

***Washington County
Appraisal District
2021 Mass Appraisal Report***





Table of Contents

Introduction.....	1
Properties Appraised	2
General Assumptions and Limiting Conditions	3
Effective Date of Appraisal and Date of Report	4
Definition of Market Value.....	4
Area Analysis.....	4
Overview of Types of Properties Appraised.....	5
Highest and Best Use Analysis.....	7
Market Analysis	8
Data Collection/Validation.....	9
Valuation Analysis	10
Three Approaches to Value	10
Cost Approach.....	11
Residential Schedules	11
Commercial Schedules.....	12
Personal Property Schedules	13
Income Approach to Value	13
Sales Comparison (Market) Approach.....	15
Statistical Analysis	16
Ratio Study Standards.....	17
Market and Cost Reconciliation and Valuation	18
Appraisal Performance Tests and Attainment	19
Certification.....	20

Introduction

The purpose of this mass appraisal report is to aid property owners, taxing entities, and the public we serve to better understand the methods and techniques utilized by the Washington County Appraisal District (WCAD) in the valuation and revaluation of property within Washington County. This report is written in compliance with Standard 6 of the *Uniform Standards of Professional Appraisal Practice* and the Texas Property Tax Code.

Taxing jurisdictions that participate in the district must use the appraisals as the basis for imposition of property taxes. The State of Texas allocates state funds to school districts based upon the district's appraisals, as tested and modified by the Property Tax Assistance Division of the State Comptroller of Public Accounts.

Each year's mass appraisal results in an estimate of the market value of all property within the district's boundaries. All property is appraised at market value except where law requires that another value method be used. These situations are described where applicable later in this report.

The Chief Appraiser is the chief administrative and executive officer of the district. The Chief Appraiser employs and directs the district's staff, oversees all aspects of the appraisal district's operations and performs a variety of operations either directly or through the district staff. The Chief Appraiser's responsibilities are as follows:

1. Discover, list, and appraise property
2. Determine exemption and special use valuation requests
3. Organize periodic reappraisals
4. Notify taxpayers, taxing units, and the public about matters that affect property values

WCAD is budgeted for fifteen (15) positions and currently consists of the Chief Appraiser, Deputy Chief Appraiser, GIS/IT Manager, four field appraisers, one compliance officer, one appraisal clerk, two deeds technicians, one collections administrator, and three tax clerks.

All property in the district is appraised by the WCAD staff with the exception of minerals, utilities, and industrial property; which are appraised by our contract vendor, Thomas Y. Pickett, Inc. Significant mass appraisal assistance was provided by Thomas Y. Pickett, Inc.

It is the goal of WCAD staff to provide the best possible service to the property owners and taxing entities. The WCAD staff promotes and adheres to the professional standards and ethics as set forth by the Texas Department of Licensing and Regulation and the Texas Association of Appraisal Districts.

Properties Appraised

The District appraises all taxable property for the following taxing units:

Washington County

City of Brenham
City of Burton

Brenham ISD
Burton ISD

Blinn College
Oak Hill Fresh Water Supply District
Pecan Glen Road District

Additionally, the district provides appraisals of taxable property for the following entity whose territory extends into Washington County.

Giddings ISD

The 2021 appraisal roll consists of 36,067 parcels. The breakdown of these parcels is as follows:

Type	Parcels
Residential	10,492
Agricultural	11,690
Commercial	1,313
Oil & Gas	9,122
Business Personal Property	2,668
Exempt	782
<i>TOTAL</i>	36,067

The property rights appraised were fee simple interests, with the exception of leasehold interests in property exempt to the holder of the property's title. The latter are appraised under a statutory formula described in Sec. 25.07, Texas Property Tax Code. The description and identification of each property appraised is included in the appraisal records submitted to the Washington County Appraisal Review Board each year.

Supporting information relied on for this report, such as individual property records, sales ratio reports, market studies, modeling documentation, appraisal manuals and procedures, regulations and statutes is voluminous and is available to the general public at the appraisal district or its website, except where protected by confidentiality regulations.

General Assumptions and Limiting Conditions

The appraised value estimates provided by the district are subject to the following conditions:

The appraisals were prepared exclusively for ad valorem tax purposes. The property characteristic data upon which the appraisals are based is assumed to be correct. Physical inspections and/or inspections via aerial imagery of the property appraised were performed as staff resources and time allowed.

Validation of sales transactions occurred through questionnaires to buyer and seller, telephone survey and field review. In the absence of such confirmation, residential sales data obtained from vendors was considered reliable.

- No responsibility is assumed for the legal description or for matters including legal or title considerations. Title to any property is assumed to be good and marketable, unless otherwise stated.
- All property is appraised as if free and clear of any or all liens or encumbrances, unless otherwise stated. All taxes are assumed to be current.
- All property is appraised as though under responsible, adequately capitalized ownership and competent property management.
- All engineering is assumed to be correct. Any plot plans and/or illustrative material contained with the appraisal records are included only to assist in visualizing the property.
- It is assumed that there is full compliance with all applicable federal, state and local environmental regulations and laws unless noncompliance is stated, defined, and noted in the appraisal record.
- It is assumed that all applicable zoning and use regulations and restrictions have been complied with unless a nonconformity has been stated, defined and noted in the appraisal record.
- It is assumed that all required licenses, certificates of occupancy, consents or other legislative or administrative authority from any local, state, or national government or private entity or organization have been or can be obtained or renewed for any use on which the value estimate contained in this report is based.
- It is assumed that the utilization of the land and improvements of the properties described are within the boundaries or property lines, and that there are no encroachments or trespasses unless noted on the appraisal record.

Unless otherwise stated in this report or noted on the appraisal record, the appraiser is not aware of the existence of hazardous substances or other environmental conditions. The value estimates are predicated on the assumption that there is no such condition on or in the property or in such proximity thereto that it would cause a loss in value. No responsibility is assumed for any such conditions, or for any expertise or engineering knowledge required to discover them.

Texas is a non-disclosure state in which buyers and sellers are not required to report sales transactions to the ad valorem property appraiser. Washington AD uses great diligence in attempting to acquire sales data, but is limited in its ability to gather sales data by the current legislative scheme.

Effective Date of Appraisal and Date of the Report

With the exception of certain inventories for which the property owner has elected a valuation date of September 1, all appraisals are as of January 1, of the appraisal year. To receive the September 1 appraisal date, the property owner must have filed an application by July 31st. The date of this report is November 12, 2021.

Definition of Market Value

Except as otherwise provided by the Property Tax Code, all taxable property is appraised at its "market value" as of January 1st. Under the tax code, "market value" means the price at which a property would transfer for cash or its equivalent under prevailing market conditions if:

- exposed for sale in the open market with a reasonable time for the seller to find a purchaser;
- both the seller and the buyer know of all the uses and purposes to which the property is adapted and for which it is capable of being used and of the enforceable restrictions on its use, and;
- both the seller and buyer seek to maximize their gains and neither is in a position to take advantage of the exigencies of the other.

The Property Tax Code defines special appraisal provisions for the valuation of several different categories of property. Specially appraised property is taxed on a basis other than market value as defined above. These categories include residential homestead property (Section 23.23), agricultural productivity (Section 23.41), real and personal property inventory (Section 23.12), dealer inventory (Section 23.121, 23.124, 23.1241, and 23.127), nominal (Section 23.18) or restricted use properties (Section 23.83) and allocation of interstate property (Section 23.03). The WCAD appraisal manuals contain detailed information on the appraisal of specially appraised property and is incorporated herein by reference.

Area Analysis

WCAD appraises all properties within the physical boundaries of Washington County. Washington County is located in East Central Texas and is bordered to the north by Burleson and Brazos Counties, to the south by Austin County, to the east by Grimes and Waller Counties, and to the west by Lee and Fayette Counties.

Washington County is a somewhat rural county with an economy based on agribusiness, oil, tourism, manufacturing, and government/services. Brenham, the county seat, is on Highways 36 and 290 and is located about 72 miles northwest of Houston.

Washington County has several industrial manufacturers/distributors, a hospital, big-box retail, Blinn College and the Bluebell Creamery.

Overview of Types of Properties Appraised

There are four major categories of property appraised by WCAD. These categories are:

- Real Property: Residential, Multi-Family, Commercial, Vacant lots, Vacant rural land, and Improvements on rural land.
- Business Personal Property
- Utilities: Telephone companies, Power companies, Gas companies, and Cable companies
- Minerals: Oil and Gas

The Property Tax Assistance Division of the State Comptroller's office requires properties to be identified by using a standard identification code. The codes currently used by WCAD are as follows:

- A Residential single family
- B Residential multi-family units (apartments & duplexes)
- C1 Vacant lots
- D1 Agricultural farm and ranch land (Native and improved pasture)
- D2 Farm/ranch improvements (barns) on qualified ag land
- E Non-qualified ag land & ranch improvements
- F1 Commercial land and improvements
- F2 Industrial land and improvements
- G1 Oil and gas
- J1 Water systems
- J2 Gas distribution system
- J3 Electric company
- J4 Telephone company
- J5 Railroads
- J6 Pipeline company
- J7 Cable television company
- J9 Railroad rolling stock

Overview of Types of Properties Appraised (continued)

- L1 Business personal property
- L2 Industrial personal property
- M Personal property mobile homes
- O1 Real Property, Inventory
- S Special Inventory
- X Exempt property

Highest and Best Use Analysis

The district's market value appraisals are performed pursuant to Article VIII, Sec. 1., Texas Constitution, which provides that property must be taxed in proportion to its value as determined by law. Sec. 23.01, Texas Property Tax Code implements this provision as follows:

- § 23.01 Appraisals Generally
- (a) Except as otherwise provided by this chapter, all taxable property is appraised at its market value as of January 1.
 - (b) The market value of property shall be determined by the application of generally accepted appraisal methods and techniques. If the appraisal district determines the appraised value of a property using mass appraisal standards, the mass appraisal standards must comply with the Uniform Standards of Professional Appraisal Practice. The same or similar appraisal methods and techniques shall be used in appraising the same or similar kinds of property. However, each property shall be appraised based upon the individual characteristics that affect the property's market value.

WCAD appraises all property in accordance with their highest and best use, except when prohibited to do so by the Texas Property Tax Code.

The highest and best use of real estate is defined as the most reasonable and probable use of land that will generate the highest return to the property over a period of time. This use must be legal, physically possible, economically feasible and the most profitable of the potential uses. An appraiser's identification of the property's highest and best use is always a statement of opinion never a statement of fact.

In order to complete the highest and best use analysis of a property, an appraiser must estimate its highest and best use as if the land were vacant. This is the highest value the land could have if it were available for any legal, physically possible and economically feasible kind of development.

In determining highest and best use, preliminary judgments are made in the field by appraisers. WCAD property records contain information regarding lot size and frontage, therefore, appraisers normally make judgments on possible use of sites in the field. Economically feasible and most profitable uses are determined by observing surrounding property. However, changes in property use require a more detailed and technical highest and best use analysis. These studies are usually performed in the office.

Beginning in 2010, a Constitutional amendment was ratified that overrides the concept of highest and best use in regards to properties receiving a residential homestead exemption. These properties now must be valued as residential property regardless of their highest and best use or true market value.

Market Analysis

Economic, national, regional and local trends affect the universe of property appraised in Washington County. An awareness of social, economic, governmental and environmental conditions is essential in understanding, analyzing and identifying local trends that affect the real estate market. Market analysis is performed throughout the year. Both general and specific data is collected and analyzed.

Examples of sources of general data include “*Trends*” issued by the Real Estate Center at Texas A&M University, “*The Appraiser*” published by the Texas Association of Appraisal Districts (TAAD), and “*Texas Assessor’s News*” published by the Texas Association of Assessing Officers (TAAO). When possible, local sources such as lending institutions and the Chamber of Commerce are used to obtain financing information, demographics and labor statistics.

Sales information is received from various sources. Asking prices are gathered from the realtor listings and conversations with local real estate appraisers, agents and brokers.

WCAD tracks all deed transactions. From this information, sales letters are mailed to the buyer and seller to obtain information on the sale. Disclosure of this information is not mandatory in the State of Texas and only a small percentage of letters are returned with useful information. This presents a problem in that there is sometimes inadequate sales data to perform as thorough an analysis of sales data as *USPAP* would require. The Property Tax Assistance Division (PTAD) also sends out sales letters and that data is made available to appraisal districts upon request.

All properties are physically examined at least once every three years. The universe of property is divided by market areas. The market areas are defined by the neighborhood code that the property is in. Each neighborhood is a separate market area. The market areas are statistically analyzed annually to verify appraisal performance. If sales indicate that current appraised values are not at market value, adjustments are made to the area using a process outlined in detail in the Market and Cost Reconciliation and Valuation section of this report.

The appraisers performing re-inspection via aerial images review vacant land to confirm ag use and to see if any structures have been added. For improved properties they view four different directions of a property, looking for changes that might have occurred to the property since the last inspection, measuring the two most significant exterior walls of each improvement, and verify that all improvements are on the appraisal roll and listed correctly.

Appraisers in the field have property records that contain specific information regarding the property being appraised in either a paper format or electronically on a tablet. These records contain brief legal descriptions, ownership interest, property use codes, property addresses, land size and characteristics, sketches of improvements as well as any available detailed information of the improvements.

Regardless of method, re-inspections require appraisers to check all information on the property and the property record, and to update the appraisal roll as necessary. The appraiser’s primary duty is to ensure the accuracy of property records. Appraisers note their opinion of classification, condition and characteristics of the property. If changes in the size of any structures are observed, the appraiser measures and lists those dimensions. Appraisers take digital photos of each property field inspected. All work is reviewed by quality control measures.

Market Analysis (continued)

In addition, all exemptions and special valuations for properties in the reappraisal area are reviewed to verify qualification. For instance, properties with a homestead exemption should not be vacant. Properties receiving “ag” value should show signs of agricultural use. The appraiser notifies the tax clerks or appraisal support personnel of properties in question.

Data Collection/Validation

Data collection and validation of taxable property involves maintaining accurate data characteristics of the property in the CAMA (Computer Assisted Mass Appraisal) system. The information contained in CAMA includes site characteristics, such as land size, topography, and soil type and improvement data, such as square foot of living area, year built, quality of construction, and condition.

The appraisal staff is responsible for collecting and maintaining property characteristic data for classification, valuation, and other purposes. Accurate valuation of real and personal property by any method requires an accurate and comprehensive physical description of the property appraised. Field appraisers are required to use uniform procedures and classifications to ensure the correct listing of property and uniformity of appraisals. The field appraisers’ work is reviewed by records personnel to ensure accuracy and uniformity.

Data on individual properties is collected, compiled and analyzed. Buildings and other improvements are inspected, measured and classified. The appraiser estimates the effective age of improvements and determines the condition of the improvements. This data is used to compile depreciation (loss of value) tables and any notes pertaining to the improvements are made at this time.

Residential properties are classified for quality and whether frame or brick veneer. The classifications range from low to excellent. Low quality is the most basic of structures using the cheapest materials and workmanship while an excellent quality structure is of the highest possible quality using only the best of materials and the highest and best quality workmanship available.

Commercial properties are classified by type such as restaurant, office, shopping center, etc. and further defined by quality of construction, from poor to excellent. Business personal property is classified by North American Industry Classification System (NAICS).

Physical depreciation is calculated based on the effective age of improvements. Effective age is the age the property appears to be due to maintenance and upkeep. Effective age for a house that is properly maintained may be its actual or chronological age. However, if a structure suffers from deferred maintenance due to neglect, its effective age may be older than the actual age. Conversely, if a house is an older structure and has been remodeled or updated, its effective age may be less than its actual age.

Appraisers also estimate the condition of the property. Condition ranges from poor to good. Appraisers in the field usually inspect structures from the exterior. Unless specific information is known to the appraiser, the interior condition is assumed to be similar to the exterior.

Data Collection/Validation (continued)

Foundation failure may occur in varying degrees and may also result in loss of value. WCAD makes allowance for foundation problems on a case by case basis. Additional depreciation may be estimated for a variety of reasons including functional obsolescence resulting from bad floor plans, super adequacies, or out of date construction methods. Economic obsolescence results from a loss of value to a property due to adverse influences from outside the physical boundaries of the property. Examples of economic obsolescence may be proximity to a landfill, residences located near a railroad track, etc.

The sources of data collection are through property inspection, building permits, sales validation, newspapers and publications, and property owner correspondence. A principal source of data comes from building permits received from taxing jurisdictions that require property owners to take out a building permit. Permits are received and matched manually with the property's tax account number for data entry. Sales data is acquired through sales questionnaires from buyers and sellers and from real estate agents and appraisers. Soil surveys and agricultural surveys of farming and ranching property owners and industry professionals are helpful for calculating productivity value. The Texas Railroad Commission is the source for mineral production data and leasing information. Improvement cost information is gathered from *Marshall & Swift Valuation Service*. Income information is gathered by interviewing lessees, lessors, property managers, tax representatives, income surveys, and by monitoring sales activity of income producing real property.

Valuation Analysis

WCAD valuation schedules are divided into four main classifications: residential, commercial, land and business personal property. These schedules are based on the most appropriate data available. Depreciation tables (loss of value tables) are applied to the schedules. The schedules are calibrated from cost as well as sales data and updated as needed.

Miscellaneous special categories such as dealer's inventory, and agricultural productivity valuation are appraised using different techniques. Detailed information on the appraisal methods for the miscellaneous categories is contained in the WCAD appraisal manuals.

Three Approaches to Value

Texas law requires all three approaches to value be considered – cost, sales comparison (market) and income. Using multiple approaches whenever possible also provides a check versus the values obtained from other approaches. If a value can be determined using multiple approaches, then the value arrived at via the various approaches must be reconciled. The appraiser must then choose the approach to value that best estimates market value.

Cost Approach

The cost approach is best used for properties where sales and income data are scarce. These tend to be unique properties. This method works best for newer properties because accrued depreciation must be estimated.

WCAD cost schedules are based on *Marshall and Swift Valuation Service* and personal property values are based on renditions provided by property owners, the Property Tax Assistance Division appraisal manual and in some cases, CAVS (Cost Analysis Valuation System, a vendor that provides cost per square foot for personal property based on the type of property being appraised). *Marshall and Swift Valuation Service* is a nationally based cost manual and is recognized throughout the nation by the real estate industry. The cost manual is based on cost per square foot and also the unit in place method. The unit in place method involves the estimated cost by using actual building components. This nationally based cost information service provides the base price of buildings as per classification with modifications for characteristics that either enhance or detract from value. The schedule is then modified for sales price adjustments and location to make it current and specific to Washington County.

Field appraisers measure and class properties in accordance with the commercial, residential, or personal property classification guidelines. The appraisers also estimate the condition and effective age of the improvements. Additional depreciation may be estimated for a variety of reasons including functional obsolescence resulting from bad floor plans, super adequacies, or out of date construction methods. Economic obsolescence results from a loss of value to a property due to adverse influences from outside the physical boundaries of the property. Examples of economic obsolescence may be proximity to a landfill, residences located near a railroad track, etc. Economic and functional depreciation are estimated based on the estimated impact to market value due to economic or functional obsolescence. All field work is reviewed by the appraisal support staff.

The basic formula for the cost approach to value is as follows:

$$\text{Market Value} = \text{RNCLD} + \text{Land Value}$$

(RCNLD = Replacement Cost New Less Depreciation)

Land value must be derived from either the market or income approach. WCAD appraisers generally use the market approach due to the lack of reliable income data for valuing land.

Residential Schedules

Residential valuation schedules are cost based tables taken from *Marshall & Swift Valuation Service* adjusted to the local market. That is, the cost reflects actual replacement cost new of the subject property. Market research indicates that the common unit of comparison for new residential construction as well as sales of existing housing is the price paid per square foot. The value of extra items is based on their contributory value to the property. This value may be estimated by the price per square foot or a value of the item as a whole. This data is extracted from the market by paired sales analysis and conversations with local appraisers and brokers.

Residential Schedules (continued)

The residential schedules are based on the size, age and condition of structure, quality of construction, contributory value of amenities, and land value. Each of these variables has a direct impact on the cost of the property. The following is an example of each of the variables and how they may affect market value.

Quality of Construction – Residential construction may vary greatly in quality of construction. The type of construction affects the quality, the cost of material used, the quality of the workmanship, as well as the attention paid to detail. The cost and value of residential property will vary greatly depending on the quality of the construction. As stated above, WCAD residential schedules currently class residential structures based on quality of construction from Low Cost to Excellent. This classification schedule is based on the *Marshall & Swift* definitions of residential classes of dwellings with modifications for local market.

Size of Structure – The size of a structure also has a direct impact on its cost as well as value. The larger the structure, the less the cost per square foot. WCAD schedules are graduated in size increments. The Property Tax Assistance Division (PTAD) and *Marshall & Swift* also support this economy of scale analysis.

Condition of Improvements – WCAD rates conditions from poor to good. Properties that in the opinion of the appraiser are unusable may be given no value or salvage value.

Age of Structure – WCAD residential depreciation schedules are based on *Marshall & Swift* and as stated above. Effective age and chronological age may be the same or different depending on the condition of the structure.

Amenities – As stated above, amenities are valued according to their contributory value to the whole. Examples of extra items include porches, decks, swimming pools, and tennis courts.

Land Value – WCAD values land based on market transactions whenever possible. Specific land influences are used to adjust values for such factors as view, shape, size and topography. As there are not always market transactions available, other methods of land valuation may be used. The two most common methods are the land residual method and the land ratio method. We also use abstraction and allocation methods to ensure that the land values created best reflect the contributory market value of the land to the overall property value. Land schedules are available at the appraisal district office.

Commercial Schedules

Commercial properties valued via the cost approach are valued using *Marshall & Swift Valuation Service* schedules. Replacement cost new is determined and then adjusted for location. Depreciation is then applied using physical observation of the property. The depreciated value of the improvements is then added to the land value to arrive at the total value of the property.

Personal Property Schedules

WCAD is required to value business furniture, fixtures and equipment as well as inventory that is taxable by law.

Business personal property values are derived from several sources. Business owners are required by Texas Law to render their business personal property each year. It is the experience of the District that about 85% of businesses render each year. Rendered values are used on business personal property if the value is reasonable for the type of business and is within acceptable ranges when compared to the Property Tax Assistance Division (PTAD) or *Marshall & Swift* personal property schedules. If the rendered value is not considered acceptable, or the property owner fails to render, Property Tax Assistance Division (PTAD), *Marshall & Swift* schedules, or Cost Analysis Valuation System (CAVS) are used to estimate a value. Depreciation is determined by the age of the property and its expected life. Schedules are available in the appraisal district office.

Business vehicles are valued based on *N.A.D.A. Used Car Guide and Commercial Truck Guide* wholesale value for the particular make, model and age of the vehicle. The appraisal district uses a report which lists commercial vehicles registered in Washington County on January 1 of each year. This report uses the vehicle information number to determine make, model and vehicle characteristics to determine *N.A.D.A.* value. The District also obtains a CD from the State of Texas that lists vehicles registered in Washington County, regardless of registration type (e.g. personal, farm, commercial). These reports along with renditions and physical observations are used to discover and list vehicles that are taxable within the county. When adverse factors such as high mileage are known, then the appropriate adjustments are made to value.

Income Approach to Value

Some commercial properties are best valued via the income approach because they sell for their income producing capacity. Examples of such properties are mini-storage units, hotels and motels, and retail space. When the income approach is the most appropriate approach for the valuation of a subject property, the appraiser chooses the income approach to override the value arrived at via the cost approach.

Income producing properties are placed on income schedules that are derived from data collected from landlords, tenants, and market surveys. Schedules are built based on type of property, class within each type and economic area. Similar properties are placed on like schedules to ensure equity. Washington CAD income values are based on the concept of market rent, vacancy and collection loss, expenses, and cap rate for the respective type of income producing property and economic area.

The use of the income approach to value is particularly useful for properties in which sales data is scarce and the market indicates the property is likely to sell for its income producing capacity.

The first step in the income approach pertains to the estimation of market rent. This is derived primarily from actual rent data furnished by property owners and lessees and from regional information obtained from various sources.

Income Approach to Value (continued)

A vacancy and collection loss allowance are the next items to consider in the income approach. The projected vacancy and collection loss allowance is established from actual data furnished by property owners and local market survey trends. This allowance accounts for periodic fluctuation in occupancy, both above and below an estimated stabilized level. This feature may also provide for a reasonable lease-up period for multi-tenant properties, where applicable. The market derived stabilized vacancy and collection loss allowance is subtracted from the potential gross rent estimate to yield an indication of estimated annual effective gross rent to the property.

Next, a secondary income or service income is considered and, if applicable, calculated as a percentage of stabilized effective gross rent. Secondary income represents parking income, escalations, reimbursements, and other miscellaneous income generated by the operations of real property. The secondary income estimate is derived from actual data collected and available market information. The secondary income estimate is then added to effective gross rent to arrive at an effective gross income, when applicable.

Allowable expenses and expense ratio estimates are based on a study of the local market, with the assumption of prudent management. Relevant expense ratios are developed for different types of commercial property based on use and market experience.

Another form of allowable expense is the replacement of short-lived items (such as roof, floor coverings, air conditioning units, or appliances) requiring expenditures of lump sum costs. These expenses when annualized are known as replacement reserves.

Subtracting the allowable expenses (inclusive of non-recoverable expenses and replacement reserves when applicable) from the annual effective gross income yields an estimate of annual net operating income to the property.

Return rates and income multipliers are used to convert operating income expectations into an estimate of market value for the property under the income approach. These include income multipliers and overall capitalization rates. Each of these multipliers or capitalization rates are considered and used in specific applications. Rates and multipliers may vary between property types, as well as by location, quality, condition, design, age, and other factors. Therefore, application of the various rates and multipliers must be based on a thorough analysis of the market for individual income property types and uses. These procedures are supported and documented based on analysis of market sales for these property types.

Capitalization analysis is used in the income approach models to form an indication of value. This methodology involves the direct capitalization of net operating income as an indication of market value for a specific property. Capitalization rates applicable for direct capitalization method and yield rates for estimating terminal cap rates for discounted cash flow analysis are derived from the market. Sales of improved properties from which actual income and expense data are obtained provide a very good indication of property return expectations a specific market participant is requiring from an investment at a specific point in time. In addition, overall capitalization rates can be derived and estimated from the built-up method (band-of-investment). This method relates to satisfying estimated market return requirements of both the debt and equity positions in a real estate investment. This information is obtained from available sales of property, local lending sources, and from real estate and financial publications.

Income Approach to Value (continued)

Rent loss concessions are estimated for specific properties with vacancy problems. A rent loss concession accounts for the impact of lost rental income while the building is moving toward stabilized occupancy. The rent loss is calculated by multiplying the rental rate by the percent difference of the property's stabilized occupancy and its actual occupancy. Build out allowances (for first generation space or retrofit/second generation space as appropriate) and leasing expenses are added to the rent loss estimate. The total adjusted loss from these real property operations is discounted using an acceptable risk rate. The discounted value (inclusive of rent loss due to extraordinary vacancy, build out allowance and leasing commissions) becomes the rent loss concession and is deducted from the value indication of the property at stabilized occupancy. A variation of this technique allows a rent loss deduction to be estimated for every year that the property's actual occupancy is less than stabilized occupancy.

Economic areas are defined whenever the district has sufficient income information to group similar types and classes of income producing properties. Income schedules are developed for these economic areas and all properties within the grouping are valued via the appropriate income schedule to ensure equitable treatment of similar properties.

Sales Comparison (Market) Approach

Whenever possible, the sales comparison approach is used to appraise properties. This method is preferred because data is taken directly from the market. However, this method can only be used for properties in which there is sufficient sales information.

Sales data is gathered by sending sales letters to the buyers and sellers of properties that the District knows changed ownership. Sales are confirmed from the direct parties involved whenever possible. Confirmation of sales from local real estate appraisers is also considered a reliable source.

All data listed on the property record is verified and updated as needed including building classification, building size, additions or added out buildings, condition of structures and any change in data or characteristics that would affect the value of the property.

Individual sales are analyzed to verify whether they meet the definition of market value per Texas Property Tax Code Section 1.04(7). Only arm's length transactions are used for mass appraisal purposes. Examples of reasons why sales may be deleted or not considered are:

1. Property acquired through foreclosures or auction, if the transaction does not meet the definition of market value in the Texas Property Tax Code.
2. Property sold between relatives.
3. The buyer or seller is under duress and may be compelled to sell or purchase.
4. Financing may be non-typical or below or above prevailing market rates.

Sales Comparison (Market) Approach (continued)

5. Considerable improvements or remodeling have been done since the date of the sale and the appraiser is unable to make judgments on the property's condition at the time of the transaction.
6. Sales may be unusually high or low when compared with typical sales located in the market area due to a seller relocation or divorce proceedings.
7. The property is purchased through an estate sale.
8. The sale involves intangibles, such as goodwill.
9. There are value-related problems associated with the sale, e.g. incorrect land size or square footage of living area.
10. Property use changes occurring after the sale.

Under some of these conditions a sale may still be able to be adjusted and then used as an arm's length transaction. WCAD will use an adjusted sales price only when it can be reliably adjusted. Examples are when a sale includes more than the fee simple estate and the appraiser can confidently remove the personal property that was included in the sale or can accurately measure the difference between the value of the fee simple estate and the interest conveyed in the sale (such as a leased fee estate). If a sales adjustment cannot be accurately and reliably measured, then no adjustment should be attempted, and the sale should not be considered.

WCAD monitors changes in price levels and, if necessary, adjusts sales prices for time. Sales are adjusted to the appraisal date of January 1. Adjustment factors are developed by comparing per unit value changes over time.

Once a reliable time adjustment factor has been developed for a stratum, it is used to adjust sales to the appraisal date. This factor is used when analyzing sales data for potential market adjustments that occur annually.

The appraisal district's CAMA system is based on a cost approach to value. When the sales comparison method is used for improved properties, a modifier is applied to the schedule to bring cost in line with market. This approach is also known as a modified cost approach.

Statistical Analysis

WCAD performs statistical analysis annually to confirm that values are equitable and consistent with the market. Ratio studies are conducted on all properties in the district to judge the two primary aspects of mass appraisal –accuracy and uniformity of value. Appraisal statistics of central tendency and dispersion generated from sales ratios are available. These statistics include, but are not limited to, the weighted mean, standard deviation and coefficient of dispersion and provide an analytical tool by which to determine both the level and uniformity of appraised value in the district.

Statistical Analysis (continued)

WCAD reviews values annually through the sales ratio analysis process. The first phase involves ratio studies, which compares the recent sales prices of properties to the appraised values of these sold properties. This set of ratio studies affords the analyst an excellent means of judging the present level of appraised value and uniformity of the sales. The analyst, based on the sales ratio statistics and designated parameters for valuation update, makes a preliminary decision as to whether the value level needs to be updated in an upcoming reappraisal, or whether the level of market value is at an acceptable level.

Ratio Study Standards

Sales ratio studies are used to evaluate the district's mass appraisal performance. These studies not only provide a measure of performance but also are an excellent means of improving mass appraisal performance. WCAD uses ratio studies not only to aid in the revaluation of properties, but also to verify the results of the Comptroller's Property Tax Assistance Division (PTAD) annual property value study.

Sales ratio studies are usually performed annually. At this time individual properties which have sold are reviewed for accuracy in their data. Property record cards indicating the results of the field inspections are used to further aid in the analysis and decision making.

Ratio studies are usually done on a countywide basis of all sales in the county and then by market area. The median ratio within each is then compared to the desired ratio to determine if schedule adjustments should be made. The coefficient of dispersion (COD) is also studied to indicate how tight the ratios are in relation to measures of central tendency. The median and coefficient of dispersion are good indicators that identify statistically the results of the valuation process. WCAD adheres to the following standards recommended by the IAAO *Standards on Ratio Studies*.

- A. Appraisal Level – The overall level of appraisal for the jurisdiction and each major stratum of properties should be within 10% of the legal standard – 100% of market value.
- B. Appraisal Uniformity –
 1. Uniformity amount Strata – The level of appraisal for each stratum should be within 5% of the overall level of appraisal for the jurisdiction.
 2. Single Family Residential Strata – CODs generally should be 15.0 or less and for areas of newer and fairly similar residences, 10.0 or less.
 3. Strata Composed of Income Producing Properties – CODs should be 15.0 or less for larger, urban jurisdiction and 20.0 or less in small rural jurisdictions.
 4. Vacant Land – CODs should be 20.0 or less.
 5. Other Strata – Target CODs should reflect the nature of the properties involved and the availability of reliable market indicators.

Market and Cost Reconciliation and Valuation

Analysis of market sales to achieve an acceptable sale ratio or level of appraisal also involves the reconciliation of the market and cost approaches to valuation. Market factors are developed from appraisal statistics provided from market analyses and ratio studies and are used to ensure that estimated values are consistent with the market and to reconcile cost indicators. The district's primary approach to the valuation of residential properties uses a hybrid cost-sales comparison approach. This type of approach accounts for local market influences that cannot be captured in a purely cost model.

The following equation denotes the hybrid model used:

$$MV = LV + (RCNLD * MA)$$

The estimated market value (MV) of the property equals the land value (LV) plus the replacement cost new of property improvements less accrued depreciation (RCNLD) multiplied by a market adjustment (MA) derived from sales analysis. As the cost approach separately estimates both land and building contributory values and uses depreciated replacement costs, which reflect only the supply side of the market, it is expected that adjustments to the cost values may be needed to bring the level of appraisal to an acceptable standard as indicated by market sales.

The demand side is economic factors and influences, which may be observed from market activity. These market, or location adjustments, may be calculated and applied uniformly within neighborhoods based on market activity. For residential property, the unit of comparison is typically the price per square foot of living area or the price indicated for the improvement contribution to total market value.

LV (land value) is estimated based on sales of similar lots. Equity is achieved by ensuring similar lots are valued similarly.

The level of improvement contribution to the property is measured by abstraction of comparable market sales, which is the property sale price less land value. Essential to this hybrid cost-sales approach is accurate condition data, which can only be achieved through diligent field work.

When the appraiser reviews a market area, the appraiser reviews and evaluates a ratio study that compares recent sales prices of properties, appropriately adjusted if needed, within a market area, with the value of the properties' based on the estimated depreciated replacement cost of improvements plus land value. The calculated ratio derived from the sum of the sold properties' estimated value divided by the sum of the adjusted sales prices indicates the level of appraisal based on sold properties. If the level of appraisal for the neighborhood is less than or greater than 100%, adjustments to the entire area are made to reflect current market trends.

Therefore, based on analysis of recent sales located within a given area, estimated property values will reflect the market influences and conditions only for the specified area, thus producing more representative and supportable values. The estimated property values calculated are based on market indicated factors applied uniformly to all properties within an area. Finally, with all the market-trend factors applied, a final ratio study is generated that compares recent sale prices with the proposed appraised values for these sold properties. From this set of ratio studies, the appraiser judges the appraisal level and uniformity.

Market and Cost Reconciliation and Valuation (continued)

A complete list of market areas, including market adjustments, is maintained in the appraisal district's CAMA system and is available upon request.

Appraisal Performance Tests and Attainment

Ratio study results for the 2021 mass appraisal are as follows:

Type	# of Sales	Median Ratio	COD¹	PRD
Residential	303	96.34	7.39	1.00
Land	273	95.44	13.08	0.99
Commercial ²	NA	NA	NA	NA

¹ - COD's that are higher than the recommended ratio study standards on page 20 are due to a low number of reported sales.

² – Commercial ratio studies were not run for 2021 due to lack of data and available staff. Ratio studies are planned for the coming year.

In accordance with Section 5.102 of the Texas Property Tax Code and Section 403.302 of the Texas Government Code, the Texas Comptroller of Public Accounts conducts a biannual property value study (PVS) to determine the degree of uniformity of and the median level of appraisals by the appraisal district within each major category of property, as required by Section 5.10, Property Tax Code.

The Comptroller of Public Accounts certifies a school district's local tax roll value to the Commissioner of Education if it is within the calculated statistical error margin. A margin of error of 5% is used for each school district. The complete report for WCAD and all Texas school districts can be found at <https://comptroller.texas.gov/taxes/property-tax/pvs/index.php>.

The results of WCAD's sales ratio studies, the Property Value Study, and the prior year's Mass Appraisal Report are analyzed to determine if there are any areas where appraisal performance can be improved. Currently, results indicate that properties are being valued within IAAO standards for both market value and equity, and that there are no areas that require additional resources. This is continually monitored to ensure quality appraisal performance.

Additionally, beginning in 2010, the PTAD conducts a biannual review of the governance of each appraisal district, taxpayer assistance provided, and the operating and appraisal standards, procedures, and methodology used by the district. This study is commonly referred to as the MAP Review. WCAD was reviewed in 2020. WCAD passed the MAP review with only one question incorrect.

Certification

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 by the reported assumptions and limiting conditions, and are my personal, impartial, and unbiased professional analyses, opinions and conclusions;
- I have no present or prospective interest in the properties that are subject of this report and I have no personal interest or bias 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;
- 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 taxing jurisdiction, the amount of the value estimate, the attainment of a stipulated result, or the occurrence of a subsequent event;
- the analyses, opinions and conclusions were developed and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice (USPAP), the Texas Department of Licensing and Regulation (TDLR), and the International Association of Assessing Officers (IAAO);
- I have not made a personal inspection of the properties that are the subject of this report; and
- this report was prepared with the assistance of the Washington County Appraisal District appraisal staff and Thomas Y Pickett, Inc.



Dyann White, RPA
Chief Appraiser.