



IAAO

INTERNATIONAL ASSOCIATION
of **ASSESSING OFFICERS**

Valuing the World

IAAO TECHNICAL
STANDARDS

**Executive
Summaries**

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IAAO assessment standards represent a consensus in the assessing profession and have been adopted by the Board of Directors of IAAO. The objective of IAAO standards is to provide a systematic means for assessing officers to improve and standardize the operation of their offices. IAAO standards are advisory in nature and the use of, or compliance with, such standards is voluntary. If any portion of these standards is found to be in conflict with national, state, or provincial laws, such laws shall govern. Ethical and/or professional requirements within the jurisdiction may also take precedence over technical standards. – February 2022.

IAAO TECHNICAL STANDARDS EXECUTIVE SUMMARIES

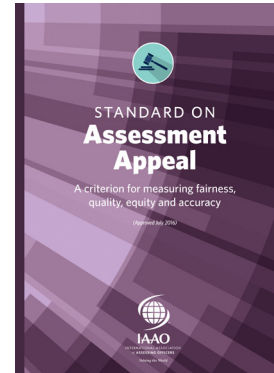
STANDARD ON ASSESSMENT APPEAL

Key to any assessment appeal system is an open and transparent process that relies on a clearly written set of procedures and provides due process.

This standard describes the structure and operation of an appeal system and the processes and procedures that support it. That structure was developed based on industry best practices, with the understanding that local statutes and regulations prevail. The intent is to facilitate a comparison of those industry best practices with existing structures.

The standard encompasses appeals systems related to property subject to local assessment as well as property subject to assessment by state levy agencies and differentiates model systems of appeal under either case.

Appeals should be undertaken as an open and transparent process with several levels from informal to formal, court-oriented proceedings. Appeals boards should consist of members with appraisal knowledge. There should be adequate taxpayer notice and hearing should be open to the public.

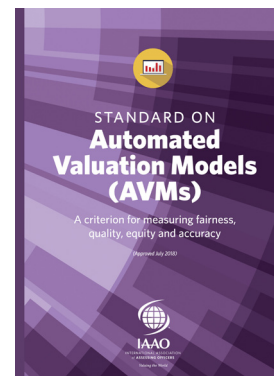


STANDARD ON AUTOMATED VALUATION MODELS (AVMS)

This standard defines and describes an automated valuation model as that term is used in the mass appraisal industry. It describes the process used by industry practitioners to construct, refine, test, and report the output of these models. This background information is supplemented with references to additional material, as well as several appendices that provide additional detailed information along with a glossary of important terms.

As defined, AVMs are computer based and used by analysts to produce estimates of market value based on market information, including location, market conditions, and property characteristics previously collected. The end product of the model is considered an appraisal. The standard provides examples of procedures used to develop AVMs and supports careful analysis of factors that influence market value, incorporation of quality assurance techniques, and adequate documentation.

Appendices provide detailed examples of applicability and development of AVMs using the sales comparison, cost, and income approaches to value. Location adjustment development using statistical techniques is also presented. Effects of time analysis using ratio studies and other methods are discussed. The review process used to provide value justification is noted. Examples of ratio study statistics and uses and users of AVMs and AVM generated reports are provided.



STANDARD ON CONTRACTING FOR ASSESSMENT SERVICES

This standard describes and makes recommendations on the development, awarding and monitoring of contracts for assessment services. It takes the reader through the process from the decision to contract for services, to developing the solicitation of bids, construction of a reasonable contract and monitoring and reporting outcomes. The focus throughout is to ensure the assessor adequately identifies, describes, and receives expected results.

The standard identifies major aspects of each related process and stresses the need for clear expectations to be set and included in the solicitation process. The standard also emphasizes openness and clarity in the contract award and review processes.

The Standard further discusses considerations specific to certain services and products. These include professional services, such as revaluations, consulting, and software development and implementation.



STANDARD ON DATA QUALITY

The *IAAO Standard on Data Quality* defines quality requirements for critical elements of assessment data and provides guidance for meeting those requirements for use in mass appraisal. This standard addresses quality for both the collection of new inventory and the management of existing inventory. For all types of assessment data, this standard outlines the general requirements for accuracy, currency, consistency, and completeness. This standard is concerned with data as an input into the assessment process rather than the state of that process in terms of outcome quality.

This standard addresses a common gap in the current assessment literature by defining input data quality instead of just measuring outcomes with tools such as ratio studies. There may be cases in which an assessment roll achieves quality outcome measures but the underlying data are subpar. Good measures but poor data can be the result of several factors affecting the outcome measures, including sales-chasing, misapplied mass appraisal methods or nonrepresentative data. Conversely, low-quality assessments do not necessarily equate to low-quality data. This may be caused by the valuation model misinterpreting the data. This standard provides tools for reducing roll quality risk caused by unseen data problems. Beyond assessment, good-quality data matter for making any fact-based decisions and affects numerous users of the information, including taxing jurisdictions, taxpayers, tax agents, public policy makers, academics, researchers, and the broader real estate community.

The standard covers principles of data quality management, dimensions of data quality, including accuracy, currency, consistency, and completeness, and data quality measurement and analysis.



STANDARD ON DIGITAL CADASTRAL MAPS AND PARCEL IDENTIFIERS

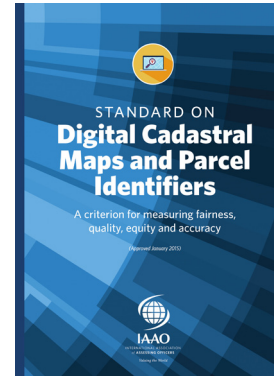
This standard provides recommendations on the development and maintenance of a digital cadastral mapping program for the purpose of assessing real property. It describes a digital cadastral mapping system program, its components, cadastral data, content, design, creation, maintenance, contracts, and administrative controls within the context of a multipurpose cadaster. It also discusses the processing of title records, and parcel identifiers and parcel identification systems.

Procedures and resources for setting up and managing digital mapping programs are discussed and there are cross references to various documents related to preparing for a digital mapping program. Many of these documents are found outside IAAO literature, having been developed by URISA or FGDC (Federal Geographic Data Committee), for example.

The importance of maintenance of mapping systems is stressed.

Quality control is strongly advised to ensure spatial accuracy and proper documentation. Specific reference is made to the National Map Accuracy Standards of the USGS, which require that 90% of all well-defined points on a printed map vary by no more than 1/30 of an inch from true location.

Significant parcel core data elements are provided in an Appendix. These are based on guidance completed in the FGDC Cadastral Data Content Standard 1. These elements include the minimum set of attributes and associated reference data about land parcels that can provide essential information to meet business needs without publishing the complete set of parcel characteristics.



STANDARD ON MANUAL CADASTRAL MAPS AND PARCEL IDENTIFIERS

This standard describes the components of a basic mapping system, cadastral data, content, design, preparation, materials, security, and maintenance. It also provides recommendations on the development and maintenance of maps and discusses requirements for an effective parcel identification system as a common index to all property records. It also contains an appendix with examples of manual mapping processes, references to additional source material and a glossary of terms used in the standard.

The standard includes discussion of the roles and responsibilities of the assessor to adequately locate, inventory, and appraise all property and the importance of maps toward fulfilling this mission. Assessors' roles include management, maintenance, and stewardship of the jurisdiction's mapping program. The assessor also should track current ownership of all parcels via recording of deeds and other documents conveying title. The assessor should also address such policy matters as how the overall mapping program is integrated in a multipurpose data-sharing environment.

The Standard includes discussion of core components, including geodetic control networks, accurate base maps, additional overlays of interest, such as municipal boundaries, and a series of



parcel data files containing parcel identifiers, ownership, and assessment data.

Mapping needs of the jurisdiction should be analyzed, and resources evaluated. Once developed, maps should be managed and published as part of the assessment roll production cycle and fully integrated into sales review, exemption review, and assessment review functions.

The Standard further advises regarding mapping design and parcel identifier essentials.

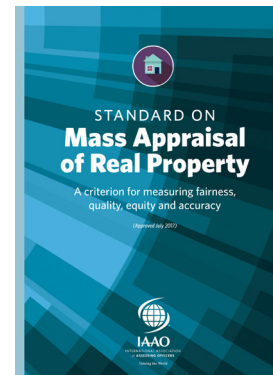
STANDARD ON MASS APPRAISAL OF REAL PROPERTY

This standard addresses mass appraisal procedures by which the fee simple interest in property can be appraised at market value, including mass appraisal application of the three traditional approaches to value (cost, sales comparison, and income). The standard covers the many facets of mass appraisal from data collection through application and testing of models to quality control and even physical resource considerations.

As addressed in this Standard, mass appraisal requires complete and accurate data, effective valuation models, and proper management of resources. Section 2 introduces mass appraisal. Section 3 focuses on the collection and maintenance of property data. Section 4 summarizes the primary considerations in valuation methods, including the role of the three approaches to value in the mass appraisal of various types of property. Section 5 addresses model testing and quality assurance. Section 6 discusses certain managerial considerations: staff levels, data processing support, contracting for reappraisals, benefit-cost issues, and space requirements. Section 7 discusses reference materials.

The Standard emphasizes the importance of obtaining complete and accurate property characteristics and market data, as well as CAMA systems that provide for storage and processing of relevant sales, cost, income, and expense data. Examples are provided of types of data to be collected and data collection accuracy standards are presented. There is considerable discussion of initiating updates based on new construction, new parcels, remodeling, demolition, and destruction. Building permits are stressed as importance to this process. In addition, the Standard discusses different ways to accomplish updates through field inspection involving physical review and inspections that employ technological solutions, such as digital imaging and aerial photography.

Applicability of different appraisal techniques to different types of property is also discussed, as is model testing, quality assurance, and value defense. Managerial considerations, including staffing, space, and software and hardware, are also discussed.



STANDARD ON OVERSIGHT AGENCY RESPONSIBILITIES

This standard describes in general terms the responsibilities of an oversight agency with respect to the local assessor as well as the governing authority over both. The Standard describes the typical relationship found in the U.S. and other nations, focusing on the common U.S. model of primary assessment by local jurisdictions with state agency oversight. The Standard supports effective administration to help ensure that primary assessors achieve uniform and equitable valuations. It lists common areas of oversight responsibilities, including setting standards, assisting primary assessors, monitoring performance, enforcing laws, and equalizing. Each of these functions is described in detail.

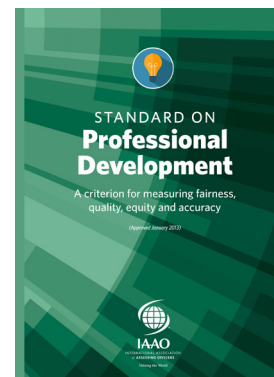
The Standard also addresses oversight agency functions with respect to education and certification programs, suggesting that the agency offer a well-balanced curriculum and keep records and transcripts. Other areas discussed include financial assistance, forms development, development of manuals and guidelines, and investigation of complaints. Legislative tracking is another important oversight agency function, and the Standard encourages active communication with primary assessors.

Many oversight agencies do technical research and the Standard promotes this activity and encourages the agencies to maintain a research section. The Standard also supports independent audits of the oversight agency.



STANDARD ON PROFESSIONAL DEVELOPMENT

This standard recommends basic guidelines for the professional development, education, and certification of assessing officers including appraisers, assessment managers, tax policy administrators, mappers, and assessors; those who provide professional or technical assistance to assessing officers; those who supervise or review the work of assessing officers; and those who seek employment in assessment administration. These guidelines are intended to be broadly applicable to many government structures assessors work under. An appendix, containing specific recommendations for qualifications and education for specific roles, is included.



The Standard stresses the importance of certification to ensure that appraisers have adequate knowledge of the principles of property appraisal, assessment techniques, and property tax laws, and that they have the skills required by their profession. Such certification increases public confidence in property tax administration and professionalism in appraisals. The Standard encourages jurisdictions to reward certification and achievement of professional designations. The Standard further recommends useful areas of study and useful background and provides specific standards for continuing education.

STANDARD ON PROPERTY TAX POLICY

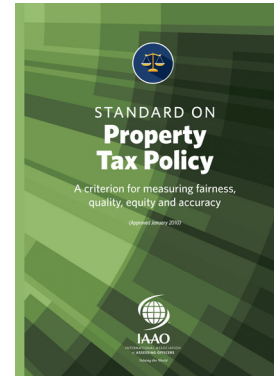
This standard focuses on elements of property tax policy and their influence on the equitable distribution of an annual property tax. These elements include the legal responsibility for paying the property tax, the kinds of property subject to the tax, and the basis of assessment— particularly the market value standard. Regarding the kinds of property subject to taxation, the standard deals chiefly with ordinary real (immovable) property. The standard addresses measures to control the amount of taxation and to provide targeted relief, such as exemptions and abatements, differential (fractional) assessment ratios and tax rates, and limits on taxes and assessed values. The standard discusses how tax policy affects the administration of the tax and vice versa, including the role of administrators in shaping tax policy. The standard includes recommendations on ways to evaluate existing tax structures and proposed reforms.

The Standard provides support for fundamental principles of property taxation, such as the use and maintenance of current market value as a basis for property tax, limited exemptions, targeted relief programs, and transparent mass appraisal systems. Major functions of property tax systems are explained and include administration, assessment, and collection. In this context, “assessment” refers to both who pays the tax and how their share is determined.

The Standard supports the role of the property tax in a balanced revenue system that allows for local government autonomy and accountability and is both visible and stable. The Standard addresses challenges including inequities in the distribution of the property tax burden and legacies in terms of payment systems and technology. The Standard stresses the need for assessing officers to work with policy setting bodies to better inform tax policy.

The Standard presents models for administration and oversight, including suggested roles for state (or central) and local assessment officials. It also recommends a model taxation system based on budgets (levies), rather than being rate-driven.

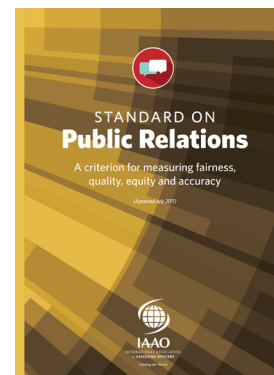
The Standard offers responses to property tax problems, particularly those which occur in certain segments or types of property and those which occur when some property experiences rapid value growth. These responses include specific exemptions and abatements as well as circuit breaker and deferral programs. Adequate proof of eligibility and periodic review are important principles that are stressed. Tax incentives, often used for economic development, are discussed and the Standard suggests careful use and implementation of these measures.



STANDARD ON PUBLIC RELATIONS

This standard describes the need for the best practices in developing a implementing a public relations program within the context of an assessment office. Established means of communicating with the public are described and discussed within the standard.

The Standard also emphasizes the importance of effective public relations in providing current and useful information on assessment policies and practices and responding to public concerns. Accordingly, the Standard recommends giving special attention to meet specific



needs of core constituencies. Assessors should develop procedure manuals that help staff understand how best to communicate with the public. Public access to assessment records should be accommodated to the extent permitted by law. Appropriate guidelines should be developed and implemented. Systems for providing reports and forms and answering media contacts should also be developed. There should be outreach and public education, including on the appeals process. Websites should be up to date and links confirmed.

STANDARD ON RATIO STUDIES

Ratio studies are intrinsic statistical quality assurance tools used at all levels of the assessment and equalization processes. They are used by assessors with primary assessment responsibility as well as by state and regional equalization boards, appeals boards, and others interested in testing assessment conditions or the quality of mass appraisal systems.

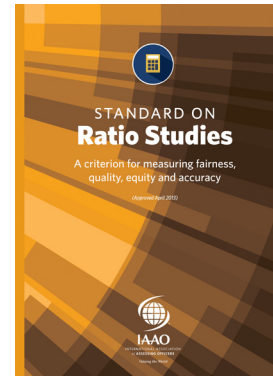
Because of its importance to both groups, this standard is divided into two parts, one devoted to the local assessment office and the second to those agencies having oversight responsibilities with regard to the local assessment office. In both cases, the structure of a sound ratio study is discussed along with its usefulness to both groups. In addition, the standard contains a glossary and an appendix with more detailed explanations of ratio study tools and applications.

The Standard focusses on ways to measure two primary concerns with regard to appraisal accuracy: level and uniformity. It discusses various uses of ratio studies and the design and organization of the study. The importance of adequate, representative sales data is stressed. There are extensive sections on ratio study statistics and analysis methods, including reporting formats and applicability of various statistical measures. Stratification of data and treatment of outliers are also discussed and specific suggestions provided.

Specific qualify standards are provided so that assessors and oversight agencies can better evaluate the adequacy of the results of mass appraisal. Specific standards are provided for level and uniformity, including both horizontal and vertical equity. The importance of verifying such results with reliability measures is emphasized.

For oversight agency use, additional discussion is provided with regard to direct and indirect equalization, including discussion of appropriate statistical measures to use in each case. Personal property and appraisal-based ratio study methodologies are also presented in this context.

Appendices provide sales validation guidelines, a specific example of an outlier identification and trimming procedure, median confidence intervals for small samples, a formula for vertical equity determination using the Price-related Bias statistic, sale chasing detection methodologies, alternative uses for ratio studies, legal aspects of the studies, and provide an example of a sales validation questionnaire.



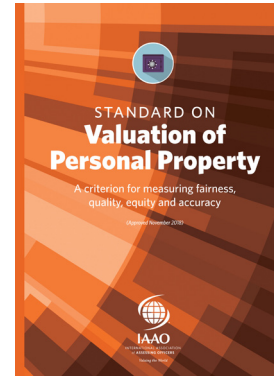
STANDARD ON VALUATION OF PERSONAL PROPERTY

This standard is intended to provide recommendations for defining, classifying, discovering, reporting, verifying, and valuing personal property for ad valorem tax purposes. The recommendations for valuing include concepts for measuring depreciation and auditing. The purpose of this standard is to present methods and techniques that assessing officers can use to achieve uniform and equitable personal property valuations. This standard provides a large glossary of terms as well as references to other helpful material.

The Standard defines personal property as not permanently attached and therefore movable. Criteria are provided, including intent of the owner, means of attachment, contribution of highest and best use of real estate, and relevant statutory and legal guidelines. Personal property is divided into two classes, tangible and intangible.

Discovery is an important principle related to personal property assessment. Valuers should develop a comprehensive process to discover all reportable or taxable personal property. Examples of various procedures to do so are provided. When self-reporting is used, verification and audits are important.

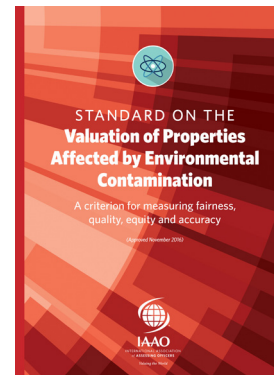
The Standard further discusses valuation techniques and different techniques applicable to tangible v. intangible personal property. Applicability of the traditional three approaches to value is discussed as well.



STANDARD ON THE VALUATION OF PROPERTIES AFFECTED BY ENVIRONMENTAL CONTAMINATION

This standard provides information and guidance concerning the effect of environmental contamination on the valuation of property for assessment purposes. The standard includes definitions of types of environmental contamination that may affect value, discusses types of impact on value, and lists numerous considerations of which the assessor should be aware. At the end of the standard, the user will find a brief glossary of appropriate terms and a large collection of references to other source material useful to the assessor.

The Standard emphasizes the importance of the assessor being aware of common types of contaminants and the effect of contamination on market value. The changing nature of contaminant lists and effects is also noted and the assessor is advised to be aware of federal, state, and local related regulations. In addition, the Standard notes the increasing availability of public / private partnerships for cleanup funding and the effect these arrangements can have on underlying property value. The Standard provides a list of common contaminants and gives examples of special cases and possible impacts given these situations. The applicability of the traditional approaches to value is also presented along with additional issues, such as monitoring and legal costs, that may differ from those experienced with regard to uncontaminated property.



STANDARD ON VERIFICATION AND ADJUSTMENT OF SALES

This standard provides guidance to ensure that only sales that meet the definition of market value and that have been adjusted for any monies (including financing) not attributable to the real estate are used in developing these estimates of market value. Guidance is presented in the form of established processes that lead to a final verification decision for the assessor. The standard includes a set of references and a large glossary of terms.

The Standard emphasizes the importance of tracking and storing information collected from real estate transfer documents and the need for data collection to be consistent, comprehensive, and accurate. The Standard discusses methods for and appropriateness of adjustments to sale prices and documentation of the verification and adjustment processes.

Sales data should be collected, verified, and adjusted as necessary for model calibration and ratio study purposes. In some cases, sales may be valid for model calibration but should not be considered valid for ratio study purposes. The Standard stresses the importance of laws mandating full disclosure of sale prices.

In terms of verification v. outlier trimming, sales should be trimmed for outliers during the statistical phase, not during the verification phase of a mass appraisal or sales ratio study program.

The Standard discusses sources of sales data and specific issues and types of follow-up related to each. Useful sales information is also discussed and includes: full consideration, date of transfer, legal description, buyer and seller contact information, and type of transfer document. Interest transferred, financing, lease information, intended use of the property, and relationship of buyer and seller are also important facets that are discussed. Trades and personal property included in the sales are critical features that must be disclosed.

The Standard discusses and provides lists of types of sales generally considered invalid as well as sales with prices that might be subject to adjustment to properly reflect market value. Adjustments presented include buyer's closing costs paid by seller, delinquent taxes, non-typical financing, and real estate commissions. Property condition adjustments may also be considered. These include assumed long-term leases with non-market rates, personal property, repair allowances, special assessments, and market (time) adjustment importance and methods.





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