# 2021 Mass Appraisal Report

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# Bandera Central Appraisal District
## 2021 Mass Appraisal Report

## INTRODUCTION

### *Scope of Responsibility*

The Bandera Central Appraisal District has prepared and published this report to provide our citizens and taxpayers with a better understanding of the district's responsibilities and activities. This report has several parts: a general introduction and then several sections describing the appraisal effort by the appraisal district.

The Bandera Central Appraisal District (BCAD) 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 (5) member board of directors, appointed by the taxing units within the boundaries of Bandera County, and the Tax Assessor/Collector (non-voting member) 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.

The appraisal district is responsible for local property tax appraisal and exemption administration for 34 jurisdictions or taxing units in the county. Each taxing unit, such as the county, a city, school district, municipal utility district, etc., 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. Appraisals established by the appraisal district allocate the year's tax burden on the basis of each taxable property's January 1st market value. The appraisal district also determines eligibility for various types of property tax exemptions such as those for homeowners, the elderly, disabled veterans, and charitable and religious organizations.

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

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

The Property Tax Code defines special appraisal provisions for the valuation of residential homestead property (Sec. 23.23), productivity (Sec. 23.41), real property inventory (Sec. 23.12), dealer inventory (Sec. 23.121, 23.124, 23.1241 and 23.127), nominal (Sec. 23.18) or restricted use properties (Sec. 23.83) and allocation of interstate property (Sec. 23.03). The owner of business personal property inventory may elect to have the inventory appraised at its market value as of September 1$^{st}$ of the year preceding the tax year to which the appraisal applies by filing an application with the chief appraiser requesting that the inventory be appraised as of September 1$^{st}$.

The Texas Property Tax Code, under Sec. 25.18, requires each appraisal office to implement a plan to update appraised values for real property at least once every three years. The district's current policy is to conduct a general reappraisal of all property every year. Appraised values are reviewed annually and are subject to change for purposes of equalization. The full scope of work performed can be viewed in the Bandera Central Appraisal District's 2021-2022, Two Year Reappraisal Plan which was approved by the Bandera Central Appraisal District's Board of Directors.

The appraised value of real estate is calculated using specific information about each property. Using computer-assisted mass appraisal programs, and recognized appraisal methods and techniques, we compare that information with the data for similar properties, and with recent market data. The district follows the standards of the International Association of Assessing Officers (IAAO) regarding its appraisal practices and procedures and subscribes to the standards promulgated by the Appraisal Foundation known as the Uniform Standards of Professional Appraisal Practice (USPAP) to the extent they are applicable. In cases where the appraisal district contracts for professional valuation services, the contract that is entered into by each appraisal firm requires adherence to similar professional standards.

***Personnel Resources***

The Office of the Chief Appraiser is primarily responsible for overall planning, organizing, staffing, coordinating, and controlling of district operations. The Administration Department's function is to plan, organize, direct and control the business support functions related to human resources, budget, finance, records management, purchasing, fixed assets, facilities and postal services. The Appraisal Department is responsible for the valuation of all real and personal property accounts. The property types appraised include residential, commercial, industrial, business personal, 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 support are coordinated by the Support Services Department.

The appraisal district staff is responsible for developing the 2021 appraisal roll consisted of 9 full-time employees with the following classifications:

- _1_ - Official/Administrator (executive level administration)
- _2_ - Professional (supervisory and management)
- _5_ - Technicians (appraisers, program appraisers and network support)
- _1_ - Administrative Support (professional, customer service, clerical and other)

*Data*

The district is responsible for establishing and maintaining approximately 34,053 real and personal property accounts covering 798 square miles within Bandera County. This data includes property characteristics including ownership and exemption information. The data specific to each parcel would include, but not be limited to legal descriptions, addresses, parcel identifiers, photos and building sketches. Property characteristic data on new construction is updated through an annual field effort; existing property data is maintained through a field review that is prioritized by last field inspection date. Sales are routinely validated during a separate field effort; however, numerous sales are validated as part of the new construction and data review field activities. General trends in employment, interest rates, new construction trends, and cost and market data are acquired through various sources, including internally generated questionnaires to buyer and seller, university research centers, and market data centers and vendors.

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

*Information Systems*

The Chief Appraiser maintains the BCAD data processing facility, software applications, internet website, and geographical information system. The BCAD computer assisted mass appraisal (CAMA) software is provided by Harris Govern. The BCAD utilizes an assortment of Dell desktops/laptops and Apple iPads. Data is regularly backed up by an in-house server as well as backed up at a secure offsite location. The BCAD also utilizes Eagleview and Google Earth for aerial imagery.

## SHARED APPRAISAL DISTRICT BOUNDARIES

The district established procedures whereby ownership and property data information are routinely exchanged. Appraisers from adjacent appraisal districts discuss data collection and valuation issues to minimize the possibility of differences in property characteristics, legal descriptions, and other administrative data.

## INDEPENDENT PERFORMANCE TESTS

According to Chapter 5 of the TPTC, "At least once every two years, the Comptroller shall conduct a study in each appraisal district to determine the degree of uniformity of and the median level of appraisals by the appraisal district within each major category of property. The comptroller shall publish a report of the findings of the study, including in the report the median levels of appraisal for each major category of property, the coefficient of dispersion around the median level of appraisal for each major category of property and any other standard statistical measures that the comptroller considers appropriate." There are 4 independent school districts in Bandera CAD for which appraisal rolls are annually developed. The preliminary results of this study are released in January in the year following the year of appraisement. The final results of this study are certified to the Education Commissioner of the Texas Education Agency (TEA) in the following July of each year for the year of appraisement. This outside (third party) ratio study provides additional assistance to the CAD in determining areas of market activity or changing market conditions.

In addition to this there is an additional study performed at least every two years referred to as the "MAPS" review. Section 5.102 refers to this review as "At least once every two years, the comptroller shall review the governance of each appraisal district, taxpayer assistance provided, and the operating and appraisal standards, procedures, and methodology used by each appraisal district, to determine compliance with generally accepted standards, procedures, and methodology.

# Appraisal Activities

## INTRODUCTION

### *Appraisal Responsibilities*
The field 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 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 which are located within the boundaries of Bandera County. The data collection effort involves the field inspection of real and personal property accounts, as well as data entry of all data collected into the existing information system. The goal is to field inspect half of the residential properties and all personal and commercial properties in Bandera County every year. Meeting this goal is dependent on budgetary constraints.

### *Appraisal Resources*
- Personnel - The appraisal activities for 2021 consisted of 7 appraisers and support staff.

- Data - The data used by field appraisers includes the existing property characteristic information contained in a CAMA (Computer Mass Appraisal System) from the district's computer system. The data can be printed on a property record card (PRD), personal property data sheets or accessed on an iPad or other personal portable device. Other data used includes maps, sales data, fire and damage reports, building permits, photos and actual cost information.

## PRELIMINARY ANALYSIS

### Data Collection / Validation

Data collection of real property involves maintaining data characteristics of the property on PACS (Property Appraisal and Collections System), which is a computer mass appraisal system. The information contained in PACS includes site characteristics, such as land size and topography, and improvement data, such as square footage of living area, year built, quality of construction, and condition. Field appraisers use listing manuals that establish uniform procedures for the correct listing of real property. All properties are coded according to these manuals and the approaches to value are structured and calibrated based on this coding system. The field appraisers use these manuals during their initial training and as a guide in the field inspection of properties.

Data collection for personal property involves maintaining data information on PACS (Property Appraisal and Collections System). The type of information contained in PACS includes personal property, such as business inventory, furniture and fixtures, machinery and equipment, cost and location. The field appraisers conducting on-site inspections use a personal property manual during their initial training and as a guide to correctly list all personal property that is taxable.

The listing procedures that are utilized by the field appraisers are incorporated into the appropriate Appraiser Manual and are available in the district office. If a property owner/agent wants a copy of an appraisal manual, customer service will handle this request. Appraisers periodically update the listing procedural manuals with input from the valuation group.

### Sources of Data

The sources of data collection are through the new construction field effort, data review/relist field effort, data mailers, hearings, sales validation field effort, commercial sales verification, newspapers and publications, and property owner correspondence via the internet. A principal source of data comes from building permits received from taxing jurisdictions that require property owners to take out a building permit. Where available, permits are received electronically and loaded to our Building Permit System (BPS). Otherwise, paper permits are received and matched manually with the property's identification number for data entry.

Data review of entire neighborhoods is generally a good source for data collection. Appraisers drive entire neighborhoods to review the accuracy of our data and identify properties that have to be relisted. The sales validation effort in real property pertains to the collection of data of properties

that have sold. In residential, the sales validation effort involves on-site inspection by field appraisers, letters from buyers and sellers, and other third party sources to verify the accuracy of the property characteristics data and confirmation of the sales price. In commercial, the commercial appraisers are responsible for contacting both grantee, grantor and other third party sources to confirm sales prices and to verify pertinent data.

Property owners are one of the best sources for identifying incorrect data that generates a field check. Frequently, the property owner provides sufficient enough data to allow correction of records without having to send an appraiser on-site. As the district has increased the amount of information available on the internet, property owner's requests to correct data inconsistencies have also increased. For the property owner without access to the internet, letters are often submitted notifying the district of inaccurate data. Properties identified in this manner are added to a work file and inspected at our earliest opportunity.

### *Data Collection Procedures*
Field data collection requires organization, planning and supervision of the field effort. Data collection procedures have been established for residential, commercial, and personal property. The appraisers are assigned throughout Bandera County to conduct field inspections. Appraisers conduct field inspections and record information either on a property record card (PRD), a personal property data sheet or into a portable electronic device, such as an iPad, that will be downloaded into PACS.

The quality of the data used is extremely important in establishing accurate values of taxable property. While production standards are established and upheld for the various field activities, quality of data is emphasized as the goal and responsibility of each appraiser. New appraisers are trained in the specifics of data collection set forth in the listing manual as "rules" to follow. Experienced appraisers are routinely re-trained in listing procedures prior to major field projects such as new construction, sales validation or data review. A quality assurance process exists through supervisory review of the work being performed by the field appraisers. Quality assurance supervision is charged with the responsibility of ensuring that appraisers follow listing procedures, identify training issues and provide uniform training throughout the field appraisal staff.

### *Data Maintenance*
The field appraiser is responsible for the data entry of his/her fieldwork directly into the computer file. This responsibility includes not only data entry directly entered by the appraiser, but also quality assurance for that entered by the clerical staff.

### INDIVIDUAL VALUE REVIEW PROCEDURES

### *Field Review*
The date of last inspection, extent of that inspection, and the CAD appraiser responsible are listed on the CAMA record. If a property owner or jurisdiction dispute the district's records concerning

this data during a hearing, via a telephone call or correspondence received, CAMA may be altered based on the evidence provided. Typically, a field inspection is requested to verify this evidence for the current year's valuation or for the next year's valuation. Every year a field review of certain areas or neighborhoods in the jurisdiction is done during the data review/re-list field effort.

### *Office Review*

Office reviews are completed on properties where information has been received from the owner of the property. Even though information is provided by the owner in office, an aerial imagery inspection or field inspection may also be required.

### PERFORMANCE TEST

The valuation appraisers are responsible for conducting ratio studies and comparative analysis. (Refer to the individual valuation process summary reports).
Field appraisers, in many cases may conduct field inspections to ensure the ratios produced are accurate and the appraised values utilized are based on accurate property data characteristics.

## Residential Valuation Process

### INTRODUCTION

### *Scope of Responsibility*

The Residential Valuation appraisers are responsible for developing equal and uniform market values for residential improved and vacant property. There are approximately 7,969 residential improved parcels and 10,715 vacant residential properties in Bandera County.

### *Appraisal Resources*

- Personnel - The Residential Valuation appraisal staff for 2021 consisted of 7 appraisers. The following appraisers are responsible for determining the residential values:

  Shawn Davis
  Maria Garcia
  Cameron Rambin
  Tony Boyd
  Josh Ryan
  Rachel Cortinas
  Kendal McGuire

- Data - A common set of data characteristics for each residential dwelling in Bandera County is collected in the field and data entered to the computer. The property characteristic data drives the computer-assisted mass appraisal (CAMA) approach to valuation.

**VALUATION APPROACH (Model Specification)**

*Area Analysis*

Data on regional economic forces such as demographic patterns, regional locational 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 gleaned from real estate publications and sources such as continuing education in the form of IAAO and other TDLR approved classes.

*Neighborhood and Market 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. Residential valuation and neighborhood analysis is conducted on each of the political entities known as Independent School Districts (ISD).

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 geographic or demographic grouping of properties where the property's physical, economic, governmental, and social forces are generally similar and uniform. Geographic stratification accommodates the local supply and demand factors that vary across a jurisdiction. Once a neighborhood 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. Part of neighborhood analysis is the consideration of discernible patterns of growth 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 the workplace and other 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 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

at the district. 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. Neighborhood delineation is periodically reviewed to determine if further neighborhood delineation is warranted. Whereas neighborhoods involve similar properties in the same location, a neighborhood group is simply defined as similar neighborhoods in similar locations. Each residential neighborhood is assigned to a neighborhood group based on observable aspects of homogeneity between neighborhoods. Neighborhood grouping is highly beneficial in cost-derived areas of limited or no sales or use in direct sales comparison analysis. Neighborhood groups, or clustered neighborhoods, increase the available market data by linking comparable properties outside a given neighborhood. Sales ratio analysis, discussed below, is performed on a neighborhood basis, and in soft sale areas on a neighborhood group basis.

### *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 with ongoing gentrification, the appraiser reviews the existing residential property use and makes a determination regarding highest and best use. Once the conclusion is made that the highest and best use remains residential, further highest and best use analysis is done to decide the type of residential use on a neighborhood basis. As an example, it may be determined in a transition area that older, non-remodeled homes are economic mis-improvements, and the highest and best use of such property is the construction of new dwellings. 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. According to Section 23.10 c2 of the Texas Property Tax Code "The market value of a residence homestead shall be determined solely on the basis of the property's value as a residence homestead, regardless of whether the residential use of the property by the owner is considered to be the highest and best value of the property. A valuation under this jurisdictional exception might have a significant effect of the valuation.

### **VALUATION AND STATISTICAL ANALYSIS** (Model Calibration)

### *Cost Schedules*

All residential parcels in the district are valued from identical cost schedules using a comparative unit method. The district's residential cost schedules, originally adopted from a National Costing Service, have been customized to fit Bandera County's local residential building and labor market.

The cost schedules are reviewed regularly as a result of recent state legislation requiring that the appraisal district "clearly state the reason for any variation between generally accepted cost data and locally produced cost data if the data vary by more than 10%; and make available to the property owner on request all applicable market data that demonstrate the difference between the replacement cost of the improvements to the property and the depreciated value of the improvements." Sales analysis indicated that local market modifiers lowering the schedules greater than 10% of the Marshall Swift indicated values for residential property were appropriate to adjust the schedules to the present market. Copies of these resulting ratio reports are available if requested by a taxpayer.

*Sales Information*

A sales file for the storage of "snapshot" sales data at the time of sale is maintained. Residential vacant land sales, along with commercial improved and vacant land sales are maintained in a separate sales information system. Residential improved and vacant sales are collected from a variety of sources, including district questionnaires sent to buyer and seller, field discovery, protest hearings, Board of Realtor's MLS, various sale vendors, builders, and realtors. A system of type, source, validity and verification codes was established to define salient facts related to a property's purchase or transfer. School district or neighborhood sales reports are generated as an analysis tool for the appraiser in the development of value estimates.

*Land Analysis*

Land analysis is conducted by the land appraiser. The appraiser analyzes collected sale data and stores this data within computerized tables. Methods such as abstraction and allocation are used to determine contributory values for improved sales. The appraiser analyzes the market data to develop market areas. Data is selected and used to develop unit price land schedules which are assigned to each market area. These land schedules are designed to represent market influence and generally exhibit economy to scale. Computerized land tables store the land information required to consistently value individual parcels within market areas. Adjustments for specific land influences are used when necessary, to adjust parcels outside the market area's norm for such factors as view, shape, size, topography, and any other prevalent characteristics.

*Statistical Analysis*

The residential valuation appraisers perform statistical analysis annually to evaluate whether values are equitable and consistent with the market. Ratio studies are conducted on each of the approximately 22 residential classes in the district and then broken down into stratification of neighborhoods to judge the two primary aspects of mass appraisal accuracy--level and uniformity of value. Appraisal statistics of central tendency and dispersion generated from sales ratios are available for each class and appropriate neighborhoods. These may be further stratified by year built, size of living area and other indicators of the market. These summary statistics including, but not limited to, the weighted mean, median, standard deviation, coefficient of variation, and coefficient of dispersion, provide the appraisers a tool by which to determine both the level and

uniformity of appraised value on a stratified neighborhood basis. The level of appraised values is determined by the weighted mean for individual properties within a neighborhood, and a comparison of neighborhood weighted means reflect the general level of appraised value between comparable neighborhoods. Review of the standard deviation, coefficient of variation, and coefficient of dispersion discerns appraisal uniformity within and between stratified neighborhoods.

Every neighborhood is reviewed annually by the appraiser through the sales ratio analysis process. 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, based on the sales ratio statistics and designated parameters for valuation update, makes a preliminary decision as to whether the value level in a neighborhood needs to be updated in an upcoming reappraisal, or whether the level of market value in a neighborhood is at an acceptable level.

*Market Adjustment or Trending Factors*
Neighborhood, or market adjustment, factors are developed from appraisal statistics provided from ratio studies and are used to ensure that estimated values are consistent with the market. The district's primary approach to the valuation of residential properties uses a hybrid cost-sales comparison approach. This type of approach accounts for neighborhood market influences not specified in the cost model.

The following equation denotes the hybrid model used:
$$MV = [LMA\ (LV)] + [IMA\ (RCN - D)]$$

Whereas the market value equals the land market adjustment factor times the land value plus the improvement market adjustment factor times replacement cost new less depreciation. As the cost approach separately estimates both land and building values and uses depreciated replacement costs, which reflect only the supply side of the market, it is expected that adjustments to the cost values are needed to bring the level of appraisal to an acceptable standard. Market, or location adjustments are applied uniformly within neighborhoods to account for locational variances between market areas or across a jurisdiction. While efforts are made to gather rental information, due to the predominance of owner-occupied residential property, little weight is applied to the "Income Approach". The hybrid model used combines both the Cost and Market approaches in a manner that will best indicate the market value of single-family residences.

If a neighborhood is to be updated, the appraiser uses a cost ratio study that compares recent sales prices of properties appropriately adjusted for the effects of time within a delineated neighborhood with the properties' cost value. The calculated ratio derived from the sum of the sold properties' cost value divided by the sum of the sales prices indicates the neighborhood level of value based on the unadjusted cost value for the sold properties. This cost-to-sale ratio is compared to the

appraisal-to-sale ratio to determine the market adjustment factor for each neighborhood. This market adjustment factor is needed to trend the values obtained through the cost approach closer to the actual market evidenced by recent sales prices within a given neighborhood. The sales used to determine the market adjustment factor will reflect the market influences and conditions only for the specified neighborhood, thus producing more representative and supportable values. The market adjustment factor calculated for each updated neighborhood is applied uniformly to all properties within a neighborhood. Once the market-trend factors are applied, a second set of ratio studies is generated that compares recent sale prices with the proposed appraised values for these sold properties.

## 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 the new law, beginning in the second year a property receives a homestead exemption, increases in the 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 of the appraised value of the property for the most recent tax year that the market value was determined by the appraisal office: or
- the sum of:
  (a.) 10 percent of the appraised value of the property for the preceding tax year;
  (b.) the appraised value of the property for the preceding tax year; and
  (c.) the market value of all new improvements to the property.

Values of capped properties must be recomputed annually. If a capped property sells, the cap automatically expires as of January 1st of the following year. An analogous provision applies to new homes. While a developer owns them, unoccupied residences are appraised as part of an inventory using the district's land value and the developer's construction costs as of the valuation date. Once these properties sale, they are treated similarly to other categories and the special valuation is removed.

## INDIVIDUAL VALUE REVIEW PROCEDURES
### Field Review
All appraisers have set regions of re-inspection. Annual re-inspections take place from August to April. Properties picked up during the year in early stages of construction are also coded for inspection at the end of the year to determine the percentage complete for the January 1 valuation date as prescribed by the Property Tax Code. During these rechecks, the appraiser frequently field reviews subjective data items such as quality of construction, condition, and physical, functional, and economic obsolescence, factors contributing significantly to the market value of the property. After preliminary estimates of value have been determined in targeted areas, the appraiser takes valuation documents to the field to test the computer-assisted values against his own appraisal judgment.

## PERFORMANCE TESTS

### *Sales Ratio Studies*

The district's ratio studies were designed and prepared, to the maximum extent possible, under the guidelines set forth in the International Association of Assessing Officers current "Standard on Ratio Studies". The ratio studies are calculated in order to evaluate the relationship between the appraisals and the sales prices as of the assessment date of January 1 and used to estimate the general level of appraisal and the uniformity of appraisal.

Beginning with the 2017 Tax Year, the residential appraisal schedules have gone into a two-step process for review and development. For 2017 and the subsequent years during the fall the actual Residential classes will be reviewed. Sales Ratios derived from the previous year's certified numbers will be used along with verified sales gathered after the notices were mailed and local market modifiers will be developed to adjust the Marshall Swift costing tables to the Bandera County Residential Market. Ratios were performed for a period of January 1, 2020, thru April 1, 2021. The costing tables for Frame and Masonry Residential Property for the 2021 Tax Year was developed and placed in the district's Residential Appraisal Manual.

During the spring of the Tax Year, just before the notices go out, Ratio reports were developed on the Neighborhood level. The period of sales that were used were from January 1, 2020, thru April 1, 2021. These were analyzed and adjustments were made to assure fair and equitable appraisal of all residential properties in a uniform manner.

All sales were used and screened to ensure, to the extent possible, that only valid indicators of market value were included. Examples of sales that were excluded included sales involving atypical financing, sales between relatives or corporate affiliates, estate sales, or sales under duress. Foreclosures are reviewed as to determine the condition of the improvements. Further information from the taxpayer may indicate that the foreclosure sales price is indicative of the market for a similar property in the same condition. If there is an area which has a significant number of foreclosures and it appears to set the tone for the market for that neighborhood, these prices are considered in the final market values for that neighborhood. This would be the case where foreclosures represent 50 percent or more of the sales and there are a significant number of sales for that neighborhood. Since Texas does not have mandatory sales disclosure, Bandera County Appraisal District does not have access to all property transactions, which limits the sales used to those acquired through a commercial vendor or submitted voluntarily by the property owners.

The median ratio for each residential class along with the ratio for the total residential sales file is an indicator of the level of appraisal for the population of single-family residences. The median is the preferred measure of central tendency because it gives equal weight to each ratio and is less affected by extreme ratios. The Coefficient of Dispersion (COD) is a measure of variability and generally the smaller the measure of variability, the better the uniformity. Trimming the sales for outliers is performed in a manner consistent with the appendix of the "Standard on Ratio Studies".

*Management Review Process*

Once the proposed value estimates are finalized, the appraiser reviewed the sales ratios by neighborhood and presents pertinent valuation data, such as, sale-to-parcel ratio, and level of appraisal to the Chief Appraiser for final review and approval. This review includes comparison of level of value between related neighborhoods within and across jurisdiction lines. The primary objective of this review is to ensure that the proposed values have met preset appraisal guidelines appropriate for the tax year in question.

# Commercial & Industrial Valuation Process

## INTRODUCTION

*Appraisal Responsibility*

This mass appraisal assignment includes all the commercially and industrial classed real properties which falls within the responsibility of the commercial valuation appraiser of the Bandera Central Appraisal District and located within the boundaries of this taxing jurisdiction. The attached appraisal roll displays and identifies each type of real property. Commercial appraisers appraise the fee simple interest of properties according to statute and are responsible for developing fair, uniform market values for improved commercial / industrial real properties and commercial / industrial vacant land. 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 interests in real property (i.e. certain multi-family 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 / Industrial Valuation appraisal staff for 2021 consisted of 1 appraiser. They appraise both the land and improvements of the properties. The improved real property appraisal responsibilities are categorized according to major property types of multi- family or apartments, industrial, office, retail, warehouse and special use (i.e. hotels, hospitals and, nursing homes). The following appraiser is responsible for determining the commercial / industrial values:

    Tony Boyd

- Data - The data used by the commercial / industrial appraiser includes verified sales of vacant land and improved properties and the pertinent data obtained from each (sales price levels, capitalization rates, income multipliers, equity dividend rates, marketing period, etc.). Other data used by the appraiser includes actual income and expense data (typically obtained through the hearings process), 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. The individual characteristics of the property being appraised are the primary

factors that drive the appraised value.

## PRELIMINARY ANALYSIS

### Pilot Study

Pilot studies are utilized to test new or existing procedures or valuation modifications in a limited area (a sample of properties) of the district and are also considered whenever substantial changes are made. These studies, which are inclusive of ratio studies, reveal whether a new system is producing accurate and reliable values or whether procedural modifications are required. The appraiser implements this methodology when developing both the cost approach and income approach models.

Survey of Similar Jurisdictions: Bandera CAD coordinates its discovery and valuation activities with adjoining Appraisal Districts. Numerous field trips, interviews and data exchanges with adjacent appraisal districts have been conducted to ensure compliance with state statues. In addition, Bandera CAD administration and personnel interact with other assessment officials through professional trade organizations including the International Association of Assessing Officers, Texas Association of Appraisal Districts, Texas Association of Assessing Officers and the Texas Rural Chief Appraisers Association.

## VALUATION APPROACH (Model Specification)

### Area Analysis

Data on regional economic forces such as demographic patterns, regional locational 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; for example, continuing education in the form of International Association of Assessing Officers (IAAO), Texas Association of Assessing Officers (TAAO), Texas Association of Appraisal Districts (TAAD), Texas Rural Chief Appraisers (TRCA, and Texas Department of Licensing and Regulation (TDLR) approved courses.

The scope of market forces affecting industrial products and the capital goods used in the production process tends to extend beyond regional considerations. The effects of information and transportation technology are such that most industrial market forces are measured globally. One exception to this general concept is the market for industrial land. The pricing of land tends to be closely tied to possible alternative uses in the area. For this reason, appraisers assigned to land valuation analyze market forces for specific areas and adjust land value schedules appropriately.

### Neighborhood Analysis

The neighborhood is comprised of the land area and commercially classed properties located within the boundaries of this taxing jurisdiction. This area consists of a wide variety of property types including residential, commercial, and industrial. 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 organize comparable properties into smaller, manageable subsets of the universe of properties known as neighborhoods. In the mass appraisal of commercial properties these subsets of a universe of properties are generally referred to as market areas 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 similarities of rental rates, classification of projects (known 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 (income approach to value estimates) 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 may be found in the Commercial Valuation Manual.

Neighborhood analysis of the type of properties valued by the industrial appraiser is not meaningful. Industrial properties do not have the type of generic "sameness" that is appropriate for neighborhood models.

***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. For improved properties, highest and best use is evaluated as improved and as if the site were still vacant. This assists in determining if the existing improvements have a transitional use, interim use, nonconforming use, multiple uses, speculative use, excess land, or a different optimum use if the site were vacant. For vacant tracts of land within this jurisdiction, the highest and best use is considered speculative based on the surrounding land uses. Improved properties reflect a wide variety of highest and best uses which include, but are not limited to apartment, industrial, office, retail, warehouse, special purpose, or interim uses. In many instances, the property's current use is the same as its highest and best use. Industrial facilities are most commonly located in areas that support industrial use. This analysis ensures that an accurate estimate of market value (sometimes referred to as value in exchange) is derived.

On the other hand, value in use represents the value of a property to a specific user for a specific purpose. This is significantly different than market value, which approximates market price under the following assumptions: (i) no coercion of undue influence over the buyer or seller in an attempt to force the purchase or sale, (ii) well-informed buyers and sellers acting in their own best interests,

(iii) a reasonable time for the transaction to take place, and (iv) payment in cash or its equivalent.

*Market Analysis*

A market analysis relates directly to 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, capitalization rate studies are analyzed.

Even though many industrial properties are unique in nature, the market for this type of property is analyzed to see how the values of similar or similar as possible properties are affected by market forces. Industrial properties, such as machine shops, have many similar facilities that can be compared to the subject property in terms of type and size of equipment, type of property fabricated or serviced at the subject facility, and other factors. Those similarities help the appraiser estimate the value of the subject property. However, some facilities, such as specialty chemical plants, are so unique in nature that the appraiser must use the closest available plant in terms of output quantity, type of product manufactured, and other factors to estimate the value of the subject property. Many industrial properties use the same type of building and, depending on the type of business, may use the same type of manufacturing or service equipment. However, the manner in which the entire business operation is put together makes that particular facility unique. The district uses information from similar businesses to examine the real and personal property values at a particular business, but the individual characteristics of the business being reviewed determine the value estimation. Many of the buildings encountered at industrial facilities are generic in construction, such as pre-engineered metal buildings. The cost per square foot to construct these type structures can be used to estimate values at facilities that have similarly constructed buildings. However, the building as constructed will have differences that must be taken into account when estimating the final value of the property being reviewed.

Due to the fact that most of the industrial properties are highly specialized and owner occupied, the Income Approach is considered inappropriate in most cases and receives little weight in the valuation.

## DATA COLLECTION / VALIDATION

*Data Collection Manuals*

The primary manual pertinent to data collection and documentation is the Commercial / Industrial Appraisal Manual. This manual is continually updated, providing a uniform system of itemizing the multitude of components comprising improved properties. All properties located in Bandera CAD's inventory are coded according to this manual and the approaches to value are structured and calibrated based on this coding system.

An extended range of variations may exist within the same class of industrial property, and there

are a multitude of property types within the industrial category. For this reason, effective data collection procedures would be very difficult to organize in a single comprehensive manual. The district has adopted the Marshall & Swift Commercial Estimator Cost guide and its occupancy codes to standardize data and its collection for buildings assigned to the industrial appraisal staff.

### *Sources of Data*

In terms of commercial /industrial sales data, Bandera CAD receives a copy of the deeds recorded in Bandera County that convey both commercially and industrial classed properties. The deeds involving a change in commercial ownership are entered into the sales information system and researched in an attempt to obtain the pertinent sale information. Other sources of sale data include the hearings process and local, regional and national real estate and financial publications.

For those properties involved in a transfer of commercial ownership, a sale file is produced which begins the research and verification process. The initial step in sales verification involves a computer- generated questionnaire, which is mailed to both parties in the transaction (Grantor and Grantee). If a questionnaire is not returned within thirty days a second questionnaire is mailed. If a questionnaire is answered and returned, the documented responses are recorded into the computerized sales database system. If no information is provided, verification is then attempted via phone calls to both parties. If the sales information is still not obtained, other sources are contacted such as the brokers involved in the sale, property managers or commercial vendors. In other instances, sales verification is obtained from local appraisers or others that may have the desired information. Finally, closing statements are often provided during the hearings process. The actual closing statement is the most reliable and preferred method of sales verification.

### *Data Collection Procedures*

The district appraisal personnel annually or periodically visit assigned properties. The frequency of the visit is determined by the nature of the business conducted at each facility. For example, refineries and chemical plants are continually changing or adding to processes to extract greater efficiencies or make new products, but machine shops may not add or remove equipment over a period two or more years.

The appraisers take with them the historical data on the buildings and site improvements at the facility being visited. Changes to the existing structures are noted and that information is used for value estimation purposes. If cost information for the real or personal property is supplied later, the field data can be compared to that information to judge the accuracy of the information.

New district appraisers are trained by accompanying appraisers who have performed field visit and appraisal functions for a number of years. Each district appraiser is responsible for the completeness and correctness of their valuation work, but a new appraiser is encouraged to seek the advice of and review by experienced appraisal staff if that person is not sure of their value estimation results.

## VALUATION ANALYSIS (Model Calibration)

Model calibration involves the process of periodically adjusting the mass appraisal formulas, tables and schedules to reflect current local market conditions. Once the models have undergone the specification process, adjustments can be made to reflect new construction procedures, materials and/or costs, which can vary from year to year. The basic structure of a mass appraisal model can be valid over an extended period of time, with trending factors utilized for updating the data to the current market conditions. However, at some point, if the adjustment process becomes too involved, the model calibration technique can mandate new model specifications or a revised model structure.

### Cost Schedules

The cost approach to value is applied to all improved real property utilizing the comparative unit method. This methodology involves the utilization of national cost data reporting services as well as actual cost information on comparable properties whenever possible. Cost models are typically developed based on the Marshall Swift Valuation Service. Cost models include the derivation of replacement cost new (RCN) of all improvements. These include comparative base rates, per unit adjustments and lump sum adjustments. This approach also employs the sales comparison approach in the valuation of the underlying land value. 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 for the cost models, locational modifiers are necessary to adjust these base costs specifically for Bandera County. These modifiers are provided by the national cost services.

Depreciation schedules are developed for commercial properties not valued on Marshall & Swift, based on what is typical for each property type at that specific age. Depreciation schedules have been implemented for what is typical of each major class of commercial property by economic life categories. Schedules have been developed for improvements with 15, 20, 30, 40, 50 and 60 year expected life. These schedules are then tested to ensure they are reflective of current market conditions. The actual and effective ages of improvements are noted in CAMA. 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.

Market adjustment factors such as external and/or functional obsolescence can be applied if warranted. A depreciation calculation override can be used if the condition or effective age of a property varies from the norm by appropriately noting the physical condition and functional utility ratings on the property data characteristics. These adjustments are typically applied to a specific property type or location and can be developed via ratio studies or other market analyses. Accuracy in the development of the cost schedules, condition ratings and depreciation schedules will usually minimize the necessity of this type of an adjustment factor.

*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 a leading value indicator. The first step in the income approach pertains to the estimation of market rent on a per unit basis. This is derived primarily from actual rent data furnished by property owners and from local market study publications. This per unit rental rate multiplied by the number of units results in the estimate of potential gross rent.

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 on local market publications. This allowance accounts for periodic fluctuations in occupancy, both above and below an estimated stabilized level. The market derived stabilized vacancy and collection loss allowance is subtracted from the potential gross rent estimate to yield an effective gross rent.

Next a secondary income or service income is 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.

Allowable expenses and expense ratio estimates are based on a study of the local market, with the assumption of prudent management. An allowance for non-recoverable expenses such as leasing costs and tenant improvements are included in the expenses. A non-recoverable expense represents costs that the owner pays to lease rental space. Different expense ratios are developed for different types of commercial property based on use. For instance, retail properties are most frequently leased on a triple-net basis, whereby the tenant is responsible for his pro-rata share of taxes, insurance and common area maintenance. In comparison, a general office building is most often leased on a base year expense stop. This lease type stipulates that the owner is responsible for all expenses incurred during the first year of the lease. However, any amount in excess of the total per unit expenditure in the first year is the responsibility of the tenant. Under this scenario, if the total operating expense in year one (1) equates to $8.00 per square foot, any increase in expense over $8.00 per square foot throughout the remainder of the lease term would be the responsibility of the tenant. As a result, expense ratios are implemented based on the type of commercial property.

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 large lump sums. 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.

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

Rates and multipliers are used to convert income into an estimate of market value. These include income multipliers, overall capitalization rates, and discount rates. Each of these is used in specific applications. Rates and multipliers also 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. These procedures are documented in the Commercial Appraisal Manual.

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

Rent loss concessions are made on 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 that for every year that the property's actual occupancy is less than stabilized occupancy a rent loss deduction may be estimated.

The model for the income approach is:

Potential Gross Rent (PGR) - Vacancy and Collections (V&C) = Effective Gross Rent (EGR)
(EGR) + Other Income = Effective Gross Income (EGI)
(EGI) - Allowed Expenses = Net Operating Income (NOI)
(NOI) / Capitalization Rate = Market Value (MV)

### 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 each parcel on the appraisal roll. As previously discussed in the Data Collection / Validation section of this report, pertinent data from actual sales of properties, both vacant and improved, is pursued throughout the year in order to obtain relevant information which can be used in all aspects of valuation. 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 on the mainframe CAMA system for utilization on all commercial properties in the district. The schedules and models are summarized in the Commercial Manual. This manual is provided to appraisers and is made available to the public in an easy-to-understand format.

The schedules used by the district are those integrated into Marshall & Swift Commercial Estimator Valuation System for real property improvements. The real property valuation schedules are updated annually by the software provider.

### 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.

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 utilizing frequency distribution methods or other statistical procedures or measures. Income model conclusions are compared to actual information obtained on individual commercial properties during the hearings process as well as information from published sources and area vendors.

## INDIVIDUAL VALUE REVIEW PROCEDURES

### Field Review

The date of last inspection, extent of that inspection, and the Bandera CAD appraiser responsible are listed in the CAMA system. If a property owner disputes the District's records concerning this data in a protest hearing, CAMA may be altered based on the credibility of the evidence provided. Typically, a new field check is then requested to verify this evidence for the current year's valuation or for the next year's valuation. In addition, if a building permit is filed for a particular property indicating a change in characteristics, that property is added to a work file. Finally, even though every property cannot be inspected each year, each appraiser typically designates certain segments of their area of responsibility to conduct field checks.

Commercial / Industrial appraisers are somewhat limited in the time available to field review all commercial properties of a specific use type. However, a major effort is made by appraisers to field review as many properties as possible or economic areas experiencing large numbers of remodels, renovations, or retrofits, changes in occupancy levels or rental rates, new leasing activity, new construction, or wide variations in sale prices. Additionally, the appraisers frequently field review subjective data items such as building class, quality of construction (known as cost modifiers), 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. With preliminary estimates of value in these targeted areas, the appraisers test computer assisted values against their own appraisal judgment. While in the field, the appraisers physically inspect sold and unsold properties for comparability and consistency of values.

### Office Review

Office reviews are completed on properties not subject to field inspections and are performed in compliance with the guidelines contained in the Commercial / Industrial Manual. The manual outlines the application of the three approaches to value (including Discounted Cash Flow - DCF). This manual is rigorously maintained and updated frequently.

Office reviews are typically limited by the data presented in final value reports. These reports summarize the pertinent data of each property as well as comparing the previous values (two year value history) to the proposed value conclusions of the various approaches to value. These reports show proposed percentage value changes, income model attributes or overrides, economic factor

(cost overrides) and special factors affecting the property valuation such as new construction status, prior year litigation and a three years sales history (USPAP property history requirement for non-residential property). The appraiser may review methodology for appropriateness to ascertain that it was completed in accordance with USPAP or more stringent statutory and district policies. This review is performed after preliminary ratio statistics have been applied. 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. Each appraiser's review is limited to properties in their area of responsibility by property type (improved) or geographic area (commercial vacant land).

Once the appraiser is satisfied with the level and uniformity of value for each commercial property within their area of responsibility, the estimates of value go to noticing. Each parcel is subjected to the value parameters appropriate for its use type. If one of the parcel's component values, land value, improvement value or total value exceeds the permissible change in value range it "fails the value edits". In this case, the parcel does not shift to noticing, but it is placed on a rework list. Therefore, although the value estimates are determined in a computerized mass appraisal environment, value edits and rework lists enable an individual parcel review of value anomalies before the estimate of value is released for noticing.

## PERFORMANCE TESTS

The primary tool used to measure mass appraisal performance is the ratio study. A ratio study compares appraised values to market values. In a ratio study, market values (value in exchange) are typically represented by sales prices (i.e. A sales ratio study). Independent, expert appraisals may also be used to represent market values in a ratio study (i.e. An appraisal ratio study). If there are not enough sales to provide necessary representativeness, independent appraisals can be used as indicators for market value. This can be particularly useful for commercial, warehouse or industrial real property for which sales are limited. In addition, appraisal ratio studies can be used for properties statutorily not appraised at market value but reflect the use-value requirement. An example of this are multi-family housing projects subject to subsidized rent provisions or other governmental guarantees as provided by legislative statutes (affordable housing) or agricultural lands to be appraised on the basis of productivity or use value.

Bandera CAD has adopted the policies of the IAAO STANDARD ON RATIO STUDIES, circa 2013 regarding its ratio study standards and practices. Ratio studies generally have seven basic steps: (1) definition of purpose, scope and objectives, (2) design, (3) stratification, (4) collection and preparation of data, (5) matching of appraisal and market data, (6) statistical analysis, and (7) evaluation and use of the results.

### *Sales Ratio Studies*
Sales ratio studies are an integral part of establishing equitable and accurate market value

estimates, and ultimately assessments for this taxing jurisdiction. The primary uses of sale ratio studies include the determination of a need for general reappraisal; prioritizing selected groups of properties types for reappraisal; identification of potential problems with appraisal procedures; assist in market analyses; and, to calibrate models used to derive appraised values during valuation or reappraisal cycles. However, these studies cannot be used to judge the accuracy of an individual property appraised value. The Bandera County Appraisal Review Board may make individual value adjustments based on unequal appraisal (ratio) protest evidence submitted on a case-by-case basis during the hearing process.

Overall sales ratios are generated by use type semi-annually (or more often in specific areas) to allow appraisers to review general market trends in their area of responsibility. The appraisers utilize desktop applications such as MS EXCEL programs to evaluate subsets of data by economic area or a specific and unique data item. On the desktop, this may be customized and performed by building class and age basis. In many cases, field checks may be conducted to ensure the ratios produced are accurate and the appraised values utilized are based on accurate property data characteristics. These ratio studies aid the appraisers by providing an indication of market activity by economic area or changing market conditions (appreciation or depreciation). A copy of the district's latest ratio study is attached.

### *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 usage or special use). The objective to this evaluation is to determine appraisal performance of sold and unsold properties. Appraiser's average unit prices of sales 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 horizontal equity studies are performed prior to annual noticing.

This type of analysis is usually not done on industrial properties due to the unique nature of the property and also because of time and budget constraints regarding available appraisal staff. Only in an instance where a jurisdiction would file a jurisdiction challenge with the Appraisal Review Board would the district perform such an analysis.

If a jurisdiction challenge is received by Bandera CAD on an industrial category of properties, the appraisers assigned to those accounts will research the appraisal roll to see what other similar properties exist. The real property values can be compared on an average value per square foot of structure basis, but the differences from one facility to another must be carefully compared because

it is unlikely that two different facilities are going to build like improvements and use them in similar ways.

# Mineral and Utilities Valuation Process

**INTRODUCTION**

*Appraisal Responsibility*

Hugh Landrum & Associates, Inc. contracted by the Bandera Central Appraisal District are responsible to develop fair, uniform market values for the industrial, utility, and mineral accounts in Bandera County. Hugh Landrum & Associates values approximately 230 industrial, utility, and mineral accounts for BCAD.

*Appraisal Resources*

- Personnel - Bandera CAD contracts with Hugh Landrum & Associates, Inc. to value property accounts for which the district does not have the available personnel or resources.
- Data - The contract appraisal staff inspect their assigned properties to obtain information about buildings, site improvements, process and shop equipment, and various items of personal property.

*Area Analysis*

The scope of market forces affecting industrial products and the capital goods used in the production process tends to extend beyond regional considerations. The effects of information and transportation technology are such that most industrial market forces are measured globally.

*Highest and Best Use Analysis*

The highest and best use of real or personal property is the most reasonable and probable use of the property on the date of appraisal that is physically and financially feasible, legal, and that derives maximum production from the property.

**DATA COLLECTION/VALIDATION**

*Data Collection Manuals*

An extended range of variations may exist within the same class of industrial property, and there are a multitude of property types within the industrial category. For this reason, effective data collection procedures would be very difficult to organize in a single comprehensive manual. The district has adopted the Marshall & Swift Commercial Estimator Cost guide and its occupancy codes to standardize data and its collection for buildings assigned to the industrial appraisal staff.

Industrial personal property also consists of many different classes of assets with a wide range of variation within each class. The district has adopted the convention of listing assets and estimating effective age of assets in the field. The field listing is then compared with information furnished

by property owners during the final valuation review.

### *Sources of Data*

The original real and personal property data used by Bandera CAD was supplied by the Bandera County Tax Assessor. Since that time, contract appraisal personnel have updated that information based on field review. As new facilities are built, the personnel collect all the real and personal property data necessary to value the property initially and thereafter update the information when the property is again visited. Other sources of data include publications such as the Texas Register regarding waste control permits, various refining and chemical industry magazine articles, and Texas Industrial Expansion articles on new construction.

### *Data Collection Procedures*

The appraisal personnel annually or periodically visit assigned plants. The frequency of the visit is determined by the nature of the business conducted at each facility.

## VALUATION

### *Final Valuation Procedures*

The contract appraisers furnish the district with their list of valuations for the utilities and minerals. These values are entered into the current tax rolls for the assigned appraisal year.

## INDIVIDUAL VALUE REVIEW PROCEDURES

### *Field Review*

The district's contract appraisers periodically review their assigned accounts annually. The contract appraisal firms must advise the district of any characteristics that would affect the value of the land associated with that assigned facility. The district values all land for the properties over which it has responsibility, including those properties assigned to contract appraisal firms.

# Business Personal Property Valuation Process

## INTRODUCTION

### *Appraisal Responsibility*

There are four different personal property types appraised by the district's personal property section: Commercial and Industrial Personal Property accounts; Leased Assets; Vehicles; and Multi-Location Assets. There are approximately 1,587 business personal property accounts in Bandera County.

### *Appraisal Resources*

- <u>Personnel</u> - The business personal property staff for 2021 consisted of 1 appraiser

and support staff.

- Data - A common set of data characteristics for each personal property account in Bandera County is collected in the field and data entered to the district's computer. The property characteristic data drives the computer-assisted personal property appraisal (CAPPA) system. The field data is collected by the personal property appraiser.

## VALUATION APPROACH (Model Specification)

### *SIC Code Analysis*
Eight-digit numeric codes, called Standard Industrial Classification (SIC) codes that were developed by the federal government. These classifications are used by Bandera CAD as a way to classify personal property by business type.

SIC code and Class Code 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 SIC code and Class code specific. SIC codes are delineated based on observable aspects of homogeneity. SIC code and Class Code delineation is periodically reviewed to determine if additional delineation is warranted.

### *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, legally permissible, financially feasible, and maximally productive. 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. The appraisal procedures are reviewed and revised to meet the changing requirements of field data collection. The most recent revision of the personal property data collection procedures was in 2018 and these were incorporated in the Personal Property Appraisal Manual.

### *Sources of Data*
*Business Personal Property* - The district's property characteristic data was originally received from Bandera County, and various school district records in 1980, and where absent, collected through a massive field data collection effort coordinated by the district over a period of time. When revaluation activities permit, district appraisers collect new data via an annual field drive-out. This project results in the discovery of new businesses not revealed through other sources. Various discovery publications such as state sales tax listings and local occupancy permits are also used to discover personal property. 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.

*Vehicles* - An outside vendor, Just Texas, provides Bandera CAD with a listing of commercially registered vehicles within Bandera County. The vendor develops this listing from the Texas Department of Transportation (DOT) Title and Registration Division records. They use NADA values as a guide along with other resourced values. Other sources of data include property owner renditions and field inspections.

*Leased and Multi-Location Assets* - The primary source of leased and multi-location assets is property owner renditions of property. Other sources of data include field inspections.

*Special Inventory* - Special Inventory (which includes motor vehicles, boats, manufactured houses and heavy equipment at the retail level of trade) is discovered and valued in conjunction with monthly tax statements and annual declaration forms filed by the owner. Copies of the monthly statements and annual declarations are maintained by Bandera CAD. Alternative discovery methods may sometimes be used as with standard BPP accounts described earlier in this report.

The discovery and valuation of certain utility and pipeline accounts is contracted out to third party appraisal firms. Uniform Standards of Professional Appraisal Practices or USPAP certification and reappraisal plan information on these properties are maintained at the contractor's individual offices. A list of our third-party vendors is available upon request.

## VALUATION AND STATISTICAL ANALYSIS (Model Calibration)

### Cost Schedules
Cost schedules are developed by SIC code by district personal property valuation appraisers. The cost schedules are developed by analyzing cost data from property owner renditions, hearings, state schedules, and published cost guides. The cost schedules are reviewed as necessary to conform to changing market conditions. The schedules are typically in a price per square foot format, being adjusted for quality and density.

### Statistical Analysis
Summary statistics including, but not limited to, the median, weighted mean, and standard deviation provide the appraisers an analytical tool by which to determine both the level and uniformity of appraised value by SIC code. Review of the standard deviation can discern appraisal uniformity within SIC codes.

### Depreciation Schedule and Trending Factors:
*Business Personal Property* - Bandera CAD's primary approach to the valuation of business personal property is the cost approach. Because we are not valuating the Going Business Concern the Income Approach is not considered relevant. Due to the lack of sales of a business continuing

its operations from owner to owner and the difficulty in separating the sales price of the going concern, real property and personal property parts of the sale, the Sales Market Approach receives little weight. The replacement cost new (RCN) is either developed from property owner reported historical cost or from BCAD developed valuation models. The trending factors used by Bandera CAD to develop RCN are based on published valuation guides. The percent good depreciation factors used by Bandera CAD are also based on published valuation guides.

The Business Personal Property Model is:

$$\text{Historical Cost x \% Good Factor = Market Value Estimate}$$

This mass appraisal depreciation schedule is used to ensure that estimated values are uniform and consistent within the market.

### *Computer Assisted Personal Property Appraisal (CAPPA)*

The CAPPA valuation process has two main objectives: 1) Analyze and adjust existing SIC models. 2) Develop new models for business classifications not previously integrated into CAPPA. The delineated sample is reviewed for accuracy of SIC code, square footage, field data, and original cost information. Models are created and refined using actual original cost data to derive a typical replacement cost new (RCN) per square foot for a specific category of assets. The RCN per square foot is depreciated by the estimated age using the depreciation table adopted for the tax year.

The data sampling process is conducted in the following order:
> 1) Prioritizing Standard Industrial Classification (SIC) codes for model analysis.
> 2) Compiling the data and developing the reports.
> 3) Field checking the selected samples.

The models are built and adjusted using internally developed software. The models are then tested against the previous year's data. The typical RCN per square foot (or applicable unit) is determined by a statistical analysis of the available data.

CAPPA model values are used in the general business personal property valuation program to estimate the value of new accounts for which no property owner's rendition is filed. Model values are also used to establish tolerance parameters for testing the valuation of property for which prior years' data exists or for which current year rendered information is available. The calculated current year value or the prior year's value is compared to the indicated model value by the

valuation program. If the value being tested is within an established acceptable percentage tolerance range of the model value, the account passes that range check and moves to the next valuation step. If the account fails the tolerance range check, it is flagged for individual review.

Allowable tolerance ranges may be adjusted from year to year depending on the analysis of the results of the prior year.

*Vehicles* - Value estimates for vehicles are provided by an outside vendor and are based on NADA published book values as well as other sources. Vehicles that are not valued by the vendor are valued by an appraiser using PVF schedules or published guides.

*Leased and Multi-Location Assets* - Leased and multi-location assets are valued using the valuation model mentioned above. If the asset to be valued in this category is a vehicle, then NADA published book values are used. Assets that are not valued by the vendor are valued by an appraiser using PVF schedules or published guides.

## INDIVIDUAL VALUE REVIEW PROCEDURES

### *Office Review*

*Business Personal Property* - A district valuation computer program exists in a mainframe environment that identifies accounts in need of review based on a variety of conditions. Property owner renditions, accounts with field or other data changes, accounts with prior hearings, new accounts, and SIC cost table changes are all considered. The accounts are processed by the valuation program and pass or fail preset tolerance parameters by comparing appraised values to prior year and model values. Accounts that fail the tolerance parameters are reviewed by the appraisers.

*Vehicles* - A vehicle master file is received on tape from an outside vendor and vehicles in the district's system from the prior year are programmatically matched to current DOT records. The vehicles remaining after the matching process are sorted by owner name and the owners are then prioritized by the number of vehicles owned. These vehicles are then matched to existing accounts and new accounts are created as needed. Vehicles that are not valued by the vendor are valued by an appraiser using depreciation schedules or published guides.

*Leased and Multi-Location Assets* - Leasing and multi-location accounts that have a high volume of vehicles or other assets are loaded programmatically if reported by the property owner electronically. Electronic renditions, usually on diskette, often require reformatting before they can be loaded to the account. Accounts that render by hard copy are either data entered by BCAD or sent to an outside data entry vendor.

After matching and data entry, reports are generated and reviewed by an appraiser. Once proofed, the report is then mailed to the property owner for review. Corrections are made and the account is noticed after supervisor approval.

The commercial and business aircraft accounts are simultaneously valued/reviewed with rendered data and third-party market value data. Bandera CAD's perpetual account tracking system ensures special inventory dealers without a current declaration on file are contacted to advise them of their

legal filing requirements and to provide Bandera CAD with the most current valuation/review data available.

**PERFORMANCE TESTS**

***Ratio Studies***
At least once every two years, the Property Tax Division of the state comptroller's office conducts a property value study (PVS). The PVS is a ratio study used to gauge appraisal district performance. Results from the PVS play a part in school funding. Rather than a sales ratio study, the personal property PVS is a ratio study using state cost and depreciation schedules to develop comparative personal property values. These values are then compared to Bandera CAD's personal property values and ratios are formed.

***Internal Testing***
Bandera CAD can test new or revised cost and depreciation schedules by running the valuation program in a test mode prior to the valuation cycle. This can give appraisers a chance to make additional refinements to the schedules if necessary.

# Additional Appraisal Resources

- Perdue, Brandon, Fielder, Collins & Mott, LLC – Agricultural Valuation Services
- Hugh L. Landrum & Associates, Inc. – Mineral and Utility Valuation Services

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*LIMITING CONDITIONS*

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

1. The appraisals were prepared exclusively for ad valorem tax purposes.

2. The property characteristic data upon which the appraisals are based is assumed to be correct. Exterior inspections of the property appraised were performed as staff resources and time allowed.

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

4. I have attached a list of staff providing significant mass appraisal assistance to the person signing this certification.

5. Attached are the district's latest ratio study results.

## *Certification Statement:*

"I, Maria A.Garcia, Interim Chief Appraiser for the Bandera Central Appraisal District, certify that, to the best of myknowledge and belief:

- The statements of fact contained in this report are true and correct.

- The reported analyses, opinion, and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, impartial, and unbiased professional analyses, opinions, and conclusions.

- I have no (unless previously disclosed to Bandera CAD) present or prospective interest in the property that is the subject of this report, and I have no (unless previously disclosed to Bandera CAD) personal interest with respect to the parties involved.

- I have performed no (unless previously disclosed to Bandera CAD) services, as an appraiser or in any other capacity, regarding the property that is the subject of this report within the three-year period immediately preceding acceptance of this assignment.

- 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 analyses, opinions and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice.

- I have made a personal inspection of a portion of the properties that are the subject of this report.

- The attached list contains the Bandera Central Appraisal District Appraisers and Contract Appraisers who provided significant mass appraisal assistance in appraising the property that is the subject of this report.

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Maria A. Garcia
BCAD Interim Chief Appraiser RPA, CCA

# Bandera Central Appraisal District

*2021 Staff or Contracted Firms Providing Significant*
*Real, Business Personal Property, Appraisal Assistance and Support*

| | |
|---|---|
| Chief Appraiser | Shawn Davis, RPA, CCA |
| Senior Appraiser | Maria Garcia, RPA |
| Appraiser | Cameron Rambin, (Class I, RPA) |
| Appraiser | Tony Boyd, (Class I, RPA) |
| Appraiser | Rachel Cortinas, (Class I, RPA) |
| Appraiser | Josh Ryan, (Class I, RPA) |
| Appraiser | Kendal McGuire, (Class I,RPA) |
| Customer Service Manager/ Exemption Specialist | Debbie Clark, (Class I, RPA) |
| Customer Service | Amanda Turner |
| Deeds Specialist | Denise Holm |
| Industrial/Mineral/Utility Appraisal Firm | Hugh Landrum and Associates, Inc. |