commissioners at least seven days before adopting the final schedules, standards, and rules.

(3) When the board of county commissioners approves the final schedules, standards, and rules, it shall issue an order adopting them. Notice of this order shall be published once a week for four successive weeks in a newspaper having general circulation in the county, with the last publication being not less than seven days before the last day for challenging the validity of the schedules, standards, and rules by appeal to the Property Tax Commission. The notice shall state:

a. That the schedules, standards, and rules to be used in the next scheduled reappraisal of real property in the county have been adopted and are open to examination in the office of the assessor;

and

b. That a property owner who asserts that the schedules, standards, and rules are invalid may except to the order and appeal therefrom to the Property Tax Commission within 30 days of the date when the notice of the order adopting the schedules, standards, and rules was first published.

(d) Before the board of county commissioners adopts the schedules of values, standards, and rules, the assessor may collect data needed to apply the schedules, standards, and rules to each parcel in the county.

§ 105-283. Uniform appraisal standards.

All property, real and personal, shall as far as practicable be appraised or valued at its true value in money. When used in this Subchapter, the words “true value” shall be interpreted as meaning market value, that is, the price estimated in terms of money at which the property would change hands between a willing and financially able buyer and a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of all the uses to which the property is adapted and for which it is capable of being used. For the purposes of this section, the acquisition of an interest in land by an entity having the power of eminent domain with respect to the interest acquired shall not be considered competent evidence of the true value in money of comparable land.

Note: Selections from the Machinery Act of North Carolina are provided as an integral part of these Uniform Schedules of Values, Standards, and Rules. All applicable statutes not recited in this text are included by reference.

THE MASS APPRAISAL PROCESS - DEFINITION

Mass appraisal is the process of valuing a universe of properties as of a given date, in a uniform manner, using standard methodology, employing a common reference for data, and allowing for statistical testing.

Mass appraisal is a process of valuing a universe of properties: This simply means a large number of parcels—generally, all the property in the assessing jurisdiction. The number may reach into the tens or even hundreds of thousands (there are approximately 110,000 parcels in Durham County). An effective and efficient mass appraisal system must provide accurate value estimates quickly.

Mass appraisal uses standard methodology: The use of standard methods results in a high degree of uniformity and consistency, both among properties in the same revaluation and from one revaluation to the next. Moreover, if the assessor uses standard and accepted methods, there will be reasonable substantiation for value estimates.

Mass appraisal allows for statistical testing: Mathematical and statistical methods are widely used in mass appraisals. These procedures can produce better and more consistent value estimates. Moreover, the value estimates can be statistically verified, and the quality of the mass appraisal results can be statistically evaluated.

THE MASS APPRAISAL PROCESS - OVERVIEW

"Mass appraisal" is "mass production" appraising. In a general reappraisal program, large numbers of properties are appraised as a group. Labor can be used very efficiently through job specialization resulting in a low unit cost of an individual appraisal. Not only may there be separate appraisal "production lines" for various types of properties but the people working on those lines also perform specialized tasks. Technicians may collect data in the field while clerical staff performs routine calculations. Senior appraisers may be reserved for complex appraisal decisions. The quality of the resulting appraisal is assured by a built-in system of internal controls and through the judgment and experience of senior appraisers.

Statistics are used not only to analyze market values for properties that have recently sold, but also to develop an estimate of value for properties that may not have sold. Further statistical measures help to analyze the accuracy and quality of the reappraisal. For example, large deviations from predicted values can trigger a more detailed examination of the affected properties and their appraisals.

SCHEDULES USED IN MASS APPRAISAL PROGRAMS

The implementation phase of a mass appraisal program involves the valuation of properties in an orderly, expeditious, and equitable manner. To accomplish this, the assessor needs, at a minimum, schedules and guidelines for use in the various appraisal areas. Schedules need to be developed for:

- land valuation
- cost estimation
- depreciation calculation
- improved property valuation
- income and expense ratio determination
- capitalization rate determination

Valuation schedules must accurately reflect current market activity in order to estimate the appraised value of each property. It is important that care be exercised in the development of these schedules, for once the Schedules of Values, Standards, and Rules have been adopted they may not be changed.

LAND SCHEDULES

In many cases, land is the most important aspect of real property and it is therefore imperative that an easily manageable and accurate methodology for valuing land be established. Due to the varying types and uses of land within a jurisdiction, this may be challenging.

The key to development of land valuation schedules is basic sales analysis, using sales data conforming to the following factors:

- sales must be confirmed as arms-length-transactions,
- land must be of the same use type,
- sales must be adjusted for time, and
- adjustments for locational and physical characteristics of the land must be considered.

LAND - UNITS OF MEASURE

Parcels may be valued by any unit of measure. Most important to the process is that the selected unit of measure be the same as that being used in the local market place.

The acre (43,560 square feet) is the primary land unit of measure used in valuing large land areas such as farmland, industrial tracts, commercial parcels, and recreational land. It is denoted as “dollars per acre.”

The square foot is a widely used land unit of measure. It considers all of the land in a parcel and can, in varying degrees, be used for all types of land. This unit of measure is used primarily in the valuation of commercial land, and is denoted as “dollars per square foot”.

Whole unit measures are another group of units of measure for valuation purposes. They are somewhat different from the above-mentioned units of measure but are often employed in the local marketplace. Examples of whole units follow:

- The lot or unit buildable, regardless of its size or other attributes, is an important unit of measure. Homebuilders and developers often acquire a tract of land based upon the number of lots (unit buildable sites) that tract potentially contains.
- The site as a unit of measure is closely related to the lot. In using the lot as the unit of measure, each parcel is considered a portion of a larger tract. In the use of the site, however, unequal lots or parcel sizes are considered equal. The site may be used where separate sites are marketable regardless of their size or other factors and they are therefore considered comparable.
- The tract may be used as a unit of measure where the parcels are large and similar in size. In this method the entire parcel represents the unit of measure with no breakdown into acres or square feet.

IMPROVEMENT COST SCHEDULES

The importance of improvement cost schedules cannot be overemphasized. Cost schedules are necessary for establishing accurate cost figures for use in the summation approach to value and should be developed for a sufficient number of value-influencing property components to produce an accurate estimate of value. Moreover, the schedule, along with a complete listing of relevant property components for an individual property, is helpful in discussing and reviewing appraisals.

The best reference sources for the current costs of improvements are builders, property developers, and material suppliers, together with national cost indices and data from other assessment jurisdictions.

The extent of development of improvement cost schedules is determined by the amount of time, personnel, and financial resources available.

DEPRECIATION SCHEDULES

There are many different approaches to depreciation, so the assessor must be careful to select an appropriate depreciation methodology. Some commonly used schedules are:

(1) Age-life:

- This depreciation schedule reflects physical deterioration and sometimes- functional obsolescence. A depreciation curve is constructed by dividing the effective age of the improvement by its total economic life, showing the "percent good."

(2) Straight-line

- This schedule is based on the total economic life of a property with a constant percentage of depreciation each year. The value of the improvements will be reduced to zero in a given number of years.

(3) Empirical

- This schedule is developed from the market in a specific area. The sales prices of properties are subtracted from their replacement cost new plus land value and the remainder is considered the amount of depreciation. This figure reflects all types of depreciation --- physical, functional, and economic. Dividing this figure by the age of the improvements yields a "percent good" schedule.

IMPROVED PROPERTY SCHEDULES AND UNITS OF MEASURE

A strict cost approach to developing value may not accurately reflect all market conditions affecting a particular property. In other words, the actual market value of an improved property may be something different than the simple total of the raw land value plus the depreciated cost of the improvements. Often, these base values must be "normalized," or adjusted somewhat for market variations in location and other factors that affect overall value. Schedules that reflect normalized value estimates of improved properties can be grouped into two categories -- sales comparison schedules and income comparison schedules.

Sales comparisons may be subdivided into the following units of measure:

(1) improvement size -- these are the most commonly used units of measure and include base area, or the area measured by the outline of the improvement upon the ground; gross leasable area, the total area of the improvement including halls, elevators, restrooms, etc., expressed in square feet; and net leasable area (that area which is used by the tenants individually), also measured in square feet.

(2) special purpose units of measure -- for special purpose commercial properties the following may be developed from the market;

Apartments:

- apartment units -- the total number of apartments in the building
- rooms ---------- often the basic unit of measure; employed as a ratio within the unit, e.g., 3.2 rooms per apartment
- square foot ------ per unit or room, etc.

Hotels and Motels:

- room count ------- (dollars per room) is the general unit of measure.

Industrial Property:

- square foot ------ plus any excess land in relation to the local land-to-building ratio for the type structure.

Theaters and Restaurants:

- per seat (seat count)

Hospitals and Nursing homes:

- per bed (number of beds)

Income comparisons, the second category of schedules, are developed from net income and gross income information about income-producing properties. These measures can be valuable in accurately appraising property.

Some common income comparison measures are:

- Gross rent multiplier (GRM) – For commercial and multifamily residential properties the GRM is obtained by dividing the market value, or sale price, of a property by its gross annual income. The use of this comparison method is considered as part of the comparative sales approach in the valuation of income-producing properties.

- Gross Income Multiplier (GIM) — A capitalization technique that uses the ratio between the sale price of a property and its potential gross income or its effective gross income.

- Net income – The comparison of the net incomes of properties. It is generally expressed as ratio of net income to effective gross income.

- Capitalization rate – These are rates which are used to convert net income into value estimates and are comparisons developed from examining the sales of income-producing properties, and comparing the sales prices to the amount of income generated by the properties.

- Income and expense ratio – These are developed from the reconstructed operating statements of income-producing properties. They establish ranges within which different classes or types of properties usually fall.

APPROACHES TO VALUE IN MASS APPRAISAL

The appraisal (valuation) techniques used in a mass appraisal are nearly identical to those used in conventional individual fee appraisal.

Basic approaches used to estimate value are:

(1) Cost or Summation Approach

- Market-related cost approach

(2) Sales Comparison Approach (A/K/A Comparative Sales Approach)

(3) Income Approach

All approaches have a specific role in the mass appraisal process.

COST OR SUMMATION APPROACH

Cost Approach Defined:

(1) One of the three approaches to value, the cost approach is based on the principle of substitution—that a rational, informed purchaser would pay no more for a property than the cost of building an acceptable substitute with like utility. The cost approach seeks to determine the replacement cost new of an improvement less depreciation plus land value.

(2) The method of estimating the value of property by:
    (a) estimating the cost of construction based on replacement or reproduction cost new or trended historic cost (often adjusted by a local multiplier);
    (b) subtracting depreciation; and
    (c) adding the estimated land value. The land value is most frequently determined by the sales comparison approach.

In other words, the cost approach basically involves estimating the current cost to construct existing buildings and other improvements; subtracting an estimate of the appropriate depreciation for the buildings and improvements; and then adding an estimate of the land value.

"Current cost" could be either reproduction or replacement cost, depending upon the particular improvement. Reproduction cost refers to the cost at a given point in time of reproducing an **identical** property; replacement cost refers to the cost of reproducing improvements of **equal utility**, or usefulness.

"Depreciation" in this context refers to loss in value from all causes, which can be generally described in terms of either physical deterioration or obsolescence (either functional or economic).

The cost approach is significant because it is the one approach that can be applied on all types of construction (property). It is an effective approach for enhancing uniformity of appraisals and, therefore, a very effective tool for ad valorem taxation.

The most common application of the strict cost approach is in the appraisal of property where the lack of adequate market and income data preclude the reasonable application of the other traditional approaches.

Beyond its use as independent method to determine property value, the cost approach presents a highly effective way to verify market and income-based valuations; to project construction costs; and to adjust value estimates to account for unique physical property features.

An essential valuation method, the cost approach is crucial to various appraisal situations, including when appraising new or proposed construction; when lack of market activity limits the effectiveness of the sales comparison (market) approach; when land value is well supported; when the current improvements represent the best use of the land; and for special purpose or specialty properties not frequently exchanged.

Based on the reasoning that a buyer will not pay more than what it would cost to reproduce or replace the subject property, the cost approach enables the appraiser to develop an opinion of market value based on the current costs of labor, materials, related fees, and any entrepreneurial profit or incentive.

Many mass appraisers regard the cost approach as the backbone of computer assisted mass appraisal (CAMA) systems. Cost (summation) can be used to value any property type. The cost approach is employed in the following manner:

Step 1

Land values are estimated, using the sales of vacant parcels, or the capitalized land rents, or the cost of "raw" land plus the costs of development, or any of several allocation techniques (land ratio method).

Step 2

An estimate of the current cost of buildings and improvements is made, the replacement cost new. With respect to the actual process used to estimate costs there is a range of choices. In choosing cost estimation technique there is a trade-off between speed and accuracy. Cost estimation techniques in which cost data are highly aggregated require less information about property characteristics, involve fewer decisions and require fewer calculations. On the other hand, detailed cost estimation techniques are much more flexible and therefore make possible more refined cost estimates, these require more information and more work. In practice, highly detailed cost estimating techniques are rarely used in mass appraisal and only on very unusual or complex properties. Most computer-assisted systems apply a base rate per square foot to various improvement types. Lump sum additions for special features are then added to the result, which yields the Replacement Cost New (RCN).

Step 3

From Replacement Cost New an estimate of depreciation is subtracted, yielding; Replacement Cost New Less Depreciation (RCNLD). Depreciation is defined as the loss of utility (and therefore value) from any cause, and is the result of physical deterioration and obsolescence. Obsolescence may be functional, caused by a
sub-optimal design of the building, or economic, caused by changes external to the property, which reduce its value. In assessment practice, depreciation is usually calculated based on mathematical schedules, such as discussed earlier, and the analysis of sales and rental data or both.

Computation of the cost approach is therefore the depreciated cost new estimate of the improvement, plus the land value estimate.

TOTAL VALUE = (LAND VALUE + (RCN - DEPRECIATION))

MARKET-ADJUSTED COST APPROACH

Market-Adjusted Cost Approach (a/k/a Market-Related Cost Approach) Defined - Based on the premise that a particular structure may have a different market value, depending on its location.

The market-related cost approach is a blend of the cost and direct sales comparison approaches to value. The same principles followed in an individual appraisal are used in mass appraising, although their application may differ slightly. Appraisals made on an individual basis generally involve direct comparison between sales and subject. In mass appraisal, a large volume of data, including sales, income, expenses and construction costs, is processed. This data is developed into base model unit values for each improvement type within an appraisal area. When the base model is applied to a specific property and appropriately adjusted, mass appraisal takes on the nature of direct comparison. Furthermore, only a mass appraisal system can address the question of uniformity and equity in assessments.

The cost or summation approach is thus extended into a modified sales comparison approach (a/k/a market-related cost approach) by adding a final step to the process, which applies a location factor (neighborhood) to improvements. The locational factor for a subject neighborhood is derived from sales and is applied as a percentage adjustment.The example which follows analyzes a single sale. In actual practice, all sales in a subject neighborhood are considered and a factor is developed based on the neighborhood market analysis.

Example:

BASE DATA

Time Adjusted Selling Price of Subject Property.....	ASP	.....	$ 510,000
Land Market Value.....	LMV	.....	$ 80,000
Building Cost Value (RCNLD).....	BCV	.....	+ 400,000
Total Unadjusted Value.....			$ 480,000
Selling Price Less Total Unadjusted Value (510,000 - 480,000).....			$ 30,000

COMPUTATION OF NEIGHBORHOOD FACTOR (FCT)

((ASP-(LMV+BCV))/(BCV)+1) = FCT

((510,000 - (80,000 + 400,000)) / (400,000) + 1) = 1.075

CAMA APPLICATION

Building Cost Value (RCNLD).....	BCV	.....	$ 400,000
Neighborhood Factor.....	FCT	.....	X 1.075
			=========
			$ 430,000
Land Market Value.....	LMV	.....	+ 80,000
			=========
Property Value.....			$ 510,000

COMPARATIVE SALES APPROACH

Comparative Sales Approach Defined - One of three approaches to value, the sales comparison approach estimates a property's value (or some other characteristic, such as its depreciation) by reference to comparable sales.

The comparative sales approach is the most direct of all appraisal techniques and involves the making of comparisons between the properties being appraised and similar (comparable) properties that have recently sold. Because it is thought to simulate market behavior this approach is a valid recognized approach to value. Comparative Sales is easily understood by taxpayers, the courts, and attorneys and is restricted in its use only by the availability of data needed to apply it.

The steps in the comparative sales approach are as follows:

Step 1

For the property to be appraised (subject property) and for the comparable, specify a small (manageable) set of property characteristics which affect property value and which may be used to group properties in a class constituting the sub-market to be analyzed. Commonly used characteristics are: time of sale; location or neighborhood; physical characteristics; and in the case of commercial property, rent and expense amounts.

Step 2

Determine an appropriate unit of comparison. For most income-producing properties, for example, the unit of comparison often is the gross rent multiplier. For apartments however the unit of comparison might be value per apartment unit. Value per square foot is another useful unit of comparison for income-producing properties.

Step 3

For each subject property select the sold properties which are most comparable. The sold properties themselves are also analyzed to insure that they meet market value criteria.

Step 4

Note any dissimilarity between the comparable and the subject property and determine their contributory values. For example, suppose that a comparable property has central air conditioning and the subject property does not. In order to estimate the effect on value of the central air conditioning, the appraiser searches through the set of comparable properties until two are found which are alike, except that one has central air conditioning and the other does not. The appraiser notes the difference in sales prices and estimates the difference in value added by the central air conditioning. Similar matched-pair comparisons can be made for all other characteristics when data are available.

Step 5

Adjust the sales prices of the comparable properties to compensate for the dissimilarities between the subject property and the comparables. These adjustments are made from the comparables towards the subject property. That is, if a comparable is superior to the subject property (as in the air conditioning example above), the difference is subtracted from the actual sale price of the comparable. Similarly, if the comparable is inferior to the subject property, the adjustments should be made by adding the contributory amount. The result of this process is a set of adjusted sales prices for the comparable properties, which become indicators of the market value of the subject property.

INCOME APPROACH

Income Approach Defined - One of the three approaches to value, based on the concept that current value is the present worth of future benefits to be derived through income production by an asset over the remainder of its economic life. The income approach uses capitalization to convert the anticipated benefits of the ownership of property into an estimate of present value.

The income approach is the most appropriate method and is used most often when sufficient data is available in the appraisal of income-producing properties. The income approach refers to a number of techniques embodying certain assumptions by which the present worth of future income is estimated. The basic income approach formula is...

$V = I / R$

where V = value of a property, I = net income of a property, and R = discount (capitalization) rate. For example, if the net income of a property is $50,000 and the appropriate capitalization rate is 8%, the value of the property is $625,000:

$$\frac{\$50,000}{0.08} = \$625,000$$

In practice, the process is somewhat more complicated than the simple application of a formula and requires decisions on: 1) the income to be capitalized; 2) the required rate of return on the investment; 3) the type and amount of the reversion (return of investment); 4) the method of capital recovery; and 5) the capitalization procedure to employ. Once these decisions are made, all that remains is determining the present worth of future income and the present worth of the future reversions and adding the two in order to estimate the value of the property.

Much care should be exercised when applying the income approach. However, income-producing properties tend to be of comparatively higher value; therefore, the greater time and resources spent on appraising them can be justified.

REACHING VALUE CONCLUSIONS

The ultimate goal of a general reappraisal program is uniform and equitable value estimates given limited data and resources. This goal requires assessors to implicitly, if not explicitly, apply various statistical techniques in the appraisal program.

Due to the large number of properties to be appraised, models of properties must often be used. However, if the models are not representative of the larger group of properties being appraised, erroneous judgments will result. For example, perfectly good value relationships may be erroneously applied to atypical properties (outliers); in this case, the misapplication of the model is the cause of the valuation error, rather than the model itself. Errors in data collection and data processing may also result in erroneous value estimates. Therefore, the final task in the mass appraisal valuation process is to resolve any data uncertainties and to formally estimate values.

It is important that appraisals not be mechanically converted into assessment values without a "reasonableness check," or a thorough determination that the data are sound. Reasonableness checks may be made either in the office or through visual property inspection.

INTRODUCTION TO ASSESSMENT PERFORMANCE MEASUREMENT

One of the primary responsibilities of the Assessor's Office is to estimate the market value of the properties within the county. The integrity of the property tax depends in large part on the accuracy and efficiency of these estimates, since they are the basis for assessed values and, in turn, for property tax bills. The accuracy of assessments and the efficiency of operations is of considerable importance not only to assessing officers but also to property owners and elected officials. How well these functions are carried out affect local government costs, which are borne by each taxpayer, and the effectiveness of local government in general. Assessment-Sales (A/S) ratio studies provide a means by which the accuracy of assessments and performance of assessing officers may be evaluated.

OVERVIEW: BASIC COMPONENTS OF THE ASSESSMENT-SALES RATIO (A/S) STUDY

As assessment ratio is the ratio of an assessment to its market value. Market values are elusive figures, which cannot be directly observed; they are usually represented by sales prices, although independent appraisals are also sometimes used. Sales prices are nothing more than evidence of market value; therefore, some sales are more appropriate in a ratio study than others; similarly, some appraisals are of a higher quality than others.

The assessed value ("A") is divided by the sale price ("S") to form the assessment-sales ratio ("A/S"). For example, a property, which was sold for $200,000 and assessed at $100,000, would have an assessment ratio of 0.50, or 50 percent ($100,000 divided by $200,000). This assessment ratio is often also called a "sales ratio" or "assessment/sale price ratio." For ease of understanding, the term assessment ratio and the abbreviation "A/S" will be used herein.

The State of North Carolina has a legally mandated, or stated, assessment ratio at which properties should be assessed. How closely the assessments in the county come to this ratio is a measure of assessment accuracy, or the degree to which each property is assessed at the appropriate percentage of market value. There are two primary aspects of assessment accuracy: assessment level and assessment uniformity.

Assessment level refers to the degree to which the overall ratio of assessed values to market values approximates the legally mandated ratio for the property class in question. In North Carolina, this legal ratio is 100 percent of market value, or "full" value. In other words, we would expect that county tax values would be generally consistent with the sale prices of typical properties, under typical market conditions, and occurring reasonably near the reappraisal date of January 1, 2016.

Assessment level is often indicated by the median level. That is, when the A/S ratios for all market sales are arranged in order from least to greatest, the ratio in the middle is selected as the representative for the entire group. Median values are often preferred to average, or mean, values, because medians tend to be less influenced by unusually high or low values in the group.

Assessment uniformity refers to the degree to which different properties are assessed at equal percentages of market value, or the degree to which property tax burdens are levied in proportion to value. Whereas median values represent the midpoint of a group, uniformity is a measure of how close all the other values in a group are to the median. Assessment uniformity is often indicated by the coefficient of dispersion (COD).

Both assessment level and assessment uniformity, two essential aspects of assessment accuracy, can be demonstrated by an assessment-sales ratio study.

ASSESSMENT-SALES RATIO (A/S) STUDY DESIGN

Not all A/S ratio studies are alike; their formats and objectives depend on the particular purpose they are to serve. At any governmental level, they are likely to be designed to be closely tailored to legislatively mandated programs. State-level boards concerned with inter-jurisdictional equalization are primarily interested in finding the average assessment level for each jurisdiction without particular regard for the degree of assessment uniformity within a jurisdiction or for its causes. State and provincial agencies that issue assessment standards and provide assistance to local assessors need to develop broader studies, seeking to discover variance within and among property classes and geographic areas. Local assessors need ratio studies to fulfill their legal responsibility to make competent property assessments. To see how well this responsibility is being fulfilled, the assessor will periodically want to compare assessed values with market values. A comparison, or study, can show patterns of inconsistency -- why assessed values deviated one way or another from selling prices, how consistent the assessments among neighborhoods are, how consistent the appraisers are, what appraisal procedures need to be overhauled, and other aspects of the assessments function. It is important to understand that the design of A/S ratio studies involve compromises. The attainment of greater precision entails greater expenditure of resources -- data, human, and financial -- that are not in unlimited supply. Therefore, there is no set of design specifications that can serve all needs equally.

An A/S ratio study has five major stages: first, delineation of objectives; second, information about sales; third, information about property characteristics and assessed values; fourth, statistical treatment of the information; and fifth, conclusions drawn from the information. The basic steps generally undertaken in an assessment-ratio study are:

01. define the problem and clearly state the study purpose
02. evaluate data needs
03. collect sales data
04. edit sales data
05. adjust sales data
06. match each sale with its corresponding assessed value
07. compute the assessment ratio
08. stratify ratios as appropriate
09. compute descriptive statistics
10. compute inferential statistics
11. test hypotheses and analyze results
12. take the necessary informative and corrective action

The study should be kept as simple as possible yet be in complete accord with its stated purpose. Since the design of the study is almost totally influenced by its purpose, the first step is the most important one. Obviously, something designed to do one thing probably will not do another thing well.

The data requirements of the study, including assessment information, market value estimates, and property characteristics, must be evaluated prior to initiating that study.The purposes of the study will indicate certain data requirements (some of which may be impossible to meet) that will necessitate modification of the study design. Precise results require precise data. For this reason the findings of the study can only be as accurate as the data that are used. Statistics based on samples of sold properties are used in an A/S study to make inferences about the accuracy of all assessments in a population. A sample chosen for analysis may be smaller than the entire group of usable sales. Therefore, both the population and the sample to be studied must be defined. This is the first step involved in increasing the detail of the study.

It is also important to determine the frequency with which A/S ratio studies should be made. It is widely agreed that assessment-ratio studies should be conducted at regular intervals and at least annually. They should also be conducted before and after a revaluation. A specific date of analysis should be chosen, because the purpose of the study is to analyze the indicated relationships as of a particular date. This date is generally the appraisal date of the year to be studied.

When A/S ratio studies are properly performed before, during, and at the end of the reappraisal process, their information can be used to improve assessment performance and assure property tax equity.

ASSESSMENT-SALES RATIO STUDY APPLICATION

As mentioned earlier, uses of assessment-ratio studies can be as wide-ranging as the concerns about assessment equity. They can serve the local assessor and supervisory personnel in many ways. Most important, assessment-ratio studies can be an internal performance measurement tool. They can be used by assessors to monitor their own assessment performance, and thereby, to identify potential problems with assessment procedures. They can indicate the overall level of assessment and the degree of dispersion about that level thus helping to improve assessment equity. A/S ratio studies can also be used as an appraisal tool. They can indicate the need for selective reappraisal of certain property types, groups, or neighborhoods, or for a general reappraisal. They can be used to adjust sales prices for time or to develop depreciation factors. They can be used to adjust assessments up or down, thereby maintaining a high level of uniformity without expending many resources. A/S ratio studies can facilitate evaluation of the manpower, training, and budget needs of the local assessor by indication of the current level of performance, and hence, the need for reappraisal efforts.

Assessment-ratio studies can be used by property tax supervisory agencies for the purpose of supporting the decision to order a reappraisal. They can also use A/S ratio studies to find out if local assessors are only selectively reappraising newly constructed or recently sold properties and not reappraising the unsold, existing properties. Equalization agencies use assessment-ratio studies to equalize the property tax burden among jurisdictions. They may also want to estimate total value of all real property in a jurisdiction or use class or geographic area in order to ensure that inter-governmental transfer payment based on per-capita or per-pupil wealth are distributed equitably. The studies can also be used to ensure that partial exemptions have equal value throughout the jurisdiction. Taxpayers and appeal bodies can use A/S ratio studies to establish the average level of assessment in a jurisdiction and to demonstrate patterns of assessments inequities.

An assessment-ratio study affects not only assessment equity but also assessment efficiency and the cost of assessment operations. Proper use of the assessment-ratio study can greatly increase assessment efficiency because it can help target the application of the assessor's limited resources, and thereby, lower the cost-per-parcel of assessment operations. The degree of assessment accuracy, per dollar of assessment cost, should increase resulting in a more cost-effective operation.

In short, the assessment-ratio study is one of the most useful tools available to local and state governments in general and to the assessor in particular.

IAAO (INTERNATIONAL ASSOCIATION OF ASSESSING OFFICERS) PERFORMANCE STANDARDS

Standards for assessment-ratio measures should be adopted by all jurisdictions. The IAAO "Standard on Ratio Studies" applies particularly in jurisdictions in which current market value is the basis for assessment. These standards presuppose a budget sufficient to hire competent personnel and apply sound assessment procedures as well as the availability of certain basic data, such as an adequate sample size.

Among the key points and recommendations made in the IAAO Standard on Ratio Studies Draft 14.05 are:

Aspects of Appraisal Performance:

There are two major aspects of appraisal accuracy: level and uniformity. Appraisal level refers to the overall ratio of appraised values to market values. Level measurements provide information about the degree to which established goals or certain legal requirements are met. Uniformity refers to the degree by which different properties are appraised at equal percentages of market value.

Date of Analysis:

The date of analysis will depend on the purpose of the study, but generally is the assessment date of the tax year being studied, which may be the current, the next, or a past year. The effective date of the general reappraisal should be used when the purpose of the study is to evaluate revaluation appraisals.

Time-Adjusted Sale Price:

The price at which a property sold adjusted for the effects of price changes reflected in the market between the date of sale and the date of analysis.

Ratio study:

A study of the relationship between appraised or assessed values and market values.

Level of Appraisal:

The common, or overall, ratio of appraised values to market values; computed level based on a ratio study.

Appraisal Uniformity:

Appraisal Uniformity among Strata (a class or subset that results from stratification) - The level of appraisal of each stratum should be within 5 percent of the overall level of appraisal of the jurisdiction. For example, if the overall level of appraisal of the jurisdiction is 0.90 the level of appraisal of each stratum should be between 0.855 (.95 x .90) and .945 (1.05 x.90).

Coefficient of dispersion (COD) - The average deviation of a group of numbers from the median expressed as a percentage of the median. In ratio studies, the average percentage deviation from the median ratio.

Uniformity among Single-Family Residential Properties - The COD for single- family homes and condominiums should be between 5.0 and 15.0. In areas of newer or similar residences, it should be between 5.0 and 10.0.

Uniformity among Income-Producing Properties - The COD should be between 5.0 and 20.0. In larger, urban market areas, it should be between 5.0 and 15.0.

Uniformity among Unimproved Properties - The COD for vacant land should be between 5.0 and 20.0. The upper limit for an acceptable COD for vacant rural residential or seasonal land may be 25.0.

Uniformity among Rural Residential and Seasonal Properties & Manufactured Housing - The COD for heterogeneous rural residential property, seasonal homes and manufactured housing should be between 5.0 and 20.0.

Uniformity among Other Properties - Target CODs for special-purpose real property should reflect the nature of the properties involved, market conditions, and the availability of reliable market indicators.

Vertical Equity:

An index statistic for measuring vertical equity is the price-related differential (PRD), which is calculated by dividing the mean ratio by the weighted mean ratio. This statistic should be close to 1.00. Measures considerably above 1.00 tend to indicate assessment regressivity; measures below 1.00 suggest assessment progressivity.

PRD's should be between 0.98 and 1.03.

Assessment progressivity (regressivity) - An appraisal bias such that high- value properties are appraised higher (or lower) than low-value properties in relation to market values.

Assessment-ratio studies used both for internal control and inter- jurisdictional assessment equalization should be conducted at least annually.

All in all, the average assessment jurisdiction should be able to meet the indicated standards. In all cases, the goals are progressive rather than static in nature. One can always improve, if not overnight, at least over time.

Note: Procedure and methodology follows guidelines established by the International Association of Assessing Officers; PROPERTY APPRAISAL AND ASSESSMENT ADMINISTRATION, Copyright 1990. All applicable sections not recited in this text are included by reference.

UNIFORM STANDARDS OF PROFESSIONAL APPRAISAL PRACTICE (USPAP)

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STANDARD 6: MASS APPRAISAL, DEVELOPMENT AND REPORTING

In developing a mass appraisal, an appraiser must be aware of, understand, and correctly employ those recognized methods and techniques necessary to produce and communicate credible mass appraisals.

Comment: STANDARD 6 applies to all mass appraisals of real or personal property regardless of the purpose or use of such appraisals.[34] STANDARD 6 is directed toward the substantive aspects of developing and communicating credible analyses, opinions, and conclusions in the mass appraisal of properties. Mass appraisals can be prepared with or without computer assistance. The reporting and jurisdictional exceptions applicable to public mass appraisals prepared for ad valorem taxation do not apply to mass appraisals prepared for other purposes.

A mass appraisal includes:

1) identifying properties to be appraised;
2) defining market area of consistent behavior that applies to properties;
3) identifying characteristics (supply and demand) that affect the creation of value in that market area;
4) developing a model structure that reflects the relationship among the characteristics affecting value in the market area;
5) calibrating the model structure to determine the contribution of the individual characteristics affecting value;
6) applying the conclusions reflected in the model to the characteristics of the property(ies) being appraised; and
7) reviewing the mass appraisal results.

The JURISDICTIONAL EXCEPTION RULE may apply to several sections of STANDARD 6 because ad valorem tax administration is subject to various state, county, and municipal laws.

Standards Rule 6-1

In developing a mass appraisal, an appraiser must:

(a) be aware of, understand, and correctly employ those recognized methods and techniques necessary to produce a credible mass appraisal;

Comment: Mass appraisal provides for a systematic approach and uniform application of appraisal methods and techniques to obtain estimates of value that allow for statistical review and analysis of results.

This requirement recognizes that the principle of change continues to affect the manner in which appraisers perform mass appraisals. Changes and developments in the real property and personal property fields have a substantial impact on the appraisal profession.

To keep abreast of these changes and developments, the appraisal profession is constantly reviewing and revising appraisal methods and techniques and devising new methods and techniques to meet new circumstances. For this reason it is not sufficient for appraisers to simply maintain the skills and the knowledge they possess when they become appraisers.

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[34] See Advisory Opinion 32, *Ad Valorem Property Tax Appraisal and Mass Appraisal Assignments.*

Each appraiser must continuously improve his or her skills to remain proficient in mass appraisal.

(b) not commit a substantial error of omission or commission that significantly affects a mass appraisal; and

Comment: An appraiser must use sufficient care to avoid errors that would significantly affect his or her opinions and conclusions. Diligence is required to identify and analyze the factors, conditions, data, and other information that would have a significant effect on the credibility of the assignment results.

(c) not render a mass appraisal in a careless or negligent manner.

Comment: Perfection is impossible to attain, and competence does not require perfection. However, an appraiser must not render appraisal services in a careless or negligent manner. This Standards Rule requires an appraiser to use due diligence and due care.

Standards Rule 6-2

In developing a mass appraisal, an appraiser must:

(a) identify the client and other intended users;[35]

(b) identify the intended use of the appraisal;[36]

Comment: An appraiser must not allow the intended use of an assignment or a client's objectives to cause the assignment results to be biased.

(c) identify the type and definition of value, and, if the value opinion to be developed is market value, ascertain whether the value is to be the most probable price:

(i) in terms of cash; or

(ii) in terms of financial arrangements equivalent to cash; or

(iii) in such other terms as may be precisely defined; and

(iv) if the opinion of value is based on non-market financing or financing with unusual conditions or incentives, the terms of such financing must be clearly identified and the appraiser's opinion of their contributions to or negative influence on value must be developed by analysis of relevant market data;

Comment: For certain types of appraisal assignments in which a legal definition of market value has been established and takes precedence, the JURISDICTIONAL EXCEPTION RULE may apply.

(d) identify the effective date of the appraisal;[37]

[35] See Statement on Appraisal Standards No. 9, *Identification of Intended Use and Intended Users.*

[36] See Statement on Appraisal Standards No. 9, *Identification of Intended Use and Intended Users.*

[37] See Statement on Appraisal Standards No. 3, *Retrospective Value Opinions*, and Statement on Appraisal Standards No. 4, *Prospective Value Opinions.*

(e) identify the characteristics of the properties that are relevant to the type and definition of value and intended use,[38] including:

(i) the group with which a property is identified according to similar market influence;

(ii) the appropriate market area and time frame relative to the property being valued; and

(iii) their location and physical, legal, and economic characteristics;

Comment: The properties must be identified in general terms, and each individual property in the universe must be identified, with the information on its identity stored or referenced in its property record.

When appraising proposed improvements, an appraiser must examine and have available for future examination, plans, specifications, or other documentation sufficient to identify the extent and character of the proposed improvements.[39]

Ordinarily, proposed improvements are not appraised for ad valorem tax. Appraisers, however, are sometimes asked to provide opinions of value of proposed improvements so that developers can estimate future property tax burdens. Sometimes units in condominiums and planned unit developments are sold with an interest in un-built community property, the pro rata value of which, if any, must be considered in the analysis of sales data.

(f) identify the characteristics of the market that are relevant to the purpose and intended use of the mass appraisal including:

(i) location of the market area;

(ii) physical, legal, and economic attributes;

(iii) time frame of market activity; and

(iv) property interests reflected in the market;

(g) in appraising real property or personal property:

(i) identify the appropriate market area and time frame relative to the property being valued;

(ii) when the subject is real property, identify and consider any personal property, trade fixtures, or intangibles that are not real property but are included in the appraisal;

(iii) when the subject is personal property, identify and consider any real property or intangibles that are not personal property but are included in the appraisal;

(iv) identify known easements, restrictions, encumbrances, leases, reservations, covenants, contracts, declarations, special assessments, ordinances, or other items of similar nature; and

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[38] See Advisory Opinion 23, *Identifying the Relevant Characteristics of the Subject Property of a Real Property Appraisal Assignment*, if applicable.

[39] See Advisory Opinion 17, *Appraisals of Real Property with Proposed Improvements*, if applicable.

(v) identify and analyze whether an appraised fractional interest, physical segment or partial holding contributes pro rata to the value of the whole;

Comment: The above requirements do not obligate the appraiser to value the whole when the subject of the appraisal is a fractional interest, physical segment, or a partial holding. However, if the value of the whole is not identified, the appraisal must clearly reflect that the value of the property being appraised cannot be used to develop the value opinion of the whole by mathematical extension.

(h) analyze the relevant economic conditions at the time of the valuation, including market acceptability of the property and supply, demand, scarcity, or rarity;

(i) identify any extraordinary assumptions and any hypothetical conditions necessary in the assignment; and

Comment: An extraordinary assumption may be used in an assignment only if:

- it is required to properly develop credible opinions and conclusions;
- the appraiser has a reasonable basis for the extraordinary assumption;
- use of the extraordinary assumption results in a credible analysis; and
- the appraiser complies with the disclosure requirements set forth in USPAP for extraordinary assumptions.

A hypothetical condition may be used in an assignment only if:

- use of the hypothetical condition is clearly required for legal purposes, for purposes of reasonable analysis, or for purposes of comparison;
- use of the hypothetical condition results in a credible analysis; and
- the appraiser complies with the disclosure requirements set forth in USPAP for hypothetical conditions.

(j) determine the scope of work necessary to produce credible assignment results in accordance with the SCOPE OF WORK RULE.[40]

Standards Rule 6-3

When necessary for credible assignment results, an appraiser must:

(a) in appraising real property, identify and analyze the effect on use and value of the following factors: existing land use regulations, reasonably probable modifications of such regulations, economic supply and demand, the physical adaptability of the real estate, neighborhood trends, and highest and best use of the real estate; and

Comment: This requirement sets forth a list of factors that affect use and value. In considering neighborhood trends, an appraiser must avoid stereotyped or biased assumptions relating to race, age, color, gender, or national origin or an assumption that race, ethnic, or religious homogeneity is necessary to maximize value in a neighborhood. Further, an appraiser must avoid making an unsupported assumption or premise about neighborhood decline, effective age, and remaining life. In considering highest and best use, an appraiser must develop the concept to the extent required for a proper solution to the appraisal problem.

[40] See Advisory Opinion 28, *Scope of Work Decision, Performance, and Disclosure,* and Advisory Opinion 29, *An Acceptable Scope of Work.*

(b) in appraising personal property: identify and analyze the effects on use and value of industry trends, value-in-use, and trade level of personal property. Where applicable, analyze the current use and alternative uses to encompass what is profitable, legal, and physically possible, as relevant to the type and definition of value and intended use of the appraisal. Personal property has several measurable marketplaces; therefore, the appraiser must define and analyze the appropriate market consistent with the type and definition of value.

Comment: The appraiser must recognize that there are distinct levels of trade and each may generate its own data. For example, a property may have a different value at a wholesale level of trade, a retail level of trade, or under various auction conditions. Therefore, the appraiser must analyze the subject property within the correct market context.

Standards Rule 6-4

In developing a mass appraisal, an appraiser must:

(a) identify the appropriate procedures and market information required to perform the appraisal, including all physical, functional, and external market factors as they may affect the appraisal;

Comment: Such efforts customarily include the development of standardized data collection forms, procedures, and training materials that are used uniformly on the universe of properties under consideration.

(b) employ recognized techniques for specifying property valuation models; and

Comment: The formal development of a model in a statement or equation is called model specification. Mass appraisers must develop mathematical models that, with reasonable accuracy, represent the relationship between property value and supply and demand factors, as represented by quantitative and qualitative property characteristics. The models may be specified using the cost, sales comparison, or income approaches to value. The specification format may be tabular, mathematical, linear, nonlinear, or any other structure suitable for representing the observable property characteristics. Appropriate approaches must be used in appraising a class of properties. The concept of recognized techniques applies to both real and personal property valuation models.

(c) employ recognized techniques for calibrating mass appraisal models.

Comment: Calibration refers to the process of analyzing sets of property and market data to determine the specific parameters of a model. The table entries in a cost manual are examples of calibrated parameters, as well as the coefficients in a linear or nonlinear model. Models must be calibrated using recognized techniques, including, but not limited to, multiple linear regression, nonlinear regression, and adaptive estimation.

Standards Rule 6-5

In developing a mass appraisal, when necessary for credible assignment results, an appraiser must:

(a) collect, verify, and analyze such data as are necessary and appropriate to develop:

(i) the cost new of the improvements;

(ii) accrued depreciation;

(iii) value of the land by sales of comparable properties;

(iv) value of the property by sales of comparable properties;

(v) value by capitalization of income or potential earnings - i.e., rentals, expenses, interest rates, capitalization rates, and vacancy data;

Comment: This Standards Rule requires appraisers engaged in mass appraisal to take reasonable steps to ensure that the quantity and quality of the factual data that are collected are sufficient to produce credible appraisals. For example, in real property, where applicable and feasible, systems for routinely collecting and maintaining ownership, geographic, sales, income and expense, cost, and property characteristics data must be established. Geographic data must be contained in as complete a set of cadastral maps as possible, compiled according to current standards of detail and accuracy. Sales data must be collected, confirmed, screened, adjusted, and filed according to current standards of practice. The sales file must contain, for each sale, property characteristics data that are contemporaneous with the date of sale. Property characteristics data must be appropriate and relevant to the mass appraisal models being used. The property characteristics data file must contain data contemporaneous with the date of appraisal including historical data on sales, where appropriate and available. The data collection program must incorporate a quality control program, including checks and audits of the data to ensure current and consistent records.

(b) base estimates of capitalization rates and projections of future rental rates and/or potential earnings capacity, expenses, interest rates, and vacancy rates on reasonable and appropriate evidence; [41]

Comment: This requirement calls for an appraiser, in developing income and expense statements and cash flow projections, to weigh historical information and trends, current market factors affecting such trends, and reasonably anticipated events, such as competition from developments either planned or under construction.

(c) identify and, as applicable, analyze terms and conditions of any available leases; and

(d) identify the need for and extent of any physical inspection. [42]

Standards Rule 6-6

When necessary for credible assignment results in applying a calibrated mass appraisal model an appraiser must:

(a) value improved parcels by recognized methods or techniques based on the cost approach, the sales comparison approach, and income approach;

(b) value sites by recognized methods or techniques; such techniques include but are not limited to the sales comparison approach, allocation method, abstraction method, capitalization of ground rent, and land residual technique;

(c) when developing the value of a leased fee estate or a leasehold estate, analyze the effect on value, if any, of the terms and conditions of the lease;

Comment: In ad valorem taxation the appraiser may be required by rules or law to appraise the property as if in fee simple, as though unencumbered by existing leases. In such cases,

[41] See Statement on Appraisal Standards No. 2, *Discounted Cash Flow Analysis.*

[42] See Advisory Opinion 2, *Inspection of Subject Property*.

market rent would be used in the appraisal, ignoring the effect of the individual, actual contract rents.

(d) analyze the effect on value, if any, of the assemblage of the various parcels, divided interests, or component parts of a property; the value of the whole must not be developed by adding together the individual values of the various parcels, divided interests, or component parts; and

Comment: When the value of the whole has been established and the appraiser seeks to value a part, the value of any such part must be tested by reference to appropriate market data and supported by an appropriate analysis of such data.

(e) when analyzing anticipated public or private improvements, located on or off the site, analyze the effect on value, if any, of such anticipated improvements to the extent they are reflected in market actions.

Standards Rule 6-7

In reconciling a mass appraisal an appraiser must:

(a) reconcile the quality and quantity of data available and analyzed within the approaches used and the applicability and relevance of the approaches, methods and techniques used; and

(b) employ recognized mass appraisal testing procedures and techniques to ensure that standards of accuracy are maintained.

Comment: It is implicit in mass appraisal that, even when properly specified and calibrated mass appraisal models are used, some individual value conclusions will not meet standards of reasonableness, consistency, and accuracy. However, appraisers engaged in mass appraisal have a professional responsibility to ensure that, on an overall basis, models produce value conclusions that meet attainable standards of accuracy. This responsibility requires appraisers to evaluate the performance of models, using techniques that may include but are not limited to, goodness-of-fit statistics, and model performance statistics such as appraisal-to-sale ratio studies, evaluation of hold-out samples, or analysis of residuals.

Standards Rule 6-8

A written report of a mass appraisal must clearly communicate the elements, results, opinions, and value conclusions of the appraisal.

Each written report of a mass appraisal must:

(a) clearly and accurately set forth the appraisal in a manner that will not be misleading;

(b) contain sufficient information to enable the intended users of the appraisal to understand the report properly;

Comment: Documentation for a mass appraisal for ad valorem taxation may be in the form of (1) property records, (2) sales ratios and other statistical studies, (3) appraisal manuals and documentation, (4) market studies, (5) model building documentation, (6) regulations, (7) statutes, and (8) other acceptable forms.

(c) clearly and accurately disclose all assumptions, extraordinary assumptions, hypothetical conditions, and limiting conditions used in the assignment;

Comment: The report must clearly and conspicuously:

- state all extraordinary assumptions and hypothetical conditions; and
- state that their use might have affected the assignment results.

(d) state the identity of the client and any intended users, by name or type;[43]

(e) state the intended use of the appraisal;[44]

(f) disclose any assumptions or limiting conditions that result in deviation from recognized methods and techniques or that affect analyses, opinions, and conclusions;

(g) set forth the effective date of the appraisal and the date of the report;

Comment: In ad valorem taxation the effective date of the appraisal may be prescribed by law. If no effective date is prescribed by law, the effective date of the appraisal, if not stated, is presumed to be contemporaneous with the data and appraisal conclusions.

The effective date of the appraisal establishes the context for the value opinion, while the date of the report indicates whether the perspective of the appraiser on the market and property as of the effective date of the appraisal was prospective, current, or retrospective.[45]

(h) state the type and definition of value and cite the source of the definition;

Comment: Stating the type and definition of value also requires any comments needed to clearly indicate to intended users how the definition is being applied.[46]

When reporting an opinion of market value, state whether the opinion of value is:

- In terms of cash or of financing terms equivalent to cash; or
- Based on non-market financing with unusual conditions or incentives.

When an opinion of market value is not in terms of cash or based on financing terms equivalent to cash, summarize the terms of such financing and explain their contributions to or negative influence on value.

(i) identify the properties appraised including the property rights;

Comment: The report documents the sources for location, describing and listing the property. When applicable, include references to legal descriptions, addresses, parcel identifiers, photos, and building sketches. In mass appraisal this information is often included in property records. When the property rights to be appraised are specified in a statute or court ruling, the law must be referenced.

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[43] See Statement on Appraisal Standards No. 9, *Identification of the Intended Use and Intended Users.*

[44] See Statement on Appraisal Standards No. 9, *Identification of the Intended Use and Intended Users.*

[45] See Statement on Appraisal Standards No. 3, *Retrospective Value Opinions*, and Statement on Appraisal Standards No. 4, *Prospective*

Value Opinions.

[46] See Statement on Appraisal Standards No. 6, *Reasonable Exposure Time in Real Property and Personal Property Opinions of Value*. See also Advisory Opinion 7, *Marketing Time Opinions*.

(j) describe the scope of work used to develop the appraisal;[47] exclusion of the sales comparison approach, cost approach, or income approach must be explained;

Comment: Because intended users' reliance on an appraisal may be affected by the scope of work, the report must enable them to be properly informed and not misled. Sufficient information includes disclosure of research and analyses performed and might also include disclosure of research and analyses not performed.

When any portion of the work involves significant mass appraisal assistance, the appraiser must describe the extent of that assistance. The signing appraiser must also state the name(s) of those providing the significant mass appraisal assistance in the certification, in accordance with Standards Rule 6-9.[48]

(k) describe and justify the model specification(s) considered, data requirements, and the model(s) chosen;

Comment: The appraiser must provide sufficient information to enable the client and intended users to have confidence that the process and procedures used conform to accepted methods and result in credible value conclusions. In the case of mass appraisal for ad valorem taxation, stability and accuracy are important to the credibility of value opinions. The report must include a discussion of the rationale for each model, the calibration techniques to be used, and the performance measures to be used.

(l) describe the procedure for collecting, validating, and reporting data;

Comment: The report must describe the sources of data and the data collection and validation processes. Reference to detailed data collection manuals must be made, as appropriate, including where they may be found for inspection.

(m) describe calibration methods considered and chosen, including the mathematical form of the final model(s); describe how value conclusions were reviewed; and, if necessary, describe the availability of individual value conclusions;

(n) when an opinion of highest and best use, or the appropriate market or market level was developed, discuss how that opinion was determined;

Comment: The mass appraisal report must reference case law, statute, or public policy that describes highest and best use requirements. When actual use is the requirement, the report must discuss how use-value opinions were developed. The appraiser's reasoning in support of the highest and best use opinion must be provided in the depth and detail required by its significance to the appraisal.

(o) identify the appraisal performance tests used and set forth the performance measures attained;

(p) describe the reconciliation performed, in accordance with Standards Rule 6-7; and

(q) include a signed certification in accordance with Standards Rule 6-9.

[47] See Advisory Opinion 28, *Scope of Work Decision, Performance, and Disclosure* and Advisory Opinion 29, *An Acceptable Scope of Work.*

Standards Rule 6-9

Each written mass appraisal report must contain a signed certification that is similar in content to the following form:

I certify that, to the best of my knowledge and belief:

- **the statements of fact contained in this report are true and correct.**
- **the reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, impartial, and unbiased professional analyses, opinions, and conclusions.**
- **I have no (or the specified) present or prospective interest in the property that is the subject of this report, and I have no (or the specified) personal interest with respect to the parties involved.**
- **I have performed no (or the specified) services, as an appraiser or in any other capacity, regarding the property that is the subject of this report within the three-year period immediately preceding acceptance of this assignment.**
- **I have no bias with respect to any property that is the subject of this report or to the parties involved with this assignment.**
- **my engagement in this assignment was not contingent upon developing or reporting predetermined results.**
- **my compensation for completing this assignment is not contingent upon the reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.**
- **my analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the *Uniform Standards of Professional Appraisal Practice.***
- **I have (or have not) made a personal inspection of the properties that are the subject of this report. (If more than one person signs the report, this certification must clearly specify which individuals did and which individuals did not make a personal inspection of the appraised property.)**[49]
- **no one provided significant mass appraisal assistance to the person signing this certification. (If there are exceptions, the name of each individual providing significant mass appraisal assistance must be stated.)**

Comment: The above certification is not intended to disturb an elected or appointed assessor's work plans or oaths of office. A signed certification is an integral part of the appraisal report. An appraiser, who signs any part of the mass appraisal report, including a letter of transmittal, must also sign this certification.

In an assignment that includes only assignment results developed by the real property appraiser(s), any appraiser(s) who signs a certification accepts full responsibility for all elements of the certification, for the assignment results, and for the contents of the appraisal report. In an assignment that includes personal property assignment results not developed by the real property appraiser(s), any real property appraiser(s) who signs a certification accepts full responsibility for the real property elements of the certification, for the real property assignment results, and for the real property contents of the appraisal report.

In an assignment that includes only assignment results developed by the personal property appraiser(s), any appraiser(s) who signs a certification accepts full responsibility for all elements of the certification, for the assignment results, and for the contents of the appraisal report. In an assignment that includes real property assignment results not developed by the

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personal property appraiser(s), any personal property appraiser(s) who signs a certification accepts full responsibility for the personal property elements of the certification, for the personal property assignment results, and for the personal property contents of the appraisal report.

When a signing appraiser(s) has relied on work done by appraisers and others who do not sign the certification, the signing appraiser is responsible for the decision to rely on their work. The signing appraiser(s) is required to have a reasonable basis for believing that those individuals performing the work are competent. The signing appraiser(s) also must have no reason to doubt that the work of those individuals is credible.

The names of individuals providing significant mass appraisal assistance who do not sign a certification must be stated in the certification. It is not required that the description of their assistance be contained in the certification, but disclosure of their assistance is required in accordance with Standards Rule 6-8(j).[50]

DURHAM COUNTY, NORTH CAROLINA
OFFICE OF TAX ADMINISTRATION
UNIFORM SCHEDULES OF VALUES, STANDARDS, AND RULES
VOLUME 01 - INTRODUCTION AND RATE TABLES