

# Edwards Central Appraisal District

## 2019 Mass Appraisal Report

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The Edwards Central Appraisal District (CAD) has prepared and published this report to provide our citizens and taxpayers with a better understanding of the appraisal 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 Edwards CAD is a political subdivision of the State of Texas created effective January 1, 1980. The provisions of the Property Tax Code govern the legal, statutory, and administrative requirements of the appraisal district. A member board of directors (BOD), appointed by the taxing units within the boundaries of Edwards County, constitutes the appraisal district's governing body. The chief appraiser, appointed by the BOD, 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 nearly 6 jurisdictions or taxing units in the county. Each taxing unit, such as the county, the 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 1<sup>st</sup> market value. We also determine 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, all taxable property is appraised at its market value as of January 1<sup>st</sup>. Under Property Tax Code Section 1.04 (7), market value means the price at which a property would transfer for cash or its equivalent under prevailing market conditions if:**

- Exposed for sale in the open market with a reasonable time for the seller to find a purchaser;
- Both the seller and buyer know all of 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, 12.1241 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 real property inventory may elect to have the inventory appraised at its market value as of September 1<sup>st</sup> 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<sup>st</sup>.

Property Code Sec. 25.18, requires each appraisal district board to adopt a written plan each even-numbered year for the periodic reappraisal of all property within the boundaries of the appraisal district. The written plan must provide for the update of appraised values for all real property and personal property in the appraisal district at least once every three years. The appraisal district's current policy is to conduct a general reappraisal every 3 year(s). However, appraised values are reviewed annually and are subject to change for purposes of equalization.

The appraised value of real estate is calculated using specific information about each property. Using computer-assisted appraisal programs, and recognized appraisal methods and techniques, we compare that information with the data for similar properties, and with recent market data. The appraisal district follows the technical 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 chief appraiser is primarily responsible for overall planning, organizing, staffing, coordinating, and controlling of appraisal 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 commercial, residential, business personal and industrial. The appraisal 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 consists of 4 employees with the following classifications:

- 1 Official/ Administrator (Executive level administration)
- 1 Professional (Supervisory and Management)
- 1 Technician (appraiser, program appraiser and network support)
- 1 Administrative Support (Professional, customer service, clerical)

### **Data**

The appraisal district is responsible for establishing and maintaining approximately **15,601** real and personal property accounts covering **2200** square miles within Edwards County. This data includes property characteristics and ownership and exemption information. Property characteristics 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 appraisal district has a geographic information system (GIS) that maintains cadstral maps and various layers of data, including zip code, facet and aerial photography. The appraisal district's website makes a broad range of information available for public access, including detailed information on the appraisal process, property characteristics data, residential sales, certified values, protest and appeal procedures, property maps, and a tax calendar. Downloadable files of related tax information and appraisal district forms, including exemption applications and business personal property renditions are also available.

### **Information Systems**

The information systems department maintains the appraisal district's data processing facility, software applications, Internet website, and geographical information system. The mainframe hardware/ system software is desktop and server personal computer's (PC), along with terminal emulation to mainframe windows PACS software system.

### **SHARED APPRAISAL DISTRICT BOUNDARIES**

The appraisal 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 TEST

According to Property Tax Code Chapter 5 and the Government Code Section 403.302, the Texas Comptroller of Public Accounts Property Tax Assistance Division (PTAD) conducts a bi-annual property value study (PVS) of each Texas school district and each appraisal district. As a part of this bi-annual study, the Government Code Section 403.302 also requires the Comptroller to: use sales and recognized auditing and sampling techniques, test the validity of school district taxable values in each appraisal district and presume appraisal roll values are correct when values are valid; and determine the level and uniformity of property tax appraisal in each appraisal district. The methodology used in the PVS includes stratified samples to improve sample representativeness and techniques or procedures of measuring uniformity. This study utilizes statistical analysis of sold properties (sales ratio studies) and appraisal of unsold properties (appraisal ratio studies) as a basis for assessment ratio reporting. For appraisal districts, the reported measures include median level of appraisal, coefficient of dispersion (COD), the percentage of properties within 10 percent of the median, the percentage of properties within 25 percent of the median, and price- related differential (PRD) for properties overall and by state category (i.e., categories A, B, C, D and F1 are directly applicable to real property).

There are 2 independent school districts (ISD) in the Edwards CAD for which appraisal rolls are annually developed. In the year of the study, the preliminary results of this study are released in January in the year following the year of appraisal. The final results of this study are certified to the Education Commissioner of the Texas Education Agency (TEA) in the following July of each year for which there is a PVS. This outside third party ration study provides additional assistance to the CAD in determining areas of market activity or changing market conditions.

In 2009, the Texas Legislature enacted a law that amended Property Tax Code Section 5.102. This law requires the Comptroller's office to review appraisal districts every two years. Called the Methods and Assistance Program (MAP), the reviewers study the governance, taxpayer assistance, operating procedures and the appraisal standards, procedures and methodology of each appraisal district.

## Appraisal Activities

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### 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 Edwards 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 periodically field inspect residential and personal properties in Edwards County every 3 years and commercial properties every 3 years. Meeting this goal is dependent on budgetary constraints.

#### Appraisal Resources

- Personnel – The appraisal activities consist of 2 in office appraisers and 2 contracted field appraisers and 1 clerical personnel.

- Data – The data used by field appraisers includes the existing property characteristic information contained in CAMA (Computer Mass Appraisal System) from the appraisal district's PACS computer system. The data is printed on a property record card or personal property data
- Sheets. Other data used includes maps, sales data, fire and damage reports, photos and actual cost information. Building permits are not used in Edwards County since there are no permits required. Occasionally a septic permit is acquired and used as identifying data.

## **PRELIMINARY ANALYSIS**

### **Data Collection/ Validation**

Data collection of real property involves maintaining data characteristics of the property on CAMA. The information contained in CAMA includes site characteristics such as, land size and topography and improvement data, such as square foot 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 information on PERS (Personal Property System). The type of information contained in PERS 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 procedure manuals that are utilized by the field appraisers are available in the appraisal district's office. Manuals are also located in the customer service area for public inspection. If a property owner/ agent want a copy of the listing procedural 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 septic permits as Edwards County does not require building permits. Paper permits are received and matched manually with the property's tax account 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 to verify the accuracy of the property characteristics data and confirmation of the sales price. In commercial, the commercial sales group is responsible for contacting both grantee and grantor 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 appraisal district has increased the amount of information available on the Internet, property owner's requests to correct data inconsistencies has also increased. For the property owner without access to the Internet, letters are often submitted notifying the appraisal district to 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 Edwards

County to conduct field inspections. Appraisers conduct field inspections and record information either on a property record card (PRD), or personal property data sheet.

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 appraiser. 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 aka the electronic file. This responsibility includes not only data entry, but also quality assurance.

## **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 appraisal 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 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, data mailers sent in mass or at the request of the owner frequently verify the property characteristics or current condition of the property. When the property data is verified in this manner, field inspections are not required.

### **Performance Test**

The valuation appraisers are responsible for conducting ratio studies and comparative analysis. (Refer to the individual valuation process summary reports)

Field appraiser, in many cases may conduct field inspection to ensure the ratios produced are accurate and the appraised values utilized are based on accurate property data characteristics.

# Residential Valuation Process

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## INTRODUCTION

### Scope of Responsibility

The residential valuation appraisers are responsible for developing equal uniform market values for residential improved and vacant property. There are approximately 9951 residential improved parcels and 113 vacant residential properties in Edwards County.

### Appraisal Resources

- Personnel – The residential valuation staff consists of 1 in house appraisers and 2-3 contracted appraisers, contracted through Prichard & Abbott Valuation Services. The following appraisers are responsible for determining residential values.
- **Judy Harris, RPA, RTA, CCA-Interim Chief Appraiser TDLR # 60604**
- **Renn Rudasill, RPA TDLR# 73335**
- Data - A common set of data characteristics for each residential dwelling in Edwards County is collected in the field and data entered to the computer. The property characteristics data drives the 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 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 ISDs.

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 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 a 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 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 appraisal 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 a 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 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.

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

### **Cost Schedules**

All residential parcels in the appraisal district are valued from identical cost schedules using a comparative unit method. The appraisal district's residential cost schedules, originally adopted from a private mass appraisal firm, have been customized to fit Edwards 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 cost schedules be within a range of plus or minus 10 percent from nationally recognized cost schedules.

An extensive review and revision of the residential cost schedule was performed for the 2017 tax year. As part of the process, approximately 100 newly constructed sold properties at various levels of quality of construction in Edwards County were reviewed. The property data characteristics of these properties were verified and photographs were taken of the samples. From the total 9400 samples, approximately 470 were selected for use in the cost system review. CAD dwelling costs were compared against Marshall & Swift, a nationally recognized cost estimator. This process included correlation of quality of construction factors from CAD and Marshall & Swift. The results of this comparison were analyzed using statistical measures, including stratification by quality and reviewing estimated building costs plus land to sales prices. As a result of this analysis, a new regional multiplier was developed to be used in the appraisal district's cost process. This new regional multiplier was used to adjust the division's cost schedule to be in compliance with the state legislative mandate described above. In addition to the mainframe cost schedules, PC spreadsheet applications have been created to address unique appraisal situations, such as different levels of remodeling and atypical housing features not normally accounted for in the mainframe benchmark cost system.

### **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: appraisal 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**

Residential land analysis is conducted by each of the residential appraisers. The appraisers develop a base lot, primary rate and assign each unique neighborhood to one of six square foot land tables. The square foot land table is designed to systematically value the primary and residual land based on a specified percentage of the primary rate. A computerized land table file stores the land information required to consistently value individual parcels within neighborhoods. Specific land influences are used, where necessary, to adjust parcels outside the neighborhood norm for such factors as view, shape, size and topography, among others. The appraisers use abstraction and allocation methods to ensure that the land values created best reflect the contributory market value of the land to the overall property value.

### **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 3 residential valuation neighborhoods in the appraisal district 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 stratified neighborhood within and ISD and summarized by year. These summary statistics including, but not limited to, the weighted mean, median and 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.

The appraiser through the sales ratio analysis process reviews every neighborhood annually. The first phase involves neighborhood ratio studies that compare the recent sales prices of neighborhood properties to the appraised values of these sold properties. This set of ratio studies affords the appraiser an excellent means of judging the present level of appraised value and uniformity of the sales. The appraiser, 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 appraisal 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:

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

Whereas, the market value equals the market adjustment factor times the land value plus the 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.

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' actual 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. 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 update 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. From this set of ratio studies, the appraiser judges the appraisal level and uniformity in both update and non-update neighborhoods and finally, for the school district as a whole.

#### 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; or
- The preceding years' appraised value; PLUS 10 percent for each year since the property was re-appraised; PLUS the value of any improvements added since the last re-appraisal.

Values of capped properties must be recomputed annually. If a capped property sells, the cap automatically expires as of January 1<sup>st</sup> of the following year. In that following year, that home is reappraised as its market value to bring its appraisal into uniformity with other properties. An analogous provision applies to new homes. While a developer owns them, unoccupied residences are appraised as part of an inventory using the appraisal district's land value and the developer's construction costs as of the valuation date. However, in the year following the sale, they are reappraised at market value.

Monthly time adjustments were developed using the sales ratio trend analysis method. For each school district, sales-to-appraisal ratios based on unadjusted cost values were stratified on a quarterly basis. Statistics produced from the quarterly market data include measures of central tendency (mean and median) that represent the level of appraised values and measures of uniformity (coefficient of dispersion and coefficient of variation) that represent the consistency of appraised values within and between strata. The resulting quarterly medians were graphically plotted for examination and analysis. A linear regression routine was performed on each of the school districts samples, along with specific market areas. Linear regression statistics, such as the coefficient of determination (R<sup>2</sup>) and the P-value, identify the reliability and significance, respectively, of the regression outcome, namely, the independent variable of time. A quarterly time adjustment for each market area sample was produced. Analysis was then performed on each school district sample to determine the appropriate quarterly time adjustment to be employed, or if a time adjustment was even warranted. Once the market areas quarterly time adjustment was determined, a monthly time adjustment was calculated.

#### INDIVIDUAL VALUE REVIEW PROCEDURES

##### Field Review

The appraiser identifies individual properties in critical need of field review through sales ratio analysis. Sold properties with a high variance in sales ratios are field reviewed on a monthly basis to check for accuracy of data characteristics.

As the CAD's parcel count has increased through new home construction and the homes constructed and in the subdividing of surrounding ag land into smaller affordable acreage subdivision tracts, appraisers are required to perform the field activity associated with this transitioning and the high demand for these types of hunting property. Increased sales activity has also resulted in a more substantial field effort on the part of the appraisers to review and resolve sales outliers. Additionally, 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. During this review, the appraiser is able to physically inspect both sold properties and unsold properties for comparability and consistency of values.

### **Office Review**

Given the ample resources and time required to conduct a routine field review of all properties, homogeneous properties consisting of tract housing with a low variance in sales ratios and other properties having a recent field inspection date are value reviewed in the office. Valuation reports comparing previous values against proposed and final values are generated for all residential improved and vacant properties. The dollar amount and percentage of value difference are noted for each property within a delineated neighborhood allowing the appraiser to identify research and resolve value anomalies before final appraised values are released. Previous values resulting from a hearing protest are individually reviewed to determine if the value remains appropriate for the current year.

Once the appraiser is satisfied with the level and uniformity of value for each neighborhood within his area of responsibility, the estimates of value go to noticing.

## **PERFORMANCE TESTS**

### **Sales Ratio Studies**

The primary analytical tool used by the appraisers to measure and improve performance is the ratio study. The appraisal district ensures that the appraised values that it produces meet the standards of accuracy in several ways. Overall sales ratios are generated for each ISD by quarter to allow the appraiser to review general market trends within their area of responsibility and provide an indication of market appreciation over a specified period of time. The neighborhood descriptive statistic, along with frequency distributions and scatter diagrams are reviewed for each neighborhood being updated for the current tax year. In addition to the mainframe sales ratios by school district and neighborhood, quarterly sales are generated from a PC-based statistical application in Microsoft Excel. Reported in the sales ratio statistics for each school district is a level of appraisal value and uniformity profile by land use, sales trends by quarter and 12-month time frame and appraisal value ranges. The PC based ration studies are designed to emulate the finding of the Texas Comptroller of Public Accounts, Property Tax Assistance Division's (PTAD) annual PVS for Category A property. A copy of the appraisal districts latest ratio study is attached.

### **Management Review Process**

Once the proposed value estimates are finalized, the appraiser reviews the sales ratios by neighborhood and presents pertinent valuation data, such as, history of hearing protest, 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 Valuation Process**

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## **INTRODUCTION**

### **Appraisal Responsibility**

This mass appraisal assignment includes all of the commercially classed real property which falls within the responsibility of the commercial valuation appraiser of the Edwards CAD and located within the boundaries of this taxing jurisdiction. The

attached appraisal roll displays and identifies each parcel of real property individually. Commercial appraisers appraise the fee simple interest of properties according to statute. However, the effect of easements, restrictions, encumbrances, leases, contracts or special assessments are considered on an individual basis, as is the appraisal of any nonexempt taxable fractional interest in real property. (i.e. certain multi-family housing project) Fractional interests in partial holdings of real property are appraised in fee simple for the whole property and divided programmatically based on their prorated interests.

### **Appraisal Resources**

The improved real property appraisal responsibilities are categorized according to major property types of multi-family or apartment, office, retail, warehouse and special use (i.e. hotels, hospital, and nursing homes). 1 appraiser is assigned to improved commercial property types as Edwards County has so little improved or vacant commercial property. Edwards County is primarily a farming and ranching county with a large emphasis on goat and sheep operations with the occasional cattle ranching operation. The remaining 2-3 appraisers including those contracted through Prichard and Abbott Valuation Specialists are assigned to the land valuation responsibilities. These land valuation duties are generally divided geographically.

Data – The data used by the commercial appraiser includes verified sales of vacant land and improved properties and the pertinent data obtained from each (sales price levels, capitalization rate, 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.), specific properties, market data publications are also reviewed to provide additional support for market trends.

## **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 appraisal 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: Edwards 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 statutes. In addition, Edwards CAD administration and personnel interact with other assessment officials through professional trade organizations including the IAAO, Texas Association of Appraisal Districts (TAAD) and Texas Association of Assessing Officers (TAAO).

## **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. Continuing education in the form of courses.

### **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 (environmental), 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 to 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.

### **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: office, retail, apartment, warehouse, light industrial, special purpose, or interim uses. In many instances, the property's current use is the same as its highest and best 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, and 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.

## **DATA COLLECTION/ VALIDATION**

### **Data Collection Manuals**

The primary manual pertinent to data collection and documentation is the commercial/ industrial data collection manual. This manual is continually updated, providing a uniform system of itemizing the multitude of components comprising improved properties. All properties located in Edwards CAD's inventory are coded according to this manual and the approaches to value are structured and calibrated based on this coding system. The most recent revision of the listing manual was 2017.

Annually, prior to the hearing season and after the sales have been researched, verified, keyed into the database and quality control has been completed, the sales data are summarized and produced into book form. The confirmed sales reports, known as the commercial improved and vacant land sales books categorize the sales by property and use type

and sort the data by location and chronological order. These books are available to the public for use during hearings and are also used by the Edwards CAD appraisers during the hearings process.

#### Sources of Data

In terms of commercial sales data, Edwards CAD receives a copy of the deeds recorded in Edwards County that convey commercially 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 sales information. Other sources of sales 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 PACS 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 contracted 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.

#### **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 unity 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 or Boeckh. Cost models include the derivation of RCN of all improvements. These include comparative base rates, per unity 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 condition 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 Edwards County. These modifiers are provided by the national cost services.

Depreciation schedules are developed based on what is typical for each property type at that specific age. Depreciation schedules have been implemented for what is typical for 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. Effective age estimates are based on three levels of renovation and are described in the commercial/ industrial liters manual.

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 analysis.

Accuracy in the development of the cost schedules, condition rating 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.

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 operation 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 stipulated that the owner is responsible for all expenses incurred during the first year of the lease<sup>3</sup>. 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 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 and 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 International Association of Assessing Officers (IAAO), Property Assessment Valuation (2010); Chapter 13 The Income Approach Capitalization Formulas and Rates.

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 analysis, 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 account for the impact of lost rental income while the building is moving towards 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.

#### 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 aspect 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 appraisal district. The schedules and models are summarized in the commercial review manual. This manual is provided to appraisers and is made available to the public in an easy to understand format.

#### Statistical and Capitalization Analysis

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

Appraisal statistics of central tendency and dispersion generated from sales ratios are available for each property type. These summary statistics including, but not limited to, the weighted mean, standard deviation and coefficient of variation, provide the appraisers an analytical tool by which to determine both the level and uniformity of appraised value of a particular property type. The level of appraised values can be determined by the weighted mean for individual properties within a specific type and a comparison of weighted means can reflect the general level of appraised value. Review of the standard deviation and the coefficient of variation can discern appraisal uniformity within a specific property type.

The appraisers review every commercial property type annually through the sales ratio analysis process. The first phase involves ratio studies that compare the recent sales prices of properties to the appraised values of the sold properties. This set of ratio studies affords the appraiser an excellent means of judging the present level of appraised value and designated parameters for valuation update 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 Edwards CAD appraiser responsible are listed in the CAMA system. If a property owner disputes the appraisal district's records concerning this data in a protest hearing, CAMA may be altered based on the credibility of the evidence provided. Typically, (in counties where permits are required) 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 appraisers are somewhat limited in the time available to field review all commercial properties of a specific use type. However, 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, new construction, or wide variation 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 review manual. The commercial review manual outlines the application of the three approaches to value (including Discounted Cash Flow- DCF). This manual is rigorously maintained and updated frequently. The last update of the commercial review manual was in 2017.

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 appraisal 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 hearing 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 are typically represented by sales prices. Independent, expert appraisals may also be used to represent market values in a 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 or agricultural lands to be appraised on the basis of productivity or use value.

Edwards CAD has adopted the policies of the IAAO Standard on Ratio Studies (2013) regarding its ratio study standards and practices. Ratio studies generally have six basic steps: (1) determination of the purpose and objectives, (2) data collection and preparation, (3) comparing appraisal and market data, (4) stratification, (5) statistical analysis, and (6) evaluation and application 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 analysis; 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 Edwards CAD ARB may make individual value adjustments based on unequal appraisal 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 access and Excel programs to evaluate the 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. A copy of the appraisal districts 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 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.

# Business Personal Property Valuation Process

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## INTRODUCTION

### Appraisal Responsibility

There are four different personal property types appraised by the appraisal district's personal property section: business personal property accounts; leased assets; vehicles; and multi-location assets. There are approximately 403 business personal property accounts in Edwards County.

### Appraisal Resources

- Personnel – The personnel property staff consists of 1 appraiser and 1 support staff.
- **Renn Rudasill, RPA TDLR# 73335**
- Data – A common set of data characteristics for each personal property account in Edwards County is collect in the field and data entered to the appraisal district's computer. The property characteristic data drives the computer-assisted personal property CAPP system. The field data is collected by the personal property appraisers.

## VALUATION APPROACH

### SIC Code Analysis

Four digit numeric codes, called Standard Industrial Classification (SIC) codes that were developed by the federal government are used the Edwards CAD as a way to classify personal property by business type. Edwards CAD has further stratified these codes by adding alpha suffices to SIC codes in order to group business types that have similar personal property characteristics.

SIC code identification and delineation is the cornerstone of the personal property valuation system at the appraisal district. All of the personal property analysis work done in association with the personal property valuation process is SIC code specific. There are in excess of 50 Edwards CAD personal property SIC codes. SIC codes are delineated based on observable aspects of homogeneity. SIC code delineation is periodically reviewed to determine if further SIC code 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, legal, financially feasible and productive to its maximum. The highest and best use of personal property is normally its current use.

## DATA COLLECTION/ VALIDATION

### Data Collection Procedures

Personal property data collection procedures are published and distributed to all appraisers involved in the appraisal and valuation of personal property. 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 2016.

### Sources of Data

### **Business Personal Property**

The appraisal district's property characteristic data was originally received from Edwards County and various school district records in 1980 and where absent, collected through a massive field data collection effort coordinated by the appraisal district over a period of time. When revaluation activities permit, appraisal 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 the District Clerk's Recordings and state sales tax listings are also used to discover personal property. Tax Assessors, City and local newspapers and the public often provide the appraisal district information regarding new personal property and other useful facts related to property valuation.

### **Vehicles**

An outside vendor provides Edwards CAD with a listing of vehicles within Edwards County. The vendor develops this listing from the Texas Department of Transportation (TxDot) title and registration division records. 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 the property owner renditions of property. Other sources of data include field inspections.

## **VALUATION AND STATISTICAL ANALYSIS**

### **Cost Schedules**

Cost schedules are developed by SIC code by appraisal district personal property valuation appraisers. Analyzing cost data from property owner rendition, hearings, state schedules and published cost guidelines develops the cost schedules. The cost schedules are reviewed as necessary to conform to changing market conditions. The schedules are typically in a price per square foot format, but some exception SIC's are in the alternate price per unit format such as per room for hotels.

### **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**

Edwards CAD's primary approach to the valuation of business personal property is the cost approach. The RCN is either developed from the property owner reported historical cost or from Edwards CAD's developed valuation models. The trending factors used by Edwards CAD to develop RCN are based on published valuation guides. The percent good depreciation factors used by Edwards CAD are also based on published valuation guides. The index factors and percent good depreciation factors are used to develop present value factors (PVF) by year of acquisition, as follows:

PVF-INDEX FACTOR X PERCENT GOOD FACTOR

The PVF is used as an express calculation in the cost approach. The PVF is applied to reported historical cost as follows:

MARKET VALUE ESTIMATE = PVF X HISTORICAL COST

Computer Assisted Personal Property Appraisal (CAPPA)

The CAPPVA valuation process has two main objectives: 1) analyzes and adjusts existing SIC models. 2) develop new models for business classifications not previously integrated into CAPPVA. 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 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 then tested against the previous year's data. The typical RCN per square foot is determined by a statistical analysis of the available data.

CAPPVA 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 data years' data exist 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 and outside vendor and are based on National Automobile Dealers Association (NADA) published book values. An appraiser using the PVF schedules or published guides values vehicles that are not valued by the vendor.

### **Leased and Multi-Location Assets**

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

## INDIVIDUAL VALUE REVIEW PROCEDURES

### Office Review

An appraisal district valuation computer program exists in a mainframe environment that identifies accounts in need of review based on a variety of conditions. Property owner 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 the appraised values to prior year and model values. The appraisers review accounts that fail the tolerance parameters.

### Vehicles

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

### **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 the CAD 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.

## PERFORMANCE TESTS

### Ratio Studies

Each year PTAD conducts a 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 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 Edwards CAD's personal property values and ratios are formed.

### Internal Testing

Edwards 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.

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### Limiting Conditions

The appraised value estimated provided by the appraisal 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 was attempted through questionnaires to buyer and seller, telephone survey and field review. In the absence of such confirmation, residential sales data obtained from vendors was considered reliable.
4. I have attached a list of staff providing significant mass appraisal assistance to the person signing this certification.
5. Attached are the appraisal district's latest ratio study results.

### Certification Statement:

"I, Judy Harris, Interim Chief Appraiser for the Edwards Central Appraisal District, solemnly swear that I have made or caused to be made a diligent inquiry to ascertain all property in the appraisal district subject to appraisal by me, and that I have included in the records all property that I am aware of at an appraised value which, to the best of my knowledge and belief, was determined as required by law".

*Judy Harris*

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Judy Harris- Interim Chief Appraiser

STAFF PROVIDING SIGNIFICANT MASS APPRAISAL ASSISTANCE

NAME	TITLE	TDLR NUMBER	TYPE OF ASSISTANCE
JUDY HARRIS	INTERIM CHIEF APPRAISER	68604	DIRECTOR OF APPRAISAL OPERATIONS
RENN RUDASILL	APPRAISER	73335	