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Standard 5: MASS APPRAISAL, DEVELOPMENT

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 5 applies to all mass appraisals of real or personal property regardless of the purpose or use of such appraisals.53 STANDARD 5 is directed toward the substantive aspects of developing credible analyses, opinions, and conclusions in the mass appraisal of properties. 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 5 because ad valorem tax administration is subject to various state, county, and municipal laws.

STANDARDS RULE 5-1
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. 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

53 See Advisory Opinion 32, Ad Valorem Property Tax Appraisal and Mass Appraisal Assignments
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 5-2
In developing a mass appraisal, an appraiser must:

(a) Identify the client and other intended users;54

Comment: It is the appraiser’s responsibility to identify the client and other intended users. In ad valorem mass appraisal, the assessor, or party responsible for certification of the assessment or tax roll is required to apply the relevant law or statute and identify the client, and other intended user (if any).

(b) Identify the intended use of the appraisal;55

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 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;

(d) Identify the effective date of the appraisal;56

(e) Identify the characteristics of the properties that are relevant to the type and definition of value and intended use,57 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;

54 See Advisory Opinion 36, Identification and Disclosure of Client, Intended Use, and Intended Users
55 See Advisory Opinion 36, Identification and Disclosure of Client, Intended Use, and Intended Users
56 See Advisory Opinion 34, Retrospective and Prospective Value Opinions
57 See Advisory Opinion 23, Identifying the Relevant Characteristics of the Subject Property of a Real Property Appraisal Assignment, if applicable
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 improvement.58

Ordinary, proposed improvements are not appraised for ad valorem tax purposes. 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, of other items of similar nature; and
(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 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

58 See Advisory Opinion 17, Appraisals of Real Property with Proposed Improvements, if applicable
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 assumption.

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 the USPAP for hypothetical conditions.

(j) Determine the scope of work necessary to produce credible assignment results in accordance with the SCOPE OF WORK RULE.59

STANDARDS RULE 5-3
When necessary for credible assignment results, an appraiser must:

(a) In appraising real property, identify and analyze the affect 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.

(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.

59 See advisory Opinion 28, Scope of Work Decision, Performance, and Disclosure, and Advisory Opinion 29, An Acceptable Scope of Work
STANDARDS RULES 5-4
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 or 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 5-5
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) Depreciation;
(iii) Value of the land by sales of comparable properties;
(iv) Value of 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 Standard 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;\(^{60}\)

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.\(^{61}\)

STANDARDS RULE 5-6
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 sale 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, 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 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.

\(^{60}\) See Advisory Opinion 33, Discounted Cash Flow Analysis

\(^{61}\) See Advisory Opinion 2, Inspection of Subject Property
STANDARDS RULE 5-7
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 or 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 holdout samples, or analysis of residuals.
Standard 6: MASS APPRAISAL, REPORTING

In reporting the results of a mass appraisal, an appraiser must communicate each analysis, opinion, and conclusion in a manner that is not misleading.

Comment: STANDARD 6 addresses the content and level of information required in a report that communicates the results of a mass appraisal.

STANDARD 6 does not dictate the form, format, or style of mass appraisal reports. The form, format, and style of a report are functions of the needs of intended users and appraisers. The substantive content of a report determines its compliance.

STANDARDS RULE 6-1
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; and

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

STANDARDS RULES 6-2
Each written report of a mass appraisal must:

(a) State the identity of the client, unless the client has specifically requested otherwise; state the identity of any intended users by name or type; 62

Comment: An appraiser must use care when identifying the client to avoid violations of the Confidentiality section of the ETHICS RULE. If a client requests that the client’s identity be withheld from the report, the appraiser may comply with this request. In these instances, the appraiser must document the identity of the client in the work file and must state in the report that the identity of the client has been withheld at the client’s request.

(b) State the intended use of the appraisal; 63

(c) Disclose any assumptions or limiting conditions that result in the deviation from recognized methods and techniques or that affect analysis, opinions, and conclusions;

62 See Advisory Opinion 36, Identification and Discloser of Client, Intended Use, and Intended Users.
63 See Advisory Opinion 36, Identification and Discloser of Client, Intended Use, and Intended Users.
(d) **State 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 reports 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.64

(e) **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.65

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.

(f) **State 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.

(g) **Summarize the scope of work used to develop the appraisal;**66 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 Standard Rule 6-3.67

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64 See Advisory Opinion 34, *Retrospective and Prospective Value Opinions.*
65 See Advisory Opinion 34, *Retrospective and Prospective Value Opinions.*
67 See Advisory Opinion 31, *Assignments Involving More than One Appraiser.*
(h) **Summarize and support 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 as valorem taxation, stability and accuracy are important to the credibility of value opinions. The report must include a summary of the rationale for each model, the calibration techniques to be used, and performances measures to be used.

(i) **Summarize the procedure for collecting, validating, and reporting data;**

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

(j) **Summarize calibration methods considered and chosen, including the mathematical form of the final model(s); summarize how value conclusions were reviewed; and, if necessary, state the availability and location of individual value conclusions;**

(k) **When an opinion of highest and best use, or the appropriate market or market level was developed, summarize 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.

(l) **Identify the appraisal performance test used and the performance measures attained;**

(m) **Summarize the reconciliation performed, in accordance with Standards Rule 5-7; and**

(n) **Include a signed certification in accordance with Standards Rule 6-3.**

**STANDARDS RULE 6-3**

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 analysis, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, impartial, and unbiased professional analysis, 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 his 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.)[^68]

- 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 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 the Standards Rule 6-2(g).[^69]

[^68]: See Advisory Opinion 2, Inspection of Subject Property.
[^69]: See Advisory Opinion 31, Assignments Involving More than One Appraiser.