

Real Property Appraisal Body of Knowledge Summary

I INTRODUCTION

II ROOTS

- A** Introduction to Roots section
- B** Economic theories
 - 1** History of value theory
 - 2** Current economic theories
 - 3** Land economics
 - 4** Theory of capitalism
- C** Economic principles as applied to real estate
 - 1** Anticipation
 - 2** Balance
 - 3** Change
 - 4** Competition
 - 5** Conformity
 - 6** Contribution
 - 7** Externalities
 - 8** Increasing and decreasing returns
 - 9** Opportunity cost
 - 10** Substitution
 - 11** Supply and demand
 - 12** Surplus productivity
- D** Value/Cost/Price concept
- E** Factors of value
 - 1** Utility
 - 2** Scarcity
 - 3** Desire
 - 4** Effective purchasing power
- F** Highest and best use
- G** Influences on value
 - 1** Social
 - 2** Economic
 - 3** Governmental
 - 4** Environmental
- H** Function of money

III TRUNK

- A** Introduction to the Trunk section
- B** Legal considerations
 - 1** Real estate v. real property
 - 2** Real property v. personal property
 - 3** Limitations on real estate ownership
 - 4** Real property legal rights and interests
 - 5** Forms of property ownership
 - 6** Legal descriptions

Real Property Appraisal Body of Knowledge Summary

- 7 Transfer of title
- C** Real estate markets and analysis
 - 1 Characteristics of real estate markets
 - 2 Absorption analysis
 - 3 Competing investments
 - 4 Role of money and capital markets
- D** Real estate financing
 - 1 Mortgage components and terms
 - 2 Types of traditional mortgage financing
 - 3 Types of creative mortgage financing
- E** Uniform Standards of Professional Appraisal Practice (USPAP)
 - 1 Introduction
 - 2 Standards
 - 3 Statements
 - 4 Advisory Opinions and Glossary
- F** Introduction to the Appraisal/Valuation Process
 - 1 Definition of the problem
 - 2 Collection and analysis of data
 - 3 Analysis of highest and best use
 - 4 Land/site value
 - 5 Approaches to value
 - 6 Reconciliation and final value estimate
 - 7 Communicating the appraisal report
- G** Appraisal/valuation process
 - 1 Definition of the problem
 - a Purpose and use of appraisal
 - b Interests to be appraised
 - c Type of value to be estimated
 - d Date of the value to be estimated
 - e Assumptions and limiting conditions
 - 2 Collection and analysis of data
 - a Primary v. secondary data
 - b General data relevant to value
 - c Specific data relevant to value
 - 3 Analysis of highest and best use
 - a Test/constraints
 - b Application of highest and best use
 - 4 Land/site value techniques
 - a Sales comparison analysis
 - b Land residual
 - c Allocation
 - d Extraction
 - e Ground rent capitalization
 - f Land/subdivision development method
 - g Additional land value considerations
 - 5 Approaches to value
 - a Sales comparison

Real Property Appraisal Body of Knowledge Summary

- b** Cost
 - c** Income capitalization
- 6** Reconciliation and final value estimate
 - a** Review and assigning weight of validity and reliability of each approach
 - b** Criteria for selecting the appropriate approach(es) for final value estimate
 - c** Statement of final value conclusion
- 7** Communicating the appraisal report
 - a** Appraiser's obligations
 - b** Types of appraisal reports
 - c** Methods of communication
 - d** Contents of report

IV BRANCHES

- A** Introduction to Branches section
- B** Types of Property
 - 1** Residential
 - a** Forms of occupancy
 - b** Types of residential properties
 - c** Property rights appraised and legal issues
 - d** Financial and income characteristics
 - e** Neighborhood
 - f** Site
 - g** Off-site improvements
 - h** Types of off-street improvements
 - i** Site characteristics
 - j** Improvements
 - k** Depreciation
 - l** Adverse conditions
 - m** Approaches to value
 - n** Application of appropriate technique
 - o** Reconciliation and final value estimate
 - p** Conditions of the appraisal
 - q** Appraisal guidelines and underwriting requirements
 - 2** Commercial
 - a** Forms of Occupancy
 - b** Types of commercial properties
 - c** Building description/functional utility
 - d** Legal considerations
 - e** Typical building measurements (square foot)
 - f** Approaches to value
 - g** Reconciliation and report of final value estimate
 - 3** Industrial
 - a** Forms of occupancy
 - b** Sites
 - c** Types of industrial properties
 - d** Functional utility

Real Property Appraisal Body of Knowledge Summary

- e Legal considerations
 - f Approaches to value
 - g Reconciliation and report of final value estimate
 - h Financial considerations
 - 4 Agricultural/rural
 - a Types of ownership
 - b Types of agricultural properties
 - c Property description/functional utility
 - d Legal considerations
 - e Approaches to value
 - f Reconciliation and report of final value estimate
 - 5 Special Purpose
 - a Purpose and function of the appraisal
 - b Data gathering special considerations
 - c Highest and best use special considerations
 - d Approaches to value special considerations
 - e Reconciliation special considerations
 - f Communicating the appraisal special considerations
 - g Types of special purpose assignments
- C Review
 - 1 Purpose of review
 - 2 Client report
 - 3 Types of review
 - 4 Review process
 - 5 Report types
 - 6 USPAP compliance
- D Valuation of partial interests
 - 1 Interests created by a lease
 - 2 Lease provisions
 - 3 Valuation considerations
 - 4 Partial and fractional interests
- E Appraisal management/operational practices
 - 1 Form of ownership
 - 2 Office and business organization
 - 3 Financial
 - 4 Risk management
 - 5 Professional business skills
- F Regulatory
 - 1 Levels
 - 2 Types
- G Quantitative techniques
 - 1 Basic mathematics
 - 2 Statistics
 - 3 Probability
 - 4 Index numbers and series
- H Technology
 - 1 Office technology

Real Property Appraisal Body of Knowledge Summary

- 2 Network technology
- I** Accounting basics
 - 1 Double entry bookkeeping basics
 - 2 Cost accounting concepts
 - 3 Accounting documents
 - 4 Asset management accounting and book depreciation
 - 5 Balance sheet
 - 6 Profit and loss statement
 - 7 Property management accounting basics
 - 8 Project development accounting basics
 - 9 Farm records systems
- J** Communications
 - 1 Language skills
 - 2 Written
 - 3 Oral
 - 4 Multimedia skills
- K** Engineering basics
 - 1 Engineering drawings and specifications
 - 2 Surveying and legal descriptions basics
 - 3 Civil engineering basics
- L** Architectural basics
 - 1 Architectural drawings and specifications
 - 2 Local architectural styles identification
 - 3 Architectural design considerations

V CONCLUSION

Real Property Appraisal Body of Knowledge

I INTRODUCTION

The Real Property Appraisal Body of Knowledge (BOK) is an outline of concepts, theories, paradigms, and applications of the real property appraisal profession. The profession's knowledge base is a tree with three parts: roots, a trunk, and branches. Roots (from economics) form the foundation of the tree and provide support for the trunk and branches. The trunk, composed of the valuation process and the Uniform Standards of Professional Appraisal Practice (USPAP) provides support for the branches. Branches represent individual appraisal assignments and specialties. Within each branch are many twigs which represent subspecialties within the discipline.

The BOK provides a spectrum of knowledge for the real property appraisal profession. While not exhaustive, it contains the profession's foundations, supporting concepts and specialties. It is a living, dynamic document designed to be modified, tested, and exposed to the test of time.

The BOK generally defines the knowledge base of the real property appraisal profession. A BOK has two dimensions: breadth and depth. The fringes in both dimensions are ambiguous. While most assignments will require a subset of the knowledge provided in this document, unusual or highly specialized appraisals may require knowledge that is greater in breadth or depth. Assignments may also require the knowledge and/or experience of other experts.

Individual appraisers will not possess the complete BOK. However, the appraiser will know at least a subset of the BOK. The contents of the subset will be dependent on the knowledge needed to competently complete the assignment.

II ROOTS

A Introduction to Roots section

This section provides insight and knowledge of the various value theories and principles that underlie value. The different value theories and principles that are germane to all generic investment types are the foundation for valuing all types of real property.

B Economic theories

1 History of value theory

a Classical school

b Austrian (Marginal Utility) school

Real Property Appraisal Body of Knowledge

- c Neoclassical school
 - d Contemporary value theory
 - 2 Current economic theories
 - a Keynesian
 - b Monetary
 - 3 Land economics
 - a Factors of production (land, labor, capital, entrepreneurship)
 - b Microeconomics and macroeconomics
 - 4 Theory of capitalism
- C** Economic principles as applied to real estate
 - 1 Anticipation
 - 2 Balance
 - 3 Change
 - 4 Competition
 - 5 Conformity
 - 6 Contribution
 - 7 Externalities
 - 8 Increasing and decreasing returns
 - 9 Opportunity cost
 - 10 Substitution
 - 11 Supply and demand
 - 12 Surplus productivity
- D** Value/Cost/Price concept
- E** Factors of value
 - 1 Utility
 - 2 Scarcity
 - 3 Desire
 - 4 Effective purchasing power
- F** Highest and best use
- G** Influences on value
 - 1 Social
 - 2 Economic

Real Property Appraisal Body of Knowledge

- 3 Governmental
- 4 Environmental
- H Function of money

III TRUNK

A Introduction to the Trunk section

Expanding upon the value theories presented in the roots, the trunk applies these theories to real property valuation. The trunk forms a solid basis for the application of the various concepts and procedures presented in the branches. The knowledge in the trunk includes legal aspects of real property, market and financial analysis, standards of professional practice, and the appraisal/valuation process.

B Legal considerations

- 1 Real estate v. real property
- 2 Real property v. personal property
 - a Fixtures
 - i Attached to property
 - ii Appropriate to function of property
 - iii Intention
 - iv Other
 - b Trade fixtures
 - c Business assets
 - i Machinery and equipment
 - ii Furniture and portable equipment
 - iii Franchises, patents, business name
 - iv Stock in trade and inventory
 - v Owner specific license (liquor, child care, etc.)
 - vi Other business assets
 - d Going concern assets, liabilities and equity
 - i Human capital
 - ii Receivables/payables
 - iii Files and records
 - iv Established suppliers and clients

Real Property Appraisal Body of Knowledge

- v Established work process
 - vi Reputation/goodwill
 - vii Other intangibles
- 3** Limitations on real estate ownership
- a** Private
 - i Covenants, conditions, restrictions (CC & Rs)
 - ii Deed restrictions
 - iii Leases
 - iv Mortgages
 - v Easements
 - vi Liens
 - vii Encroachments
 - b** Public
 - i Police power
 - (a) Zoning
 - (b) Building and fire codes
 - (c) Environmental regulations
 - (d) Historical restrictions
 - (e) Health and safety laws
 - ii Taxation
 - (a) Property tax
 - (b) Special assessments
 - iii Eminent domain
 - (a) Theory
 - (i) Property right required for public use
 - (ii) Just compensation
 - (iii) Due process of law
 - (iv) State v. federal rule
 - (b) Procedure
 - (i) Determination of need for taking
 - (ii) Notification
 - (iii) Determination of compensation

Real Property Appraisal Body of Knowledge

- (iv) Negotiation
 - (v) Court proceedings
 - (c) Whole v. partial taking
 - iv Escheat
- 4 Real property legal rights and interests
 - a Bundle of rights concept
 - b Fee simple estate
 - c Lesser estates
 - i Reservations
 - ii Specific rights held by others
 - iii Covenants, conditions and restrictions (CC & Rs)
 - iv Liens and other encumbrances
 - d Life estate
 - i Measuring life
 - ii Life tenant
 - iii Reversionary interest
 - iv Remainder interest
 - v Conventional life estate
 - vi Life estate pur autre vie
 - vii Legal life estate
 - e Lease interests
 - i Leasehold interest
 - ii Leased fee interest
 - iii Ground rent systems
 - iv Other interest
 - f Other legal interests
 - i Easement
 - (a) Categories
 - (i) Subsurface
 - (ii) Surface
 - (iii) Suprasurface
 - (b) Types

Real Property Appraisal Body of Knowledge

- (i) In gross
 - (ii) In appurtenance
 - ii Encroachment
 - iii Adverse possession
- 5 Forms of property ownership
 - a Individual (severalty)
 - b Multiple
 - i Partnership
 - ii Corporation
 - iii Other
 - c Tenancies and undivided interests
 - i Tenancy in common
 - ii Joint tenancy
 - iii Tenancy by entirety
 - d Special ownership forms
 - i Condominiums
 - ii Cooperative
 - iii Timesharing
 - iv Condop
- 6 Legal descriptions
 - a Metes and bounds
 - i Point of beginning and closure
 - ii Water line and tide line references
 - iii River edge and meander lines
 - b Monuments
 - c Government survey
 - i Base line and meridian
 - ii Township and range
 - iii Section
 - iv Government lots
 - d Lot and block
 - e Other surveys

Real Property Appraisal Body of Knowledge

- i Geodetic
 - ii Global positioning systems
 - 7 Transfer of title
 - a Basic types of deeds
 - i General warranty
 - ii Special warranty
 - iii Grant deed
 - iv Quit claim
 - v Other deeds
 - b Recordation
- C Real estate markets and analysis
 - 1 Characteristics of real estate markets
 - a Availability of information
 - b Changes in supply v. demand
 - c Immobility of real estate
 - d Segmented markets
 - e Regulations
 - f Liquidity
 - g Divisibility
 - h Management
 - i Taxation
 - j Cycles
 - i Business
 - ii Real estate
 - k Other characteristics
 - 2 Absorption analysis
 - a Demographic data
 - b Competition
 - c Absorption rate
 - d Forecasts
 - i Existing space inventory

Real Property Appraisal Body of Knowledge

- ii Current and projected space surplus
 - iii New space
- 3 Competing investments
 - a Types of investments
 - i Speculative markets
 - (a) Types of properties
 - (b) National/international competition
 - ii Money markets
 - iii Capital markets
 - iv Real asset markets
- 4 Role of money and capital markets
 - a Capital and banking structure
 - i Money supply
 - ii Banking system
 - b Money and capital markets
 - i Relationships between money and capital markets
 - ii Rates and yield levels
 - (a) Level
 - (b) Term structure
 - (c) Real v. nominal
 - c Sources of capital
 - i Equity
 - (a) Trusts
 - (b) Partnerships
 - (c) Syndicates
 - (d) Joint ventures
 - (e) Pension funds
 - (f) Life insurance companies
 - (g) International equity capital
 - (h) Individuals
 - (i) Corporation
 - (j) Other sources

Real Property Appraisal Body of Knowledge

- ii Debt
 - (a) Savings and loans associations/Federal savings banks
 - (b) Commercial banks
 - (c) Credit unions
 - (d) Life insurance companies
 - (e) Equity lenders
 - (f) Secondary mortgage market
 - (g) Farm credit intermediaries
 - (h) Other sources
- D Real estate financing
 - 1 Mortgage components and terms
 - a Promissory note
 - b Principal and interest
 - c Security interest
 - i Mortgage
 - (a) Mortgagor
 - (b) Mortgagee
 - ii Deed of trust
 - (a) Trustor
 - (b) Trustee
 - (c) Beneficiary
 - d Points and origination fees
 - i Subordination
 - ii Acceleration
 - iii Due on sale
 - iv Other mortgage documents
 - e Title v. lien
 - f Amortization term
 - i Negative amortization
 - ii Full amortization
 - iii Partial amortization
 - iv Interest only

Real Property Appraisal Body of Knowledge

- g** Fixed rate, level payment
- h** Adjustable rate
- i** Foreclosure
- j** Other
 - i** Balloon payments
 - ii** Long term note/Short term call
 - iii** Sale/Lease back
- 2** Types of traditional mortgage financing
 - a** Residential
 - i** Conventional
 - ii** Insured
 - (a)** Government
 - (b)** Private
 - iii** Guaranteed
 - iv** Special types
 - (a)** Land contracts
 - (b)** Other
 - b** Commercial
- 3** Types of creative mortgage financing
 - a** Purchase money mortgage (seller loan)
 - b** Installment (land) sales contract
 - c** Buydown plans
 - d** Wraparound loans
 - e** Other forms
- E** Uniform Standards of Professional Appraisal Practice (USPAP)
 - 1** Introduction
 - a** Preamble
 - b** Ethics
 - c** Competency
 - d** Departure
 - e** Jurisdictional Exception
 - f** Supplemental Standards

Real Property Appraisal Body of Knowledge

- g** Definitions
- 2** Standards
 - a** Real property appraisal
 - b** Real property appraisal reporting
 - c** Review appraisal
 - d** Real estate/real property consulting
 - e** Real estate/real property consulting reporting
- 3** Statements
- 4** Advisory Opinions and Glossary

F Introduction to the Appraisal/Valuation Process

The appraisal/valuation process is a systematic procedure which provides the answer to a client's question about real property value. This process both models and mirrors appraisal activity which reflects the market-driven attitudes, beliefs, techniques and methods that relate to value. These concepts are fundamental to appraising and serve as the basis for the actions appraisers perform in addressing their client's needs. This process is accomplished through specific steps, which depend on the nature of the assignment and the available data. This model indicates a pattern that can be used in assignments to perform market research and data analysis, to apply appraisal techniques and to integrate the results of these activities into an estimate of defined value. The steps in the process are listed below.

- 1** Definition of the problem
- 2** Collection and analysis of data
- 3** Analysis of highest and best use
- 4** Land/site value
- 5** Approaches to value
- 6** Reconciliation and final value estimate
- 7** Communicating the appraisal report

G Appraisal/valuation process

- 1** Definition of the problem
 - a** Purpose and use of appraisal
 - b** Interests to be appraised
 - c** Type of value to be estimated

Real Property Appraisal Body of Knowledge

- i** Market value
 - ii** Other values
 - (a)** Investment value
 - (b)** Value in use
 - (c)** Going concern value
 - (d)** Ad valorem assessed value
 - (e)** Liquidation value
 - (f)** Insurance value
 - d** Date of the value to be estimated
 - i** Effective date of appraisal
 - (a)** Retrospective
 - (b)** Prospective
 - (c)** Current
 - ii** Date of report
 - e** Assumptions and limiting conditions
 - i** Reasonable assumptions
 - ii** Extraordinary assumptions
 - iii** Not misleading
 - 2** Collection and analysis of data
 - a** Primary v. secondary data
 - b** General data relevant to value
 - i** National/international
 - (a)** Employment
 - (b)** Income
 - (c)** Population
 - (d)** Economic indicators (e.g., Consumer Price Index, Producer Price Index, Gross National Product/Gross Domestic Product, etc.)
 - ii** Regional
 - iii** Local market conditions
 - (a)** History and trends of community growth and development
 - (i)** Theories of urban and community growth patterns
 - A** Concentric zone

Real Property Appraisal Body of Knowledge

- B** Sector
 - C** Multiple nuclei
 - D** Radial corridor/axial
 - (ii)** Land use planning
 - (b)** Economic base and trends
 - (i)** Employment
 - (ii)** Income
 - (iii)** Population
 - (iv)** Position in business cycle
 - (c)** Property supply and demand
 - (d)** Linkages
- iv** Neighborhood description and analysis
 - (a)** Neighborhood boundaries
 - (b)** Neighborhood life cycles
 - (i)** Growth
 - (ii)** Stability
 - (iii)** Decline
 - (iv)** Revitalization
 - (c)** Forces and trends influencing value
 - (i)** Social
 - A** Demographics
 - B** Employment statistics
 - C** Educational levels
 - D** Community and neighborhood associations
 - E** Safety
 - (ii)** Economic
 - A** Economic base data
 - B** Property price levels
 - C** Income levels
 - D** Mortgage availability
 - E** Capital investment
 - (iii)** Governmental

Real Property Appraisal Body of Knowledge

- A Financial activities
- B Land use regulations
- C Municipal and school services
- D Taxation levels
- (iv) Environmental
 - A Physical features
 - B Presence of hazardous substances
 - 1 Surface
 - 2 Subsurface
 - 3 Pollution cause/effect in area
 - 4 Recognition
 - C Transportation
 - D Area land use patterns
 - 1 New construction
 - 2 Conversions
 - 3 Vacant land availability
 - 4 Extent of owner occupancy
 - 5 Vacancy rates
 - 6 Competition analysis for subject
- c Specific data relevant to value
 - i Subject property
 - (a) Identification
 - (i) Assessor parcel number
 - (ii) Street address
 - (iii) Census tract/block numbering area
 - (iv) Postal zip code
 - (v) Other identifiers
 - (b) Property rights appraised
 - (i) Fee simple
 - (ii) Less than fee simple estates
 - A Easements
 - B Covenants, conditions, and restrictions (CC & Rs)

Real Property Appraisal Body of Knowledge

- C** Encumbrances
 - D** Leases
 - E** Reservations
 - F** Contracts and private agreements
 - G** Declarations
 - H** Special assessments
 - I** Riparian and littoral rights
 - J** Party wall agreements
 - K** Encroachments
 - L** Title conditions (clouds on title)
 - M** Other
- (c)** Form of ownership
 - (d)** History of subject
 - (i)** Recent and current listings
 - (ii)** Sales history
 - (iii)** Use of property
 - (iv)** Construction and remodeling
 - (v)** Environmental history
 - (e)** Site description
 - (i)** Off-site considerations
 - A** Utilities
 - 1** Location and distance to utility hookups
 - 2** Utility hookup fees
 - 3** Supply capacity problems and moratoriums
 - 4** Construction requirements
 - 5** Periodic testing requirements
 - 6** Regulatory agencies and laws
 - 7** Quantity and quality
 - 8** Cost
 - B** Site access
 - 1** Traffic flow
 - 2** Traffic volume

Real Property Appraisal Body of Knowledge

- C** Public services
 - 1** Fire
 - 2** Police
 - 3** Schools parks and recreation areas
 - 4** Public transportation
- D** Adjacent land use
- (ii)** Shape and area
 - A** Area of regular and irregular shapes
 - B** Perimeter measurements
 - C** Volume measurements
- (iii)** Topography
 - A** Type/ slope
 - B** Slope erosion control
 - C** Drainage and runoff
 - D** Effect on construction and utilities
- (iv)** Soil characteristics
 - A** Soil types
 - B** Suitability for construction
 - C** Suitability for agriculture
 - D** Environmental considerations
- (v)** View and water orientation
 - A** Types of views (lake, ocean, mountain, golf course, etc.)
 - B** Water frontage
 - C** Lake/ocean/etc. front
 - D** Split lake/ocean/etc. front
 - E** Lake/ocean/etc. access
 - F** Lake/ocean/etc. view
 - G** Other amenity orientation
- (vi)** Utilities
 - A** Water
 - 1** Public service

Real Property Appraisal Body of Knowledge

- 2 Private community service
- 3 Private service
- 4 Wells, aquifers, and catch basins
- 5 Irrigation and agricultural use
- B** Electricity
 - 1 Energy sources
 - a Hydro
 - b Solar
 - c Wind
 - d Geo-thermal
 - e Nuclear
 - 2 Public service
 - 3 Private community service
 - 4 Private service
 - 5 Maintenance
 - 6 Chargeback policy
- C** Sewer
 - 1 Public service
 - 2 Private community service
 - 3 Private service
 - 4 Lateral connection
 - 5 Clean-out access
 - 6 Pumping station and elevation
 - 7 Septic system
 - 8 Dry well/cesspool
 - 9 Privy
 - 10 Maintenance
- D** Solid waste disposal
 - 1 Public service
 - 2 Private community service
 - 3 Private service
 - 4 Recycling policy

Real Property Appraisal Body of Knowledge

5 Hazardous materials policies

6 On site dumps and land fills

E Natural gas

1 Public service

2 Private community service

3 Private service

4 Maintenance

F Telephone and other communication access

1 Public service

2 Private community service

3 Private service

4 Maintenance

G Cable television

1 Public service

2 Private community service

3 Private service

4 Maintenance

(vii) Site improvements

A Driveway

B Patios and walks

C Pools and ponds

D Athletic courts

E Landscaping

F Out-buildings

G Fences

H Retaining walls

I Sea walls

J Piers

K Lighting

L Parking areas

(viii) Special considerations

A Flood hazard areas

Real Property Appraisal Body of Knowledge

- B** Noise zones
 - C** Volcanic and seismic zones
 - D** Mud slides areas
 - E** Sink holes
 - F** Flight paths and ditch areas
 - G** Military and other restrictions
 - H** Toxic waste
 - I** Wetlands
 - J** Endangered species
 - K** Historic and archaeological sites
- (f)** Improvements
- (i)** General considerations
 - A** History of the improvements
 - 1** Date of construction
 - 2** Date(s) of remodeling/renovations
 - 3** Use
 - 4** Historical/architectural preservation aspects
 - B** Compliance with applicable regulations
 - C** Demolition and removal
 - D** Toxic and hazardous substances
 - (ii)** Architectural styles
 - A** Residential
 - B** Non-residential
 - C** Design considerations
 - D** Aesthetics
 - E** Blueprints and specifications
 - (iii)** Area calculations
 - A** Gross building area
 - B** Rentable area
 - C** Occupied area
 - D** Usable area
 - E** Retail area

Real Property Appraisal Body of Knowledge

- F** Common area
- G** Net building area
- H** Gross living area
- I** Building Owners and Managers Association (BOMA)
- (iv)** Functional utility
 - A** Work flow patterns
 - B** Building efficiency
 - C** Deficiencies
 - D** Super-adequacies
- (v)** Building construction
 - A** Structural classifications (A,B,C,D,S)
 - B** Residential v. non-residential construction
 - C** Manufactured construction methods
 - 1** Modular construction
 - 2** Prefabricated construction
 - 3** Pre-constructed
 - 4** Mobile homes and mobile non-residential
 - D** Foundations and basements
 - E** Exterior walls and finishes
 - F** Interior framing, walls and finishes
 - G** Roof systems
 - H** Ceiling and attic areas
 - I** Insulation
 - J** Electrical systems
 - K** Plumbing systems
 - L** Heating, ventilating, and air conditioning
 - M** Elevator
 - N** Specialty systems
 - 1** Telephone, intercom, LAN and other communication access
 - 2** Radio, stereo and other audio systems
 - 3** Cable TV

Real Property Appraisal Body of Knowledge

- 4 Security and alarm
 - 5 Fire protection
 - 6 Vacuum and compressed air
 - 7 Clean rooms
 - 8 Decontamination and detoxification facilities
 - 9 Internet
 - 10 Other specialty systems
 - O** Special features
 - 1 Art work
 - 2 Unique window installations
 - 3 Special masonry work
 - 4 Other
 - P** Quality of construction
 - Q** Condition
 - 1 Damage and physical deterioration
 - 2 Deferred maintenance
 - 3 Condition of short lived items
 - 4 Condition of long lived items
- ii** Comparable properties
- (a)** Types of data
 - (i)** Sales
 - (ii)** Listings
 - (iii)** Offers
 - (iv)** Contracts of sale
 - (v)** Income and expenses
 - (vi)** Capitalization and yield rates
 - (vii)** Leases/rentals
 - (viii)** Construction cost
 - (ix)** Vacancy and occupancy levels
 - (x)** Absorption rates
 - (xi)** Supply and demand
 - (xii)** Other studies, surveys, etc.

Real Property Appraisal Body of Knowledge

- (b)** Comparable selection
 - (i)** Fair market transactions
 - (ii)** Cash or cash equivalent
 - (iii)** Recent activity
 - (iv)** Proximity to subject
 - (v)** Similarity of elements of comparison
 - A** Property rights
 - B** Conditions of sale
 - C** Market conditions (time)
 - D** Location
 - E** Physical characteristics
 - F** Income characteristics
 - (vi)** Documentation
 - A** Approvals and permits
 - B** Land records
 - C** Print media
 - D** Field notes
 - E** Office files
 - F** Photographs
 - G** Private data sources
 - H** Verification
 - I** Other

- iii** Analytical techniques
 - (a)** Grid arrays
 - (b)** Regression applications
 - (c)** Paired data analysis
 - (d)** Graphs
 - (e)** Statistics
 - (f)** Logical interpretation
 - (g)** Simulation
 - (h)** Other qualitative and quantitative techniques

3 Analysis of highest and best use

Real Property Appraisal Body of Knowledge

- a** Test/constraints
 - i** Physically possible
 - ii** Legally permissible
 - (a)** Governmental regulations
 - (b)** Private restrictions
 - (c)** Reasonable probability of change
 - (d)** Economic feasibility of change
 - (e)** Cost to remove private restrictions
 - (f)** Possible dedications and improvements
 - (g)** Time and risk to obtain changes
 - iii** Economically/financially feasible
 - iv** Maximally productive/most profitable use
 - v** Time to effect change if required
 - vi** Risk to effect change if required
 - vii** Costs to effect change if required
- b** Application of highest and best use
 - i** Land/site as if vacant
 - (a)** Consider possible uses
 - (i)** Optimum size
 - (ii)** Excess land
 - (iii)** Need of additional land availability
 - (iv)** New civil improvements costs
 - (v)** Land redevelopment costs
 - (b)** Conclusion
 - ii** Property as currently improved
 - (a)** Consider for postulated uses
 - (i)** Potential for remodeling
 - (ii)** Remodeling costs
 - (iii)** Income when completed
 - (iv)** Time and income loss pending conversion
 - (b)** Conclusion
- c** Special considerations

Real Property Appraisal Body of Knowledge

- i** Use
 - ii** Time
 - iii** Participants
 - iv** Legally non-conforming
 - v** Interim use
 - vi** Variance
 - vii** Salvage value
 - viii** Demolition cost
 - ix** Development and approval documents
- 4** Land/site value techniques
 - a** Sales comparison analysis
 - b** Land residual
 - c** Allocation
 - d** Extraction
 - e** Ground rent capitalization
 - i** Ground rental
 - ii** Capitalization rate
 - f** Land/subdivision development method
 - i** Development cost: direct and indirect
 - ii** Profit and overhead
 - iii** Forecast absorption and gross sales
 - iv** Entrepreneurial incentive/developer's fee
 - v** Discounted value conclusion
 - (a)** Construction
 - (b)** Absorption time
 - g** Additional land value considerations
 - i** Plottage value in assemblage with other land
 - ii** Excess land over optimum size for highest and best use
- 5** Approaches to value
 - a** Sales comparison
 - i** Research and selection of comparables
 - (a)** Data sources

Real Property Appraisal Body of Knowledge

- (b)** Selection filter
 - (i)** Similar property rights
 - (ii)** Proximity to appraised property
 - (iii)** Similar use
 - (iv)** Recent transaction
 - (v)** Physically similar
- (c)** Comparable specific data
- (d)** Verification
- (e)** Units of comparison
 - (i)** Data sources
 - (ii)** Size
 - A** Square foot
 - B** Acres
 - C** Front foot
 - D** Other
 - (iii)** Utility (examples only)
 - A** Rooms
 - B** Beds
 - C** Other
 - (iv)** Income
 - A** Potential gross income multiplier
 - B** Effective gross income multiplier
 - C** Overall capitalization/yield rate
- (f)** Elements of comparison
 - (i)** Property rights conveyed
 - A** Leased fee/leasehold
 - B** Easements
 - C** Surface, subsurface, suprasurface rights
 - D** Others
 - (ii)** Financing terms and cash equivalency
 - A** Market reaction
 - B** Calculations

Real Property Appraisal Body of Knowledge

- 1 Loan payment
 - 2 Loan balance
 - 3 Discounting
 - 4 Paired Sales
 - (iii) Conditions of sale
 - A Arms-length sale
 - B Personalty
 - C Trade fixtures
 - (iv) Market conditions at time of contract and closing
 - (v) Location
 - (vi) Physical characteristics
 - (vii) Tenant improvements
 - (viii) Other
 - ii Adjustment process
 - (a) Sequence of adjustments
 - (b) Dollar adjustments
 - (c) Percentage adjustments
 - (d) Paired sales analysis
 - (e) Reconciliation
 - iii Application of sales comparison approach
- b Cost
 - i Cost approach concepts
 - (a) Basic format
 - (i) Cost new
 - (ii) Less accrued depreciation
 - (iii) Plus depreciated value site improvements
 - (iv) Plus site value
 - (v) Value by cost approach
 - (b) Relationship to economic principles applied to real estate
 - (i) Supply and demand
 - (ii) Substitution
 - (iii) Balance

Real Property Appraisal Body of Knowledge

- (iv) Externalities
- (v) Highest and best use
- (c) Use
 - (i) Applicability
 - A Improvement value desired
 - B New or relatively new construction
 - C Low effective age
 - D Consider additions or renovations
 - E Special purpose/unique improvements
 - F Improvements at highest and best use
 - G Inactive market
 - (ii) Limitations
 - A Accuracy of land value as vacant
 - B Accuracy of cost estimate
 - C Difficulty of calculating depreciation estimate
 - 1 Older building
 - 2 Special use building
 - 3 Building not at highest and best use
 - 4 Non-conforming use
 - a Inappropriate improvements
 - b Improvements misplaced on site
 - c Other
 - 5 Changing economic conditions/overbuilt markets
 - 6 Building with major remodeling
 - 7 Building with major problems
 - a Environmental
 - b Uncompleted
 - c Abandoned
 - d Functional obsolescence
 - 8 Difficult to estimate remaining life
 - a Economic

Real Property Appraisal Body of Knowledge

b Physical

- ii Cost approach procedure
 - (a) Estimate site value as if vacant
 - (i) To be developed at its highest and best use
 - (ii) Include site improvements for reasonable uses of site
 - A Survey
 - B Soil report
 - C Grading, drainage, slopes, and retaining walls
 - D Civil Improvement necessary for use of land
 - E Prepaid governmental fees necessary for use of land
 - (iii) Site value
 - A Sales comparison analysis
 - B Land residual
 - C Allocation
 - D Extraction
 - E Ground rent capitalization
 - F Land/subdivision development method
 - (b) Estimate cost new of improvements
 - (i) Cost concepts
 - A Reproduction cost - replica of improvements
 - B Replacement cost - replacement with current materials and design
 - C Original cost indexed to current cost
 - (ii) Cost new elements
 - A Direct costs (hard) - labor and materials
 - B Indirect costs (soft) - not part of construction contract
 - C Entrepreneurial profit incentive
 - 1 Projected return to attract capital
 - 2 Fee compensation
 - 3 Market derived estimation technique
 - (c) Sources of cost data

Real Property Appraisal Body of Knowledge

- (i)** Professional estimations
- (ii)** Contractors of similar (or subject) buildings
- (iii)** Cost comparables
- (iv)** Cost service manuals
- (v)** Appraiser estimate from suppliers
- (vi)** Cost-index trending
- (d)** Methods of cost estimation
 - (i)** Quantity survey method
 - (ii)** Unit-in-place (segregated-cost) method
 - (iii)** Comparative-unit method
 - (iv)** Cost-service index
- (e)** Estimate accrued depreciation
 - (i)** Definitions
 - A** Depreciation
 - B** Physical life
 - C** Total economic life
 - D** Remaining economic life
 - E** Actual (historical, chronological) age
 - F** Effective age
 - (ii)** Types of depreciation
 - A** Physical deterioration
 - 1** Curable physical
 - 2** Incurable physical
 - a** Short-lived
 - b** Long-lived
 - B** Functional obsolescence
 - 1** Curable
 - a** Deficiency
 - 1** Existing item
 - 2** Nonexisting item
 - b** Superadequacy
 - 2** Incurable

Real Property Appraisal Body of Knowledge

- a Deficiency
 - 1 Existing item
 - 2 Nonexisting item
 - b Superadequacy
 - C External obsolescence
 - 1 Types
 - a Economic
 - b Locational
 - 2 Test for curability
 - (iii) Methods of estimating accrued depreciation
 - A Economic age-life
 - B Modified economic age-life
 - C Breakdown - trade
 - D Market extraction (sales comparison)
 - E Published depreciation tables
 - F Income capitalization
 - (f) Subtract total accrued depreciation from estimated building improvements
 - (g) Add estimated depreciated cost new of site improvements
 - (h) Add estimated site value
 - (i) Adjust, if necessary, for property interest being appraised
- c Income capitalization
 - i Income capitalization concepts
 - (a) Current value of anticipated future income
 - (i) Periodic rental income
 - (ii) Resale/reversion income (future value)
 - (b) Investment value v. market value
 - (c) Future net income is the return
 - (i) Of capital investment (recapture)
 - (ii) On capital investment
 - (d) Conversion of future net income to current value
 - (i) Dividing future net income by rate of return

Real Property Appraisal Body of Knowledge

- (ii) Discounting future net income by discount rate of return
- (e) Relationship to each of the economic principles applied to real estate
- (f) Income capitalization mathematical basis
 - (i) Income, rate, and value relationships (IRV)
 - A Value equals income divided by rate
 - B Income equals value times rate
 - C Rate equals income divided by value
 - (ii) Compound interest concepts (see that section in branches)
 - (iii) Symbols and abbreviations used in formulas
- ii Advantages and limitations of income capitalization
 - (a) Advantage: examines properties from investors' perspectives
 - (b) Limitations
 - (i) Future income and expense data may be difficult to forecast
 - (ii) Income/expense may be difficult to estimate for owner occupied
 - (iii) Complete and accurate property lease data may be difficult to get
 - A Lease terms
 - B Rentals and concessions
 - C Overage rent
 - D Expense data and obligations of the parties
 - (iv) Sufficient market support may be difficult to find for
 - A Rental and expense estimates
 - B Selected capitalization and yield rates
 - C Impact of inflation may be difficult to forecast
 - D Comparable data may be difficult to analyze for rates because of a lack of full disclosure of
 - 1 Accurate income and expense data
 - 2 Degree of owner management

Real Property Appraisal Body of Knowledge

- E** May be difficult to evaluate parties expectations
 - 1** Resale/reversion value
 - 2** Impact of inflation
 - 3** True asset depreciation (not book)
- F** Unknown impact of income tax on sales price decisions
 - 1** Reserves for replacements
 - 2** Cash basis for capital improvements
 - 3** Depreciation play out impact
 - 4** Tax deferred exchange impacts

iii Rates

- (a)** Characteristics of rates of return
 - (i)** Rate of return on and of capital is influenced by
 - A** Liquidity risk
 - B** Management risk
 - C** Competition from other investment alternatives
 - D** Risk associated with all factors that affect value
 - E** Capital growth expectations
 - F** Periodic income expectations
 - G** Inflationary pressures
 - H** Income tax treatment
- (b)** Difference between capitalization rates and yield rates
- (c)** Historical perspective on rates
- (d)** Capitalization rates may include (depending on rate definition for specific capitalization technique)
 - (i)** Future market changes
 - (ii)** Inflation effects
 - (iii)** Resale/reversion value
 - (iv)** Debt financing terms
 - (v)** Future income changes
 - (vi)** Return on capital
 - (vii)** Return of capital

Real Property Appraisal Body of Knowledge

- (viii) Tax shelter
 - (ix) NOI characteristics
 - (e) Types of capitalization rates
 - (i) Overall capitalization rate
 - A First year rate (going in rate)
 - B Terminal rate (going out rate)
 - C Stabilized rate
 - (ii) Land capitalization rate
 - (iii) Improvement capitalization rate
 - A Estimated remaining economic life
 - B Recapture rate
 - (f) Sources of capitalization and yield rates
 - (i) Derivation from market data including mathematical application(s)
 - A Sales of income property
 - B Sales of leased fee
 - C Sales of leaseholds and other interests
 - D Properties for sale or lease
 - (ii) Interviews with market participants
 - (iii) Government/private ground lease policies
 - (iv) Published surveys and secondary data
 - (v) Built up rates
 - A Mortgage equity
 - B Summation
 - C Other
 - (vi) Comparison with other financial rates
- iv Income and expenses
 - (a) Estimation
 - (i) Potential gross income
 - (ii) Vacancy and collection loss
 - (iii) Effective gross income
 - (iv) Operating expenses

Real Property Appraisal Body of Knowledge

- A** Fixed expenses
 - B** Variable expenses
 - C** Reserves for replacement
 - (v)** Net operating income
 - (vi)** Debt service
 - (vii)** Before tax cash flow
 - (viii)** After tax cash flow
- (b)** Types of income and expenses
 - (i)** Pro forma
 - (ii)** Actual
 - (iii)** Stabilized
 - (iv)** Forecast
- (c)** Potential gross income analysis
 - (i)** Income capitalization methods
 - A** Overall Capitalization: one year's income
 - B** Discounted cash flow: multiple years' income
 - C** Other methods
 - (ii)** Lease analysis
 - A** Dates
 - 1** Contract date
 - 2** Occupancy date
 - 3** Termination date
 - 4** Other
 - B** Rental income
 - 1** Periodic payment
 - 2** Prepayments and deposits
 - 3** Excess tenant improvement amortization
 - 4** Concessions and rebates
 - 5** Reimbursed expenses
 - C** Escalations
 - 1** Step (up or down)
 - 2** Percentage (minimum rent and overage rent)

Real Property Appraisal Body of Knowledge

- 3 Consumer Price Index (CPI) or other index adjustment
 - 4 Revaluation
 - D Tenant improvement allowances
 - E Expense obligations of the lessee and lessor
 - F Expense stops
 - G Lease term
 - H Lease extensions, options for renewal, and/or purchase
 - I Items supplied to lessee
 - 1 Furniture
 - 2 Utilities
 - 3 Services
 - 4 Other
 - J Trade fixtures
 - K Other terms of the lease
 - (iii) Ancillary income
 - (iv) Rental history
 - A Rent roll
 - B Income and expense statements
 - C Other financial statements
 - D Documents covering concessions and rebates
 - (v) Forecast of future rentals
 - A Competitive rental survey
 - B Occupancy rates
 - C Prospective competitive construction/demolition
 - D Demographic/economic/psychographic trends
 - (vi) Comparable rent survey and comparison to subject lease rents
 - (vii) Contract v. actual v. market rent
 - A Excess rent
 - B Percentage (overage) rent

Real Property Appraisal Body of Knowledge

- C** Other rent
 - (viii) Decision to use effective rent or contract rent
 - A** Effect of rent concessions/rebates
 - B** Effect on capitalized value
 - (ix) Conclusion of potential gross income analysis
- (c)** Vacancy and collection loss analysis
 - (i) Income capitalization formats
 - A** Overall capitalization: one year's vacancy
 - B** Discounted cash flow: multiple year vacancy
 - (ii) Review vacancy and collection loss history
 - (iii) Review management practices
 - (iv) Review vacancy effect on ancillary income
 - (v) Test vacancy factor for reasonableness
 - A** Market comparison
 - B** Published standards
 - C** Local vacancy studies
 - (vi) Estimate absorption rate
 - (vii) Decision on how to handle abnormal subject vacancy
 - (viii) Conclusion of vacancy and collection loss analysis
- (d)** Operating expense analysis
 - (i) Income capitalization formats
 - A** Overall capitalization: one year's expense
 - B** Discounted cash flow: multiple year expense
 - (ii) Review and reconstruct expense history
 - A** Income and expense statement
 - B** Other financial statements
 - C** Operating expenses
 - 1** Fixed expense
 - 2** Variable expense
 - 3** Reserve/allowance for replacement
 - D** Special expense considerations
 - 1** Proper charge for owner maintenance

Real Property Appraisal Body of Knowledge

- 2 Management including estimate of proper charge for owner management
 - 3 Exclude non-property expenses
 - a Income tax depreciation
 - b Salaries and expenses not related to property management
 - c Capital improvement lump sum outlays
 - (iii) Comparison of actual expenses with market derived expenses
 - A Comparable property expense data
 - B Published data standards
 - (iv) Conclusion of operating expense analysis
 - (e) Net Operating Income (NOI) estimation
 - v Income analysis ratios
 - (a) Debt coverage ratio
 - (b) Break even ratio
 - (c) Operating expense ratio
 - (d) Net income ratio
 - vi Mortgage aspects of income capitalization
 - (a) Mortgage related components
 - (i) Mortgage constant
 - (ii) Annual percentage rates
 - (iii) Points and origination fees and their impact
 - (iv) Loan ratio
 - (v) Amortization and equity build-up
 - (vi) Balloon payments and mortgage balance
 - (b) Leverage
 - vii Methods of converting income into value
 - (a) Income multipliers
 - (i) Concepts
 - A Using monthly income v. annual income

Real Property Appraisal Body of Knowledge

- B** Using potential gross income v. effective gross income
 - C** Other
 - (ii)** Application
 - A** Extracting multipliers from sales
 - B** Mathematical application of multipliers
 - C** Converting multipliers to capitalization rates using ratios
 - D** Applications of multipliers to residential and commercial properties and when to use these techniques
 - E** Advantages and limitations of multipliers
- (b)** Direct capitalization techniques
 - (i)** Overall capitalization rate
 - A** Concepts
 - B** Application
 - 1** Extracting overall capitalization rates from sales
 - 2** Mathematical application of this technique
 - 3** When to use this technique
 - 4** Advantages and limitations
 - (ii)** Built up technique of deriving overall capitalization rate
 - A** Concepts
 - B** Application
 - 1** Deriving rate components
 - 2** When to use this technique
 - 3** Advantages and limitations
 - (iii)** Band of investment with financial (debt/equity) split (simple band of investment technique)
 - A** Concepts
 - 1** Weighted average (including mathematics)
 - 2** Variant on Income/Rate = Value (IRV)
 - 3** Other

Real Property Appraisal Body of Knowledge

- B** Application
 - 1** Methods of extracting equity capitalization rate (Re) from sales
 - 2** Other inputs
 - 3** Mathematical application of the technique
 - 4** When to use this technique
 - 5** Advantages and limitations
- (iv)** Other band of investment techniques
 - A** Physical components such as land and building split
 - B** Legal components split
- (v)** Loan to value ratio technique (underwriter's technique)
 - A** Concepts
 - B** Application
 - 1** Derivation and calculation of inputs
 - 2** Mathematical application of the technique
 - 3** When to use this technique
 - 4** Advantages and limitations
- (vi)** Mortgage-equity technique
 - A** Concepts
 - 1** Technique can be used to calculate overall yield (Yo) or overall capitalization rate (Ro)
 - 2** Band of investment (weighted average) concept
 - 3** Incorporation of mortgage terms and amortization
 - 4** Forecast and incorporation of property value change over the holding period
 - 5** Holding period concept and how to pick a holding period
 - 6** Equity yield rate concept and how to pick an equity yield rate

Real Property Appraisal Body of Knowledge

- 7 Incorporation of income change patterns over the holding period
- 8 Other concepts
- B** Application
 - 1 Derivation and calculation of inputs
 - 2 Mathematical application of the technique
 - 3 Mathematical incorporation of forecast income changes
 - 4 When to use this technique and its various options
 - 5 Advantages and limitations
- (c)** Residual techniques
 - (i)** Equity residual
 - A** Concepts
 - 1 How property value change is forecast and incorporated
 - 2 Use of algebra to solve for property value
 - 3 Mortgage is valued using debt service coverage ratio
 - 4 Other
 - B** Application
 - 1 Derivation and calculation of inputs
 - 2 Mathematical application of the technique
 - 3 When to use this technique
 - 4 Advantages and limitations
 - (ii)** Building Residual
 - A** Concepts
 - 1 Land value is known or can be found
 - 2 Use of IRV ($I/R=V$)
 - 3 All rates of return must account for capital value change over the holding period

Real Property Appraisal Body of Knowledge

4 How assumptions about equity yield rate over a projected holding period, debt financing, and land or building value change can be incorporated by building up R_o

5 Other

B Application

1 Derivation and calculation of inputs

2 Mathematical application of the technique

3 When to use this technique

4 Special applicability when the building is near the end of its economic life

5 Advantages and limitations

(iii) Land residual

A Concepts

1 Building value is known or can be found

2 Use of IRV ($I/R=V$)

3 All rates of return must account for capital value change over the holding period

4 How assumptions about equity yield rate over a projected holding period, debt financing, and land or building value change can be incorporated by building up R_o

5 Other

B Application

1 Derivation and calculation of inputs

2 Mathematical application of the technique

3 When to use this technique

4 Advantages and limitations

(iv) Property residual

A Concepts

1 Similarity to discounted cash flow

2 Other

Real Property Appraisal Body of Knowledge

- B** Application
 - 1 Derivation and calculation of inputs
 - 2 Mathematical application of the technique
 - 3 When to use this technique
 - 4 Advantages and limitations
- (iv)** Mortgage residual
 - A** Concepts
 - 1 Equity is known or can be found
 - 2 Use of IRV ($I/R=V$)
 - 3 Other
 - B** Application
 - 1 Derivation and calculation of inputs
 - 2 Mathematical application of the technique
 - 3 When to use this technique
 - 4 Advantages and limitations
- (d)** Discounted cash flow techniques
 - (i)** Concepts
 - A** Calculates present worth of all projected net income cash flows to an investor over a projected holding period using present worth factors
 - B** Types
 - 1 Property discounted cash flow discounts yearly NOI and property reversion at Y_o rate
 - 2 Equity discounted cash flow discounts yearly income to the equity position (NOI less annual debt service) and equity reversion at Y_e rate
 - C** Discounted cash flow can be modified and incorporated into residual techniques
 - D** Discounted cash flow can be applied to value partial interests
 - E** Income projection concepts

Real Property Appraisal Body of Knowledge

- 1 Forecast income, vacancy, and expense changes and construct spreadsheet showing income and expense flows for each year of the holding period
 - 2 Lease renewals can be individually taken into account
 - 3 Decision on how to handle vacancy and lease omissions in calculating income
 - 4 Decision on how to handle tenant improvements and concessions
- F** Reversion concepts
- 1 Decision on whether to calculate reversion as a function of income at the end of the holding period or by some other technique
 - 2 Relationship between going in capitalization rates and terminal capitalization rates
 - 3 Treatment of selling costs in calculating reversion
- G** Decision on whether to discount all flows with an internal rate of return or use a modified rate (reinvestment rate, etc.)
- H** Hoskold variation
- I** Other
- (ii)** Application
- A** Derivation and calculation of inputs
 - B** Mathematical application of the technique
 - C** When to use this technique
 - D** Advantages and limitations
- (e)** The general model
- (i)** Concepts
 - A** Relationship between the general model and discounted cash flow

Real Property Appraisal Body of Knowledge

- B** Other
 - (ii)** Application
 - A** Derivation and calculation of inputs
 - B** Mathematical application of the technique
 - C** When to use this technique
 - D** Advantages and limitations
 - viii** Reconciliation of methods used for converting income to value when more than one technique is used.
 - (a)** Reliability of income and expense information
 - (b)** Degree of market data support
 - (c)** Accuracy of rate selections
 - (d)** All other relevant factors
 - ix** Consider how to handle immediate capital expense items
- 6** Reconciliation and final value estimate
 - a** Review and assigning weight of validity and reliability of each approach
 - i** Quantity, quality, appropriateness and accuracy of data for each approach utilized:
 - (a)** Limitations
 - (b)** Advantages
 - ii** Magnitude of adjustments and judgment
 - iii** Sources and verification of data
 - iv** Logical application and analysis
 - v** Sensitivity analysis
 - b** Criteria for selecting the appropriate approach(es) for final value estimate
 - i** Relationship of value definition to final value estimate
 - ii** Reasonableness of final value
 - iii** Dates of value affecting analysis
 - iv** Type of value
 - (a)** Fee simple
 - (b)** Leased fee
 - (c)** Leasehold
 - (d)** Partial interest

Real Property Appraisal Body of Knowledge

- (e) Other
 - v Restrictions
 - (a) Financing
 - (b) Covenants
 - (c) Other agreements
 - (d) Timing
 - (e) Subject to future expenditures
 - (i) Special assessments
 - (ii) Toxic removals or other environmental restrictions
 - (iii) Deferred maintenance
 - (iv) Loss of NOI during absorption period
 - (v) Future tenant improvement allowances
 - (vi) Other buyer assumed obligations
 - (f) Licensing/business interest
 - (g) Uniform Commercial Code (UCC)
 - (h) Furniture, fixtures & equipment
 - (i) Other restrictions and assumptions
 - c Statement of final value conclusion
 - i Exercise of judgment, logic and experience
 - ii Distribution of final conclusion of value
 - (a) Legal
 - (i) Leased fee/leasehold interests
 - (ii) Life estate/remainderman
 - (iii) Fractional ownership interests
 - (b) Physical allocation
- 7 Communicating the appraisal report
 - a Appraiser's obligations
 - i Comply with USPAP
 - ii Comply with Supplemental Standards to which the appraiser has agreed
 - (a) State licensing requirements
 - (b) Professional organization requirements

Real Property Appraisal Body of Knowledge

- (c) Client requirements
 - (d) Other
 - iii Utilize appropriate methods/techniques
 - iii Report must not be misleading
 - iv Competency
 - v Disclose extraordinary assumptions and limiting conditions
 - b Types of written appraisal reports
 - i Self Contained
 - ii Summary
 - iii Restricted
 - c Methods of communication
 - i Oral reports
 - (a) Compliance with USPAP
 - (i) Written records in file
 - (ii) Other
 - (b) Presentation skills
 - (i) Speaking skills
 - (ii) Interpersonal skills
 - (iii) Multimedia skills
 - ii Written reports
 - (a) Forms
 - (i) Single family residential [Uniform Residential Appraisal Report (URAR), Condo/PUD, Cooperative, Employee Relocation Council form (ERC), other]
 - (ii) Multi-family residential (2 to 4 Family, other)
 - (iii) Land [Uniform Appraisal Review Report (UARR)]
 - (iv) Uniform Agricultural Appraisal Report (UAAR)
 - (v) Commercial/Industrial [Uniform Commercial and Industrial Appraisal Report (UCIAR)]
 - (vi) Other
 - (b) Narrative
 - (i) Report writing

Real Property Appraisal Body of Knowledge

- (ii) Professional business communication
- iii Electronic reports
 - (a) Transmission
 - (b) Security (signature)
 - (c) Authentication
 - (d) Retention
- d Contents of report
 - i USPAP minimum requirements for report type
 - ii Supplemental Standards requirements for report type
 - iii Additional support and explanation
 - (a) Within the body of the report
 - (b) Addenda - Information

IV BRANCHES

A Introduction to Branches section

The branches represent specific or specialized areas of knowledge that may be used by appraisers. The branches are for knowledge that may be used for appraising specific types of real property or for specialized areas of appraisal. Within each branch are twigs which represent subspecialties.

B Types of Property

1 Residential

- a Forms of occupancy
 - i Owner occupied
 - ii Single tenant
 - iii Multi-tenant
- b Types of residential properties
 - i Single family
 - ii Small residential income properties (1-4 units)
 - iii Condominiums
 - iv Cooperatives
 - v Timeshare
 - vi Planned Unit Development (PUD)

Real Property Appraisal Body of Knowledge

- vii** Mobile homes
- viii** Modular/prefabricated homes
- ix** Farmettes/ranchettes
- x** Earth shelters
- xi** Historic
- xii** Other
- c** Property rights appraised and legal issues
 - i** Fee simple
 - ii** Leasehold
 - iii** Control issues of a PUD
 - (a)** Common elements
 - (b)** Recreation facilities
 - (c)** Number of units for sale
 - (d)** Developer control
 - iv** Cooperative
 - v** Rent control
- d** Financial and income characteristics
 - i** Ground rents and land leases
 - ii** Home owner association fees
 - iii** Condominium fees
 - iv** Gross monthly rent
 - v** Loan charges
 - vi** Concessions
 - vii** Cash equivalency
 - viii** Special assessments
 - ix** Real estate taxes
 - x** Operating expenses
- e** Neighborhood
 - i** Urban, suburban, rural
 - ii** Percent built-up
 - iii** Growth rate
 - iv** Property value trends

Real Property Appraisal Body of Knowledge

- v** Demand/supply trends
- vi** Marketing and exposure time
- vii** Predominant occupancy
- viii** Price and range of single family homes/condominium units
 - (a)** Range
 - (b)** Predominant
- ix** Land use
 - (a)** Current land use
 - (b)** Anticipated changes in land use
 - (c)** Potential for new units
- x** Marketability of properties in the neighborhood
- xi** Number phases
- xii** Number of units
- xiii** Number sold
- xiv** Number of units for sale
 - (a)** Subject's phase
 - (b)** Subject's project
- xv** Units in subject/project phase
 - (a)** Total
 - (b)** Completed
 - (c)** Sold
 - (d)** Rented
- xvi** Proximity of amenities
 - (a)** Employment
 - (b)** Shopping
 - (c)** Public transportation
 - (d)** Schools
 - (e)** Freeway access
 - (f)** Parks
 - (g)** Other
- xvii** Employment opportunities and stability
- xviii** Recreational facilities

Real Property Appraisal Body of Knowledge

- xix** Property comparability
- xx** Police and fire protection
- xxi** General appearance of properties
- xxii** Market appeal
- xxiii** Life cycle of the neighborhood
- f** Site
 - i** Utilities
 - (a)** Private
 - (b)** Public
 - ii** Types of utility systems
 - (a)** Electricity
 - (b)** Gas
 - (c)** Water
 - (d)** Sanitary sewer
 - (e)** Storm Sewer
 - iii** Zoning classification and requirements
 - (a)** Conforming and non-conforming uses
 - (b)** Ingress/egress
- g** Off-site improvements
 - i** Private
 - ii** Public
- h** Types of off-street improvements
 - i** Street
 - ii** Curb/gutter
 - iii** Sidewalk
 - iv** Street lights
 - v** Alley
 - vi** Marketing and exposure time
 - vii** Predominant occupancy
 - viii** Price and range of single family homes/condominium units
- i** Site characteristics
 - i** Topography

Real Property Appraisal Body of Knowledge

- ii** Site size
- iii** Shape
- iv** Drainage
- v** View
- vi** Landscaping
- vii** Driveway surface
- viii** Easements
- ix** Federal Emergency Management Agency (FEMA) special flood hazard area
- j** Improvements
 - i** General
 - ii** Number of units
 - iii** Number of stories
 - iv** Type
 - (a)** Single-family (attached/detached)
 - (b)** Small residential income property
 - (i)** Single family unit
 - (ii)** Two-four family unit
 - (c)** Condominium/cooperative
 - (i)** Elevator building
 - (ii)** Row/town house
 - (iii)** Walk-up
 - (iv)** High-rise
 - (v)** Mid-rise
 - (vi)** Converted
 - v** Design (style/architecture)
 - vi** Actual age
 - vii** Effective age
 - viii** Remaining and total economic life
 - ix** Exterior
 - (a)** Foundation
 - (b)** Exterior walls

Real Property Appraisal Body of Knowledge

- (c) Roof surface
 - (d) Gutters and downspouts
 - (e) Types of windows and doors
 - (f) Types of storm equipment
- x Foundation
 - (a) Slab
 - (b) Crawl spaces
- xi Basements
 - (a) Type (full/partial)
 - (b) Size
 - (c) Percent finished
 - (d) Ceilings
 - (e) Walls
 - (f) Floor finishes
 - (g) Outside entry
- xii Insulation
 - (a) Type
 - (b) Resistance factor (R) rating
 - (c) Location (roof, ceiling, etc.)
- xiii Room count
- xiv Building area
 - (a) Gross living area
 - (b) Unit livable area
 - (c) Gross building area
- xv Materials and finishes of key components
 - (a) Floors
 - (b) Walls
 - (c) Trim/finish
 - (d) Bath floor
 - (e) Bath wainscot
 - (f) Doors
 - (g) Cabinets and countertops

Real Property Appraisal Body of Knowledge

- (h) Other
- xvi** Types of heat and cooling
- xvii** Heating fuels
- xviii** Kitchen equipment
- xix** Attics
 - (a) Finished
 - (b) Unfinished
- xx** Amenities
 - (a) Fireplace
 - (b) Woodstoves
 - (c) Patio
 - (d) Deck
 - (e) Porch
 - (f) Fence
 - (g) Pool
 - (h) Other
- xxi** Car storage
 - (a) Garage types
 - (b) Carport
 - (c) Driveway
 - (d) Type of parking
 - (e) Total parking
 - (f) Parking ratio
 - (g) Guest parking
- xxii** Energy efficient items
 - (a) Double/triple/low energy (E) glazed windows
 - (b) Caulking/weather-stripping
 - (c) Solar heat
 - (d) Solar hot water
 - (e) Solar design
 - (f) Solar space
 - (g) Geo-thermal heating and cooling

Real Property Appraisal Body of Knowledge

- (h)** Flue dampers
 - (i)** Electric ignition
 - (j)** Automatic setback thermostats
 - (k)** Thermal jackets and wraps
 - (l)** Other energy efficient items
- k** Depreciation
 - i** Physical
 - ii** Functional
 - iii** External
- l** Adverse conditions
 - i** Hazardous substances
 - ii** Toxic substances
 - iii** Other
- m** Approaches to value
 - i** Sales comparison
 - (a)** Application of appropriate analytical technique
 - (b)** Common units of comparison
 - ii** Cost approach
 - iii** Income approach
 - (a)** Lease considerations
 - (b)** Income/expense estimates
 - (c)** Capitalization
- n** Application of appropriate technique
- o** Reconciliation and final value estimate
- p** Conditions of the appraisal
 - i** As is
 - ii** Subject to repairs, alterations, inspections or conditions
 - iii** Subject to completion per plans and specifications
- q** Appraisal guidelines and underwriting requirements
 - i** Federal National Mortgage Agency (Fannie Mae)
 - ii** Federal Home Loan Mortgage Corporation (Freddie Mac)
 - iii** Employee Relocation Council (ERC)

Real Property Appraisal Body of Knowledge

iv Department of Housing and Urban Development (HUD)/ Department of Veterans' Affairs (VA)

v Other

2 Commercial

a Forms of Occupancy

i Owner occupied

ii Single tenant

iii Multi-tenant

b Types of commercial properties

i Office buildings

(a) General purpose

(b) Corporate headquarters

(c) Medical office buildings

ii Retail

(a) Shopping centers

(i) Super regional centers

(ii) Regional centers

(iii) Community centers

(iv) Neighborhood centers

(v) Strip centers

(vi) Power centers

(vii) Specialty centers

(b) Free standing stores

(c) Department stores

(d) Restaurants

(e) Banks

(f) Service stores

(g) Theaters

(h) Supermarkets

iii Mixed use

c Building description/functional utility

i Column spacing

Real Property Appraisal Body of Knowledge

- ii** Bay depth
- iii** Floor load
- iv** Ceiling heights
- v** Module width
- vi** Elevator facilities
- vii** Heating, ventilation and air conditioning (HVAC) adequacy
- viii** Lighting and electrical adequacy
- ix** Energy efficiency
- x** Onsite/offsite utilities
- xi** Public amenities
- xii** Parking ratio
- xiii** Security
- xiv** Safety
 - (a)** Fire protection
 - (b)** Air quality
 - (c)** Structural
 - (d)** Miscellaneous equipment
- xv** Systems compatibility
- xvi** Floor area ratio (floor space per employee)
- xvii** Signage
- xviii** Handicap compliance [Americans with Disabilities Act (ADA)]
- xix** Traffic flow (interior and exterior)
- xx** Floor plan
- xxi** Loading facilities
- d** Legal considerations
 - i** Zoning
 - ii** Building codes
 - iii** Environmental laws/regulations
- e** Typical building measurements (square foot)
 - i** Gross building area
 - ii** Net rentable area
 - iii** Usable area

Real Property Appraisal Body of Knowledge

- iv** Gross leasable area
- f** Approaches to value
 - i** Sales comparison
 - (a)** Application of appropriate analytical technique
 - (b)** Common units of comparison
 - (i)** Area
 - (ii)** Number of seats
 - (iii)** Efficiency ratio
 - (iv)** Front feet
 - (v)** Depth
 - ii** Cost approach
 - iii** Income
 - (a)** Lease considerations
 - (i)** Length
 - (ii)** Terms
 - (iii)** Restrictions on use
 - (iv)** Lease types
 - A** Flat rental
 - B** Graduated rental
 - C** Revaluation
 - D** Indexes
 - E** Percentage
 - (vi)** Special provisions in leases
 - A** Concessions
 - B** Division of expenses/common area maintenance (CAM)
 - C** Renewal options
 - D** Escalation clauses
 - E** Purchase options
 - F** Escape clauses
 - G** Continued occupancy clauses
 - H** Tenant improvement allowances

Real Property Appraisal Body of Knowledge

- I Restrictions on lease
 - (vii) Signage and other
 - (b) Income/ expense estimate
 - (c) NOI estimate
 - (d) Selection of capitalization (direct/yield) rate
 - (e) Application of appropriate technique
 - iv Reconciliation of approaches to value
 - g Reconciliation and report of final value estimate
- 3 Industrial
 - a Forms of occupancy
 - i Owner occupied
 - ii Single tenant
 - iii Multi-tenants
 - b Sites
 - i Location
 - (a) Centrally located
 - (b) Suburban sites and acreage
 - (c) Organized districts or industrial parks
 - (d) Redeveloped land
 - ii Utility
 - (a) Area, shape, topography, soils
 - (b) Transportation (rail, highway, air, water, public)
 - (c) Zoning
 - (d) Utilities (electricity, telephone, water, gas, sewer)
 - (e) Protection (fire, police)
 - (f) Distance from central business district
 - (g) Distance from airport
 - (h) Proximity to raw materials, supplies, and services
 - (i) Proximity to labor
 - iii Environmental aspects
 - c Types of industrial properties
 - i General-purpose buildings

Real Property Appraisal Body of Knowledge

- ii Special-purpose buildings
- iii Single-purpose buildings
- iv Heavy industrial (plant) buildings
- v Loft buildings
- d** Functional utility
 - i Type of construction (Class A, B, C, D, S)
 - ii Number of stories
 - iii Clear span/column spacing
 - iv Ceiling height
 - v Floor loads
 - vi Elevators, lifts, and conveyors
 - vii Heating ventilation and air conditioning (HVAC) adequacy
 - viii Lighting and electrical adequacy
 - ix Energy efficiency
 - x Onsite/offsite utilities
 - xi Parking ratio
 - xii Security
 - xiii Safety
 - (a) Fire protection
 - (b) Air quality
 - (c) Structural
 - (d) Miscellaneous equipment
 - xiv Floor area ratio (Floor space per employee)
 - xv Loading docks/wells
 - xvi Off-street truck maneuvering/parking
 - xvii Open storage (yard area)
 - xviii Office and mezzanine area
 - xix Fencing
 - xx Environmental aspects
 - xxi Systems compatibility
 - xxii Signage
 - xxiv Handicap compliance (ADA)

Real Property Appraisal Body of Knowledge

- xxv** Traffic flow (interior and exterior)
- xxvi** Floor plan
- xxvii** Special features
- e** Legal considerations
 - i** Zoning
 - ii** Building codes
 - iii** Environmental laws/regulations
- f** Approaches to value
 - i** Sales comparison
 - (a)** Application of appropriate analytical technique
 - (b)** Common units of comparison
 - (i)** Price per square foot or cubic foot of building volume
 - (ii)** Price per square foot of rentable area
 - (iii)** Price per door or loading dock
 - (iv)** Gross income multiplier
 - ii** Cost approach
 - iii** Income
 - (a)** Lease considerations
 - (i)** Length
 - (ii)** Terms
 - (iii)** Restrictions on use
 - (b)** Income/expense estimate
 - (c)** NOI estimate
 - (d)** Selection of capitalization (direct/yield) rate
 - (e)** Application of appropriate technique
 - iv** Reconciliation of approaches to value
- g** Reconciliation and report of final value estimate
- h** Financial considerations
 - i** Lease types
 - (a)** Flat rental
 - (b)** Graduated rental
 - (c)** Revaluation

Real Property Appraisal Body of Knowledge

- (d) Indexes
 - ii Special provisions in leases
 - (a) Concessions
 - (b) Division of expenses/CAM
 - (c) Renewal options
 - (d) Escalation clauses
 - (e) Purchase options
 - (f) Escape clauses
 - (g) Continued occupancy clauses
 - (h) Tenant improvement allowances
 - (i) Restrictions on lease
 - iii Signage and other
- 4 Agricultural/rural
 - a Types of ownership
 - i Corporation
 - ii Individual
 - iii Partnerships
 - iv Other
 - b Types of agricultural properties
 - i Farms
 - (a) Dry land
 - (b) Irrigated
 - (c) Dairy
 - (d) Fish/aquaculture
 - (e) Permanent planting - orchard, vineyard, or bog
 - (f) Game
 - (g) Horse (breeding/training)
 - (h) Specialty farms
 - ii Ranches
 - iii Ranchettes/farmettes/hobby farms /rural residential
 - iv Recreational
 - v Timber land

Real Property Appraisal Body of Knowledge

- vi** Minerals (oil, gas, hard minerals)
 - (a)** Non-producing
 - (b)** Producing
 - (c)** Royalty interest (producing, non-producing)
- vii** Special agricultural properties
 - (a)** Confinement feeding facilities
 - (b)** Grain elevator and storage facilities
 - (c)** Processing facilities
 - (d)** Other
- c** Property description/functional utility
 - i** Land use
 - (a)** Soil types
 - (b)** Utilization rates
 - (i)** Grazing
 - (ii)** Soil productivity
 - (iii)** Carrying capacity
 - (iv)** Other
 - (c)** Crop/ production base information
 - (i)** Actual crop yield
 - (ii)** Farm Services Agency (FSA) crop yield
 - (iii)** Productivity indexes
 - A** Corn suitability index
 - B** Crop equivalency rating
 - C** Other
 - (d)** Land quality
 - (i)** Good, fair, marginal, pasture
 - (ii)** Farm Services Agency (FSA) soil land use capability rating classes I-VIII
 - (iii)** Assessing and taxing agency categories
 - A** Grades A, B, C cropland
 - B** Pasture
 - C** Woodland

Real Property Appraisal Body of Knowledge

- d** Legal considerations
 - i** Zoning
 - ii** Building codes
 - iii** Environmental laws/regulations
 - (a)** Water
 - (b)** Air
 - (c)** Oil and gas production
 - (d)** Minerals
 - (e)** Governmental regulatory agencies
 - (f)** Endangered species
 - (g)** Wetlands
 - iv** Grazing permits
 - v** Taxes and assessment, agricultural value, market value
 - vi** Extraterritorial jurisdiction
 - vii** Right to farm
- e** Approaches to value
 - i** Sales comparison
 - (a)** Application of appropriate analytical technique
 - (b)** Common units of comparison
 - (i)** Price per acre
 - (ii)** Animal units
 - (iii)** Yield per acre
 - (iv)** Other
 - (c)** Comparable(s) sales price allocation
 - ii** Cost approach
 - iii** Income
 - (a)** Applicability of income capitalization
 - (i)** Degree to which the market perceives income capitalization to reflect market value
 - (ii)** Likelihood of the typical purchaser being an investor seeking rental income
 - (b)** Lease considerations

Real Property Appraisal Body of Knowledge

- (i) Length
 - (ii) Term
 - (iii) Participations
 - (c) Income/expense estimate
 - (i) Productivity based income
 - (ii) Lease based income
 - (d) Selection of capitalization (direct/yield) rate
 - (e) Application of appropriate technique
 - iv Reconciliation of approaches of value
 - f Reconciliation and report of final value estimate
- 5 Special Purpose
 - a Purpose and function of the appraisal
 - i Discussion of appraisal assignment with the client
 - ii Compliance with USPAP Competency Provision
 - b Data gathering special considerations
 - i Gather industry data
 - ii Contribution of real estate to the enterprise
 - (a) Location
 - (b) Site
 - (c) Improvements
 - (i) Special features
 - (ii) Deficiencies
 - iii Need for outside experts
 - iv Comparable sales special considerations
 - (i) Define range of comparability and bracket subject
 - (ii) Special sources of data
 - A Owners/users of the property type (including owner of subject property)
 - B Trade/professional associations
 - C Government agencies
 - D Suppliers
 - E Real estate specialists

Real Property Appraisal Body of Knowledge

F Others

- c** Highest and best use special considerations
 - i** analysis of whether there are enough buyers to constitute a “market”
 - ii** analysis of the real estate without the business
 - iii** analysis of the regulatory environment
 - iv** analysis of subject industry trends
 - v** alternative uses
- d** Approaches to value special considerations
 - i** Sales comparison
 - (a)** Application of appropriate analytical techniques
 - (b)** Common units of comparison
 - (c)** Comparable(s) sales price allocation
 - ii** Cost approach
 - (a)** Choice of using replacement cost or reproduction cost new
 - (b)** Analysis of limitations of appraiser to accurately determine cost
 - (i)** Cost manual limitations
 - (ii)** Appraiser’s construction and cost estimating limitations
 - (c)** Decision of whether to bring in cost expert
 - (d)** Decision of how to handle developer’s profit
 - (e)** Depreciation
 - (i)** Analysis of how to best use age/life or other method for estimating physical depreciation
 - (ii)** Analysis of sources and presence of functional obsolescence
 - (iii)** Analysis of sources and presence of external obsolescence
 - (f)** Degree to which the market perceives cost to reflect market value
 - iii** Income
 - (a)** Applicability of income capitalization
 - (i)** Degree to which the market perceives income capitalization to reflect market value

Real Property Appraisal Body of Knowledge

- (ii) Likelihood of the typical purchaser being an investor seeking rental income
 - (b) Interest appraised
 - (c) Difficulty of obtaining market rentals
 - (d) Difficulty of extracting overall capitalization rates and other rates from sales
 - (e) Desirability of a business income analysis
 - (f) Lease considerations
 - (i) Length
 - (ii) Terms
 - (iii) Restrictions on use
 - (iv) Lease types
 - A Flat rental
 - B Graduated rental
 - C Revaluation
 - D Indexes
 - E Percentage
 - (vi) Special provisions in leases
 - A Concessions
 - B Division of expenses/CAM
 - C Renewal options
 - D Escalation clauses
 - E Purchase options
 - F Escape clauses
 - G Continued occupancy clauses
 - H Tenant improvement allowances
 - I Restrictions on lease
 - J Signage
 - K Other
 - (g) Lease types
 - (h) Special provisions
- e Reconciliation special considerations

Real Property Appraisal Body of Knowledge

- i** Analysis of typical market participant thinking
- ii** Analysis of which approach(es) best infer typical market participants behavior
- iii** Tests of reasonability
- iv** Allocation of value to real estate, fixtures, personal property and business components
- f** Communicating the appraisal special considerations
 - i** Overall level of detail
 - ii** USPAP compliance
- g** Types of special purpose assignments
 - i** Agricultural, rural or mining oriented
 - ii** Easements
 - iii** Entertainment and recreational oriented
 - iv** Funeral industry
 - v** Harbor or port facility
 - vi** Historic property
 - vii** Hospitality oriented
 - viii** Industrial or warehouse special purpose
 - ix** Institutional
 - x** Landfill
 - xi** Laundromat
 - xii** Lumber yard
 - xiii** Medical or care giving
 - xiv** Petroleum production
 - xv** Polluted property
 - xvi** Post office
 - xvii** Residential oriented
 - xviii** Transportation oriented
 - xix** Utility
 - xx** Other

C Review

- 1** Purpose of review

Real Property Appraisal Body of Knowledge

- 2 Client report
- 3 Types of review
 - a Field v. desk
 - b Technical v. administrative
 - c Peer review for compliance/enforcement
- 4 Review process
 - a USPAP minimal requirements for report type
 - b Supplemental Standards requirements for report type
 - c Additional support and explanation
- 5 Report types
 - a Separate report or letter
 - b Form or checklist
 - c Stamped impression on the appraisal report to distinguish review function from appraisal function
- 6 USPAP compliance
 - a As reviewers
 - b When the reviewer becomes the appraiser
- D** Valuation of partial interests
 - 1 Interests created by a lease
 - a Leased fee
 - b Leasehold
 - c Subleasehold
 - d Renewal options
 - e Tenant improvements
 - f Concessions
 - 2 Lease provisions
 - a Overage rent
 - b Expense stops
 - c Net leases
 - d Minimum rent
 - e Percentage rent
 - f CPI adjustments

Real Property Appraisal Body of Knowledge

- g** Excess rent
 - 3** Valuation considerations
 - a** Identifying the cash flows to the different interests, including turnover ratios
 - b** Discount rate selection for different interests
 - c** Relationship between the values of the interests
 - 4** Partial and fractional interests
 - a** Life estates
 - b** Undivided interest in commonly held property
 - c** Easements
 - d** Timeshares
 - e** Cooperatives
 - f** Subsurface/air rights
 - g** Licenses
 - h** Other
- E** Appraisal management/operational practices
 - 1** Form of ownership
 - a** Sole proprietorship
 - b** Partnership
 - c** Corporation
 - d** Special forms
 - i** Limited liability corporation
 - ii** Limited liability partnership
 - iii** Other special forms
 - 2** Office and business organization
 - a** Work flow analysis
 - b** Information systems
 - c** Policies and procedures
 - d** Equipment needs
 - e** Office facility needs
 - 3** Financial
 - a** Accounting and payroll

Real Property Appraisal Body of Knowledge

- i Documentation and accounts
 - ii Financial statements
 - iii Balance sheet
 - b Budgeting
 - c Cash flow management
 - d Capital and operating income requirements
- 4 Risk management
 - a Professional liability
 - b Business lines
 - c Other
- 5 Professional business skills
 - a Marketing
 - i Strategy
 - ii Target market(s)
 - (a) Geographic area
 - (b) Property type
 - (c) Client type
 - iii Levels of competitiveness/services
 - iv Pricing
 - v Promotion
 - b Human resources
 - i Independent contractor/employee
 - ii Compensation
 - iii Work scheduling
 - iv Special contracts (non-compete agreements)
 - v Technology issues
 - vi Professional advancement
 - vii Training and teambuilding
 - viii Benefits
 - ix Special Issues - Americans with Disabilities Act (ADA), Equal Employment Opportunity Commission (EEOC), Occupational Health and Safety Administration (OHSA), Internal Revenue Service (IRS)

Real Property Appraisal Body of Knowledge

- x** Minimum job skills
 - xi** Supervision
 - xii** Job safety
 - c** Planning and organization
 - i** Strategic planning
 - ii** Mission and vision
 - iii** Focus
 - iv** Strengths, weaknesses, opportunities, threats
 - v** Structure
 - d** Products
 - i** Types
 - (a)** Appraisal reports
 - (b)** Review reports
 - (c)** Consulting reports
 - (d)** Other types of reports
 - (e)** USPAP implications
 - ii** Client orientation
 - (a)** Client objectives
 - (b)** Client procedures
 - iii** Project control and scheduling
 - (a)** Task analysis
 - (b)** Personnel requirements
 - (c)** Material and data requirements
 - (d)** Time requirements
 - (e)** Supervision requirements
 - (f)** Project cost estimate and pricing
 - (g)** Project performance and delivery
 - (h)** Quality control
 - e** Engagement contracts and terms
- F** Regulatory
- 1** Levels
 - a** Federal

Real Property Appraisal Body of Knowledge

- b** State
- c** Local
- d** Private

2 Types

- a** Financial institutions
 - i** Safety and soundness laws and regulations
 - ii** Compliance laws and regulations
- b** Eminent domain
 - i** Uniform Relocation Act
 - ii** State law
- c** State appraiser licensing and certification
- d** Appraisal Subcommittee of Federal Financial Institutions Examinations Council (FFIEC)
- e** The Appraisal Foundation
 - i** Objectives
 - ii** Organization
 - (a)** Appraiser Qualifications Board
 - (b)** Appraisal Standards Board
- f** Other

G Quantitative techniques

1 Basic mathematics

- a** Area calculations
- b** Algebra
- c** Mathematics of finance
 - i** Compound interest concepts
 - (a)** Future value of \$1
 - (b)** Present value of \$1
 - (c)** Future value of an annuity of \$1 per period
 - (d)** Present value of an annuity of \$1 per period
 - (e)** Sinking fund factor
 - (f)** Installment to amortize \$1 (loan constant)
 - ii** Compounding v. discounting

Real Property Appraisal Body of Knowledge

- 2** Statistics
 - a** Sampling techniques
 - i** Random
 - ii** Stratified
 - iii** Sample size
 - b** Graphical presentation
 - c** Central tendency
 - i** Mean
 - ii** Median
 - iii** Mode
 - d** Dispersion
 - i** Range
 - ii** Standard deviation
 - iii** Variance
 - iv** Coefficient of variation
 - e** Confidence levels
 - i** T-tests
 - ii** Z-tests
 - iii** Normal distribution
 - f** Regression
 - i** Types
 - ii** Assumptions
 - iii** USPAP implications
 - iv** Terms
 - (a)** Correlation
 - (b)** Covariance
 - (c)** Coefficient of determination
 - v** Applications
 - (a)** Automated Valuation Models (AVMs)
 - (b)** Mass appraisal
- 3** Probability
- 4** Index numbers and series

Real Property Appraisal Body of Knowledge

H Technology

1 Office technology

- a** Office systems
- b** Application programs
 - i** Lease analysis packages
 - ii** Form processors
- c** Internet technology
 - i** Appraisal applications
 - ii** Office applications
 - iii** Data applications
 - iv** Modeling applications
 - (a)** AVMs
 - (b)** Other

2 Network technology

- a** File servers
- b** Software
- c** Connectivity

I Accounting basics

1 Double entry bookkeeping basics

2 Cost accounting concepts

3 Accounting documents

4 Asset management accounting and book depreciation

5 Balance sheet

6 Profit and loss statement

7 Property management accounting basics

- a** Rent rolls
- b** Repair and maintenance records
- c** Expense accounts

8 Project development accounting basics

- a** Project control records
- b** Construction funding draw records

9 Farm records systems

Real Property Appraisal Body of Knowledge

J Communications

1 Language skills

- a** Composition
- b** Grammar
- c** Spelling
- d** Punctuation

2 Written

- a** Report writing
- b** Business communication

3 Oral

- a** Presentation skills
 - i** Speaking skills
 - ii** Expert witness
 - (a)** Objectives
 - (b)** Organization
 - (i)** Materials
 - (ii)** Presentation
 - (c)** Style of presentation
 - (d)** Graphics and exhibits
 - (e)** Answering questions
- b** Interpersonal skills
 - i** Interview
 - ii** Other

4 Multimedia skills

K Engineering basics

1 Engineering drawings and specifications

- a** Layout sheets
- b** Profiles
- c** Cross sections
- d** Plan scales (engineer scale use)
- e** Drawing symbols
- f** Centerline stationing

Real Property Appraisal Body of Knowledge

- g** Curve data
- h** Bench marks, elevations and contours
- 2** Surveying and legal descriptions basics
 - a** Surveying equipment and application
 - b** Topographic maps and symbols
 - c** Cadastral surveying basics
 - i** Reference points and coordinate systems
 - ii** Triangulation methods
 - iii** Surveying calls and distances
 - iv** Area calculation techniques
- 3** Civil engineering basics
 - a** Streets and highways
 - i** Traffic engineering
 - (a)** Traffic counts
 - (b)** Street and highway capacity design
 - ii** Right of way delineation
 - (a)** Street right of way
 - (b)** Slope requirements
 - (c)** Detour and temporary construction requirements
 - iii** Construction
 - (a)** Street grade
 - (b)** Earth work balance, cut and fill
 - (c)** Paved section
 - (d)** Bridge and structure requirements
 - (e)** Curbs, sidewalks and medians
 - (f)** Drainage layout and structures
 - (g)** Driveway approaches
 - (h)** Street lighting
 - (i)** Traffic lights
 - (j)** Signing
- L** Architectural basics
 - 1** Architectural drawings and specifications

Real Property Appraisal Body of Knowledge

- a** Building plans and schedule sheets
- b** Drawing symbols
- c** Plan scales
- 2** Local architectural styles identification
 - a** Style descriptions
 - i** Non residential
 - ii** Residential
 - b** Trends and patterns of style use
- 3** Architectural design considerations
 - a** Aesthetics
 - i** Exterior balance with surroundings
 - (a)** Compatible architecture style
 - (b)** Size and scale
 - (c)** Landscaping and yard improvements
 - (d)** Public art requirements
 - ii** Harmony of colors, finishes, textures
 - b** Other

V CONCLUSION

Adopted on June 30, 1997.

Appraiser Qualifications Board

Stephen G. Williams, Chair
Scott R. Williams, Vice-Chair
James W. Klopfenstein
Arlen Mills
Anthony Reynolds