

# Guide to Real Property Demonstration Mass Appraisal Report Writing



## **Professional Designation Program**

International Association of Assessing Officers

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## Demonstration Mass Appraisal Report

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# A Message to the Candidate from the Professional Designations Subcommittee

We wish to compliment and congratulate you for your commitment to IAAO's Professional Designation Program and your candidacy.

This 2014 edition of the *Guide to Real Property Demonstration Mass Appraisal Report Writing (Guide)*, published fifty-nine years after the first Certified Assessment Evaluator (CAE) designations were awarded, represents the continuing professional growth of IAAO's Professional Designation Program. IAAO's designations are widely regarded as the standards of excellence in ad valorem appraisal and assessment administration.

It is the Professional Designations Subcommittee's belief that publication of this *Guide* will aid candidates by supplying them with prerequisites and guidelines essential for the successful completion of a demonstration mass appraisal report. It is one of the principal documents the IAAO has published to help you meet program requirements and earn a professional real property designation. This *Guide* is used by all IAAO graders as an outline for grading real property demonstration reports.

The Professional Designations Subcommittee hopes this *Guide* not only helps candidates through the demonstration mass appraisal report-writing process but also encourages them to complete all requirements of the designation program. The achievement of a professional designation is an honor not only to the person who earns one, but to IAAO and the entire profession.

## Introduction

The most challenging and time-consuming requirement for attaining an IAAO professional designation is writing an acceptable demonstration appraisal report. Writing a demonstration appraisal report requires original research, extensive data gathering, a careful and systematic explanation of the appraisal problem, and clarity and originality of expression, combined with a painstaking organizational effort. From the perspective of candidate and grader alike, the demonstration appraisal report is much like a self-administered thesis or open-book examination.

The *Guide to Real Property Demonstration Mass Appraisal Report Writing* has been designed to acquaint the IAAO professional designation candidate with the requirements of form and content for the preparation of an acceptable real property demonstration mass appraisal report. Each candidate is provided with a copy of this *Guide* when accepted into candidacy. **The candidate should retain the *Guide* and refer to it when writing the demonstration mass appraisal report.** Strict adherence to this *Guide* ensures that the candidate will prepare a report meeting the requirements of the IAAO Professional Designation Program.

A demonstration mass appraisal report is a detailed, written presentation of the valuation of a universe of real properties. A successful report includes the analysis of all relevant factors and data that lead to the conclusions of value. The report is an exhaustive narrative and testing device representing the appraiser's best effort.

Writing a demonstration appraisal report is a vital part of the education of any professional appraiser, assessor, or property tax administrator. Estimation of value is a complex technical process. Although concepts can be learned in the classroom, an in-depth understanding of these concepts can only be gained by an application of the process to a real-life situation(s). All who have successfully completed a demonstration report state emphatically that it increased their understanding of the process and yielded self-confidence unequalled by the completion of any other course of

instruction.

This *Guide* provides a step-by-step outline of the procedures and regulations that must be followed in writing and submitting the real property demonstration mass appraisal report. A report grading sheet is included in the back of this *Guide*.

A successful report is written so that a non-appraiser or layperson can understand and follow the appraiser's reasoning. The theoretical basis of each approach to value, the sources and use of data, and the careful justification of each decision and conclusion must be presented and explained in the report. **All adjustments, assumptions, conclusions, and all comments must be substantiated by documented data and analysis in the report.** Merely stating an opinion in the demonstration mass appraisal report is insufficient and contrary to the objectives of the report. The successful candidate will understand the difference between opinions and supportable conclusions drawn from the analysis of actual data contained in the report.

## Sources of Assistance

### Professional Designation Advisors

Many candidates feel the need for guidance and assistance in preparing their demonstration mass appraisal report. Professional Designation Advisors (PDAs) have been appointed to provide encouragement and assistance to candidates. PDAs are IAAO professional designees who have volunteered to assist candidates in the program. A list of advisors is published annually by IAAO, and each candidate is put in contact with the PDA in his or her area. Candidates who encounter problems or questions in developing their demonstration mass appraisal reports should contact the PDA for their area or the Professional Designations Subcommittee. IAAO headquarters may assist with additional referrals.

### Jeff Hunt, CAE, Memorial Candidates Assistance Trust

For those candidates who demonstrate financial need, the Jeff Hunt, CAE, Memorial Candidates Assistance Trust will consider requests for grants. These funds can be used to pay any of the costs associated with completion of the designation program, such as report preparation, data gathering, or grading fees. Applications for grants can be obtained from IAAO.

## Originality of Work

When submitting a demonstration mass appraisal report for grading, candidates must certify on the Application for Appraisal Report Approval that:

1. The report has been personally prepared in its entirety, exclusive of typing, by the candidate
2. The appraisal and facts contained in the report are actual and not hypothetical
3. The mass appraisal is of existing parcels of real property

The candidate must do original work. Copying from another's report is unacceptable and will result in suspension from candidacy. This prohibition does not apply to the use of basic definitions of terms such as market value and highest and best use when the sources for these definitions are cited in the report.

The candidate is further cautioned against relying on previously submitted “passing” reports as guides. No report is perfect. The unwary candidate may compound errors or omissions contained in such reports, resulting in a failing submission.

A demonstration mass appraisal report is considered fraudulent if it does not represent original work or if it contains nonfactual or unacceptable hypothetical data. Fraudulent work is grounds for an immediate suspension of the grader. A grader who suspects the use of fraudulent data will suspend the grading and return the report to the grading chairman with a written report of the problem and a request for further investigation. Verified evidence of a fraudulent submission will result in a suspension from candidacy for at least one year and perhaps permanently. The Professional Designations Subcommittee reviews all such cases to determine suspension periods and may recommend further action to the IAAO Ethics Committee.

Group work is acceptable and encouraged as long as the composition, analyses, and conclusions are the candidate’s own. Please note that most data may be shared; however, verification, data extraction, and analysis must be the original work of the candidate author.

## Form

The professional appearance, logical organization, and absence of grammatical and spelling errors are important to the report and to the impression the report makes on the grader. The following are three major criteria for proper form of the report:

1. *Organization.* A well-organized report flows logically within each section and throughout the entire report. Different readers will arrive at the same conclusions when they read the presentation of data and the analysis. A well-organized report follows the outline of the grading sheet. The sections of the report will interrelate and not contradict each other.
2. *Grammar and Spelling.* Simplicity is the key. All technical terms should be defined using *Fundamentals of Mass Appraisal (2011)*, *Mass Appraisal of Real Property (1999)*, or the most recent edition of the *Uniform Standards of Professional Appraisal Practice (USPAP)*. Although typographical errors may be found in the best proofread report, they should be minimized by constant proofreading and by use of word-processing software’s tools for checking grammar and spelling.
3. *Appearance.* No letterhead, printed names, or logos may be used except for the Letter of Transmittal. Maps and other addenda should be presented in a way that adds to the professional appearance of the report.

## Selecting the Market Area

The selection of a market area is a critical step in the preparation of a demonstration mass appraisal report. For either residential or commercial property, the candidate should be careful to select a market area that exhibits adequate market data that permit the thorough demonstration of **all three approaches to value**.

As a rule, residential neighborhoods should have several hundred residences, the more the better. There should be at least five sales per neighborhood; strive for at least 15 and preferably 30 or more sales per neighborhood. This will help ensure statistical reliability.

# Minimum Requirements

Demonstration mass appraisal reports submitted to IAAO for grading and credit must meet minimum requirements. The omission of any of the following requirements will result in the immediate return of the report to the candidate. Although the return of a report does not constitute a grading, it obviously slows down the grading process.

1. The IAAO form, Application for Appraisal Report Approval, must be completed, signed by the applicant, and submitted with the report.
2. The appraisal report must be in a narrative, Appraisal Report format.
3. The Letter of Transmittal must be dated, signed, and contain all items referenced in this *Guide*.
4. The report must be submitted electronically, preferably in a searchable PDF format.
5. The report must be professional in appearance.
6. The report must include a thorough demonstration of all three approaches to value.
7. The date of appraisal must be within five years of the date the report is submitted to IAAO.
8. The report must contain a statement of certification **signed** by the candidate.
9. All facts and appraisal data contained in the report must be actual and verifiable. Hypothetical data are unacceptable and their use is grounds for immediate rejection of the report. Exceptions to this rule must be granted by the Professional Designations Subcommittee and disclosed in the report.
10. The candidate must certify that the final report conforms to the IAAO Code of Ethics and Standards of Professional Conduct and to the *Uniform Standards of Professional Appraisal Practice*.

Each report will be given a cursory, preliminary review for compliance with these minimum standards before being forwarded to the grader.

## Submission and Grading of Reports

The demonstration mass appraisal report may be submitted at any time after official notification by IAAO of an applicant's acceptance into candidacy. The Professional Designations Subcommittee recommends that candidates complete the education requirements before writing a report.

To submit a report for grading, the candidate must:

1. Submit a completed and signed IAAO Application for Appraisal Report Approval with the report
2. Submit the report and proper payment for grading to the IAAO headquarters office

The report will be reviewed to ensure that it meets all minimum requirements for form, content, and procedure. Reports failing this review will be returned to the candidate and the review will not constitute an official grading.

All submitted reports that go through a full, official grading become the property of IAAO. The candidate should keep a good copy of any report submitted for future reference or use.

After grading, a completed copy of the Real Property Demonstration Mass Appraisal Report Grading Sheet is sent to the candidate, along with the grader's and grading chairman's comments. The candidate should review the comments on rejected reports carefully and use them as the minimum requirements for successful revision. Most required revisions can be made from and with the original data included in the report. Candidates are cautioned against assuming that insufficient data for analysis will excuse required revisions. An additional grading fee is required when a revised report is submitted for second grading.

When a report is resubmitted after disapproval on the first grading, the second grader is not restricted in any way by the score or comments of the first grader. The candidate is advised to review the entire report, not just the deficiencies noted in the first grading report. The second grading may or may not go to the same grader.

If the report is found unacceptable on a second grading, the candidate is notified and again receives the report sheet and grader's comments. After a second disapproval of a report, no further revisions are allowed. The candidate must submit a new report on another market area.

## The Grading Process

The grader uses the criteria outlined in the grading sheet, the *Guide to Real Property Demonstration Mass Appraisal Report Writing (2014)*, *Fundamentals of Mass Appraisal (2011)*, *Mass Appraisal of Real Property (1999)*, and *Uniform Standards of Professional Appraisal Practice (USPAP)*, in grading submitted reports. The demonstration mass appraisal report grader is an IAAO designee who has received extensive training and guidance in how to review demonstration mass appraisal reports fairly and accurately. The graders and grading chairs are required by the Professional Designations Subcommittee to provide constructive comments on the reports. These comments are designed to point out strengths and weaknesses to the candidate and provide help in the event a revision is necessary.

## Appeal of Grading

Any candidate aggrieved by the failure of his or her report on a second grading may ask the Professional Designations Subcommittee to review the report and the subcommittee will conduct a thorough examination and render a written decision.

## Demonstration Mass Appraisal Report Outline and Requirements

The purpose of this *Guide* is to help the candidate write an acceptable demonstration mass appraisal report and to stress to the candidate items of the report that need close attention. The candidate should refer to the grading sheet and use this grading sheet as an outline in preparing the demonstration report.

It is recommended sections of the report be presented in the same order as outlined on the grading sheet. Page references are from *Fundamentals of Mass Appraisal (FMA)* and *Mass Appraisal of Real Property (MARP)*. All technical terms should be defined using *Fundamentals of Mass Appraisal (FMA)*, *Mass Appraisal of Real Property (MARP)*, and *Uniform Standards of Professional Appraisal Practice (USPAP)*.

# Part 1 Introduction

## A. Title Page

The title page should include:

- Identification of the report as a mass appraisal
- Type of properties
- Market area
- Effective date of appraisal
- Date of the report
- Name and address of the appraiser
- Name and address of the client and intended user (IAAO Professional Designations Subcommittee)

## B. Letter of Transmittal

A letter of transmittal is a business letter to the Professional Designations Subcommittee that accompanies the report. Sign and date the letter and include the conclusions of the report and other important items. The body of the letter should include:

- Date of letter (date of report)
- Identification of the market area
- Type of properties
- Purpose, intended use and intended user(s) of the appraisal
- Property rights appraised
- Definition of value and its source
- Summarize final estimates of value and final ratio study results
- Effective appraisal date
- The perspective of the appraiser (prospective, current, or retrospective) and appraisal report format
- Statement that the letter is accompanied by a complete mass appraisal report
- Appraiser's signature

## C. Table of Contents

The table of contents gives page references for the main headings of the report and should refer to all major sections and to the appendices or addenda at the end of the report. The numbering of the pages should begin after the table of contents.

## D. Summary of Important Facts and Conclusions

This section should be a summary of the important data and conclusions of the report. The reader should be able to read this page and learn the significant information contained in the report. Brief statements should be given for the following:

- Purpose of the appraisal
- Property rights appraised
- Properties to be appraised
- Description of the improvements
- Description of the sites, including zoning
- Highest and best use conclusions
- Final model testing and performance analysis for each approach to value
- Final sales ratio study results
- Effective valuation date and date of report
- Any other information considered important by the appraiser

## Part 2 Appraisal Problem and Scope of Work

### **A. The Appraisal Process (*FMA* p.4; *PAV* p.63; *MARP* p.13)**

List the steps involved in the appraisal process. Define single property appraisal and mass appraisal and cite the source. Discuss the similarities and differences between the two disciplines.

### **B. Type of Appraisal and Report**

State the type of appraisal (prospective, current, or retrospective) and report format, including definitions.

### **C. Identification of the Client**

Define and state the identity of the client (IAAO Professional Designations Subcommittee).

### **D. Intended Use of the Appraisal and Intended User(s)**

The intended use of the appraisal should be to satisfy the demonstration mass appraisal report requirement for an IAAO professional designation, either the RES or CAE. The intended user will be the same as the client, the IAAO Professional Designations Subcommittee.

### **E. Identification of the Properties to be Appraised (*FMA* p.8; *MARP* p.14)**

Provide a brief narrative description of the properties to be appraised. This identification should include the number and type of properties; sources for location, describing and listing the properties; references to legal descriptions, addresses, parcel identifiers, photos, and building sketches.

### **F. Property Rights Appraised (*FMA* pp.8-9; *MARP* p.14)**

The rights to the properties that are being appraised must be identified and defined. These rights will be for fee simple ownership assuming no encumbrances.

### **G. Purpose of the Appraisal (*MARP* p.14)**

The purpose of the appraisal is to estimate the market value of the defined rights in the properties that are being appraised as of a given date.

## **H. Definition of Value and Date of Value Estimates (FMA p.8; MARP p.14)**

Provide a definition of market value and give its source in a footnote. The conditions implicit in the market value definition should be included, one of which must be reasonable exposure time. The estimate of value should be in terms of cash or of financing terms equivalent to cash. The effective date of the value estimates must be stated in the report. The effective date of appraisal must be within five years of the date the report is submitted to IAAO.

## **I. General Assumptions and Limiting Conditions (IAAO Mass Appraisal Revaluation Template)**

Disclose all assumptions, limiting conditions, and jurisdictional exceptions including any that result in deviation from recognized methods and techniques or that affect analyses, opinions, and conclusions. Following are assumptions and limiting conditions typically found in mass appraisal reports:

This mass appraisal has been made with the following general assumptions:

- The properties were assumed to be free of any and all liens and encumbrances. Each property has also been appraised as though under responsible ownership and competent management.
- Surveys of the appraised properties have not been provided. We have relied upon tax maps and other materials in the course of estimating physical dimensions and the acreage associated with appraised properties.
- We assume the utilization of the land and any improvements is located within the boundaries of the property described. It is assumed that there are no adverse easements or encroachments for any parcel that have not already been addressed in the mass appraisal.
- In the preparation of the mass appraisal, interior inspections *have/have not* been made of the parcels of property included in this report. All inspections are made from the exterior only. It is assumed that the condition of the interior of each property is similar to its exterior condition, unless the assessor has received additional information from qualified sources giving more specific detail about the interior condition.
- Property inspection dates will have ranged in time from both before and after the appraisal date. It is assumed that there has been no material change in condition from the latest property inspection, unless otherwise noted on individual property records retained in the assessor's office.
- We assume that there are no hidden or unapparent conditions associated with the properties, subsoil, or structures, which would render the properties (land and/or improvements) more or less valuable.
- It is assumed that the properties and/or the landowners are in full compliance with all applicable federal, state, and local environmental regulations and laws.
- It is assumed that all applicable zoning and use regulations have been complied with.
- It is assumed that all required licenses, certificates of occupancy, consents, or other instruments of legislative or administrative authority from any private, local, state, or national government entity have been obtained for any use on which the value opinions contained within this report are based.
- We have not been provided a hazardous condition's report, nor are we qualified to detect hazardous materials. Therefore, evidence of hazardous materials, which may or may not be present on a property, was not observed. As a result, the final opinion of value is predicated upon the assumption that there is no such material on any of the properties that might result in a loss, or change in value.
- Information, estimates, and opinions furnished to the appraisers and incorporated into the analysis and final report were obtained from sources assumed to be reliable, and a reasonable effort has been made to verify such information. However, no warranty is given for the reliability of this information.
- The Americans with Disabilities Act (ADA) became effective January 26, 1992. We have not made compliance surveys nor conducted a specific analysis of any property to determine if it conforms to the various detailed requirements identified in the ADA. It is possible that such a survey might identify nonconformity with one or more ADA requirements, which could lead to a negative impact on the value of the property(s). Because such a survey has not been requested and is beyond the scope of this appraisal assignment, we did not take into consideration adherence or non-adherence to ADA in the valuation of the properties addressed in this report.
- Possession of this report does not carry with it the right of reproduction, and disclosure of this report is governed by the rules and regulations of the \_\_\_\_\_, and is subject to jurisdictional exception and the laws of \_\_\_\_\_.

This appraisal has been made with the following general limiting conditions:

- The distribution of the total value estimated between the land and the improvements in this report is applicable only under the stated program of utilization. The values allocated to the land and buildings are not to be used in conjunction with any other appraisal and are invalid if they are.
- The intended use of this appraisal report is to satisfy the demonstration mass appraisal report requirement for an IAAO professional designation. The client is the sole intended user. This appraisal may not be appropriate for other uses or users.

### **I. Extraordinary Assumptions and Hypothetical Conditions**

Define extraordinary assumptions and hypothetical conditions and cite the source. If the value opinions are subject to an extraordinary assumption, the assumption must be disclosed along with a statement that its use might have affected the value conclusions.

### **J. Scope of Work (FMA, p.9)**

Include a description of the extent of the process of collecting, confirming, and reporting the data. The extent of the appraisal must comply with the requirements of the *Uniform Standards of Professional Appraisal Practice*. The scope of work defines the type and intent of research and analysis that an appraiser must complete in order to develop credible appraisal assignment results and includes, but is not limited to:

- the extent to which properties are identified
- the extent to which tangible properties are inspected
- the type and extent of data researched
- the type and extent of analyses applied to arrive at opinions or conclusions

## **Part 3 Presentation of Data**

### **A. Preliminary Analysis and Plan (PAV p.65, pp.68-70; FMA pp.2-3, pp.166-195; MARP pp.1-13, pp.18-20)**

Determine a tentative estimate of highest and best use. Discuss the appropriate valuation approaches. Describe and justify model specifications considered, the inventory of data to be collected, and the models chosen. The rationale for each model, the calibration techniques to be used, and the performance measures to be used should be included in the discussion.

### **B. General Data (FMA pp. 10-11; MARP pp.15-17; PAV pp.66-67)**

Market areas are groups of neighborhoods. Properties in a market area are subject to the same economic forces and tend to change in value similarly. The subject properties are influenced by physical, economic, governmental, and social factors that shape and determine value. These forces affect the supply and demand for real estate within the market area and are to be examined and analyzed on a broad regional basis to determine this influence. If the property is located within a city, generally this is a broad enough basis on which to perform the analysis. If not, a county, township, area, or regional basis may be applicable. Only data relevant to the properties being appraised should be discussed and analyzed. A map locating the city (or area) with the boundaries clearly delineated should be included in the appendix. Following are some of the factors that should be considered and analyzed:

- Physical Factors
  - Geographical location of the market area
  - History of the area
  - Street and traffic patterns
  - Climate
  - Topography
  - Location of support services
  - Land use patterns

- Nuisances and hazards
- Natural barriers
- Economic Factors
  - Interest rates and credit availability
  - Interest rates available to builders/developers
  - Income levels and purchasing power
  - Ownership – tenancy ratios
  - Consumer and business confidence
  - Current stock of property type
  - Land available for development
  - Cost and availability of building materials
  - Labor costs
  - Occupancy rates for various types of property
  - Price, rental levels and trends
  - Employment (major employers and their stability, potential new employers, and unemployment rates)
  - New construction
- Governmental Factors
  - Governmental services (schools, transportation, parks, etc.)
  - Governmental regulations
- Social Factors
  - Demographics (population trends over several decades, population projections, and breakdown of population by age and income)
  - Life cycle of the economic area
  - Cost of living
  - Household size
  - Education levels
  - Crime

The candidate should also discuss both positive and negative factors and should be sure that the data analyzed and presented are relevant to the properties being appraised. The important factors will differ depending on the typical market behavior in the area and the type of properties.

The primary emphasis of the analysis should be the influence of the four forces on the type of properties being appraised. The conclusion should discuss the probable future of the area and the probable direction of property values, relating these future conditions to the properties being appraised. Is the area growing, declining, or stable? What are the prospects for the future for values of the properties being appraised? What will be the effects on the value of the subject properties?

Neighborhoods make up a market area and properties within a neighborhood have similar location value. Begin with a definition of a neighborhood and cite its source. Mass appraisers usually group properties into neighborhoods prior to model building as location tends to be a primary basis for stratification. Describe and support the boundaries of the neighborhoods. The boundaries, which may be man-made, political, or natural, should be clearly delineated and described in detail, and the reasons why they form the boundaries should be explained. Zoning and highest and best use are universally important. Discuss the three economic stages of a neighborhood and identify what stage each neighborhood is in. To bolster sample size, neighborhoods in the same stage can sometimes be combined for analysis. A map locating the neighborhoods with their boundaries clearly delineated should be included in the appendix.

### **C. Specific Data**

Describe the procedure for collecting, validating, and reporting land/site, building, and location data. Data to consider include:

- Land data
  - Size, shape, and area of lots
  - Frontage and depth
  - Slope
  - Topography
  - Available utilities
  - Site amenities (e.g., golf course, lake view)
  - Nuisances (e.g., traffic, airport noise)
- Improvement data – will vary by property type and use
  - Residential
    - Style/stories
    - Quality rating
    - Size of improvement
    - Heating/cooling
    - Bedrooms/bathrooms
    - Basement area/finish
    - Fireplaces
    - Porch, deck, patio areas
    - Effective age and condition
    - Detached Structures
  - Commercial
    - Construction type, quality, or grade
    - Stories
    - Gross and net usable area
    - Main, upper, and basement areas
    - Ceiling height
    - Effective age
    - Condition
    - Other
- Location
  - Residential features
    - Water or golf course
    - Parks/greenbelts
    - View
    - Traffic
    - Proximity to amenities
    - Proximity to nuisances
  - Commercial features
    - Street type
    - Corner location
    - Access
    - Public utilities and services

#### **D. Comparative Data**

Describe the procedure for collecting, validating, and reporting cost, sales, and income/expense data.

Information to consider include:

- Cost
  - General cost data
  - Specific cost data
- Sales
  - Price, date, etc.
  - Description of property sold
  - Usability of sale
- Income and expense data, for commercial property reports
  - Description of property rented
  - Market rents
  - Vacancy rates
  - Stabilized allowable expenses
  - Overall capitalization rates
- Income data, for residential property reports
  - Description of property rented
  - Market rents
  - Gross rent multipliers (GRMs)

**E. Exploratory Data Analysis (FMA pp. 111-136)**

Prior to model building, mass appraisers should develop a comprehensive understanding of the local market. This section should begin with a discussion, including definitions, of the various tools available for exploratory data analysis. Provide appropriate statistical analyses of land/site data, building data, and location data by market area, by neighborhood, and any other relevant stratification. Include in the analysis:

- Data quality review
- Data distribution
- Market patterns and relationships
- Time trends
- Ratio study including IAAO Ratio Study standards

## Part 4 Data Analyses and Conclusions

**A. Highest and Best Use Analysis (FMA p. 12; MARP pp.17-18)**

Mass appraisers must make a determination of the highest and best use of property. This is ordinarily done for groups of property. Begin this section by defining highest and best use including the source. The candidate should then proceed with separate analyses of the site as if vacant and as improved. The four tests for highest and best use, the interaction of a highest and best use analysis with the appraisal principles, and the market forces that affect value should be discussed. By analyzing the four criteria for highest and best use for all scenarios, the use that is maximally productive should be established.

**B. The Valuation Process in Mass Appraisal (FMA pp. 2-3, pp.13-15, pp.166-194, 249-272, 279-318; MARP pp.5-12, pp.18-21) and Types of Variables and Data Transformations (FMA pp. 94-108)**

This section is included in order to:

1. Define and discuss modeling in mass appraisal, model specification and calibration, economic basis of model building, generalized model structures, and types of models. Describe the types of variables used in modeling. Explain the importance of transformations when modeling and review the four broad categories of transformations used in modeling.
2. Define the approaches to value in the report (include definitions and their sources)
3. Describe the underlying economic principles and how they apply to each approach
4. Discuss the theory of each approach and outline the step-by-step procedures in mass appraisal

5. Give an overview of mass appraisal model structures for the three approaches to value
6. List the primary steps in building a mass appraisal model
7. Define and discuss the three statistical calibration techniques
8. Describe in detail additive multiple regression analysis, including the output statistics. Discuss, including definitions, the importance of analyzing residuals and predicted values, and how to handle outliers. Explain the assumptions in using multiple regression analysis
9. Finish with a discussion on the reconciliation process

**C. Cost Approach**

- Specify the models used to estimate market value based on the cost approach (model specification)
  - Land Value
  - Replacement Cost New
  - Accrued Depreciation
- Describe calibration methods considered and chosen
- Determine the mathematical form of the market value model including coefficients (model calibration)
- Review of model coefficients
- Review of model estimates
- Individual value estimates
- Model Validation (Describe the appraisal performance tests used and the performance measures attained such as ratio studies, measures of central tendency, appraisal level and appraisal bias.)

**D. Income Approach**

- Specify the models used to estimate market value based on the income approach (model specification)
- Describe calibration methods considered and chosen
- Determine the mathematical form of the market value model including coefficients (model calibration)
- Review of model coefficients
- Review of model estimates
- Individual value estimates
- Model Validation (Describe the appraisal performance tests used and the performance measures attained such as ratio studies, measures of central tendency, appraisal level and appraisal bias.)

**E. Sales Comparison Approach**

- Specify the model used to estimate probable selling prices or market value based on physical and location characteristics (model specification)
  - The model structure should additive
- Describe calibration methods considered and chosen – multiple regression analysis should be the chosen method
- Determine the mathematical form of the market value model including coefficients (model calibration)
- Review of model coefficients
- Review of model estimates
  - Goodness of fit statistics
  - Statistics of variable importance
- Individual value estimates
- Model Validation (Describe the appraisal performance tests used and the performance measures attained such as ratio studies, measures of central tendency, appraisal level and appraisal bias.)

**F. Reconciliation**

Describe the reconciliation performed, in accordance with Standards Rule 6-7. The reconciliation should clearly summarize the quantity and quality of data, the applicability and relevance of the approaches considered, and the methods and techniques employed to ensure accuracy (including recognized testing procedures).

**G. Exposure time**

Reasonable exposure time should be one of a series of conditions in the market value definition used for the demonstration mass appraisal. The candidate must define and develop an opinion of reasonable exposure time linked to the value opinion.

**H. Certification**

Each real property demonstration 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 no bias with respect to any property that is the subject of this report or to the parties involved with this assignment.
- Any services regarding the subject performed by the appraiser within the three year period immediately preceding acceptance of the assignment, as an appraiser or in any other capacity is identified in the body of the report.
- 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.)
- 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.)

The certification must be signed by the appraiser and include the date signed.

## Part 5 Addenda

The candidate is expected to provide supporting addenda as necessary. For orientation purposes, all maps in the appendix should include arrows indicating north. Wherever addenda appear, the candidate should remember to reference them accurately in the narrative portions of the report.

Minimum required addenda are:

- Maps of the area and city showing the location of the subject properties
- Map of the neighborhoods, with neighborhood boundaries drawn
- Maps showing location and zoning of all comparable sales, rentals, and gross rent multiplier rentals/sales
- Syntax of all transformations and related syntax
- Qualifications of the appraiser, including employment, education, and experience

### **After Writing the Report**

Aside from the obvious tasks of proofreading and checking the grammar and mathematical accuracy of the final draft, the candidate should review the report using a copy of the actual grading sheet to make sure that all sections have been covered. Also, ask someone to review the report. An IAAO designee or Professional Designation Advisor may be willing to critique the report.

# Appendices

## Appendix 1

# Writing Guide

Proper writing style, grammar, punctuation, and form are essential to impressing the reader that a report is professionally done. This appendix does not allow for in-depth coverage of these topics but discusses a few basic principles and pinpoints common violations of proper style and form. The goal is to help you avoid common errors that detract from the report as a whole.

## Sources of Help

Many tools are available to help you produce a flawless report. Books and Internet resources are listed at the end of this appendix. Sophisticated word-processing programs, such as Microsoft Word or WordPerfect, help identify errors in spelling and grammar and can be set to hyphenate words properly at the end of lines. Even if you have excellent writing skills, use the word-processing program's tools for checking grammar and spelling to help you spot typographical and careless errors. Dictionaries not only help you spell and hyphenate words correctly, but can alert you to the connotations of synonymous words and point to the right one for the context.

## Basic Principles

### Consistency

Choose a style and stick to it. Before you start writing, make decisions about the style of headings, footnotes or endnotes, punctuation, capitalization, form of technical terms, and treatment of numbers. Create a style sheet to record your decisions so you can refer to it as you write. A written style sheet will save you time and help keep the report consistent during the weeks or months of writing.

### Headings

The purpose of headings is to make the structure of your report clearer to the reader. The various levels of headings indicate the level of importance or generalization you assign to each topic and display for the reader your idea of the relationships among topics. The headings should follow your outline of the report. The structured format has made some of those decisions for you, but you may want to modify the scheme presented to fit your own needs.

Set up a style for three or four levels of headings (or heads, as they are called by editors). A major, or primary, section head is called an A-head; a secondary head is called a B-head; the next level, a C-head; and so on. Decide on the distinguishing features of each level of head: type style (roman, bold, or italics, underlined or not), size (the same size or different sizes), different font or the same as the type in the body of the report, position (centered, indented, or run into the text), capitalization (all letters capitalized, first letter of each word capitalized, or only the first word capitalized), and spacing after the head.

Word-processing programs allow you to choose a font for some of your heads that distinguishes them from the body of the report. For example, using Helvetica (a sans-serif font) for the A-heads and B-heads makes a nice contrast with Times Roman (a serif font). However, more than two type-faces in your report will make it look amateurish. The next page shows two sample heading schemes.

## Appendix 1 continued

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### Samples of Heading Schemes

#### DATA ANALYSIS (A-head)

##### Status of Data (B-head)

###### Data Collection (C-head)

*Sales data.* (D-head) For the sales comparison approach....

#### DATA ANALYSIS (A-head)

##### Status of Data (B-head)

###### Data Collection (C-head)

**Sales Data.** (D-head) For the sales comparison approach....

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### Footnotes and Endnotes

Decide whether your sources will be recognized in footnotes or endnotes. Use a style manual (see list at the end of this appendix) to choose a particular style for your references. Add to your style sheet examples of the style you choose—one for periodical articles, one for books, one for unpublished material, and so on. The style you choose does not matter, as long as you apply it consistently. Pay attention to how your examples use capitalization, punctuation, italics, and so on. Footnotes and endnotes are discussed in more detail in appendix 2.

### Punctuation

The purpose of punctuation is to make a writer's meaning clear. Most punctuation follows strict rules, but some punctuation is optional. You can choose, for example, whether to place a comma before *and* in a series:

Appraisal theory, data analysis, and research....

Appraisal theory, data analysis and research....

Both are correct, but once you choose a style, apply it consistently—always place the comma before the *and* or always leave it out.

Some specific rules of punctuation are covered later in this appendix.

### Capitalization

Rules about capitalization can be boiled down to the following: Capitalize infrequently, and do not use capitalization as a device for emphasis. Observe the following rules for capitalizing in ordinary text (heads and table heads have their own rules).

## Appendix 1 continued

1. Capitalize proper names of cities, states, countries, streets, bodies of water, organizations, and institutions. Do not capitalize city, state, street, association, and like words unless they are part of the proper name.

Massachusetts; the state of Massachusetts\*; the state

Omaha; the city of Omaha\*; the city

Lincoln Park; the park

4146 Grand Avenue; the avenue Lake

Huron; the lake

International Association of Assessing Officers; the association Bureau of Census;  
the bureau

Oklahoma State University; the university

\*When formal reference to the government entity is intended, it may be correct to use City of Omaha and State of Massachusetts.

2. Do not capitalize titles of individuals except when used in direct address: Mr. Jones is

Grant County assessor.

Mr. Jones is the assessor of Grant County.

I believe that President Jones has arrived.

Mr. Jones is the president of the university.

3. Do not capitalize technical terms such as cost approach, gross rentmultiplier, or correlation. When an acronym is used for a term (geo-graphic information system—GIS), there is no need to capitalize thewritten-out term.

4. Do not capitalize references to pages, chapters, tables, addenda, andso forth.

See page 6

This is explained in section 3

See table 1 in the addenda Compare

sale 6 with sale 5

### Form of Technical Terms

Many acceptable variants of technical terms are used—*sales comparison approach* v. *comparative sales approach* v. *market approach*. Decide which variant you will use and then use it consistently. For example, if the term *incurable functional obsolescence* is used in one part of the depreciation section, the terms *functional incurable obsolescence* or *incurable obsolescence, functional*, should not be used in another part of the section. Use the glossary or index in your textbooks to identify the variants preferred by the IAAO. Similarly, if the word *data* is plural (the data are useful) in the beginning of a report, it should not become singular later (the data is useful). (Note: *Data* as a plural is correct; the singular is *datum*. Use of *data* in the singular is recognized by many authorities, however.)

Define technical terms when they first appear. If you use an abbreviation for a technical term, introduce it in parentheses after the first use of the term: *computer-assisted mass appraisal (CAMA)* system. Avoid sprinkling your report with abbreviations and stick to abbreviations that are well known. Abbreviations acceptable in informal situations should be avoided in a formal report: *capitalization rate*, not *cap rate*; *effective gross income*, not *effective gross*.

## Appendix 1 continued

### Treatment of Numbers

Decide when you will use numerals and when you will use words to represent numbers. According to some manuals, whole numbers from one through ninety-nine are always written out; according to others, only whole numbers from one to nine are written out. In general, the following rules apply.

1. In nonscientific text matter, whole numbers of less than one hundred should be spelled out, and numbers of one hundred or more should be expressed in figures:

The appraiser used ten comparables.

There were 325 sales in the subject neighborhood last year.

Note: An exception to this rule is made for references to parts of a book or report:

The comparables are listed in chapter 10, page 8.

2. Numbers applicable to the same category should be treated the same way in a paragraph; numerals should not be used for some numbers and words for others. If the largest number contains three or more digits, use numerals for all. If one number is a decimal, use numerals for whole numbers of other items in the same category:

There were 25 properties in this neighborhood and 116 properties in the other.

In the past five years, a 101-story building and two buildings of 20 and 30 stories were built.

Comparable A had 2.5 bathrooms, comparable B had 2, and the subject property had 3.

3. Notwithstanding any other rules, at the beginning of a sentence all numbers should be written out:

Three hundred sales and 105 comparables were found.

4. In sections of the narrative appraisal report dealing with valuation discussions, numbers may be expressed as figures, in accordance with rules for scientific usage:

The subject property has 4 rooms per unit. Sale 4 has 4.5 and appears to be the most comparable. Using the price for sale 4 as an estimate, we have

$45 \text{ apartments} \times \$8,067 \text{ per apartment} = \$363,015.$

5. Use the word *percent* within the text of a report instead of the sign %: The adjustment was 10 percent.

Because mathematical formulas and equations are used extensively in demonstration appraisal reports, it is important to follow consistently established conventions in their representation. There are different conventions for representing mathematical relationships ( $2 \div 1$  or  $2/1$ ). Choose one style, add the choice to your style sheet, and use it consistently. Also pay careful attention to consistent internal logic within an equation or formula. Following are some points to bear in mind:

## Appendix 1 continued

1. Decimal fractions should always be preceded by a zero if the quantity expressed can equal or exceed 1.00. If the quantity cannot, in practice, equal or exceed 1.00, the zero is omitted:

The capitalization rate is .10. The probability is less than .05. The level of appraisal is 0.90.

2. Avoid using percentages within equations. Decimals are preferred. In either case, do not use decimals in equations sometimes and percent-ages at other times:

$$\$2,500 \times .25 + .10 \times \$300 = \$655,$$

*not*  $\$2,500 \times .25 + 10\% \times \$300 = \$655.$

3. Do not express statements or headings that occur outside a formula or equation as if they were part of one. For example, the following heading is poor form, unless it is part of a formula:

Vacancy and credit loss for the subject property = 4 percent.

The proper form for this heading is

Vacancy and credit loss for the subject property: 4 percent.

The equals sign denotes that what follows is a result of a calculation, when in fact what is being expressed is that the vacancy and credit loss *is* 4 percent.

4. Use either symbols expressing mathematical relationships or use words represented by the symbols, but not both in the same expression. It is poor form to write:

$$\$280,500 \text{ divided by } 0.28 = \$1,001,786,$$

or

$$\$280,500/0.28 \text{ equals } \$1,001,786.$$

5. Punctuate equations at the end as though they were sentences or parts of sentences.
6. Within the same category, round decimals to the same number of places.
7. In tables and calculations, be sure numbers are properly aligned. Using the tab key rather than the space bar is one way to achieve proper alignment.

## Clarity and Coherence

Clarity and coherence are inseparable in good writing. Clear writing expresses meaning precisely and unambiguously. Coherence in its literal sense means sticking together; in technical writing, it means that parts large and small are logically connected and congruous with one another. Consistency is an important tool in clear, coherent writing. Everything from the choice of words to sentence structure to paragraph structure to the grand outline of the whole contributes to both clarity and coherence. This section focuses on writing clear, coherent sentences and clear, coherent paragraphs.

## Appendix 1 continued

### Clear Sentences

Wordiness, lack of parallelism, double meanings, and overly complex sentences get in the way of clear expression of ideas.

Omit needless words.

- Avoid expressions containing “the fact that.” *Due to the fact that* can be replaced by *Because*.
- Use apposition instead of *which is* or *who are*: Instead of *The building, which is the oldest in the neighborhood*, write, *The building, the oldest in the neighborhood,....*
- Avoid constructions requiring *that*.

Property that is typical of that business type  
Property typical of that business type

It might be that a quick phone call can remedy the situation.  
A quick phone call might remedy the situation.

- Avoid *a period of* and *a time frame of*

For a period of a few years  
For a few years

Sales from a time frame of two years  
Sales from two years

Avoid the passive voice, extraneous ideas, and big words when the active voice and smaller words will communicate your meaning. Instead of, *The base home approach was developed to be used as a communication tool that will facilitate the understanding and interpretation of assessments by taxpayers*, write, *The base home approach is a tool to help taxpayers understand and interpret assessments*. If the reason behind development of the base home approach is important, write, *The base home approach was developed as a tool to help taxpayers understand and interpret assessments*.

Writing is often cluttered by repetition of phrases that are clear from the context. Examine each sentence you write to see if it contains ideas that are already implied by the context. For example, in the following sentence, is *in the cost approach* necessary? *To analyze physical depreciation in the cost approach....* If you are writing a section on the cost approach, it’s already understood.

Make parallel ideas parallel in structure. In the following list, *how old the building is* should be replaced by *age*:

Elements of comparison include the following:

- overall quality
- architectural attractiveness
- how old the building is
- size

Avoid ambiguity.

## Appendix 1 continued

- For example, consider the following sentence: *The property was appraised as a whole, owned in fee simple title, and free of any encumbrance.* It is unclear whether the property was appraised as (if) owned in a fee simple title or whether the property was actually owned in fee simple title. Is *property* the subject of the passive verb *was owned* or is *owned* a participle modifying *whole*?
- Dangling modifiers may not completely obscure meaning, but disrupt the flow of thought. Consider, *Subtracting the accrued depreciation, the present value of the property was \$180,000.* Clearly the present value did not subtract the accrued depreciation. However, meaning in the following is not clear: *I used comparable sales from a period of two years to construct a sales comparison grid, which proved to be successful.* What was successful—using sales from two years or constructing a grid?
- Avoid overly complex sentences. Consider this sentence: *Adjust the indicated value of the property for any personal property (such as fixtures, furniture, and equipment) that may be included in the cost estimate and, if necessary, adjust this value, which reflects the value of the fee simple interest, for the property interest being appraised to arrive at the indicated value of the specified interest in the property.* It is difficult to discern the meaning. Possibly, the following is meant: *Adjust the indicated value of the property for personal property included in the cost estimate. The result reflects the value of the fee simple interest. If a partial interest is being appraised, adjust the value of the fee simple interest to obtain the value of the specified interest.*

### Coherent Paragraphs

A paragraph is a group of sentences developing either a single topic or a specific part of a larger topic. Begin each paragraph with a sentence that states the topic or, occasionally, with a sentence that makes a transition from the previous paragraph. Reread each paragraph you have written to see if each sentence develops the topic of the paragraph. If you start another topic mid-paragraph, divide the paragraph and develop a new topic sentence or move material that does not belong to an appropriate place.

### Some Rules of Punctuation

#### The Period

The period is used primarily to indicate the end of a declarative sentence. Rules for using periods in lists and with parentheses often cause confusion.

1. In vertical lists, do not use periods (or any end punctuation) unless one of the items is a complete sentence:
  1. sinking-fund method
  2. mortgage-equity method
  3. annuity method

Note: As in the above example, numbers in vertical lists are followed by a period; within a paragraph, numbers in a list are enclosed in parentheses: (1) sinking-fund method, (2) mortgage-equity method, and (3) annuity method.

## Appendix 1 continued

2. Periods are placed *within* the parentheses used to enclose an independent sentence. Periods are placed *outside* the parentheses if the enclosed matter is part of an including sentence:

The result of my calculation is \$24,250. (I multiplied \$12,125 by 2.)

The result of my calculation is \$24,250 (derived by multiplying \$12,125 by 2).

### The Comma

The comma indicates a small interruption in the continuity of a thought or sentence. One source of confusion is the compound sentence v. the compound predicate.

1. Clauses of a compound sentence (a sentence in which each clause has a different subject) are generally divided by a comma:

The income approach suggests one value estimate, but the cost approach gives another.

The land value is estimated first, and then the building value is considered.

2. A comma is *not* used in a sentence with a compound predicate (two or more verbs with the same subject):

The income approach gives a value estimate and acts as a check against the other approaches.

The land value is estimated first but bears no relationship to the building value.

3. A dependent clause preceding an independent clause is usually set off by a comma:

If the city data were useful, I would incorporate it in the report.

Although there is little market data to support such a conclusion, it can be supported in other ways.

4. A comma is used in full dates but not with simply the month and year. April 1, 1999  
April 1999

### The Semicolon

The semicolon indicates a more marked interruption in a sentence than does a comma. Following are a few common rules for its use.

1. A semicolon is used to separate the two parts of a compound sentence when unconnected by a conjunction:

The subject city has six parks; two are located in the subject neighborhood.

2. When used between clauses of a compound sentence, the following words should be preceded by a semicolon: then, however, thus, hence, yet, so:

## Appendix 1 continued

No items of curable functional obsolescence could be found; hence, the amount is zero.

This amount is difficult to verify in the market; however, it is deemed an appropriate amount.

3. For clarity, a semicolon should be used to divide clauses of a compound sentence or items in a series subdivided by commas:

The cost of improvements, such as walks, driveways, and stoops; the cost of plans, including permits, fees, and insurance; and the market value of the land are all discussed in this section.

The gross rent multipliers are as follows: sale 1, 7.5; sale 2, 6.1; and sale 3, 7.2.

### The Hyphen and the Dash

Hyphens are used within words to separate parts of a compound word or to indicate a word break at the end of a line. Questions about the appropriate use of hyphens may be resolved by the dictionary or a style guide. Over time, words such as *data base* become hyphenated, and then become a single word, *database*, and some authorities accept the unbroken compound more quickly than others. Some compounds are temporary—two or more related modifiers are hyphenated to prevent ambiguity.

It is an eight-unit apartment building of masonry construction.

The house has a 12-foot ceiling.

The property was of brick-and-mortar construction. The appraiser used the straight-line method.

*The Chicago Manual of Style, 16<sup>th</sup> Ed.* has a useful table of compounds and their treatment. (See Table 1 at the end of chapter 7.)

Dashes are marks of punctuation. Typesetters distinguish the en dash, which is longer than a hyphen, and the em dash, which is twice the length of the en dash. The two kinds of dashes have different functions. On a type-writer, the em dash is indicated by two hyphens closed up to the words around them. Some word processing programs can be set to insert the en or em dash using a symbol font or special characters menu.

En dashes are used most frequently to indicate inclusive numbers or dates: 1994–96

April–June 1999

However, if you use *from*, be consistent and pair it with a *to*: from 1994 to 1996, *not* from 1994–96.

An em dash is used in two ways: (1) to emphasize a thought and (2) to indicate a parenthetical element or a break in thought that would disrupt the sentence structure.

The appraiser finds data in the market—not a cost manual.

The appraiser estimated the reproduction cost—the cost of reproducing an exact replica of the building—as \$12 million.

## Appendix 1 continued

# Reference Materials for Style

## Books

A classic resource and a wonderful book for tuning your ear to good writing is Strunk and White, *The Elements of Style*. This slim book can be found in any number of editions and even on line (see web resources below). Strunk and White sets forth elementary rules of usage and principles of style with an abundance of examples.

For more specific help with questions of usage, try Copperud's *American Usage and Style: The Consensus*, last revised and updated in 1980 and now out of print. Copperud compares the judgments of nine authorities on a variety of expressions and usages, such as the difference between *infer* and *imply*. The book is arranged alphabetically, which makes it easy to use.

*Fowler's Dictionary of Modern English Usage*, edited by Jeremy Butterfield, is also arranged alphabetically and is not as strict on many issues as previous editions and pays more attention to differences between British and American English.

*The Chicago Manual of Style*, referenced at the end of appendix 2, is a complex and sometimes confusing book. It will not teach you how to write well, but it is thorough in its treatment of the details of punctuation, capitalization, references, numbers, and so on. The book is well indexed and cross-referenced.

## Web Resources

The world wide web contains an abundance of information on usage and style—from resources for esoteric grammatical questions to basic tutorials on English sentence structure. A few of these resources are listed below, and they can lead you to more.

Guide to Grammar and Writing—contains helpful hints on basic concepts

<http://grammar.ccc.commnet.edu/grammar/>  
or <http://grammar.ccc.commnet.edu/grammar/index2.htm>

A structured course produced by the University of Ottawa

<http://www.uottawa.ca/academic/arts/writcent/hypergrammar>

A searchable on-line version of Strunk and White

<http://www.bartleby.com/141>

Common errors in English—lists and explains errors in usage, such as confusion between accept and except

<http://public.wsu.edu/~brians/errors/errors.html>

Grammar Girl's Guide to the English Language—a collection of the author's pet peeves gleaned from her years of experience as a technical editor with many useful tips, as well as links to other sites on grammar

<http://www.quickanddirtytips.com/grammar-girl>

# Footnotes and Endnotes—Citation of Authorities

Throughout the *Guide to Real Property Demonstration Appraisal Report Writing* there are reminders to authors of demonstration appraisal reports that each step in the appraisal process must be explained and substantiated. The authority for a statement in the text of the report is often a written work, published or unpublished. Authors may wish to use written sources as authorities for definitions, explanations of techniques, or facts. Notes are used to cite authorities for statements in the text of the report.

## Footnotes or Endnotes?

Notes can be either footnotes or endnotes, but not both in the same text. Footnotes are placed on the same page as the material they document. Endnotes are gathered at the end of the section with the heading "Notes." Footnotes have the clear advantage of requiring no leafing back and forth between statement and documentation. They no longer suffer from the disadvantage of making typing of a page difficult. Word-processing programs make preparation of footnotes or endnotes easy. The program numbers and arranges the notes automatically. Footnotes may be used to comment on, to expand, and to qualify material in the text, and to acknowledge personal help. Because of their physical separation from the text, endnotes are less suited for these purposes.

By these criteria, the author whose notes are exclusively references to pages in one or more books or articles, each of which is cited infrequently, may decide to use endnotes. However, the author who wishes to comment on discrepancies between census data and city planning data in describing a neighborhood, to comment on reasons for favoring a particular method of capitalizing income, or to name authors in the text while giving page numbers in the notes should choose footnotes as the appropriate format.

## Form and Content of Notes

Whether you choose footnotes or endnotes, you must present them in a standard form. Notes are numbered consecutively through the report in Arabic numbers, beginning with 1. A word-processing program will treat the numbers of the notes as superscripts. In the text, these numbers are placed after all punctuation marks (except a dash) at the end of a quotation or a sentence or, if necessary for clarity, at the end of a clause. A note prepared as commentary should be written as a single paragraph beginning with a capital letter immediately after the reference number. A note written to cite the authority for a statement begins immediately after the reference number with the initial letter capitalized.

The purpose of notes is to provide enough information for the reader to find the work cited for themselves. The arrangement of the note's content varies according to the style chosen but should always be the same within that style. The following information should be included:

## Appendix 2 continued

- Full name of author or authors (sometimes an institution rather than a person)
- Full title of work (include any subtitle)
- Editor if there is one (sometimes the editor is used in place of the author if no author is listed)
- Edition (unless it is the first)
- Title of larger work of which this is part
- Volume number or series title
- Publisher
- City of publication
- State or province if not clear (use two-letter abbreviation)
- Date of publication
- Page numbers or volume, issue, and page number
- URL of source if referenced from the Internet

### Examples

The following examples have been chosen from the kinds of works that candidates might wish to cite. Numbers in parentheses refer to the notes below, which illustrate the form of citations for a variety of source materials. Other styles for notes are acceptable as long as the style is self-consistent.

The name of the person or group responsible for the work is entered in its usual order as given on the title page of the work cited. Responsibility may lie with one or more persons (1–4), an association (5–7), or a governmental agency (8–10). The person or group responsible for the work may not be an author but may be an editor or compiler (11–13). When it is not clear where responsibility lies, this element is omitted (14).

The title is transcribed in full as it appears on the title page, not the book's cover or spine (1,12). The title of the larger work is italicized; that of the smaller work (an article or a chapter) is enclosed in quotation marks (2–4).

The description of the larger work includes series number, edition number, volume number, and editor for books; it should include volume number for magazines and journals. Not all publications have all these characteristics (1–14).

The facts of publication are presented as: (place; publisher, date). The place must be distinguished from any other place with that name (1, 2, 8, 13), although if the state is clear, the state abbreviation may be omitted (9). The publisher may be a commercial firm, an organization (and one of its divisions, as in 12), or a government agency. The date is the publication date taken from the book's title page or cover. For magazines and journals appearing at regular intervals (and for annual volume, if desired) place and publisher are omitted; only the date of issue is inside the parentheses.

The final element is the exact page or pages being cited. For books, this element is preceded by a comma; for magazines, journals, and serial volumes it is preceded by a colon.

<sup>1</sup>. William N. Kinnard, Jr., *Income Property Valuation: Principles and Techniques of Appraising Income-Producing Real Estate* (Lexington, MA: Heath Lexington Books, 1971), 107–8.

<sup>2</sup>. Thomas H. Hall III, "Hotel and Motel Valuation," in *Encyclopedia of Real Estate Appraising*, 3<sup>rd</sup> ed., ed. Edith J. Friedman (Englewood Cliffs, NJ: Prentice-Hall, 1978), 635.

## Appendix 2 continued

3. Bernice T. Dowell, "Hotel Investment Analysis: In Search of Business Value," *Proceedings of the Sixty-second Annual International Conference on Assessment Administration* (Chicago: International Association of Assessing Officers, 1996): 200.
4. Richard R. Simonds, "Accuracy of the Yield and Direct Capitalization Methods: A Twenty-Year Empirical Study of the Electric Utility Industry," *Assessment Journal* 6(4) (July/August 1999): 53.
5. International Association of Assessing Officers, *Property Assessment Valuation*, 2<sup>nd</sup> ed. (Chicago: International Association of Assessing Officers, 1996), 19–23.
6. International Association of Assessing Officers, Technical Standards Subcommittee, *Standard on Ratio Studies* (Chicago: International Association of Assessing Officers, 1999), 4.
7. Appraisal Institute, *The Appraisal of Real Estate*, 11<sup>th</sup> ed. (Chicago: Appraisal Institute, 1996), 100–104.
8. U.S. Bureau of the Census, *Taxable Property Values*, vol. 2, of *1992 Census of Governments* (Washington, DC: Government Printing Office, 1994), 143–45.
9. California, State Board of Equalization, *1997–98 Annual Report* (Sacramento: State Board of Equalization, 1999), 19.
10. Washington County, Oregon, Department of Assessment and Taxation, *Summary of Assessment and Tax Roll, Fiscal Year 1999–2000* (Hillsboro: Department of Assessment and Taxation, 1999), 54.
11. Edith J. Friedman, ed., *Encyclopedia of Real Estate Appraising*, 3<sup>rd</sup> ed. (Englewood Cliffs, NJ: Prentice-Hall, 1978), 1.
12. Robert M. Clatanoff, comp., *The Valuation of Utility and Transportation Property: A Classified Annotated Bibliography*, Bibliographic Series, no. 5 (Chicago: International Association of Assessing Officers, Research and Technical Services Department, 1983), 16.
13. Byrl N. Boyce, comp. and ed., *Real Estate Appraisal Terminology*, rev. ed. (Cambridge, MA: Ballinger, 1981), 42.
14. *Webster's Third New International Dictionary*, s.v. "market value."

Note: For *well-known* reference books the facts of publication are omitted, but the edition (if not the first) is specified. Page numbers are not used; the item is given, preceded by "s.v." (*sub verbo*, "under the word").

### Abbreviated References

After the first full reference in a note, subsequent references to a particular source give author, short title, and page (for example, Kinnard, *Income Property Valuation*, 34).

### Notes to Tables and Charts

Notes to tables and charts are numbered separately for each table and chart (not in the sequence of notes to the text) and are placed at the end of the particular table or chart.

## Appendix 2 continued

### References for Style of Notes

Many style manuals—some tied to specific professions—have been published. The IAAO favors *The Chicago Manual of Style*. The Associated Press also publishes a well-regarded manual, *The Associated Press Stylebook*. A visit to a library or a bookstore (physical or on-line) will give you a good idea of what is available.

The following two resources should serve most purposes.

- *The Chicago Manual of Style*, 16<sup>th</sup> ed. (Chicago: University of Chicago Press, 2010).
- Kate L. Turabian, John Grossman, and Alice Bennett, *A Manual for Writers of Term Papers, Theses, and Dissertations*, 8<sup>th</sup> ed. (Chicago: University of Chicago Press, 2013).

## Appendix 3

# Suggested Authorities and Materials for Review

The *Guide* is built upon and referenced to the IAAO textbook, *Property Assessment Valuation*. This source should suffice for most of the needs of the candidate. However, no one authoritative work is so complete that others may not be needed. The works listed below have been used by others for demonstration appraisal reports. They are also excellent sources for review of concepts that will be helpful to the candidate as the report is developed and written.

Student reference manuals for all IAAO courses, particularly:

Course 101: Fundamentals of Real Property Appraisal

Course 102: Income Approach to Valuation

Course 112: Income Approach to Valuation II

Course 311: Residential Modeling Concepts

Course 312: Commercial/Industrial Modeling Concepts

*The Appraisal of Real Estate*. Latest edition. Chicago: Appraisal Institute.

*Fundamentals of Mass Appraisal*. Latest edition. Chicago: International Association of Assessing Officers.

*Mass Appraisal of Real Property*. Latest edition. Chicago: International Association of Assessing Officers.

*Property Appraisal and Assessment Administration*. Latest edition. Chicago: International Association of Assessing Officers.

# Appendix 4

## REAL PROPERTY DEMONSTRATION MASS APPRAISAL REPORT GRADING SHEET

Name of Candidate \_\_\_\_\_

File Number \_\_\_\_\_

First Submission \_\_\_\_\_

Revised Submission \_\_\_\_\_

**Column**

- A**      **100%** Satisfactory
- B**      **75%** Marginally Satisfactory
- C**      **50%** Improvement Needed
- D**      **25%** Unsatisfactory
- E**      **0%** Omitted

### I. PART 1 INTRODUCTION

- A. Title Page
- B. Letter of Transmittal
- C. Table of Contents
- D. Summary of Salient Facts and Conclusions

| A | B | C | D | E | SCORE |
|---|---|---|---|---|-------|
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Maximum Value Part 1

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|--------------------|--|--|--|--|--|
| 2.00               |  |  |  |  |  |
| Final Score Part 1 |  |  |  |  |  |

### II. PART 2 APPRAISAL PROBLEM AND SCOPE OF WORK

- A. The Appraisal Process
- B. Type of Appraisal and Report
- C. Identification of Client
- D. Intended Use and Intended User(s)
- E. Identification of Subject Properties
- F. Property Rights Appraised
- G. Purpose of the Appraisal
- H. Definition of Value and Date of Value Opinion
- I. General Assumptions and Limiting Conditions
- J. Extraordinary Assumptions and Hypothetical Conditions
- K. Scope of Work

| A | B | C | D | E | SCORE |
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Maximum Value Part 2

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| 2.80               |  |  |  |  |  |
| Final Score Part 2 |  |  |  |  |  |

### III. PART 3 PRESENTATION OF DATA

**A. Preliminary Analysis and Plan**

**B. General Data**

- 1. Physical Factors
- 2. Economic Factors
- 3. Governmental Factors
- 4. Social Factors
- 5. Analysis and Conclusions Relative to Subject Properties

**C. Specific Data**

- 1. Land Data
- 2. Improvement Data
- 3. Location

**D. Comparative Data**

- 1. Cost Data
- 2. Sales Data
- 3. Income and Expense Data

**E. Exploratory Data Analysis**

- 1. Data Quality Review
- 2. Data Distributions
- 3. Market Patterns and Relationships
- 4. Time Trends
- 5. Ratio Study

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**Maximum Value Part3**

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| 21.45             |  |  |  |  |  |
| Final Score Part3 |  |  |  |  |  |

### IV. PART 4 DATA ANALYSIS AND CONCLUSIONS

**A. Highest and Best Use Analysis**

- 1. Definition and Source
- 2. Analysis and Support of Sites as if Vacant
- 3. Analysis and Support of Properties as Improved

**B. Valuation Process in Mass Appraisal**

- 1. Definitions
- 2. Approaches to Value
- 3. Economic Principles
- 4. Theory and Procedures of Each Approach
- 5. Mass Appraisal Model Structures
- 6. Steps in Model Building
- 7. Calibration Techniques
- 8. Multiple Regression Analysis
- 9. Reconciliation

**C. Cost Approach**

- 1. Model Specification
- 2. Model Calibration
- 3. Model Validation

**D. Income Approach**

- 1. Model Specification
- 2. Model Calibration
- 3. Model Validation

| A | B | C | D | E | SCORE |
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**E. Sales Comparison Approach**

- 1. Model Specification
- 2. Model Calibration
- 3. Model Validation

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**F. Reconciliation and Final Estimate of Value**

- 1. Review of Developed Data
- 2. Analysis of Strengths and Weaknesses of Each Approach
- 3. Logical Selection of Final Values
- 4. Value Estimates and Effective Date of Appraisal

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**G. Exposure Time**

**H. Certification**

- 1. Proper Statement of Facts
- 2. Signature of Candidate

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**Maximum Value Part4**

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| <b>70.00</b>      |  |  |  |  |  |  |
| Final Score Part4 |  |  |  |  |  |  |

**V. PART 5 ADDENDA**

**A. Addenda**

- 1. Map of Area
- 2. Maps of Neighborhoods
- 3. Maps of Comparable Sales, Rentals, and Rental/Sales
- 4. Syntax of Transformations
- 5. Qualifications of Appraiser

| A | B | C | D | E | SCORE |
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**B. Structure**

- 1. Neatness, Grammar, Punctuation, and Spelling
- 2. General Organization of the Report

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**Maximum Value Part5**

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| <b>3.75</b>       |  |  |  |  |  |  |
| Final Score Part5 |  |  |  |  |  |  |

**Grader**

Approved \_\_\_\_\_ Rejected \_\_\_\_\_  
 Graded by \_\_\_\_\_  
 Date \_\_\_\_\_

**Grading Chairman**

Approved \_\_\_\_\_ Rejected \_\_\_\_\_  
 Reviewed by \_\_\_\_\_  
 Date \_\_\_\_\_