2025-2026 Reappraisal Plan

Washington County Appraisal District

Adopted by the Washington County Appraisal District

Board of Directors

August 27, 2024

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EXECUTIVE SUMMARY

The Washington County Appraisal District (WCAD) has prepared and published this reappraisal plan to provide our Board of Directors, taxing entities, and property owners with a better understanding of the district's responsibilities and activities planned for the 2025 and 2026 appraisal years. Additionally, it is intended to comply with the requirements of Tax Code Sec. 6.05(i) and 25.18.

In compliance with Section 6.05(i) of the Property Tax Code of the State of Texas, the WCAD board of directors conducted a public hearing to consider the adoption of this reappraisal plan.

WCAD is a political subdivision of the State of Texas created effective January 1, 1980. The provisions of the Texas Property Tax Code govern the legal, statutory, and administrative requirements of the appraisal district. A five-member Board of Directors, appointed by the taxing entities within the boundaries of Washington County, constitutes the district's governing body. The chief appraiser, appointed by the Board of Directors, is the chief administrator and chief executive officer of the appraisal district.

WCAD is responsible for local property tax appraisal and exemption administration for all or part of nine jurisdictions or taxing entities in the county. These taxing entities are listed below:

TAXING ENTITIES
Blinn College
Brenham ISD
Burton ISD
City of Brenham
City of Burton
Giddings ISD
Oak Hill Fresh Water Dist.
Pecan Glen Road Dist.
Washington County

Each taxing entity, such as the county, a city, school district, or special district sets its own tax rate to generate revenue to pay for such things as police and fire protection, public schools, road and street maintenance, courts, water and sewer systems, and other public services. Property appraisals and estimated values by the appraisal district allocate the year's tax burden based on each taxable property's market value. WCAD also determines eligibility for various types of property tax exemptions as well as special use valuation.

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 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 other.

Section 23.01(b) requires that, "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, and all available evidence that is specific to the value of the property shall be taken into account in determining the property's market value."

Additional sections of Chapter 23 further instruct appraisal districts on actions required when utilizing the cost, market, or income approach to appraisal, and to use the most appropriate valuation model to determine the market value for each property. Other sections of Chapter 23 cover when special appraisal provisions are to be utilized for certain types of property and property that has been designated as agricultural use. The district follows standards for appraisal practices and procedures set forth by the International Association of Assessing Officers (IAAO) as well as the Uniform Standards of Professional Appraisal Practice (USPAP) promulgated by the Appraisal Foundation. In cases where the district has entered into a contract for professional valuation services, the contract also requires the appraiser or appraisal company to adhere to similar professional standards.

TEXAS PROPERTY TAX CODE REQUIREMENT

Senate bill 1652 passed during the 2005 Regular Legislative Session amended the Texas Property Tax Code to require a written biennial reappraisal plan.

Section 6.05(i) of the Texas Property Tax Code states:

"To ensure adherence with generally accepted appraisal practices, the board of directors of an appraisal district shall develop biennially a written plan for the periodic reappraisal of all property within the boundaries of the district according to the requirements of Section 25.18 and shall hold a public hearing to consider the proposed plan. Not later than the 10th day before the date of the hearing, the secretary of the board shall deliver to the presiding officer of the governing body of each taxing unit participating in the district a written notice of the date, time and place for the hearing. Not later than September 15 of each even-numbered year, the board shall complete its hearing, make any amendments, and by resolution finally approve the plan. Copies of the approved plan shall be distributed to the presiding officer of the governing body of each taxing unit participating in the district and to the comptroller within 60 days of the approved date."

Section 25.18(a) and (b) of the Texas Property Tax Code state:

"(a) Each appraisal office shall implement the plan for periodic reappraisal of property approved by the board of directors under 6.05(i)."

"(b) The plan shall provide for the following reappraisal activities for all real and personal property in the district at least once every three years:

(1) identifying properties to be appraised through physical inspection or by other reliable means of identification, including deeds or other legal documentation, aerial photographs, land-based photographs, surveys, maps, and property sketches;
(2) identifying and updating relevant characteristics of each property in the appraisal records;
(3) defining market areas in the district;
(4) identifying property characteristics that affect property value in each market area, including:
    (A) the location and market area of the property
    (B) physical attributes of property, such as size, age, and condition;
    (C) legal and economic attributes; and
    (D) easements, covenants, leases, reservations, contracts, declarations, special assessments, ordinances, or legal restrictions;
(5) developing an appraisal model that reflects the relationship among the property characteristics affecting value in each market area and determines the contribution of individual property characteristics;
(6) applying the conclusions reflected in the model to the characteristics of the properties being appraised; and
(7) reviewing the appraisal results to determine value.

REAPPRAISAL CYCLE

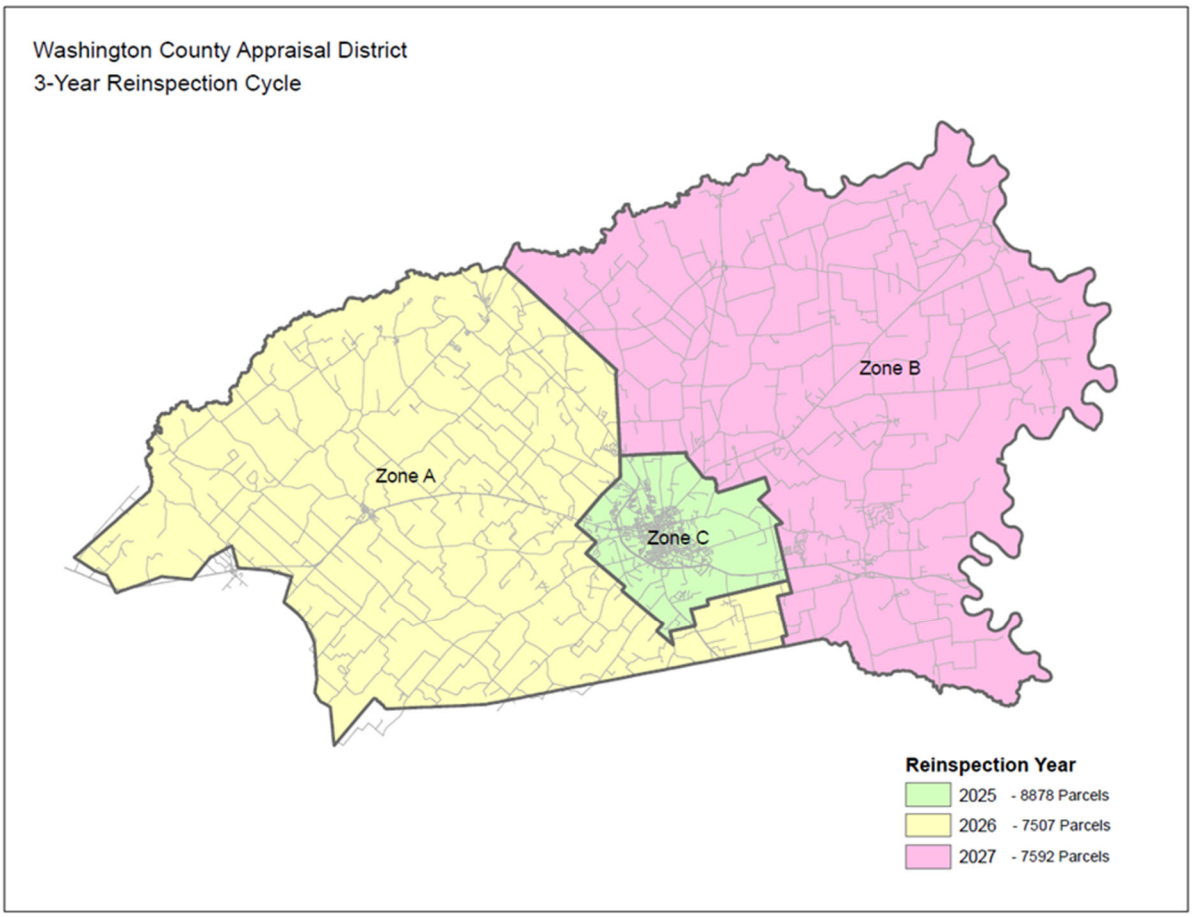
The Texas Property Tax Code, under Sec. 25.18, requires each appraisal office to implement a plan to update appraised values for property at least once every three years. The district's policy is to conduct a general reappraisal of taxable property every year. Appraised values are reviewed annually and are subject to change. In this way, all properties are appraised every year.

Properties are inspected using the methods described in Texas Property Tax Code 25.18(b)(1) at least once every three years. The County has been separated into zones created by WCAD. In addition to zones, the District has established separate market areas by using neighborhood codes. Each neighborhood code represents a separate market area; however, multiple neighborhoods may be in one zone. In addition, sales from more than one neighborhood may be used when they have similar characteristics. 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 Analysis section of this report.

Appraisal Frequency and Timeline of Events

Texas Property Tax Code, Section 25.18(b) requires the re-inspection of the universe of properties at least once every three years. This is accomplished by assigning appraisal zones that are to be inspected in such a way that every property is inspected at least once every three years. Inspection of properties will be completed using a combination of field inspections and office review. Additionally, properties with a building permit or utility connection are reviewed for the current appraisal year regardless of the zone in which they are located.

Manufactured home parks (designated as Zone M) are inspected every year due to the possibility of rapid changes in ownership, location, and condition. Zone M is not shown on the Zone map due to size.



2025 Inspection = Zone C (8,878 properties), Zone M (586 properties), and 1,200 estimated building permits/changes

This effort will be conducted beginning in August of 2024 to February 1, 2025. All re-inspections will be substantially complete by February 1, 2025, allowing sufficient time for market area analysis and schedule updates from February 1 to April 1. The time period of April 1 to July 25, 2025 will be reserved for property owner protests. Washington County Appraisal District typically has 2500 - 3500 property owner protests annually.
The appraisal duties will be divided among the four appraisers. Generally, vacant rural land will be reviewed first by aerial imagery. Next, all improved properties will be reviewed onsite. Lastly, onsite reviews to confirm agricultural use, permit activity, new construction, demolitions or other reported changes will be performed. The method of inspection may vary depending on property access, weather conditions, or other factors.

2026 Inspection = Zone A (7,508 properties), and Zone M (586 properties), and 1,200 estimated building permits/changes

This effort will be conducted beginning in August of 2025 to February 1, 2026. All re-inspections will be substantially complete by February 1, 2026, allowing sufficient time for market area analysis and schedule updates from February 1 to April 1. The time period of April 1 to July 25, 2026 will be reserved for property owner protests. Washington County Appraisal District typically has 2500 - 3500 property owner protests annually.

The appraisal duties will be divided among the four appraisers. Generally, vacant rural land will be reviewed first by aerial imagery. Next, all improved properties will be reviewed onsite. Lastly, onsite reviews to confirm agricultural use, permit activity, new construction, demolitions or other reported changes will be performed. The method of inspection may vary depending on property access, weather conditions, or other factors.

RESOURCES

Personnel

The office of the Chief Appraiser is primarily responsible for overall planning, organizing, staffing, coordinating, and controlling of district operations. Annually, a budget is prepared which details staffing and budget requirements. WCAD operates on a fiscal budget year (September 1st to August 31st), and the budget is approved before May 15th. In addition to an annual budget review, existing office and appraisal practices are reviewed after the appeals cycle. The review is intended to determine the necessity of additions or changes in order to accommodate future plans, goals, and predicted market trends.

The appraisal department is responsible for the valuation of all real and personal property accounts. The property types appraised include commercial, residential, business personal, utilities, industrial and minerals. The district's appraisers are subject to the provisions of the Property Taxation Professional Certification Act and must be duly registered with the Texas Department of Licensing and Regulation. Support functions including records maintenance, information and assistance to property owners, and hearings are coordinated by personnel in support services.

Staff Education and Training

All personnel performing appraisal valuation work are registered with the Texas Department of Licensing and Regulation (TDLR) and are required to take appraisal courses to achieve the designation of Registered Professional Appraiser within five years of employment as an appraiser. After they are awarded their license, they must receive additional training and continuing education in accordance with requirements of TDLR.

Additionally, all appraisal personnel receive extensive training in data gathering processes including data entry and statistical analysis of all types of property to ensure equality and uniformity. On-the-job training for new appraisers is delivered by management and experienced appraisers. The Chief Appraiser meets regularly with staff to introduce new procedures, provide training, and regularly monitor appraisal activity to ensure that standardized appraisal procedures are being followed by all personnel.

WCAD personnel interact with other assessment officials through professional trade organizations including the International Association of Assessing Officers (IAAO), Texas Association of Assessing Officers (TAAO), Texas Association of Appraisal Districts (TAAD) and the Texas Department of Licensing and Regulation (TDLR).

Data

The district is responsible for establishing and maintaining data on approximately 56,200 real and personal property accounts within Washington County. This data includes property characteristics, ownership, market data, and exemption information. Property characteristic data on new construction is updated through an annual field effort; existing property data is maintained through a field review. Sales information is compiled through internally generated questionnaires to buyers and sellers, and other available resources. General trends in employment, interest rates, new construction trends, and cost and market data are acquired through various sources, including university research centers and market data centers and vendors.

WCAD has a geographic information system (GIS) that maintains cadastral maps and various layers of data and aerial photography. The district's website makes a broad range of information available for public access, including information on the appraisal process, property characteristics data, certified values, protests and appeal procedures. Downloadable files of related tax information and district forms, including exemption applications and business personal property renditions are also available.

Information Systems

Appraisal and mapping data are maintained within the district's data processing system, software applications, internet website, and geographical information system. The district uses appraisal software produced and supported by Harris Govern in Plano, Texas. WCAD contracts with Eagleview Technologies Inc. for annual aerial photography and other services they provide for discovery and appraisal review.

INDEPENDENT PERFORMANCE TESTS

In accordance with Chapter 5 of the Texas Property Tax Code and Section 403.302 of the Texas Government Code, the State Comptroller's Property Tax Assistance Division (PTAD) conducts a biennial property value study (PVS) of each Texas school district and each appraisal district. As part of this biennial study, the code requires the Comptroller to: use sales and recognized auditing and sampling techniques; test the validity of school district taxable values in each appraisal district and presume the appraisal roll values are correct when values are valid; and, determine the level and uniformity of property tax appraisal in each appraisal district.
The methodology used in the property value study includes stratified samples to improve sample representativeness and techniques or procedures of measuring uniformity. This study utilizes statistical analyses of sold properties (sale ratio studies) and appraisals of unsold properties (appraisal ratio studies) as a basis for assessment ratio reporting. For appraisal districts, the reported measures include median level of appraisal, coefficient of dispersion (COD), the percentage of properties within 10% of the median, the percentage of properties within 25% of the median, and the price-related differential (PRD) for properties overall and by state category.

There are three independent school districts wholly or partially in Washington County for which appraisal rolls are annually developed. The preliminary results of this study are released February 1 in the year following the year of appraisal. The final results of this study are certified to the Education Commissioner of the Texas Education Agency (TEA) the following July of each year. This outside (third party) ratio study provides additional assistance to the CAD in determining areas of market activity or changing market conditions.

Tax Code Section 5.102 requires the State Comptroller's Property Tax Assistance Division (PTAD) to conduct a biennial Methods and Assistance Program (MAPS) review of the appraisal district's governance, taxpayer assistance, operating and appraisal standards, procedures, and methodology. This study is conducted in odd numbered years for WCAD. The PTAD reports to the appraisal district's Board of Directors and to the taxing units an assessment of how well the appraisal district performs along with any recommendations deemed necessary to ensure compliance with laws, rules, regulations, and best appraisal practices. Any recommendations must be implemented within one year of the completion of the review.

APPRAISAL ACTIVITIES

Appraisal Responsibilities

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 a comprehensive physical description of personal property, and land and building characteristics. This appraisal activity is responsible for administering, planning, and coordinating all activities involving data collection and maintenance of all commercial, residential, and personal property types located within the boundaries of Washington County and the jurisdictions of this appraisal district. The data collection effort involves the field inspection of real and personal property accounts, as well as entry of all data collected into the existing information system.

Appraisal Resources

Personnel – Appraisal activities for all classes of properties are conducted by 6 appraisers, including appraisal managers.

Data – The data used by appraisers includes the existing property characteristic information contained in the WCAD computer system. The data in contained on an appraisal card or is accessed through electronic field devices. Other data includes maps, sales data, fire and damage reports, building permits, photos, and cost and market information. The district gathers information from buyers and sellers participating in the real estate market.

Inspection Methods

Office review of property will include the examination of aerial photography using oblique and orthographic imagery provided by Eagleview Technologies Inc., property sketches, existing property characteristics, and existing street-view images captured by district staff. The aerial imagery is updated every year, as close to January 1 as possible. Appraisers performing re-inspection via aerial imagery review 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 verifying that all improvements are on the appraisal roll and listed correctly.

Appraisers performing field inspections have property records that contain specific information regarding the property being appraised either in a paper format or electronically on a tablet device. 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.

In addition to inspecting land and improvements, 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 appropriate staff members of properties in question.

Data Collection

Data collection of real 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.

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 classes are based on the quality descriptions in the Marshall & Swift Residential Estimator guide. Appraisers may make adjustments for quality when necessary.

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 the 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 excellent to poor. 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.

Foundation failure may occur in varying degrees and may also result in loss of value. Washington County Appraisal District 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.

Data Maintenance

The appraisal assistants and appraisers are responsible for the data entry of fieldwork into the CAMA system. This responsibility includes not only data entry, but also quality assurance. The majority of data collected in the field is input by appraisers through electronic field devices. The appraisal assistants review all changes made by the appraisers for data accuracy. Any questions or errors are routed back to the appraiser for review and correction when needed.

Sources of Data

The sources of data collection are through property inspection, building permits, data subscription services, 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, real estate agents, appraisers, and subscription services. 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.

Cost Schedules

The Washington County Appraisal District replacement cost schedules include commercial and residential improvements. Commercial and residential schedules are based on *Marshall & Swift Valuation Service*. *Marshall & Swift Valuation Service* is a nationally based cost manual and is recognized throughout the nation by the real estate industry. This national 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 location an analysis of sales by neighborhood.

Washington County Appraisal District cost schedules are divided into two main classifications: Residential and Commercial. Depreciation tables and schedules (loss of value schedules) are also included within the cost schedules. All schedules are reviewed at least once every three years.

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.

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. 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. Differences in quality are addressed in the classification assigned to an improvement. The classification schedule is based on the *Marshall & Swift* definitions of residential classes.
>
> *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. Washington County Appraisal District 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* – Washington County Appraisal District rates conditions from poor to excellent. Properties that, in the opinion of the appraiser, are unusable may be given no value or salvage value.

Age of Structure – Washington County Appraisal District 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 – Washington County Appraisal District 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 are developed using *Marshall & Swift Valuation Service*. Replacement cost new is determined and then depreciation is applied using physical observation of the property.

Commercial schedules are based on the property type, 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.

Income Values

Income values are developed for commercial property where the highest and best use is typically as income producing property and sufficient income information is available to accurately value the property type via the income approach.

Washington County Appraisal District appraisers obtain income and expense information on a variety of properties through field inspections, the equalization phase, subscription services, and market surveys. 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.

Sales

Sales data is gathered through subscription services as well as sales questionnaires sent to buyers and sellers after a real estate transaction. Sales are confirmed from the direct parties involved whenever possible. Confirmation of sales from local real estate appraisers is also considered a reliable source.

Sales data is compiled and the improved properties are physically inspected and photographed if needed. 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.

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 be able to be adjusted and then used as an arm's length transaction. Washington County Appraisal District 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.

The Washington County Appraisal District 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.

Market Analysis

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 Appriser"* 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.

Washington County Appraisal District 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.

Statistical Analysis

Sales ratio studies are used to perform 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 median level of appraisal, the weighted mean, standard deviation and coefficient of dispersion and provide the analysts a tool by which to determine both the level and uniformity of appraised value in the district. The ratio study 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.

Sales ratio studies are usually performed annually. 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 done on a countywide basis 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.

Ratio Study Standards

The median and coefficient of dispersion are good indicators that identify statistically the results of the valuation process. Washington County Appraisal District adheres to the following standards recommended by the IAAO *Standards on Ratio Studies*.

Median Appraisal Level – The overall level of appraisal for the jurisdiction, for each market area, and each major stratum of properties should be within 5% of the legal standard – 100% of market value.

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 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.

RESIDENTIAL VALUATION PROCESS

Appraisal Responsibility

The residential appraisers are responsible for estimating equal and uniform market values for residential improved and vacant property.

Appraisal Resources

Personnel – All residential appraisers share this responsibility.

Data – An individualized set of data characteristics for each residential dwelling and duplexes in this district is collected in the field and data entered to the computer. The property characteristic data drives the application of computer-assisted mass appraisal (CAMA) under the Cost, Market, and Income Approaches to property valuation.

Valuation Approach

Land Analysis

Land valuation analysis is conducted prior to neighborhood sales analysis. The value of the land component to the property is estimated based on available market sales for comparable and competing land under similar usage. A comparison and analysis of comparable land sales is conducted based on a comparison of land characteristics found to influence the market price of land located in the neighborhood. Land tables are utilized to consistently value individual parcels given known land characteristics. Specific land influences are considered, where necessary, and depending on neighborhood and individual lot or tract characteristics, to adjust parcels outside the neighborhood norm for such factors as access, view, shape, size, trees, easements, and topography. Appraisers use abstraction and allocation methods to ensure that estimated land values best reflect the contributory market value of the land to the overall property value.

Area Analysis

Data on regional economic forces such as demographic patterns, regional 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 appraiser a current economic outlook on the real estate market. Information is gleaned from real estate publications and sources

such as continuing education in the form of IAAO, TAAD, and TAAO classes and seminars approved by the Property Tax Assistance Division (PTAD) of the Comptroller's Office.

Neighborhood (Market Area) Analysis

Neighborhood analysis involves the examination of how physical, economic, governmental and social forces and other influences affect property values. The effects 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. Analysis of comparable market sales 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 indicate the effects of these market forces and are interpreted by the appraiser into an indication of market price ranges and indications of property component change considering a given time period relative to the date of appraisal. The Market Approach is the primary approach to estimate value based on actual sales. The Cost Approach is used for unique properties, where sales and rental information is scarce. The Income Approach is used whenever the highest and best use of the property is as income producing property.

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 the largest 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 usually it involves statistical separation or stratification based on attribute analysis. That is, a neighborhood is not necessarily a geographic grouping of properties. A neighborhood is often a statistical grouping of like properties.

Part of neighborhood analysis is the consideration of discernible patterns that influence a neighborhood's individual market. Few neighborhoods are fixed in character. Each neighborhood may be characterized as being in a stage of growth, stability or decline. The growth period is a time of development and construction. As new neighborhoods in a community are developed, they compete with existing neighborhoods. An added supply of new homes tends to induce population shift from older homes to newer homes. In the period of stability, or equilibrium, the forces of supply and demand are about equal. Generally, in the stage of equilibrium, older neighborhoods can be more desirable due to their stability of residential character and proximity to community facilities. The period of decline reflects diminishing demand or desirability. During decline, general property use may change from residential to a mix of residential, rental, and commercial uses. Declining neighborhoods

may also experience renewal, reorganization, rebuilding, or restoration, which promotes increased demand and economic desirability.
Neighborhood identification and delineation is the cornerstone of the residential valuation system. All the residential analysis work done in association with the residential valuation process is neighborhood specific. Neighborhoods are field inspected and delineated based on observable aspects of homogeneity and statistical tests. Neighborhood delineation is further reviewed through profiling and sales ratio analysis to determine if further neighborhood delineation or combination is warranted.

All market areas in Washington County are reviewed at least annually. This review consists of reviewing the component properties that make up the market area and screening for outliers as well as reviewing sales ratio statistics to identify outliers or trends among property types or groupings that may indicate a different level of appraisal for said type or group. An example is where a second phase of a subdivision may consist of larger homes than the first phase. These properties may sell at different levels. If the two groups of properties are combined, one group will be over-appraised, while the other group will be under-appraised. If such a trend is detected in a market area, then the two groups should be separated in order to appraise both at market value and equitably.
Market trends vary and can only be detected through careful analysis. Market trends include, but are not limited to, class of property, size of improvements, amenities, lot size, location within the market area, and other factors that may influence the market. Therefore, the appraiser looks not only at the overall appraisal statistics for a market area, but also attempts to identify market trends by isolating property characteristics and outliers to verify the appraisal statistics and refine the market area.

Once the market area is properly refined, a final sales ratio for that neighborhood is conducted. When sales or income data demonstrate that current valuations need to be adjusted to achieve market value, all properties in the same neighborhood grouping are adjusted with the same adjustment factor.

Neighborhood grouping is highly beneficial in sales comparison analysis. Neighborhood groups, or clustered subdivisions, increase the available market data by linking comparable properties outside a given subdivision. Sales ratio analysis is performed on a neighborhood basis. A complete list of market areas, including market adjustments, is maintained in the appraisal district's CAMA system and is reported upon completion in the Mass Appraisal Report.

Highest and Best Use Analysis

The highest and best use of property is the reasonable and probable use that supports the highest present value as of the date of the appraisal. The highest and best use must be physically possible, legal, financially feasible, and productive to its maximum. The highest and best use of residential property is normally 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. Residential valuation undertakes reassessment of highest and best use in transition areas and areas of mixed residential and commercial use. In transition areas, the appraiser reviews the existing residential property use and makes a determination regarding highest and best use. In areas of mixed residential and commercial use, the appraiser reviews properties in these areas on a periodic basis to determine if changes in the real estate market require reassessment of the highest and best use of a select population of properties.

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.

Valuation and Statistical Analysis (Model Calibration)

Cost Schedules

All residential parcels in the district are valued with a replacement cost estimated from one set of cost schedules based on the improvement classification system on a cost per square foot basis. The district's residential cost schedules are estimated from *Marshall & Swift*, a nationally recognized cost estimator service. These cost estimates are compared with construction costs of new improvements and adjusted to reflect the local residential building market. The cost schedules are reviewed annually to ensure they reflect current costs.

Sales Information
Residential improved sales, vacant land sales, along with commercial improved and vacant land sales are maintained in a sales database. Residential improved and vacant sales are collected from a variety of sources, including: district questionnaires sent to buyers, field discovery, protest hearings, the multiple listing service, builders, data subscription services and realtors.

Neighborhood sales reports are generated as an analysis tool for the appraiser in the development and estimation of market price ranges and property component value estimates. Abstraction and allocation of property components based on sales of similar property is an important analysis tool to interpret market sales under the cost and market approaches to value. These analysis tools help determine and estimate the effects of change, with regard to price, as indicated by sale prices for similar property within the current market.
Time adjustments are estimated based on comparative analysis using paired comparison of sold property. Sales of the same property are considered and analyzed for any indication of price change attributed to a time change or influence. Property characteristics, financing,

and conditions of sale are compared for each property sold in the pairing of property to isolate only the time factor as an influence on price.

Statistical Analysis

Residential appraisers perform statistical analysis annually to evaluate whether estimated values are equitable and consistent with the market. Ratio studies are conducted on each residential neighborhood to judge the two primary aspects of mass appraisal accuracy – level and uniformity of value. Appraisal statistics of central tendency generated from sales ratios are evaluated by the median ratio, mean ratio, and weighted mean ratio for sales. The uniformity of appraised values is determined by the Coefficient of Dispersion (COD) and the Price Related Differential (PRD).

The appraiser, through the sales ratio analysis process, reviews every market area annually. The first phase involves neighborhood ratio studies that compare the recent sales prices of neighborhood properties to the appraised values of these sold properties. This set of ratio studies affords the appraiser an excellent means of judging the present level of appraised value and uniformity of the sales. The appraiser makes the decision as to whether the value level in a neighborhood needs to be updated or whether the level of market value in a neighborhood is at an acceptable level.

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 for the effects of time, 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 time 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.
A complete list of market areas, including market adjustments, is maintained in the appraisal district's CAMA system and is reported upon completion in the Mass Appraisal Report.

Treatment of Residence Homesteads

Beginning in 1998, the State of Texas implemented a constitutional classification scheme concerning the appraisal of residential property that receives a residence homestead exemption. Under that law, beginning in the second year a property receives a homestead exemption, increases in the assessed value of that property are "capped". The value for tax purposes (appraised value) of a qualified residence homestead will be the LESSER of:

- the market value; or
- the preceding year's appraised value;
- PLUS 10%;

- PLUS the value of any improvements.

Assessed values of capped properties must be recomputed annually. If a capped property sells, the cap automatically expires as of January 1st of the year following sale of the property and the property is appraised at its full market value.

Individual Value Review Procedures

Field Review

Appraisers are required to measure and classify every new improvement as well as perform field checks on all permit activity such as remodels and additions. Appraisers are also responsible for ensuring every parcel of real property is inspected at least once every three years. Appraisers ensure the accuracy of the data in the Computer Assisted Mass Appraisal (CAMA) system and review subjective items such as quality of construction, condition, and physical, functional and economic obsolescence, factors contributing to the market value of the property. During this review, the appraiser is able to visually inspect both sold properties and unsold properties for comparability and consistency of values.

Office Review

Once field review is completed and reviewed by quality control, the appraiser conducts a routine valuation review of all properties as outlined in the discussion of ratio studies and market analysis. Valuations reports comparing previous values against proposed and final values are generated for all residential improved and vacant properties. The percentage of value difference is noted for each property within an area, allowing the appraiser to identify, research and resolve value anomalies before final appraised values are released. Previous values resulting from a hearing protest are individually reviewed to determine if the value remains appropriate for the current year. Once the Chief Appraiser is satisfied with the level and uniformity of value for each area, the estimates of value are finalized.

Performance Tests

Sales Ratio Studies

The primary analytical tool used to measure and improve performance is the ratio study. The district ensures that the appraised values that it produces meet the standards of accuracy in several ways. Overall sales ratios are generated to allow the Chief Appraiser to review general market trends, and provide an indication of market appreciation over a specified period of time.

COMMERCIAL VALUATION PROCESS

Appraisal Responsibility

This mass appraisal assignment include all of the commercially described real property which falls within the responsibility of WCAD and is located within the boundaries of the taxing jurisdictions. The commercial appraiser appraises the fee simple interest of properties according to statute and court decisions. However, the effect of easements, restrictions, encumbrances, leases, contracts or special assessments are considered on an individual basis, as is the appraisement of any nonexempt taxable fractional interest in real property (i.e. certain multifamily housing projects). Fractional interests or partial holdings of real property are appraised in fee simple for the whole property and divided programmatically based on their prorated interests.

Appraisal Resources

Personnel – The commercial appraisal staff consists of one (1) appraiser who is responsible for estimating the market value of commercial property.

Data – Data used includes verified sales of vacant land and improved properties and the pertinent data obtained from each such as sales price levels, capitalization rates and income multipliers. Other data used by the appraisers include actual income and expense data, actual contract rental data, leasing information (commissions, tenant finish, length of terms, etc), and actual construction cost data. In addition to the actual data obtained from specific properties, market data publications are also reviewed to provide additional support for market trends.

Preliminary Analysis

Market studies are utilized to test new or existing procedures or valuation modifications in a limited sample of properties located in the district and are also considered and become the basis of updating whenever substantial changes in valuation are made. These studies target certain types of improved property to evaluate current market prices for rents and for sales of commercial real property. Comparable sale studies and ratio studies reveal whether the valuation system is producing accurate and reliable value estimates or whether procedural and economic modifications are required. The appraiser implements this methodology when developing cost approach, market approach, and income approach models.

Valuation Approach

Land Value

Commercial land is analyzed annually to compare appraised values with recent sales of land in the market area. If appraised values differ from sales prices being paid, adjustments are made to all land in that region. Generally, commercial property is appraised on a price per square foot basis with individual property characteristics such as size, corner influence, depth of site, shape of site, easements, traffic patterns, and other factors reflected in the valuation. The land is valued as though vacant at its highest and best use.

Area Analysis

Area 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.

Neighborhood Analysis

The neighborhood market areas are comprised of the land area and commercially classed properties located within the boundaries of WCAD. These areas consist of a wide variety of property types including multi-family residential, commercial, and industrial. Neighborhood and area analysis involve the examination of how physical, economic, governmental and social forces and other influences may affect property values within subgroups of property locations. The effects of these forces are also used to identify, classify, and organize comparable properties into smaller, manageable subsets of the universe of properties known as neighborhoods. In the mass appraisal of commercial properties, these subsets are generally referred to as market areas, neighborhoods, or economic areas.

Economic areas are defined by each of the improved property use types (apartment, office, retail, warehouse and special use) based upon an analysis of similar economic or market forces. These include but are not limited to similarities of rental rates, classification of projects (referred to as building class by area commercial market experts), date of construction, overall market activity or other pertinent influences. Economic area identification and delineation by each major property use type is the benchmark of the commercial valuation system. All income model valuation is economic area specific. Economic areas are periodically reviewed to determine if re-delineation is required. The geographic boundaries as well as income, occupancy and expense levels and capitalization rates by age within each economic area for all commercial use types and its corresponding income model have been estimated for these properties.

Highest and Best Use Analysis

The highest and best use is the most reasonable and probable use that generates the highest net to land and 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. For improved properties, highest and best use is evaluated as improved and as if the site were still vacant. This perspective assists in determining if the existing improvements have a transitional use, interim use, nonconforming use, multiple uses, speculative use, is excess land, or a different optimum use if the site were vacant. For vacant land within Washington County, the highest and best use is considered speculative based on the surrounding land uses. In many instances, the property's current use is the same as its highest and best use.

Market Analysis

A market analysis relates directly to examining market forces affecting supply and demand. This study involves the relationships between social, economic, environmental, governmental, and site conditions. Current market activity including sales of commercial properties, new construction, new leases, lease rates, absorption rates, vacancies, allowable expenses (inclusive of replacement reserves), expense ratio trends, and capitalization rate studies are analyzed to determine market ranges in price, operating costs and investment return expectations.

Data Collection/Validation

Data collection and documentation for commercial property is continually updated, providing a uniform system of itemizing the multitude of components comprising improved properties. All properties are coded according to a specific classification system and the approaches to value are structured and calibrated based on this coding system.

Sources of Data

Washington County Appraisal District receives a copy of the deeds recorded in Washington County. Deeds that convey commercially classed properties are entered into the sales information system and researched to obtain the pertinent sale information. Other sources of sale data include sales questionnaires, protest hearings, and regional and national real estate and financial publications.

Valuation Analysis

Cost Schedules

The cost approach to value is applied to improved real property utilizing the comparative unit method. This methodology involves the utilization of national cost data from *Marshall & Swift* as well as actual cost information on local comparable properties whenever possible. Cost models are typically developed based on the *Marshall & Swift Valuation Service* which indicates estimates of hard or direct costs of various improvement types. Cost models include the derivation of replacement cost new (RCN) of all improvements represented within the district. These include comparative base rates, per unit adjustments and lump sum adjustments for variations in property description, design, and types of improvement construction. This approach and analysis also employs the sales comparison approach in the evaluation of soft or indirect costs of construction. Evaluating market sales of newly developed improved property is an important part of understanding total replacement cost of improvements. What total costs may be involved in the development of the property, as well as any portion of cost attributed to entrepreneurial profit can only be revealed by market analysis of pricing acceptance levels. In addition, market related land valuation for the underlying land value is important in understanding and analyzing improved sales for all development costs and for the abstraction of improvement costs for construction and development. Time and location modifiers are necessary to adjust cost data to reflect conditions in a specific market and changes in costs over a period of time. Because a national cost service is used as a basis or the cost models, locational modifiers and estimates of soft cost factors are necessary to adjust these base costs specifically for various types of improvements located in Washington County. Thusly, local modifiers are additional cost factors applied to replacement cost estimated by *Marshall & Swift*. Estimated replacement cost new will reflect all costs of construction and development for various improvements located in WCAD as of the date of appraisal.

Accrued depreciation is the sum of all forms of loss affecting the contributory value of the improvements. It is the measured loss against replacement cost new (RCN) taken from all forms of physical deterioration, functional, and economic obsolescence. Accrued depreciation is estimated and developed based on losses typical for each property type at that specific age. Depreciation estimates are based on what is typical of each major class of commercial property by economic life categories. Estimates of accrued depreciation are calculated for improvements with a range of variable years expected life based on observed condition considering actual age. Effective age estimates are based on the utility of the improvements relative to where the improvement lies on the scale of its total economic life and its competitive position in the marketplace.

Additional forms of depreciation such as external and/or functional obsolescence can be applied if observed. Functional depreciation is usually due to a specific condition deficiency,

while economic depreciation is usually based on economic trends that affect the value of a property.

The result of estimating accrued depreciation and deducting that from the estimated replacement cost new (RCN) of improvements indicates the estimated contributory value of the improvements. Adding the estimated land value, as if vacant, to the contributory value of the improvements indicates a property value by the cost approach. With reliable cost estimates and market related measures of accrued depreciation, the indicated value of the property by the cost approach becomes a very reliable valuation technique.

Income Models

The income approach to value is applied to those real properties which are typically viewed by market participants as "income producing", and for which the income methodology is considered the most reliable value indicator. This approach may be limited in use depending on market information available for that property type. 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.

A vacancy and collection loss allowance is the next item 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 fluctuations 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 or floor coverings, air conditioning or major mechanical equipment or appliances) requiring expenditures of lump sum costs. When these capital expenditures are analyzed for consistency and adjusted, they may be applied on an annualized basis as stabilized expenses. When performed according to local market practices by commercial property type, these

expenses when annualized are known as replacement reserves. For some types of property, typical management does not reflect expensing reserves and is dependent on local and industry practices.

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, overall capitalization rates, and discount 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.

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 allowances 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.

Sales Comparison (Market) Approach

Although all three of the approaches to value are based on market data, the Sales Comparison Approach is most frequently referred to as the Market Approach. This approach is utilized not only for estimating land value but also in comparing sales of similarly improved properties to parcels on the appraisal roll. Sales of similarly improved properties can provide a basis for the depreciation schedules in the Cost Approach, rates and multipliers used in the Income Approach, and as a direct comparison in the Sales Comparison Approach. Improved sales are also used in ratio studies, which afford the appraiser an excellent means of judging the present level and uniformity of the appraised values.

Final Valuation Schedules

Based on the market data analysis and review discussed previously in the cost, income and sales approaches, the cost and income models are calibrated and finalized. The calibration results are keyed to the schedules and models in the computerized appraisal system for utilization on all commercial properties in the district. Market factors reflected within the cost and income approaches are evaluated and confirmed based on all market sales of commercial and industrial properties. The appraisers review the cost, income, and sales comparison approaches to value for each of the types of properties with available sales information. The final valuation of a property is estimated based on reconciling these indications of value considering the weight of the market information available for evaluation and analysis in these approaches to value.

Statistical and Capitalization Analysis

Statistical analysis of final values is an essential component of quality control. This methodology represents a comparison of the final value against the standard and provides a concise measurement of the appraisal performance. Statistical comparisons of many different standards are used including sales of similar properties, the previous year's appraised value, audit trails, value change analysis and sales ratio analysis.

Appraisal statistics of central tendency and dispersion generated from sales ratios are calculated for each property type with available sales data. These summary statistics including, but not limited to, the median, mean, and weighted mean, provide the appraisers an analytical tool by which to determine both the level and uniformity of appraised value of a particular property type.

The appraisers review every commercial property type annually through the sales ratio analysis process. The first phase involves ratio studies that compare the recent sales prices of properties to the appraised values of the sold properties. This set of ratio studies affords the appraiser an excellent means of judging the present level of appraised value and uniformity of the appraised values. The appraiser, based on the sales ratio statistics and

designated parameters for valuation update, makes a preliminary decision as to whether the value level of a particular property type needs to be updated in an upcoming reappraisal, or whether the level of market value is at an acceptable level.

Potential gross rent estimates, occupancy levels, secondary income, allowable expenses (inclusive of non-recoverable and replacement reserves), net operating income and capitalization rate and multipliers are continuously reviewed. Income model estimates and conclusions are compared to actual information obtained on individual commercial and industrial income properties, as well as with information from published sources and area property managers and owners.

Individual Value Review Procedures

Field Review

Commercial real property accounts are reviewed and inspected in the field. Additionally, the appraisers frequently field review subjective data items such as building class, quality of construction, condition, and physical, functional and economic obsolescence factors contributing significantly to the market value of the property. In some cases field reviews are warranted when sharp changes in occupancy or rental rate levels occur between building classes or between economic areas.

Office Review

Office reviews are completed on properties subject to field inspections and are performed in compliance with the guidelines required by the existing classification system. Office reviews are typically limited by the available market data presented for final value analysis. These reviews summarize the pertinent data of each property as well as comparing the previous value to the proposed value conclusions of the various approaches to value. These evaluations and reviews show proposed value changes, income model attributes or overrides, economic factor, and special factors affecting the property valuation such as new construction status, and a sales history, if any.

After preliminary ratio statistics have been calculated, if the ratio statistics are generally acceptable overall, the review process is focused primarily on locating skewed results on an individual basis. Previous values resulting from protest hearings are individually reviewed to determine if the value remains appropriate for the current year based on market conditions.

Performance Tests

The primary tool used to measure mass appraisal performance is the ratio study. A ratio study compares appraised values to market prices. In a ratio study, market values are

typically represented with the range of sale prices, e.g. a sales ratio study. Independent, expert appraisals may also be used to represent market values in a ratio study. This can be particularly useful for commercial property for which sales are limited.

Comparative Appraisal Analysis

The commercial appraiser performs an average unit value comparison in addition to a traditional ratio study. These studies are performed on commercially classed properties by property use type (such as apartment, office, retail, and warehouse). The objective is to determine appraisal performance of sold and unsold properties. Appraiser's average unit prices of slate and average unit appraised values of the same parcels and the comparison of average value changes of sold and unsold properties. These studies are conducted on substrata such as building class and on properties located within various economic areas. In this way, overall appraisal performance is evaluated geographically, by specific property type to discern whether sold parcels have been selectively appraised. When sold parcels and unsold parcels are appraised equally, the average unit values are similar. These sales and equity studies are performed prior to final appraisal and to annual noticing.

BUSINESS PERSONAL PROPERTY VALUATION PROCESS

Appraisal Responsibility

The business personal property appraiser is responsible for estimating equal and uniform market valules for all business personal property.

Personnel – Business Personal Property is valued by the business personal property appraiser.

Data – Data used by business personal property appraiser includes business personal property renditions, published density schedules such as the Property Tax Assistance Division's field appraiser manual, valuation services, and market data publications.

Valuation Approach

North American Industry Classification System (NAICS) Analysis

Business personal property is classified and utilizes a four-digit numeric code, called the North American Industry Classification System (NAICS) that was developed by the Federal Government to describe property. These classifications are used by Washington County Appraisal District to classify personal property by business types.

NAICS identification and delineation is the cornerstone of the personal property valuation system at the district. All of the personal property analysis work done in association with the personal property valuation process is specific to the NAICS Code. NAICS is delineated based on observable aspects of homogeneity and business use.

Highest and Best Use Analysis

The highest and best use of property is the reasonable and probable use that supports the greatest income and the highest present value as of the date of the appraisal. The highest and best use must be physically possible, legal, financially feasible, and productive to its maximum. The highest and best use of personal property is normally its current use.

Data Collection/Validation

Data Collection Procedures

Personal property data collection procedures are published and distributed to all appraisers involved in the appraisal and valuation of personal property. These procedures consist of categorization standards and field review standards. Data is also obtained through annual renditions from business personal property owners.

Sources of Data

From year to year, reevaluation activities permit district appraisers to collect new data via field inspection, office review, and through renditions that property owners are required to submit annually. This results in the discovery of new businesses, changes in ownership, changes in assets, relocation of businesses, and closures of businesses not revealed through other sources. Assumed name certificates, sales tax permits, certificates of occupancy, tax assessors, city and local newspapers, and the public often provide the district information regarding new personal property and other useful facts related to property valuation.

An outside vendor provides Washington County Appraisal District with a listing of vehicles within the jurisdiction. The vendor develops this listing from the Vehicle Registration records. Other sources of data include property owner renditions and field inspections.

Depreciation Schedules and Trending Factors

Washington County Appraisal District's primary approach to the valuation of business personal property is the cost approach. The replacement cost new (RCN) is either developed from property owner reported historical cost or CAD developed valuation models. The percent good depreciation factors used by WCAD to develop RCN are based on published valuation guides.

Value estimates for vehicles are based on book values, and there are also considerations available for high mileage. Vehicles are valued by an appraiser using published guides.

Individual Value Review Procedures

Field Review

Business personal property accounts are inspected at the same time the commercial property is inspected. New BPP accounts are inspected within one year of being added to the appraisal roll.

Office Review

Properties are individually reviewed as needed based on property owner renditions, data changes, accounts with prior hearings, new accounts, and NAICS code changes.

Performance Tests

Comparative Appraisal Analysis

The business personal property appraiser performs an average unit value comparison property use type (such as office, retail, grocery and warehouse). The objective is to determine equity of like properties. Final equity studies are conducted prior to submission of the appraisal roll to the Appraisal Review Board, which begins the equalization phase.

During equalization, informal and formal hearings are conducted. This is an opportunity to further refine the appraisal roll as appraisers learn more information about properties due to property owner appeals. Any information that will produce a more accurate appraisal roll, whether for individual properties or if applied to a group of similar properties, is to be applied prior to certification of the appraisal roll and used to improve the appraisal model in future years.

UTILITY, RAILROAD, PIPELINE, INDUSTRIAL REAL AND INDUSTRIAL PERSONAL PROPERTY VALUATION PROCESS

This plan provides for annual reappraisal of all utility, railroad and pipeline property appraised by WCAD. WCAD has a professional services contract with Thomas Y. Pickett & Co, LLC (TYP) to appraise these properties for WCAD. The following identifies TYP's yearly responsibilities for these properties:

Utility, Railroad, Pipeline, Industrial Real

Identifying properties to be appraised: Industrial real property, industrial personal property, utility, railroad and pipeline properties that are susceptible to inspection are identified by inspection. The appraiser may also refer to other documents, both public and also confidential to assist in identification of these properties.

Industrial properties 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.

Due to the varied nature of utility, railroad, and pipeline properties there is no standard data collection form or manual. New permitting documents on record with the Railroad Commission of Texas provide a source to identify potential new pipeline projects but does not provide indication if the project was actually started, completed, or a district location of the proposed project. Every effort is made to discover new utility, railroad, and pipeline properties through personal observation combined with permitting documents.

Identifying and updating relevant characteristics of each property in the appraisal records: The appraiser identifies and updates relevant characteristics through data collected as part of the inspection process and through later submissions by the property owner, sometimes including confidential rendition. Additional data are obtained through public sources, regulatory reports and through analysis of comparable properties.

Defining market areas in the district: Market areas for utility, railroad and pipeline property tend to be regional or national in scope. Financial analyst and investor services reports are used to help define market areas.

Developing an appraisal approach that reflects the relationship among property characteristics affecting value and determines the contribution of individual property characteristics: For these types of property, the appraiser must first form an opinion of highest and best use. Among the three approaches to value (cost, income and market), pipeline value is calculated using a replacement/reproduction cost new less depreciation model [RCNLD]. In addition to the RCNLD indicator, a unit value model may also be used if appropriate data are available. Utility and railroad property are appraised in a manner similar to pipeline except that the RCNLD model is not used.
Comparison and Review: The appraiser considers results that best address the individual characteristics of the subject property 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. These types of property are also subject to review by the Property Tax Division of the Texas Comptroller's Office through their annual Property Value Study.

INDUSTRIAL PERSONAL PROPERTY

Identifying properties to be appraised: Through inspection, the appraiser identifies personal property to be appraised. The appraiser begins with properties from the previous tax year and identifies new properties from visual identification and/or publications, newspaper articles, or information obtained through the interview of property owners. The appraiser may also refer to other documents, both public and also confidential, to assist in identification of these properties. Such documents might include but are not limited to the previous year's appraisal roll, vehicle listing services and private directories.

Identifying and updating relevant characteristics of each property in the appraisal records: Data identifying and updating relevant characteristics of the subject properties are collected as part of the inspection process through directories and listing services as well as through later submissions by the property owner, sometimes including confidential rendition. These data are verified through previously existing records and through public reports.

Defining market areas in the district: Market areas for industrial personal property are generally either regional or national in scope. Published price sources are used to help define market areas.

Developing an appraisal approach that reflects the relationship among property characteristics affecting value and determines the contribution of individual property characteristics: Personal property is appraised using replacement/reproduction cost new less depreciation models. Income approach models are used when economic and/or subject property income is available, and a market data model is used when appropriate market sales information is available.
Comparison and Review: The appraiser reconciles multiple models by considering the model that best addresses the individual characteristics of the subject property. 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.