



Williamson Central Appraisal District



2021 Mass Appraisal Report

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Introduction

The Williamson Central Appraisal District is a political subdivision of the state and the jurisdictional boundary covers approximately 1,100 square miles. The Constitution of the State of Texas, the Texas Property Tax Code, and The Rules of the Texas comptroller's Property Tax Assistance Division govern the operation of the appraisal district. Each year, through the process of mass appraisal, the district appraises the market value of all real and personal property within the county for ad valorem purposes.

This mass appraisal report was written in compliance with Standards Rule 6-7 of the Uniform Standards of Professional Appraisal Practice (USPAP) as promulgated by the Appraisal Standards Board of The Appraisal Foundation. The 2021 mass appraisal was prepared under the provisions of the Texas Property Tax Code (hereafter "Tax Code") 23.01(b). 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 state comptroller of public accounts. The 2021 mass appraisal results in an estimate of the market value of each taxable property within the district's boundaries. Where required by law, the district also estimates value on several bases other than market value. These are described where applicable later in this report. The report provides general provisions pertaining to all properties within the appraisal, and then is divided relative to individual appraisal divisions within the office. Individual appraisal records for each account within the county are stored in the CAMA system as well as the appraisal roll certified to each taxing entity in July.

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 characteristics data upon which the appraisals are based is assumed to be correct.
- Physical inspections of the property appraised were performed as staff resources and time allowed.
- Validation of sales transactions occurred through questionnaires to buyer and seller, telephone surveys, field review, and internet research. In the absence of such

confirmation, residential sales data obtained from vendors and third parties 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 considered in this mass appraisal report.
- It is assumed that all applicable zoning and use regulations and restrictions have been complied with unless nonconformity has been stated, defined and considered in this mass appraisal report.
- 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, 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.

Effective Date of Appraisal and Date of the Report

Except for certain inventories for which the property owner has elected a valuation date of September 1, 2020; all appraisals are as of January 1, 2021. The date of this report is November 1, 2021.

Definition of Value

Except as otherwise provided by the Tax Code, all taxable property is appraised at its “market value” as of January 1. 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 purchaser 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 purchaser seek to maximize their gains, and neither is in a position to take advantage of the exigencies of the other.

The 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 (Sec. 23.23, Tax Code), agricultural property (Chapter 23, Subchapters C, D and E, Tax Code), real and personal property inventory (Sec. 23.12, Tax Code), certain types of dealer inventory (Sec. 23.121, 23.124, 23.1241 and 23.127), and nominal (Sec. 23.18) or restricted use properties (Sec. 23.83).

Properties Appraised

All taxable real and personal property known to the district as of the date of this report, except for certain properties on which valuation was not complete as of the date of this report. These, by law, will be appraised and supplemented to the jurisdictions after equalization. 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, Tax Code. The description and identification of each property

appraised is included in the appraisal records submitted to the Williamson Central Appraisal Review Board (ARB) on May 3rd, 2021.

Client and Intended User

The client and intended users of the appraisals performed by the Appraisal District are the taxing entities that provide services to the citizens of the county and the property owners of the appraised accounts.

Purpose and Intended Use

The purpose of the appraisal is to estimate the market value of all real and personal property within the jurisdictional boundaries of Williamson County in an equitable and efficient manner for ad valorem tax purposes in accordance with the laws of the State of Texas.

Yearly Scope of Work to Develop the Appraisal

Performance Analysis—Independent-- Following the conclusion of the protest phase, the certified values for that valuation year are reanalyzed with ratio studies to examine the appraisal accuracy and uniformity on an overall basis as well as by market area within property reporting categories. Ratio studies are conducted in compliance with the current Standard on Ratio Studies of the International Association of Assessing Officers and assist in preliminary planning of fieldwork and analysis areas for the upcoming valuation year.

Third Party -- Section 5.10 of the Texas Property Tax Code requires the comptroller to conduct a study at least once every two years to determine the degree of uniformity and the median level of appraisals by the appraisal district within each major category of property. The Property Value Study (PVS) uses statistical analysis of sold properties and appraisals of unsold properties as a basis for assessment ratio reporting. The preliminary results of this study are released in January following the year for which the study is conducted. Final results are then certified to the Education Commissioner of the Texas Education Agency in July. This outside (third party) ratio study provides meaningful data to WCAD regarding the accuracy and uniformity of yearly appraisal work while also aiding in identifying potential areas requiring reanalysis the following appraisal year.

Third Party -- Section 5.102 of the Texas Property Tax Code requires the comptroller to review at least once every two years, the governance of each appraisal district, taxpayer assistance provided, and the operating and appraisal standards, procedures, and methodology to determine compliance with generally accepted standards, procedures, and methodology. This review, referred to as the Methods and Assistance Program (MAP), will be conducted during the year in which a Property Value Study is not undertaken. The comptroller is required to deliver a written report to the chief appraiser, CAD board of directors, and each superintendent and board of trustees in school districts in the CAD concerning the MAP findings. This review provides the appraisal district with the opportunity to ensure that the office policies and procedures, and the appraisal standards and methodology comply with Tax Code and USPAP requirements.

Analysis of Available Resources – Historic expenditures are reviewed following the completion of a fiscal year and future projections and goals are also considered when a new year's budget process begins. Yearly trends in what are considered the top labor driving activities of the district are utilized to develop benchmarks for categories within the budget. In addition to an annual budget review, existing office and appraisal practices and procedures are reviewed each August during a planning session utilized to determine the necessity of additions or changes needed to

accommodate plans, goals, and predicted market trends. Information Systems (IS) support is also reviewed with year-specific functions identified, and system updates are scheduled based on plans and goals. Existing GIS resources are specified and reviewed for required updates and are scheduled as needed.

Planning and Organization – A calendar of key events, called the Master Calendar, is prepared each year to memorialize important deadlines that correlate with Texas Property Tax Code requirements. Each division within the appraisal department organizes its workflow around these important dates to remain on schedule for the next tax year. Personnel requirements and reassignments are determined by September of each year in conjunction with managers and directors planning sessions. New CAD goals and projects borne from the August planning session are also integrated in the various departmental calendars and departmental Project Status Reports to ensure tracking, maintenance, and completion.

Mass Appraisal System – Computer Assisted Mass Appraisal (CAMA) system additions or revisions are specified and scheduled with Information Systems and the CAMA software provider to research feasibility, costs, and completion timelines. All computer forms and IS procedures are reviewed and revised as required. Communication with key personnel for the CAMA provider is maintained throughout the year as various identified updates, projects, and goals are met.

Data Collection Requirements – Field and office procedures are reviewed and revised as required for data collection specific to individual properties and each appraisal division. Technological advances and opportunities are monitored routinely for potential cost-effective changes or additions to improve data collection efficiency. Activities scheduled for each tax year which involve data collection include new construction, demolition, remodeling, re-inspection of selected market areas, and field or office verification of sales data and relevant property characteristics. Onsite inspections, aerial imagery, and sketch validation software and procedures are utilized each year to verify and/or update the recorded sketch characteristics of all improved properties in the district.

Sales data is acquired through a variety of sources such as: district questionnaires, field discovery, property owners, fee appraisals, third party vendors, builders, developers, brokers, realtors, publications, and websites. Sales analysis procedures are reviewed, and potential new sources of sales information are continually sought and researched to ascertain as much sale data as possible to ensure accurate and equitable appraisals. Renditions provided by business owners also provide additional information for the personal property division valuations.

Valuation Model Specification – New and/or revised mass appraisal models are tested each tax year by common statistical measures. Market areas, which are collections of properties with similar characteristics, locations, or both, are reexamined each year to determine if they are still appropriate or need changes. Land, area, market, and highest and best use analysis are relied upon to assist in determining the appropriate approach to value and models to apply to the properties within the county.

Valuation Model Calibration – Local market sales analysis and Marshall & Swift publications are used to set, test, and update cost tables as needed. Market analysis of comparable sales and locally tested cost data allows for calibration of valuation models utilized in the market approach to value. Information acquired regarding local rental rates, occupancy, expenses, and capitalization rates is utilized to update and modify income valuation models. The calculated values are tested for accuracy and uniformity by comparing them to known sale information using common ratio study statistics.

Hearing Process – Evidence to be used by the appraisal district to meet its burden of proof for market value and equity in both informal hearings with appraisers and formal appraisal review board hearings is developed each year when value notices are mailed, and when protests are filed. That information is maintained electronically in categorized files by appraisal department and utilized throughout the protest phase of the appraisal calendar. Information from those files not made confidential by the Tax Code may be obtained by the public through appropriately filed public information requests.

Mass Appraisal Report – In each tax year the Mass Appraisal Report required by the property tax code is prepared and certified by the chief appraiser at the conclusion of the equalization phase of the ad valorem tax calendar. The Mass Appraisal Report is completed in compliance with STANDARDS RULE 6 of the Uniform Standards of Professional Appraisal Practice. The signed certification by the Chief Appraiser is also compliant with STANDARDS RULE 6 of USPAP.

Report by Appraisal Divisions

Residential Division

The residential appraisal department is responsible for developing the equal and uniform market values for improved residential property within the county. The staff generally values residential single family, townhomes, condominiums, multifamily housing other than apartments, and manufactured homes. The department is made up of appraisers and support technicians. Data collected during the fieldwork and analysis phases of the appraisal calendar is stored in the CAMA database and utilized to provide market values each year.

Model Specification

- *Area Analysis*--- Data on regional economic forces such as demographic patterns, regional location factors, employment and income patterns, general trends in real property prices and rents, interest rate trends, availability of vacant land, and construction trends and costs are collected from private vendors and public sources and provide the field appraiser a current economic outlook on the real estate market. Information is gathered from real estate publications and other outside sources including seminars, conferences, and continuing education courses.
- *Neighborhood and Market Analysis*--- Neighborhood analysis involves the examination of how physical, economic, governmental and social forces, and other influences affect property values. The results of these forces are also used to identify, classify, and stratify comparable properties into smaller, manageable subsets of the universe of properties known as neighborhoods. Residential valuation and neighborhood analysis are conducted on these well-defined areas within the county. Analysis of comparable market sales data forms the basis of estimating market activity and the level of supply and demand affecting market prices for any given market area, neighborhood or district. Market sales reflect the effects of these market forces and are interpreted by appraisers into an indication of market value ranges for all defined neighborhoods. Although all three approaches to value may be considered, residential sales can best be interpreted and applied using two generally accepted appraisal techniques known as the cost and market, or comparable sales approach. For low density, multiple family properties, the

income approach to value may also be utilized to develop gross rent multipliers in the absence of recent sales data.

The first step in neighborhood analysis is the identification of a group of properties that share certain common traits. A "neighborhood" for analysis purposes is defined as a geographic grouping of properties where the property's physical, economic, governmental and social forces are generally similar and uniform. Once a neighborhood with similar characteristics has been identified, the next step is to define its boundaries. This process is known as "delineation". Some factors used in neighborhood delineation include location, sales price range, lot size, age of dwelling, quality of construction and condition of dwellings, square footage of living area, and story height. Delineation can involve the physical drawing of neighborhood boundary lines on a map, but it can also involve statistical separation or stratification based on attribute analysis.

Neighborhood identification and delineation is the cornerstone of the residential valuation system at the district. Most residential analysis work is neighborhood specific. Neighborhoods are visually inspected to verify delineations based on observable aspects of homogeneity. Neighborhood delineation is periodically reviewed to determine if further neighborhood specification is warranted. This process is also accomplished through utilization of Geographical Information Systems (GIS) by appraisers in the office when reviewing data trends in existing residential values, quality and age of construction components, and available sales data. Various GIS layers within digital maps are inspected each year when determining whether current delineation requires changes as a result of shifting market trends.

Whereas neighborhoods involve similar properties in the same location, a neighborhood group is simply defined as a grouping of similar neighborhoods in similar locations. Each residential neighborhood is assigned and coded to a neighborhood group based on observable aspects of homogeneity between the areas. Neighborhood grouping is highly beneficial in cost-derived areas of limited or no sales and in direct sales comparison analysis. Defining comparable neighborhood groups serves to increase the available market data by linking comparable properties outside a given neighborhood to other somewhat similar neighborhoods. The next level of the hierarchy is the

neighborhood cluster and involves the consolidation of similar neighborhood groups.

The final and highest level for analysis is the market area and is a defined area which contains neighborhoods, groups, and clusters. This level is used to analyze sales over a larger geographic area and extract conclusions regarding determined variables that influence market value. Market area analysis is used for most of the single-family residential valuation in the county each year.

- *Highest and Best Use Analysis*--- The highest and best use must be physically possible, legally permissible, financially feasible, and productive to its maximum. The highest and best use of residential property is generally its current use. This is due in part to the fact that residential development, in many areas, through use of deed restrictions and zoning, precludes other land uses. In some instances, there are areas that transition over time from what was initially residential to another use. Appraisal standards require a property to be valued at its highest and best use, however a Jurisdictional Exception is provided by USPAP when local law requires something contrary to the recognized standard. 23.01(d) of the Tax Code also addresses the valuation of residential properties with a homestead based on the residential value regardless if that is not the current highest and best use of the property. Williamson County has properties which have been identified to meet the criteria of 23.01(d) and are coded for identification and valued as required.

Model Calibration

- *Cost Schedules*--- Residential property within the county begins initial valuation from cost schedules that utilize a comparative unit method. Cost schedules are developed and tested by compiling known sale prices of new properties within each defined level of quality of construction and correlating the resulting value per square foot data into tables stored within the CAMA system. Tables are also developed to uniformly apply value for added exterior amenities of a home that have been identified to add value through statistical analysis.
- *Depreciation*---Physical depreciation is expressed as a percentage that is computed and subtracted from estimated replacement cost new. The percentage rate is dependent on the class, condition, effective age, and economic life of an improvement. Depreciation tables are initially developed

from Marshall & Swift publications, set up based on structure classifications, and observed each year through market sales for potential adjustments. The depreciation schedules ensure that all properties within the same quality and condition depreciate at the same level which ultimately leads to uniformity within a market area. A critical element in depreciation is commonly referred to as effective age and is the cornerstone on which the schedules are built. Initial construction dictates the actual age of a structure by establishing a base year on which the age can be calculated. Initially, the actual and effective age are the same. However, over time, owners replace, change, or update deteriorating components of a structure which then reduces the effective age of the property as well as the amount of depreciation. Correlations of sales to effective ages of properties are utilized to trend and update depreciation schedules as necessary. Due to the large variation in year of construction for the single-family residential property in the county, a yearly project is undertaken to review and update the effective age for specified age groups of homes. This task is done to provide more consistent data for the analysis and valuation models that address the depreciation component.

- *Income Models*---Income models are utilized if there is sufficient data to develop rent multipliers for residential property that is producing income, and there is little or no sales information to rely on a market sales approach to value. Typically, there is substantial residential sales information in rental areas and the income approach is not generally used.
- *Sales Information*--- A sales file for the storage of sales data for improved properties is maintained for residential real property. Residential improved sales are collected from a variety of sources such as: district survey letters sent to buyers and sellers, field discovery, property owners, builders, developers, publications, third party sources, realtors or brokers, and websites. A system of type, validity, and verification codes has been established to define salient facts related to a property's purchase or transfer and to help determine relevant market sale price information. As a result of the Tax Code requirement of a January 1 valuation, the effect of time as an influence on price is studied by paired and re-sales analysis or forecast trending. Monthly time adjustments are illustrated through detailed analysis and applied in the ratio study to the sales as indicated within defined areas of study.
- *Statistical Analysis*--- The residential appraisers perform statistical analysis annually to evaluate whether values are consistent with the market. Ratio studies are conducted on residential neighborhoods and market areas in the

district to judge mass appraisal accuracy and uniformity of value. Appraisal statistics of central tendency and dispersion generated from sales ratios are available for each neighborhood and are summarized by year. These summary statistics provide the appraisers a tool by which to determine both the level and uniformity of appraised value on a neighborhood and market area basis and consider whether appraised values require adjustments relative to changing market conditions. The level of appraised value is determined by calculating the median appraisal to sale ratio within each market area. The accuracy and uniformity of a market area is tested by the coefficient of dispersion for the same dataset.

- *Reconciliation and Valuation*--- Neighborhood, or market adjustment factors are developed from appraisal statistics provided from ratio studies and are used to ensure that calculated values are consistent with the market. One of the district's approaches to the valuation of single-family residential properties is a market modified cost approach. This approach accounts for neighborhood market influences not particularly specified in a purely cost model. The following equation denotes the hybrid model used:

$$MV = MA [RCN - D] + LV$$

The market value (MV) is calculated once the market adjustment factor (MA) is applied to the replacement cost new (RCN) less depreciation (D) and adding the land value (LV). During the valuation phase of the appraisal year, statistical analysis of current appraised values as compared with recent sales determines the appropriate market adjustment factor for each neighborhood. Market adjustments will be applied uniformly within individual neighborhood codes to account for location variances between market areas or across a jurisdiction. Thus, following analysis of recent sales appropriately adjusted for the effects of time, calculated values following the application of the determined market adjustment factor will reflect the market influences and conditions only for the specified market area.

Regression analysis is also utilized within the CAMA system to test and establish market derived adjustments for property characteristics that are statistically proven to affect value. These adjustments are then part of a resulting model for defined market areas that can provide a multiple regression point estimate of value for every property within each area. Once each model output statistics are acceptable, the direct sales comparison

approach is used to calculate and apply values to properties in selected market areas. In this method, selection criteria are employed to gather 3 to 5 sale properties with similar characteristics to a subject property. After that, market derived adjustments for any differences that still exist are applied to the comparable sold properties. Following the adjustments, a final market value for the subject property is concluded and issued as the notice value for that given year.

Residential (Builder's) Inventory

The tax code allows a wholesale valuation of residential inventory if it is: 1) held for sale in the normal course of business for the owner; 2) has never been occupied as a residence; and 3) it has never been rented and produces no income. This special valuation is given to the owners who request it and are typically builders and developers. Each year, known bulk sales of residential properties are analyzed to determine discount factors to apply based on supply in the area, current demand, typical holding periods, and typical build-out timeframes. Once factors are established, all single-family residential properties that are/were owned on the first of the year by a known builder or developer are identified and the factors are applied to the selected properties.

Commercial Division

The commercial appraisal department is responsible for developing the equal and uniform market values for improved commercial property within the county. The staff generally values apartments, office, retail, warehouse/manufacturing, and various other categories of business-related facilities. The department is made up of appraisers and a support technician. Data collected during the fieldwork and analysis phases of the appraisal calendar is stored in the CAMA database and utilized to provide market values each year.

Model Specification

- *Area Analysis*--- Data on regional economic forces such as demographic patterns, regional location factors, employment and income patterns, general trends in real property prices and rents, interest rates, discount rates, and financing trends, availability of vacant land, and construction trends and costs are collected from private vendors and public sources. The commercial appraisers and manager analyze the data and meet regularly to discuss how these factors and trends could impact the local real estate market. More detailed analysis by property type and various categories is then undertaken to determine what model recalibration and specification will need to occur during the upcoming valuation cycle.
- *Neighborhood and Market Analysis*---A commercial neighborhood, submarket, or economic area is comprised of land and the commercial properties located within the boundaries of a specifically defined geographic location, or a collection of land and the commercial properties defined by similar business functions within a defined geographic location. The school districts within the county provide the first basis of the geographic delineation of the commercial properties by location. Market area delineations can be based on man-made, political, or natural boundaries. Submarket analysis involves the examination of how physical, economic, governmental and social forces at the local, national and international level influence or affect property values. The effects of these forces are used to determine the highest and best use for a property, and to select the appropriate sale, income, and cost data in the valuation process. Economic area identification and delineation by each major property use type is a key component in a commercial mass appraisal valuation system. Economic areas are periodically reviewed to determine if a revised delineation is required.

- *Highest and Best Use Analysis*--- The highest and best use is the most reasonable and probable use that generates the highest present value of the real estate, as of the date of valuation. The highest and best use of any given property must be physically possible, legally permissible, financially feasible, and maximally productive. It is that use that will generate the highest net return to the property over time. The appraiser must consider the most probable use that is permitted under local administrative regulations and ordinances. While its current zoning regulation may restrict a property's use, the appraiser may also consider the probability that the zoning could be changed, based on activity in the area. A property's current use is often the highest and best use as a result of zoning regulations. However, there are times when the market and zoning changes proposed and allowed by a city have defined areas in transition where the highest and best use may not reflect the actual use of the property at the time of appraisal.

Model Calibration

- *Cost Schedules*--- The cost approach to value is applied to all improved real property utilizing the comparative unit or square foot method to determine replacement cost new. Replacement cost new should include all direct and indirect costs, including materials, labor, supervision, architect and legal fees, overhead and a reasonable profit. Development of a comparative cost unit for each building class involves the utilization of national cost data reporting services as well as consideration of actual cost information on comparable properties within the county. A base cost rate has been developed for each building class and represents the replacement cost per unit for a benchmark property for each class. Date and location modifiers are necessary to adjust cost data to reflect conditions in a specific market and changes in costs over time. Because a national cost service is used as a basis for the cost models, location modifiers are necessary to adjust these base costs specifically for Williamson County. The national cost services provide these modifiers and are also checked with any known local sales obtained by the appraisal district.
- *Depreciation*---Physical depreciation is expressed as a percentage that is computed and subtracted from estimated replacement cost new. The percentage rate is dependent on the class, condition, effective age, and economic life of an improvement. Depreciation tables are derived from Marshall & Swift publications, set up based on structure classifications, and observed each year through market sales for potential adjustments.

- *Sales Information*--- Sales files for the storage of sales data for improved properties are maintained for each type of commercial real property. Commercial improved sales are collected from a variety of sources such as: district survey letters sent to buyers and sellers, field discovery, protest hearings, builders, publications, third parties, and realtors and brokers. A system of type, source, validity and verification codes has been established to define salient facts related to a property's purchase or transfer and to help determine relevant market sale price information. The effect of time as an influence on price can be considered by paired and re-sales analysis or forecast trending and applied in the ratio study to the sales as indicated within each neighborhood area.
- *Sales Comparison*---Commercial sales models are derived by utilizing various comparison elements between properties within the same use type. Common elements include, but are not limited to type, class, size, unit size, and number of units, age, and location. When sufficient sales data is adequate for a use type, a comparison grid is used to account for adjustments required for differences that may exist between the subject property and comparables to get final adjusted values and reconcile a median sales comparison value.
- *Income Valuation*--- Properties which are typically not owner-occupied for which a lot of rental, vacancy and collection loss and expense data is available are also valued via an income approach. Many national, regional and local publications are used, in addition to WCAD surveys, research, and information provided during informal hearings in order to derive the typical rental rates, operating expenses, vacancy and collection loss rates, lease terms, finish out allowances, and concessions by property type and location. Overall capitalization rates are derived internally from known sales and compared to local and national publications. The income approach parameters, including rental and vacancy and collection loss rates, operating expense ratios, and overall capitalization rates are then inserted into to the various income tables used to establish the final market value of a property.
- *Statistical Analysis*--- The commercial appraisers perform statistical analysis annually to evaluate whether values are equitable and consistent with the market. Ratio studies are conducted on commercial market areas and/or property type in the district to judge mass appraisal accuracy and uniformity of value. Appraisal statistics of central tendency and dispersion generated from sales ratios are available for each neighborhood and are summarized by year. These summary statistics provide the appraisers a tool by which to

determine both the level and uniformity of appraised value on a market area basis and consider whether appraised values require adjustments relative to changing market conditions.

- *Reconciliation and Valuation*--- Based on the market data analysis and the methodology described in the cost, sales and income approaches, the various models are calibrated, and values are developed for each commercial property. The cost approach mass appraisal model is applied to every improved property. Additional valuation indicators may be developed and applied using the sales comparison and income approaches, depending on the property type and availability of data. The final valuation of a property type is finalized by reconciling these indications of value and considering the weight of the market information available for evaluation and analysis in these approaches to value.

Land Division

The land appraisal department is responsible for developing the equal and uniform market values for all vacant and improved land within the county. The department is made up of appraisers and a support technician. Data collected during the fieldwork and analysis phases of the appraisal calendar is stored in the CAMA database and utilized to provide market values each year.

Model Specification

- *Area Analysis*--- Data on regional economic forces such as demographic patterns, regional location factors, employment and income patterns, general trends in real property prices interest rates, discount rates, and financing trends, availability of vacant land, and construction trends and costs are collected from private vendors and public sources. The land appraisers analyze the data and meet regularly to discuss how these factors and trends could impact the local real estate market. More detailed analysis is then completed to determine what model recalibration and specification will need to occur during the upcoming valuation cycle.
- *Neighborhood and Market Analysis*---Land valuation is largely guided by the principle of substitution and the analysis of known and available sales prices within market areas defined by similar factors such as: location, zoning, economics, and land or building uses. Land is divided into four categories at WCAD. They are rural, transitional, residential, and commercial. Within those categories are market areas that are defined by location and typical use. Delineation of these market areas allows the land appraisers to specify similar land types and value them consistently and uniformly with tables derived from sales within the defined areas.
- *Highest and Best Use Analysis*--- The highest and best use is the most reasonable and probable use that generates the highest present value of the real estate, as of the date of valuation. The highest and best use of any given property must be physically possible, legally permissible, financially feasible, and maximally productive. It is that use that will generate the highest net return to the property over time. The appraiser must consider the most probable use that is permitted under local administrative regulations and ordinances. While its current zoning regulation may restrict a property's use, the appraiser may also consider the probability that the zoning could be changed, based on activity in the area. A property's current use is often the

highest and best use as a result of zoning regulations. However, there are times when the market and zoning changes proposed and allowed by a city have defined areas in transition where the highest and best use may not reflect the actual use of the property at the time of appraisal.

Model Calibration

- *Sales Information*--- Sales files for the storage of sales data for vacant and improved properties are maintained for all real property. Vacant and improved sales are collected from a variety of sources, such as: district survey letters sent to buyers and sellers, field discovery, protest hearings, builders, and realtors and brokers. A system of type, source, validity and verification codes has been established to define salient facts related to a property's purchase or transfer and to help determine relevant market sale price information. The effect of time as an influence on price can be considered by paired sales analysis or forecast trending and applied in the ratio study to the sales as indicated within each neighborhood area.
- *Sales Comparison*--- Land is valued primarily on the sales comparison approach. Sale properties are examined for their attributes and adjusted for their differences. The primary difference is size, but other attributes, such as view, location, frontage, zoning, topography, utility availability and tree coverage may also be used. Rural land valuation is typically accomplished by establishing price per acre tables or lot tables from sales within various defined market areas. This technique allows consistent appraisal across market areas in addition to the ability to change values on multiple properties in an efficient manner. Commercial tracts are categorized by established location boundaries, and yearly sales data assists in deriving price per square foot tables to efficiently apply uniform appraisals and adjustments as needed. Residential land is valued using the sales comparison approach but is also verified yearly by an allocation or abstraction method.
- *Statistical Analysis*--- The land appraisers perform statistical analysis annually to evaluate whether values are equitable and consistent with the market. Ratio studies are conducted on land market areas in the district to judge mass appraisal accuracy and uniformity of value. Appraisal statistics of central tendency and dispersion generated from sales ratios are available for each market area and are summarized by year. These summary statistics provide the appraisers a tool by which to determine both the level and

uniformity of appraised value on a market area basis and consider whether appraised values require adjustments relative to changing market conditions.

- *Reconciliation and Valuation*--- Based on the results of the analysis on available market data, land appraisers adjust valuation tables as necessary to systematically apply land values to the properties within the county in an efficient manner.

Agricultural Land

If property is devoted principally to agricultural use to the degree or intensity generally accepted in the area for five of the preceding seven years, it is eligible for special valuation, called productivity value. As such, the appraised value is determined to be what the property would sell for, only considering its value as an agricultural property (productivity). Agricultural valuation is based on net-to-land calculations, which take either rental rates and subtract typical expenses to arrive at an income to an investor, or they are computed by taking yields and crop prices typical of the county and subtracting expenses to arrive at income to a farmer. These calculations are done for several categories of improved and native pasture, dry crop, and wasteland. If a property is approved for productivity value, then the value per acre is applied by tables, depending on the quality and type of agricultural land it is. Rental rates per acre, if used, are derived from WCAD surveys. This approach is basically an income approach but is based on a predetermined (agricultural) highest and best use, which may, or may not be the highest and best use for the land. Wildlife management is another sub-category that may receive productivity value, based on criteria that the owner must maintain, including, but not limited to, erosion, habitat and predator control. WCAD follows protocols established by the Tax Code to ensure proper correspondences and applications are sent to property owners with and without productivity valuation. Each year, an area is also selected for an audit of properties with current productivity valuation to ensure continued compliance with established guidelines.

Business Personal Property Division

The personal property appraisal department is responsible for developing the equal and uniform market values for all business personal property, leased assets, vehicles and aircraft; and multi-location assets within the county. The department is made up of appraisers and support technicians. Data collected during the fieldwork and analysis phases of the appraisal calendar is stored in the CAMA database and utilized to provide market values each year.

Model Specification

- *SIC Code Analysis*---Standard Industrial Classification (SIC) codes were developed by the federal government to describe property and are used as the basis for classification and valuation of business personal property accounts. SIC code identification and delineation is a critical part of the business personal property valuation system. Analysis work done in association with the valuation process is SIC code specific.

Model Calibration

- *Cost schedules*---The primary approach to the valuation of business personal property is by the cost approach which is based on value in use of items in a business as if it were to be sold to continue operation. Each year, the cost tables for each type of personal property are updated using information received from renditions during the protest season. The quality/density schedules derived from inventory and furniture and fixtures is then entered into the WCAD cost tables. Depreciation is also adjusted each year to reflect the passage of time. During the valuation season, final values may be based on WCAD cost and depreciation tables, renditions (actual depreciated costs), sale prices, if available, or state cost and depreciation schedules where WCAD may be lacking data.

Industrial Personal Property, Utilities, Railroad, and Pipeline

Some unique industrial personal property, utilities, railroads, and pipelines are valued by an independent appraisal company, Capitol Appraisal Group, Inc. (CAGI). The following identifies CAGI's yearly responsibilities for these unique properties.

- *Identifying properties to be appraised*---Each year, a meeting is held with CAGI to establish the potential list of properties that the company will be responsible for appraising as defined by the agreed contract between CAGI

and WCAD. Properties on the list are identified as part of the appraiser's physical inspection process each year and through submitted data by the property owner. The appraiser may also refer to legal documents, photography and other descriptive items.

- *Identifying and updating relevant characteristics of each property in the appraisal records*---The appraiser identifies and updates relevant characteristics through the inspection process. Confidential rendition, assets lists, and other confidential data also provide additional information. Subject property data is verified through previously existing records and through published reports.
- *Defining market areas in the district*---Market areas for industrial properties, utility, railroad, and pipeline tend to be regional, national and sometimes international. Published information such as prices, financial analysis and investor services reports are used to help define market area.
- *Developing an appraisal approach that reflects the relationship among property characteristics affecting value and determines the contribution of individual property characteristics*---Among the three approaches to value (cost, income and market), industrial properties are most commonly appraised using replacement/reproduction cost new less depreciation models because of readily available cost information. If sufficient income or market data are available, those appraisal models may also be used.
- *Comparison and Review*---The appraiser considers results that best address the individual characteristics of the subject property and that are based on the most reliable data when multiple models are used. Year-to-year property value changes for the subject property are examined using computer-assisted statistical review. Periodic reassignment of properties among appraisers or the review of appraisals by a more experienced appraiser also contributes to the review process.

Minerals – Oil and Gas

Minerals are valued by the Capitol Appraisal Group, Inc. The following identifies CAGI's appraisal procedures for these properties.

- *Identification of new property and its situs*---As subsurface mineral properties lie within the earth, they cannot be physically identified by inspection like

other real property. However, the inability to directly inspect does not appreciably affect the ability to identify and appraise these properties. To identify new properties, CAGI obtains monthly oil and gas lease information from the Railroad Commission of Texas [RRC] to compare against oil and gas properties already identified. The situs of new properties is determined using plats and W-2/G-1 records from the RRC, as well as CAGI's in-house map resources.

- *Identifying and updating relevant characteristics of all oil and gas properties to be appraised*---Relevant characteristics necessary to estimate value of remaining oil or gas reserves are production volume and pattern, product prices, expenses borne by the operator of the property, and the rate at which the anticipated future income should be discounted to incorporate future risk. CAGI obtains information to update these characteristics annually from regulatory agencies such as the RRC, the Comptroller of Public Accounts, submissions from property owners and operators, as well as from published investment reports, licensed data services, service for fee organizations and through comparable properties, when available.
- *Defining market areas in the district and identifying property characteristics that affect property value in each market area*---Oil and gas markets are regional, national and international. Therefore, they respond to market forces beyond defined market boundaries as observed among more typical real properties.
- *Developing an appraisal approach that best reflects the relationship among property characteristics affecting value, and best determines the contribution of individual property characteristics*---Among the three approaches to value (cost, income and market), the income approach to value is most commonly used in the oil and gas industry. Through use of the discounted cash flow technique in particular, the appraiser is able to bring together relevant characteristics of production volume and pattern, product prices, operating expenses and discount rate to determine an estimate of appraised value of an oil or gas property.
- *Comparison and Review*---Use of the income approach is the first step in determining an estimate of market value. After that the appraiser reviews the estimated market value compared to its previous certified value and also compares it to industry expected payouts and income indicators. The appraiser examines the model's value with its previous year's actual income,

expecting value to typically vary within in a range of 2-5 times actual annual income, provided all appropriate income factors have been correctly identified. Finally, periodic reassignment of properties among appraisers and review of appraisals by a more experienced appraiser further expand the review process.

Staff Providing Mass Appraisal Assistance

NAME	TITLE	TDLR #
Chris Connelly	Deputy Chief Appraiser	70022
Aaron Moore	Director of Appraisal	72741
James Griner	Personal Property Manager	70166
Richard Quinlan	Commercial Manager	72955
Wade Huntsberger	Residential Appraiser	70310
Corey Bounds	Residential Appraiser	74703
Brad Brown	Residential Appraiser	73804
Robert Harris	Land Appraiser	74622
Stephanie Heatley-Dugger	Commercial Appraiser	71267
Victor Longstreth	Residential Manager	74304
C Ryan Meyer	Commercial Appraiser	74583
Cliff Park	Residential Appraiser	72136
Lou Ann Perez	Residential Appraiser	74327
Amber Metcalfe	Personal Property Appraiser	74657
Charles Vasquez	CAMA / Analysis Supervisor	72519
Lauren Simmons	Residential Appraiser	75757
Carrie Lindquist	Residential Appraiser	75912
Brent Morrison	Commercial Appraiser	70786
Aaron Stenuelson	Land Manager	73558
Gilberto Garcia	Personal Property Appraiser	70492
Lyle Wright	Personal Property Appraiser	72729
Ramon Mata	Commercial Appraiser	75392
Amanda Bayler	Residential Manager	73155
Dave Labenski	Residential Appraiser	75287
Stephen Crone	Commercial Appraiser	76312
Heather Hayden	Land Appraiser	76071
David Arrieta	Residential Appraiser	75676
Candace Manas	Residential Appraiser	64439
Tien Van	Residential Appraiser	74518
Hiren Marin	Residential Appraiser	76388

Appraisal Contractor Providing Mass Appraisal Assistance-----Capitol Appraisal

NAME	TITLE	TDLR #
Jon Neely	Capitol Appraisal, President	16216
Gregg Davis	Capitol Appraisal, Appraiser	71552
Sandra Fain	Capitol Appraisal, Appraiser	74641
Dave Popelar	Capitol Appraisal, Appraiser	71614
Noel Wilcoxson	Capitol Appraisal, Appraiser	71581
Alfonso Porras	Capitol Appraisal, Appraiser	72391
Kenneth Hitt	Capitol Appraisal, Appraiser	71452

Certification-USPAP 6-9

- The statement of facts in this report is true and correct.
- The report analysis, opinions and conclusions are limited only by the report assumptions and limiting conditions and my personal, impartial and unbiased professional analysis, opinions and conclusions.
- I have present interest in the property in which I reside which is one of the subjects of this report, and I have no personal interest with respect to the parties involved. Subject to that, my residence is mass appraised each year by WCAD personnel with the same standards and techniques of other similar property valued by the district.
- I have no bias with respect to any property that is the subject of this report or to the parties involved with this assignment.
- My engagement in this assignment was not contingent upon developing or reporting predetermined results.
- My compensation for completing this assignment is not contingent upon the reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.
- My analysis, opinions, and conclusions were developed, and this report has been prepared in conformity with the Uniform Standards of Professional Appraisal Practice.
- I have not made a personal inspection of all properties that are subject of this report.

Certification-Tax Code 25.22

I, Alvin Lankford, Chief Appraiser for Williamson Central Appraisal District, solemnly swear that I have made or caused to be made a diligent inquiry to ascertain all property in the district subject to appraisal by me and that I have included in the records all property that I am aware of at an appraised value determined as required by law.

Alvin Lankford RPA, CCA, CAE

Chief Appraiser

Addenda

Appraisal data and required State reports specific to the 2021 mass appraisal can be found at:

<https://www.wcad.org/certified-data/>

Information regarding performance analysis of the Williamson Central Appraisal District by an independent entity may be found at:

<https://www.comptroller.texas.gov/taxes/property-tax/pvs/index.php>

Appraisal data for individual accounts may be viewed by utilizing the Property Search feature at:

<http://search.wcad.org/>