

EL PASO CENTRAL APPRAISAL DISTRICT



REAPPRAISAL PLAN 2017-2018

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Executive Summary

The El Paso Central Appraisal District (EPCAD) has prepared and published this reappraisal plan in accordance with Texas Property Tax Code Sections 6.05 (i) and 25.18, which requires the Appraisal District's Board of Directors to approve a reappraisal plan by September 15 of each even numbered year for the next two years. The purpose of the plan is to provide our Board of Directors, taxing entities, citizens and taxpayers with a better understanding of the District's responsibilities and reappraisal activities.

EPCAD is responsible for local property tax appraisal and exemption administration for all taxing jurisdictions within the County of El Paso. The Texas Property Tax Code, except as otherwise provided, states that all taxable property is appraised at its "market value" as of January 1st. Under the tax code, "market value" is defined as the price 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 seller to find a purchaser and;*
- 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 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 Texas Property Tax Code calls for a reappraisal of property at least once every three years. Because of 2009 legislation, foreclosures must now be considered in establishing market value of homesteaded properties. In 2006, the average value of a single family home increased 16%. In 2011, the average market value of a single family home was flat. In 2012, average real estate values in El Paso County fell. This was because of the number of foreclosures on the market. In 2013, average real estate values were flat. The market is not likely to change significantly in the next two years given current economic conditions. Subject to 2017 legislative action, 2018 will be a complete reappraisal and 2016 will be a non-reappraisal year. The statutory requirements for completing, reporting and approving this plan are found in Appendix A.

This plan may be modified to meet the requirements of this office and the Statutes of the State of Texas.

Dinah L. Kilgore

Executive Director/Chief Appraiser

I. Performance Analysis

The assessment of performance compared to expectations is based on data from July 2016, following the certification of the 2016 appraisal roll. The performance analysis serves to determine if the district's property values are equitable and consistent in the market. EPCAD uses ratio studies in addition to the bi-annual ratio study prepared by the Property Tax Assistance Division, available in January of each odd-numbered year, on each of the residential valuation neighborhoods and school districts (ISD) in the district to evaluate performance. A ratio study uses sales or independent reliable data to compare appraised values to market value.

The study judges the two primary aspects of mass appraisal accuracy level of appraisal and uniformity of value. The level of accuracy is the typical ratio at which properties are appraised while uniformity determines the fair and equitable treatment of the individual properties.

1.1 Uniformity

The methodology used in the property value study includes stratified samples to improve sample representativeness and techniques or procedures for measuring uniformity. This study utilizes statistical analysis of sold properties (sale ratio studies) and appraisals of unsold properties (appraisal ratio studies) as a basis for assessment ratio reporting.

The data collected from ratio studies of all single family residential improved sales indicates that overall and school district uniformity is within tolerances. There are some neighborhoods that may need local adjustments.

1.2 Accuracy

For appraisal districts, the reported measures include median level of appraisal, coefficient of dispersion (COD), the percentage of properties within 10% of the median, the percentage of properties within 25% of the median, and 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).

The data collected from ratio studies of all single family residential improved sales indicates that overall and school district uniformity is within tolerances. There are some neighborhoods that may need local adjustments.

1.3 Ratio Studies

Appraisal statistics of central tendency and dispersion generated from time-adjusted sales ratios are conducted on each market area. EPCAD defines a market area as an area of homogeneous group of properties of the same characteristics affected by same locational factor. A market area is typically a neighborhood. However, the performance analysis looks at market areas, independent school districts (ISDs) as well as property categories. In cases where there are insufficient sales, data from similar neighborhood delineations are used to analyze results.

These summary statistics including, but not limited to, the weighted mean, median, standard deviation, coefficient of variation, and coefficient of dispersion provide the appraisers the tools by which to determine both the level and uniformity of appraised value on a stratified market area or 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 reflects the general level of appraised value between comparable neighborhoods. Review of the coefficient of dispersion, price-related differential (PRD) and median level of appraisal discerns appraisal uniformity within and between stratified neighborhoods.

To assist the reader, the following are definitions of the statistics used:

Weighted Mean/Weighted Average: An average in which each value is adjusted by a factor reflecting its relative importance in the whole before the values are summed and divided by their number.

Median: A measure of central tendency. The value of the middle item in an uneven number of items arranged or arrayed according to size; the arithmetic average of the two central items in an even number of items similarly arranged; a positional average that is not affected by the size of extreme values.

Standard Deviation: The statistic calculated from a set of numbers by subtracting the mean from each value and squaring the remainders, adding together all the squares, dividing by the size of the sample less one, and taking the square root of the result. When the data are normally distributed, one can calculate the percentage of observations within any number of standard deviations of the mean from normal probability tables. When the data are not normally distributed, the standard deviation is less meaningful, and one should proceed cautiously.

Coefficient of Variation: A standard statistical measure of the relative dispersion of the sample data about the mean of the data; the standard deviation expressed as a percentage of the mean.

Coefficient of Dispersion: The average deviation of a group of numbers from the median expressed as a percentage of the median. In ratio studies, the average percentage deviation from the median ratio.

Price-related Differential: The mean divided by the weighted mean. The statistic has a slight bias upward. Price-related differentials above 1.03 tend to indicate assessment regressivity; price-related differentials below 0.98 tend to indicate assessment progressivity.

Median Level of Appraisal/Level of Appraisal: The common, or overall, ratio of appraised values to market values. Three concepts are usually of interest: the level required by law, the true or actual level, and the computed level, based on a ratio study.

The statistical summary is shown in the ratio study by ISD results in Figure 1.1.

Figure 1.1 Ratios after Certification July 2016, Appraisal Ratios Report by Market Area

| Market Area | Count | Median | Mean | W Mean | PRD | COD |
|------------------------|-------|--------|--------|-----------|--------|---------|
| A West Area | 356 | 1.0000 | 1.0156 | 1.0061 | 1.0095 | 7.4370 |
| B Upper Valley Area | 119 | 1.0078 | 1.0231 | 0.9987 | 1.0244 | 8.3777 |
| C Northeast Area | 377 | 0.9792 | 0.9991 | 0.9863 | 1.0130 | 7.8632 |
| D Central Area | 40 | 1.0031 | 1.0281 | 1.0053 | 1.0227 | 10.2594 |
| E East Area | 409 | 1.0050 | 1.0375 | 1.0257 | 1.0116 | 8.7161 |
| F Lower Valley | 137 | 1.0002 | 1.0356 | 1.0229 | 1.0125 | 9.3963 |
| G Anthony | 47 | 0.9797 | 1.0264 | 1.0264 | 1.0000 | 7.6918 |
| H Canutillo | 19 | 1.0295 | 1.0763 | 1.0534 | 1.0218 | 10.5378 |
| J Clint | 24 | 1.0402 | 1.0290 | 1.0226 | 1.0062 | 5.8596 |
| K Fabens | 2 | 1.0865 | 1.0865 | 1.0852 | 1.0012 | 1.8841 |
| L San Elizario | 7 | 1.0320 | 1.0426 | 1.0391 | 1.0035 | 7.0050 |
| N City of Socorro | 6 | 0.9838 | 1.0311 | 1.0114 | 1.0196 | 9.0579 |
| P Socorro | 22 | 1.0070 | 1.0305 | 1.0268 | 1.0036 | 6.0629 |
| R City of Horizon | 49 | 0.9654 | 0.9854 | 0.9789 | 1.0066 | 8.8551 |
| Total | 1614 | | | | | |

Note: There were insufficient sales in both the Fabens and Tornillo ISDs.

A complete summary is found in Appendix B.

The analyst, 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 analyst, 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.

Neighborhood factors, or market area adjustment, 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:

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

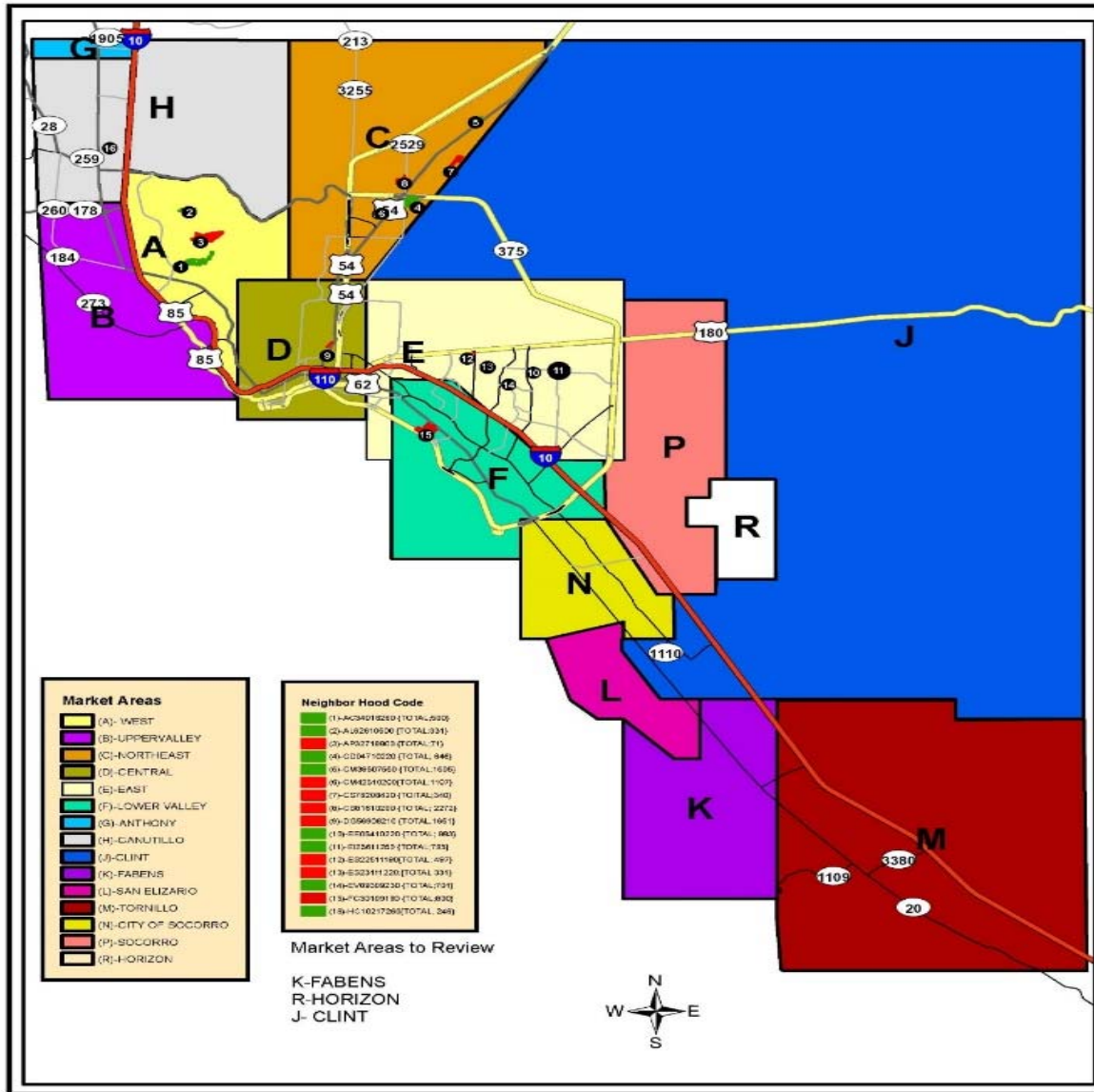
Whereas, the market value (MV) equals the market adjustment (MA) factor times the land value (LV) and the replacement cost new (RCN) less depreciation (D). As the cost approach separately estimates both land and building values and uses depreciated replacement costs, which reflect only the supply side 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 variances in location between market areas or across a jurisdiction.

The neighborhoods for re-inspection are depicted in Figure 1.2 showing their respective school districts. The actual ratios are found in Appendix B.

Figure 1.2 Neighborhoods to review

Appraisal Ratio Report (Residential Category A)



Analysis indicates the following:

- Most neighborhoods are within tolerances.
- There are 9 neighborhoods that may need downward market adjustments to be within tolerances. They are evenly distributed in market areas West, Northeast, and East
- There are 7 neighborhoods that may need upward market adjustments to be within tolerances. They are evenly distributed in market area A, West El Paso and market area C, Northeast. The rest are evenly dispersed throughout the County.

A 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 used 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 would 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. From this set of ratio studies, the analyst judges the appraisal level and uniformity in both updated and non-updated neighborhoods, and finally, for the school district as a whole.

In 2016 and 2017, this analysis will be used to develop the starting point for establishing the level and accuracy of appraisal performance. This process complies with the requirements of Texas Property Tax Code 25.18(b).

1.4 Property Value Study

The bi-annual Property Value Study (PVS) is conducted by the Texas Comptroller of Public Accounts, Property Tax Division. There are nine independent school districts in El Paso CAD for which appraisal rolls are developed annually. The preliminary results of this study are released in January of each odd-numbered year. The final results of this study are certified to the Education Commissioner of the Texas Education Agency (TEA) in the following July. This ratio study provides additional assistance to the CAD in determining areas of market activity or changing market conditions.

The PVS's equalized values are analyzed along with ratio studies to determine appraisal accuracy and appraisal uniformity overall and by market area within state property reporting categories. Ratio studies are conducted in compliance with the current Standards on Ratio Studies from the International Association of Assessing Officers. Mean, median, and weighted mean ratios are calculated for properties in each reporting category to measure the level of appraisal (appraisal accuracy). The mean ratio is calculated in each market area to indicate the level of appraisal by property reporting category.

The district will conduct ratio studies on commercial and business personal properties where there are sufficient sales to provide a large enough sample. All commercial accounts are inspected annually either by field checks or using orthogonal imagery and oblique imagery. Business personal property accounts must render all property used to produce income under Section 22.01

of the Texas Property Tax Code. Commercial appraisers advise the business personal property department of new businesses or expansions in order to maintain the data of business personal property.

1.5 Standards Compliance

New and/or revised mass appraisal models are tested on randomly selected market areas. These modeling tests or sales ratio studies are conducted each tax year. Actual test results are compared with anticipated results and those models not performing satisfactorily are refined and retested. The procedures used for model specification and model calibration comply with *Uniform Standards of Professional Appraisal Practice*, Standard Rule 6.

Effective 2010, all appraisal districts are subject to a bi-annual performance review performed by the Property Tax Assistance Division under Section 5.102, *“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. After consultation with the advisory committee created under Section 403.302, Government Code, the comptroller by rule may establish procedures and standards for conducting and scoring the review.”*

The program described above is known as the Methods and Assistance Program. EPCAD underwent an extremely successful review in 2015, achieving a perfect score. In anticipation all policies and procedures, manuals and processes have been audited in preparation for the next review in 2017.

In 2012, the district was awarded the Certificate of Excellence in Assessment Administration by the International Association of Assessing Officers (IAAO). The IAAO is quickly becoming the standard in assessment administration. This certification requires the IAAO to review all aspects of the assessment process and administration for compliance with IAAO published standards. It also seeks to identify best practices within the District that may assist other similar organizations.

In 2012, this international award was held by only 12 entities. In 2016, that number has grown to thirty-five. There were only two Texas appraisal districts but now are nine. The Comptroller’s office recognizes the effort and standards that a district must meet to receive the award and has opted to eliminate the governance and operating procedures from the MAPS requirements. The one exception is that these districts must respond to one question selected by the Comptroller, from each of those sections to ensure compliance.

II. Revaluation Decision

EPCAD is mandated to reappraise all property in the district at least once every three years. The reappraisal year is a complete appraisal of all properties in the district. A non-reappraisal year is used to pick up new construction, adjust for zoning changes and changes in property characteristics that affect value, and adjust previous year values for equalization.

➤ Tax Year 2017

Tax year 2017 is a non-reappraisal year unless there is a significant change in the market.

➤ Tax Year 2018

Tax year 2018 is a reappraisal year for regulatory compliance values.

Properties to be appraised will be identified by reliable means of identification, including but not limited to deed records, building permits, renditions or other legal documents, orthogonal imagery and oblique imagery, land-based photographs, surveys, maps, property sketches, and construction plans.

In addition, market areas have been identified through the analysis of ratio studies, as discussed above and outlined on maps provided in Appendix B.

III. Analysis of Available Resources

3.1 Staffing

The Executive Director/Chief Appraiser is responsible for the overall planning, organizing, staffing, coordinating, and overseeing 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.

Three appraisal departments are responsible for the valuation of all real and personal property accounts. The commercial department oversees commercial and industrial real property while the personal property department oversees business personal property.

The residential department is responsible for residential, manufactured homes and open space/agricultural properties. 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.

Ownership and exemptions are administered in the deeds and exemption department. The mapping and GIS department maintains property identification and legal descriptions. Support functions include records maintenance and assistance to property owners. The district also provides support staff for the Appraisal Review Board (ARB).

Pressure continues on fiscal resources in the form of fees to litigate appeals of ARB determinations either to arbitration or district court. Property owners or their tax agents are increasingly filing lawsuits under the equity provision of the Property Tax Code, Section 42.26. This section allows them to bypass the market value argument.

The district has budgeted for a staff of 140 employees including the Executive Director/Chief Appraiser. This reflects the flexibility achieved by automation and being able to meet the needs of the public in a more efficient, automated manner.

Over the past four years the district has moved away from data entry as a department to having employees update the system directly. This has required higher levels of computer skills, creation of database monitors for quality control and statistical analysis. No additional staffing has been added but an increased concentration on training has allowed the district to improve all skill levels, requiring new job classifications while eliminating others.

This trend is likely to continue into the plan years as the district strives to meet the needs of the entities and the public it serves. The district's Organization Chart appears in Appendix C and is effective until replaced. The staffing breakdown as currently budgeted for 2016-2017 is depicted in Figure 3.1.

Figure 3.1 Staffing

| | | | |
|--------------------------------------|---|------------------------------------------|----|
| Executive (7) | | Appraisers & Technicians (50) | |
| Executive Director/Chief Appraiser | 1 | Appraisal Training Supervisor | 1 |
| Assistant Chief Appraiser | 1 | Appraisers II | 15 |
| Director of Administrative Services | 1 | Appraiser III | 17 |
| Director of Litigation & Appeals | 1 | Appraiser IV | 10 |
| Director of Appraisal Services | 1 | GIS Specialist I | 2 |
| Chief Financial Officer | 1 | GIS Specialist II | 3 |
| Chief Human Resource Officer | 1 | Litigation Appraiser IV | 2 |
| Managers and Supervisors (12) | | Administrative Support (56) | |
| Business Personal Property Manager | 1 | Maintenance I | 1 |
| Commercial Manager | 1 | Maintenance II | 1 |
| Residential Manager | 1 | Customer Contact Clerk | 1 |
| GIS Manager | 1 | Administration Clerk | 8 |
| Network Manager | 1 | HR Specialist | 1 |
| Application Support Manager | 1 | Appraisal Records Specialist | 29 |
| Records and Archives Manager | 1 | Fiscal Clerk II | 2 |
| ARB Coordinator | 1 | Executive Assistant | 2 |
| Litigation Coordinator | 1 | Field Specialist | 6 |
| Statistical Coordinator | 1 | Accounting Specialist | 1 |
| Records Supervisor | 1 | Database Administrator | 1 |
| Deeds & Exemptions Supervisor | 1 | Legal Assistant | 1 |
| Professional (10) | | Litigation Specialist | 1 |
| Data Analyst | 2 | GIS Record Specialist | 1 |
| Computer Program Analyst | 2 | Information Systems (5) | |
| Software Developer | 2 | Desktop Support Technician | 2 |
| Litigation Analyst | 2 | Data Control Specialist | 1 |
| Statistical Analyst | 1 | Data Control Clerk | 1 |
| Accountant | 1 | IT Record Specialist | 1 |

3.2 Fiscal Resources

Staffing and budget requirements for tax year 2017 are detailed in the 2016-2017 appraisal district's budget, as adopted by the Board of Directors and attached to the written plan by reference. (See Appendix C). This plan reflects the available staffing for the tax year as budgeted for 2016-2017. This may change as the emphasis on automation increases but it is unclear at this time as to the extent of change on staffing because of software or hardware upgrades.

3.3 Information Systems

The CAMA system, PACS, has served the district since its implementation in 2009. The technology of the software is aging, but no materially better option is currently available. The software is sufficient to cover our needs through 2018.

The use of orthogonal imagery and oblique imagery was implemented in 2011. The aerial photography contract was renewed in 2015. Orthogonal imagery and oblique imagery allow the district to identify omitted improvements in properties outside the city limits. Appraisers are able to use this tool to identify changes to existing properties as part of the review process and to comply with USPAP requirements.

The district extensively uses scanned imagery to improve accessibility of data and avoid the proliferation of hard copy documents. We back-up computer data locally and to the cloud (offsite).

See Section VI for more detailed description of information systems throughout the district.

3.4 Contracted Appraisals

Wardlaw Appraisal Group appraises approximately 660 parcels of industrial real and business personal properties and utilities. The commercial, industrial and business personal property departments work the remaining accounts. The Wardlaw Appraisal Group input is included in Appendix D.

3.5 Impact of Legislation

The Texas Legislature meets every two years during the odd-numbered years from January to May. In addition, the governor may call a special session. The EPCAD's staff monitors the process carefully and informs the chief appraiser of the status of proposed legislation during the legislative session.

The chief appraiser, assistant chief appraiser, directors and litigation analysts monitor all sources for legal developments affecting EPCAD. In addition, the Texas Association of Appraisal Districts (TAAD) provides weekly updates via the *Legislative Tracking List* on their website while the legislature is in session. The staff uses this list to revise the weekly *Legislative Progress Report* to the chief appraiser with highlights to show the changes and additions.

Managerial staff monitors the internet sites for changes in legislation affecting other operations of the district such as human resources, fiscal operations, open records, records management, etc. Periodic in-service training is held as changes in codes occur, presented either in-house the district's attorney, local attorneys, or by webinar.

As 2017 is a legislative year, this plan reflects existing legislation but with systems in place to implement changes as needed at the conclusion of the legislative session(s).

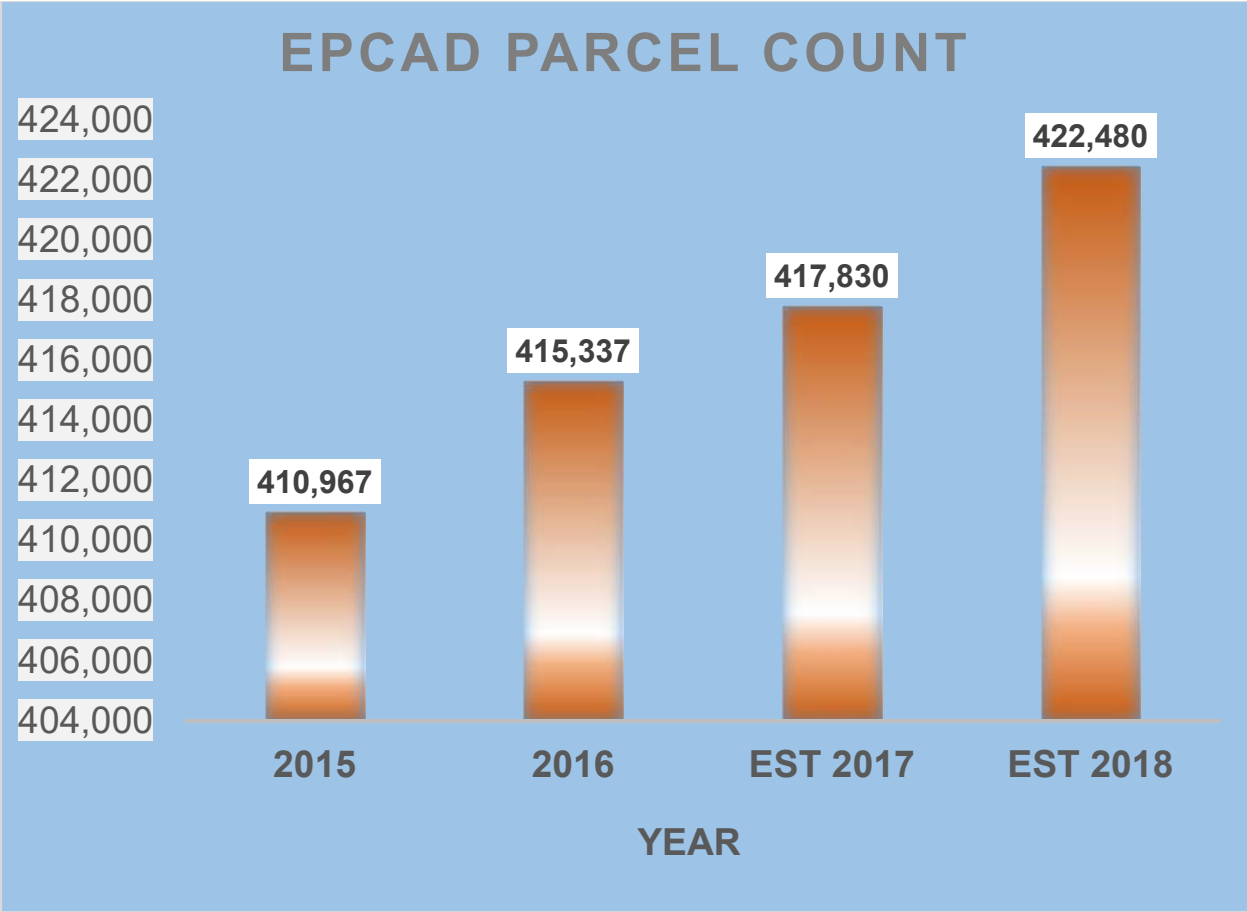
IV Planning and Organization

4.1 Parcel Count

EPCAD's Reappraisal Plan will be coupled with an extensive public information education effort geared to affording the tax paying citizen an opportunity to be aware of the program's goals. EPCAD estimates that by May of 2017, the district will have an estimated 417,830 accounts to be appraised and 422,480 in 2018. The anticipated breakdown of these parcels is shown in Figure 5.1. Budget figures have been proposed accordingly and administration procedures will be instituted to insure that the mapping, data collection, valuation, and all other phases are complete for all parcel changes on schedule.

Figure 4.1 Parcel Count

| CAT. | DESCRIPTION of CATEGORY | 2015 | 2016 | 2017 EST | 2018 EST |
|------|-----------------------------------------|----------------|----------------|----------------|----------------|
| A | SINGLE FAMILY RESIDENCE | 207,119 | 210,180 | 213,286 | 216,438 |
| B | MULTI-FAMILY RESIDENCE | 7,454 | 7,538 | 7,623 | 7,709 |
| C1 | VACANT LOTS & TRACT LAND | 15,118 | 15,037 | 14,956 | 14,876 |
| C2 | COLONIA LOTS AND TRACT LAND | 97,013 | 98,710 | 100,437 | 102,194 |
| D1 | QUALIFIED AG LAND | 3,679 | 3,468 | 3,269 | 3,082 |
| D2 | FARM OR RANCH IMPROVEMENT | 59 | 71 | 85 | 102 |
| E | RURAL LAND, NON QUALIFIED | 6,154 | 5,687 | 5,255 | 4,856 |
| F1 | REAL: COMMERCIAL | 10,465 | 10,597 | 10,731 | 10,866 |
| F2 | REAL: INDUSTRIAL | 255 | 249 | 243 | 237 |
| G3 | MINERAL: NON PRODUCING | 1 | 1 | 1 | 1 |
| H1 | TANGIBLE PERSONAL: NON-BUSINESS VEHICLE | 59 | 58 | 57 | 56 |
| J | UTILITIES | 723 | 739 | 755 | 772 |
| L1 | PERSONAL: COMMERCIAL | 21,684 | 21,852 | 22,021 | 22,192 |
| L2 | PERSONAL: INDUSTRIAL | 284 | 280 | 276 | 272 |
| M | MANUFACTURED HOMES | 13,525 | 13,762 | 14,003 | 14,248 |
| O | RESIDENTIAL INVENTORY | 9,027 | 8,788 | 8,555 | 8,328 |
| S | SPECIAL INVENTORY | 535 | 565 | 597 | 630 |
| X | FULLY EXEMPT | 15,798 | 15,739 | 15,680 | 15,621 |
| | | 410,967 | 415,337 | 417,830 | 422,480 |



4.2 Production Standards

It is estimated that the reappraisal program can be completed if the EPCAD can maintain maximum staffing for each of its positions. As directed by the Executive Director/Chief Appraiser, each department manager is responsible for the productivity and performance of their staff. Progress reports are maintained by managers for purposes of reviewing performance and identifying areas for improvements.

4.2 Calendar of Events

| | Event | Begins | Ends |
|-----------|-------------------------------------|----------------|----------------|
| 1. | Organization and Planning | Ongoing | |
| a. | Work plan development | August | December |
| b. | Progress monitoring and reporting | Ongoing | |
| 2. | Data System Design | August | January |
| a. | Hardware & software modifications | September | January |
| b. | Forms reviews | November | December |
| c. | Procedure reviews | Ongoing | |
| 3. | Research and Analysis | Ongoing | |
| a. | Sales file development | Ongoing | |
| b. | Data/documentation collection | Ongoing | |
| c. | Cost table analysis | August | March |
| d. | Model analysis | August | March |
| e. | Depreciation guidelines analysis | August | March |
| f. | Neighborhood model analysis | August | March |
| g. | Ratio study production and analysis | July | March |
| h. | Agriculture use valuation | November | January |
| 4. | Data Collection | July | March |
| a. | Training and orientation | July | August |
| b. | Field work | August | March |
| c. | Parcel inventory control | August | March |
| d. | Monitoring and quality control | Ongoing | |
| e. | Re-inspection | September | February |
| 5. | Valuation Review | August | March |
| a. | Land valuation analysis | August | February |
| b. | Rendition processing | January | May |
| c. | Apply cost tables | January | February |
| d. | Produce sale listings and ratios | December | March |
| e. | Apply valuation models | December | February |
| f. | Produce edit reports | November | April |
| g. | Process corrections | Ongoing | |
| h. | Quality control | Ongoing | |
| 6. | Notification and Appeals | January | July |
| a. | File calculations | January | February |
| b. | File creation | May | June |
| c. | Totals report production | May | June |
| d. | Staff training | March | |
| e. | Mail notices | March | June |
| f. | Hold informal and ARB hearings | April | August |

The calendar for 2018 is the same as that of 2017. Exceptions for each of the applicable years are listed separately in Appendix C.

4.3 Calendar of Events

A calendar of key events, shown in Figure 4.2, is an overview of the EPCAD's activities. A detailed breakdown has been prepared for each department, sorted by month and appears in Appendix C with the district's Organization Chart. Where no month is shown as a target, the event is started and completed in the same month. We also observe the TAX Calendar.

4.4 Performance Objectives

OBJECTIVE NO. 1

No phase of the program will be undertaken unless preceded by proper and thorough program planning and design, as evaluated annually.

OBJECTIVE NO. 2

EPCAD will complete the field review portion of the program by early March. The appeals process and certified values will be completed in compliance with Property Tax Code 41.12.

OBJECTIVE NO. 3

EPCAD will maximize the use of professional and technical advice in all phases of its reappraisal program to assure application of current procedures and techniques that are reflective of standard appraisal practice as required by law, and to guarantee an economical and effective effort.

The Reappraisal Plan will upon completion, leave in place an on-going system that will effectively maintain current property values in future years as required by legislation. It will also leave in place professional appraisers that can effectively defend the appraised values placed on the properties using the CAMA system. Our Reappraisal Plan will be undertaken by use of in-house personnel with some contracting, as necessary. Wardlaw Appraisal Group is presently contracted to assist in appraising some industrial properties.

V. Systems Development

5.1 Information Systems

The CAMA system, PACS, was implemented for the 2009 reappraisal. All forms are reviewed from August through February for regulatory compliance and system compatibility.

The use of orthogonal imagery and oblique imagery was implemented in 2011. The aerial photography contract with photography was renewed in 2015. Orthogonal imagery and oblique imagery allow the district to identify omitted improvements in properties outside the city limits. Appraisers are able to use this tool to identify changes to existing properties as part of the review process and to comply with USPAP requirements.

5.2 Appraisal Practices

Existing appraisal practices, which continue from year to year, are identified in the district's policies and procedures manuals as well as appraisal department manuals and cost tables. Manuals are kept current by annual reviews of the content and bi-annual revisions of policies and procedures to accommodate new legislation, supplemented by revisions to address current issues.

Additions to current procedures have been created to complement system user guides and address new issues. Additional revisions required to comply with new legislation in 2015 will be added. Real property appraisal depreciation tables and cost tables are tested against verified sales data to ensure that they represent current market data.

The cap rate study by commercial real property type is updated annually from current market data and market rents that are reviewed and updated from local and published data. Personal property density schedules are tested and analyzed based on rendition and prior year documentation.

Forms are reviewed from August to February of each year and in conjunction with procedure and legislative revisions. Each department's procedures are audited each year. A group of procedures is reviewed each year and the remainder are reviewed during the legislative year. Procedures created or revised three years prior to the current year are reviewed if not already included in the legislative update. Procedures from 2014 will be reviewed in 2017 and those from 2015 in 2018.

In 2015, this revision process will begin with a compilation of Property Tax Codes that have been added or changed. This list is compared to the database of codes controlling the existing procedures. In this way, the district is able to identify those procedures that must be revised or created to meet the legislative requirements. The schedule for completion of this work complements the effective date of the new legislation.

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, zoning changes, and cost and market data are acquired through various sources, including internally generated questionnaires to buyers and sellers, university research centers, and market data centers and vendors.

The district's website makes a broad range of information available for public access, including but not limited to:

- Appraisal Roll
- Budget
- Forms
- FAQ and How-To's
- Property Tax Code
- Reappraisal Plan
- Taxpayer Information
- Tax Calendar
- Training Video Links
- Links to local entities, state appraisal Districts, professional organizations, and the state website

5.3 Data Collection and Processing Needs

Collection of data regarding sales, income and expense, as well as cost and depreciation are discussed in depth in Section VIII.

5.3.1 Computer Assisted Mass Appraisal System

EPCAD maintains data in a computer assisted mass appraisal system (CAMA) identified in this document as PACS. Property data is collected and maintained to provide accurate information such as property ownership, location, size, use, physical characteristics and sales prices when available. Information concerning commercial properties includes business type, characteristics, income, rents, costs and operating expenses.

5.3.2 Geographic Data

The district uses a geographic information system (GIS) to maintain accurate, up-to-date cadastral maps for the entire district. A unique parcel identifier number is tied to a geographic number, known as a GEO ID that reflects the location of the parcel. The system allows staff to display data to permit a high-level analysis of sales, neighborhoods and market trends.

5.3.3 Property Characteristics Data

Field and office review procedures are reviewed and revised as required for data collection. Properties scheduled for review each tax year include new construction, demolition, remodeling, re-inspection of problematic market areas, and re-inspection of the universe of properties on a specific cycle of three years as explained in Section 7.1.2.

The current CAMA system as supported by the GIS system, orthogonal imagery and oblique imagery is deemed sufficient for the needs through 2018.

New construction, field and office review procedures are identified in the district's policies and procedures manuals and revised as required. Field production standards are established and monitored by the department managers using daily logs. The sources of building permits are confirmed and system input procedures are identified. In addition, the district uses aerial photography to identify changes to improvements in the property record.

5.4 Real Property Valuation

Revisions to cost models, income models, and market models are specified, updated and tested each tax year.

Cost schedules are tested with market data (sales) to insure that the appraisal district complies with Texas Property Tax Code, Section 23.011. Replacement cost new tables as well as depreciation tables are tested for accuracy and uniformity using ratio study tools and compared with cost data from recognized industry leaders, such as Marshall & Swift.

Land tables are updated using current market data (sales) and then tested with ratio study tools. Value modifiers are developed for property categories by market area and tested on a pilot basis with ratio study tools.

When a neighborhood is to be updated, the appraiser uses a ratio study that compares recent sales prices of properties appropriately adjusted for the effects of time within a delineated neighborhood. 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. 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.

5.5 Personal Property Valuation

Density schedules are updated using data received during the previous tax year from renditions and hearing documentation. These schedules are compared to State published density schedules and/or nearby appraisal district schedules. Valuation procedures are reviewed and modified as needed and then tested to validate the modifications.

5.6 Notices

Notice of Appraised Value forms are updated by the CAMA provider. All enclosures for both notices and appointment letters are reviewed including the latest copy of the State Comptroller's publication, *Property Owners' Remedies*.

5.7 Hearing Process

Protest hearing scheduling for informal and formal ARB hearings is reviewed and updated as required. Standards of documentation are reviewed and amended as required. The district's hearing documentation is reviewed and updated to reflect the current valuation process. Production of documentation is tested and compliance with Property Tax Code, Section 41.67 is insured.

5.8 Mapping and GIS

The district has a geographic information system (GIS) that maintains cadastral maps and various layers of data, including aerial photography. The district is responsible for establishing and maintaining what is estimated to be 417,830 real and personal property accounts, taxable and exempt, covering 1054 square miles within El Paso County. This parcel count is expected to reach approximately 422,480 by 2018. This data includes property characteristic, ownership and exemption information.

VI Pilot Study

Pilot studies are conducted in areas of the district where major changes have occurred requiring revision of procedures. Procedures are tested to determine if the results are as anticipated and produce accurate and reliable values. This is normally done in areas where a ratio study can be performed. This requires adequate sales to provide an acceptable population of data.

In 2016, following certification, this step was used in market areas identified for review as described in Section 2.3. The ratio study will be repeated following the re-inspection of properties. Analysis of these ratio study results may lead to adjustments of 2017 schedules and in some cases a revision of procedures. The ratio study is then repeated to determine if the adjustments produced the accuracy and reliability envisioned in the change. This portion of the work is to be completed after this document is approved.

VII Data Collection

7.1 Data Collection Process

As indicated earlier, data collection begins immediately following certification of the appraisal roll in August of the preceding year and continues through March of the tax year.

Data is collected by field specialists and entered into PACS in both the residential and business personal property departments. The commercial department uses seasoned appraisers for this task. Data is then entered into the CAMA system. Data is also collected from building permits, new subdivision plats and information collected during the equalization phase. In addition, experienced appraisers use the technology of orthophotography and oblique photography to reappraise properties not appraised in the field. The ability to identify changes in improvements through the use of the change finder feature of the software assists the appraiser.

7.1.1 New Construction/Demolition

New construction, field and office review procedures are identified in the district's policies and procedures manuals and revised as required. The sources of building permits are confirmed and system input procedures are identified. In addition, the district uses aerial photography to identify changes to improvements in the property record.

Real property market areas, by property classification, are tested for the following:

- Low or high sales ratios
- High coefficient of dispersion

Market areas that fail any of these tests are determined to be problematic. Field reviews are scheduled to verify and/or correct property characteristic data. Additional sales data is researched and verified. In the absence of adequate market data, neighborhood delineation is verified and neighborhood clusters are identified.

7.1.2 Re-inspection of the Universe of Properties

Section 25.18 of the Texas Property Tax Code requires periodic re-appraisal of properties at least every three years. The district meets this requirement by means of identifying properties to be appraised through physical inspection or by other reliable means of identification, including deeds or other legal documentation, orthophotography and oblique photography, the change finder, building permits, land-based photographs, surveys, maps, property sketches and information gleaned during the equalization phase.

Properties to be field inspected are identified through sales and permit information, rechecks prompted by the previous year's appeals process, changes noted via aerial photography and ratio studies that indicate a change in the characteristics of a neighborhood.

7.1.3 Field or Office Verification of Sales Data and Property Characteristics

Sales information is verified and property characteristics are captured as of the date of sale. The sales ratio tools require that the characteristics of the sold property must equal those of the appraised property in order for statistical analysis results to be valid.

7.2 Sales Data

Texas is a non-disclosure state; sales are not a matter of public record. As a result, EPCAD uses other methods of gathering sales information. EPCAD collects sales information from a variety of sources, including sales questionnaires mailed to buyers and sellers by EPCAD and The Texas Comptroller of Public Accounts, field discovery, renditions, protest hearings, builders, deeds filed with the county, and realtors. EPCAD also uses vendors such as CoStar and LoopNet.

EPCAD gathers and enters all sales information into the PACS. PACS automatically assigns each sale a unique number, called a sales ID that expedites retrieval.

The reliability of value estimates or ratio study results depends on the quantity and quality of the sales data. EPCAD verifies sales to determine if they reflect the market value of the real property and no other interest. We exclude sales if they fail to meet the criteria for an arm's length or market transaction.

For commercial property sales, the distribution of the value is extremely difficult to establish. However, if the district determines that an allocation is appropriate, we make a manual distribution of value. EPCAD uses paired sales analysis to determine time adjustments. The district examines

properties that have sold twice within a given time period. It verifies similarities and differences between the two sales covering information such as type of financing, amount down, interest rates, and term. This also includes any additional improvements or demolitions. When the same property sells twice the time adjustment indicated would be ideal.

If both sales are similar, EPCAD calculates a monthly and annual percentage change. If there are differences, then it does not use the property in question or it may adjust to one or both of the sales to be relatively equal to the other. The District then compares the adjusted and/or raw sales prices and calculates an annual percentage change. If the difference is significant, it will add a time adjustment factor to the sales file in order to more accurately forecast the market as of the appraisal date. PACS allows for time adjustments within the sales information.

7.3 Income and Expense Data

The income approach requires gathering and reviewing income and expense, and sales information. EPCAD uses the income approach to value most property types when income information is available with the exception of new construction when income information is not available or has not been established. Texas is a non-disclosure state and as such state law does not require property owners to furnish sales or income information to EPCAD.

The district derives market data from publications, field inspections, and any information obtained during the appeals process. The district also gets this information in interviews with tenants, and from fee simple appraisals. At the end of the certification process, when the final values have been determined, the district uses PACS' query system to access all information and process it into the appropriate stratum in property identification number (PID) order.

The source of income information for the larger industrial properties is Grub and Ellis, along with information gathered during the equalization phase. The district takes advantage of the CoStar service as a supporting source to the Grub and Ellis. It not only uses CoStar for industrial properties but also for providing income and expense data for a variety of property types.

7.4 Cost and Depreciation Data

Marshall and Swift Valuation Service helps in the construction of cost models to determine value for property when sufficient sale and income and expense information is unavailable. The district updates the cost tables every year to comply with the State requirement to be at market value as of January 1 of each year.

The district applies the local cost multiplier for the various construction classes to adjust to the El Paso market. The district collects cost information from local contractors. However, trying to gather this information becomes very difficult because of the companies' proprietary concerns.

The staff considers the observed conditions, economic obsolescence, and functional obsolescence in estimating total depreciation. Staff performs the depreciation function during a field inspection of the properties or during the discovery phase updating the appraisal rolls.

Field inspections generally are the results of permit, or digital orthophotography and oblique photography reviews, or rechecks of reported deficiencies during the equalization phase. The field appraiser evaluates the property as to all categories of depreciation. This requires the appraiser to

physically inspect the property and take notes of general physical condition; more specifically to look for any deferred maintenance, leakage, and cracks. The absence of customers at the business's parking lot, or road construction on the access road may suggest temporary economic issues.

7.5 Data Edits and Testing

The data is then reviewed by appraisers assigned by market area. The data is subject to system review using edit reports, and error reports. Ratio studies are run on a regular basis by neighborhood to identify possible errors. Field checks are scheduled to review these properties to correct inequities or suspect values.

Error reports are run and provided to department managers for follow up. Managers use monitors to review the progress of work to ensure timely completion of data collection. All data is reviewed prior to release for Notices of Appraised Values. Where data is suspect or incomplete, accounts are flagged to prevent release for Notices.

At the same time addresses are "scrubbed" or sent to our contract mailer to validate, standardize addresses and certify the addresses for our bulk mailing permit. Address scrubs are performed every three months.

VIII Production of Values

8.1 Overview

Using market analysis of comparable sales and locally tested cost data, market and specific income and expense data, valuation models are specified and calibrated in compliance with the supplemental standards from the International Association of Assessing Officers (IAAO) and the *Uniform Standards of Professional Appraisal Practice (USPAP)*. The calculated values are tested for accuracy and uniformity using ratio studies. Performance standards are those established by the IAAO Standard on Ratio Studies.

Appraisal departments review the previous bi-annual property value study conducted by the Property Tax Assistance Division of the Texas Comptroller's Office. Analysts use the same properties selected by the Property Tax Assistance Division in the previous study and any additional sales obtained.

The review and analysis is used to calculate new ratios and coefficients of dispersion for notice values and certified values of the current year. Time adjustments are made to these sales and values to anticipate appreciating or depreciating markets. The purpose of the study is to identify the strengths and more importantly the weaknesses that must be addressed during the appraisal phase by School District and category.

8.2 Valuation Models

The Texas State Legislature through the comptroller's office regulates the operations of the Texas appraisal districts. Property Tax Code, Section 1.04, *Definitions* defines the market value the district must use when valuing properties and Section 23.01, *Appraisals Generally* establishes the effective date of the appraisal. The district complies with USPAP Standard 6 unless the law requires deviation. An example of this requirement is that once the district determines the property value because of a protest that value remains in effect for two years unless substantial evidence exists.

Market areas with extensive improvement and remodeling are identified and verified to update property characteristic data. Information gathered through the previous year's hearings is combined with permit information and field activities. The results are tested with ratio studies before being finalized in the valuation modeling process.

Models are calibrated by adjusting mass appraisal formulas, tables and schedules to the current market. Calibration of models differs in each approach to value. Additionally Property Tax Code, Section 23.01, *Appraisals Generally* requires that staff take into account the individual characteristics affecting the property's market value. This requirement reestablishes the need to review each individual reappraised/re-inspected record to determine if the district may or may not make a value adjustment to a property. The district then makes a judgment by reviewing the notes in the property record.

The district also monitors whether a settlement, waiver, or ARB order determined a property protest because records are rolled over to the next year sometime between August and October. If the ARB adjusted the property after the rollover date, then the incorrect value may appear on the

record. This requires a review of the information presented to determine if there is justification for an adjustment.

8.3 The Cost Approach

The residential department uses the cost approach to value mobile homes and support values of new construction. The district values all residential parcels from construction cost guidelines using a comparative unit method. The customized residential value schedules, originally adopted from a private mass appraisal firm, are designed to fit El Paso County local residential building and labor market. The district reviews the value schedules regularly because of State Legislation requiring that the district value schedules be within a range of plus or minus five percent of market value.

The district performed an extensive review and revision of the residential value schedules for the 2017 tax year. Staff verified the property data characteristics of newly constructed properties and took photographs of the samples. Of these properties, staff selected 601 samples for use in the district value system review. This process is repeated every other year.

Appraisers compared the dwelling values against Marshall & Swift, a nationally recognized cost estimator. This process included correlation of quality of construction factors from the district and Marshall & Swift. Staff analyzed the results of this comparison using statistical measures, including stratification by quality and reviewing estimated building costs plus land sales prices.

The district determined no need for a new regional multiplier in the development of the cost process. It did not use any adjustment to the value schedule. This unadjusted value schedule complies with the State Legislative mandate described above. This decision is reviewed annually.

In addition to the CAMA value schedules, the district created applications to address unique appraisal situations, such as different levels of remodeling and atypical housing features not normally accounted for in the CAMA benchmark value system. The district develops neighborhood, or market adjustment, factors from appraisal statistics provided from ratio studies and uses them to ensure that estimated values are consistent with the market.

The 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 (MV) equals the market adjustment (MA) factor times the sum of the land value (LV) plus the replacement cost new (RCN) of any improvements minus normal depreciation (D).

The district places properties that are valued using the cost approach into strata. In the case of the fast food restaurants, the key the district uses for stratification is whether it is a nationally recognized fast food restaurant or a local fast food restaurant. We categorize other classes of properties by their type and/or if they have multiple classes of property on the same property record. Another component of the strata selection may be the land because of the process the district uses to value the land.

As the cost approach separately estimates both land and building values and uses depreciated replacement costs that reflect only the supply side of the market, the district expects to adjust the cost values to bring the level of appraisal to an acceptable standard.

EPCAD typically measures functional and economic obsolescence by comparing market income against actual income. When comparing incomes, the staff determines if any loss of income is due to a management decision. If no management issue exists, the district identifies the reason for the lost income. Once the district isolates the reason, it converts the loss of income to a percentage and makes the necessary adjustments to the record.

The district applies market or location adjustments uniformly within neighborhoods to account for location variances among market areas or across a jurisdiction. In updating a neighborhood, 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 actual cost value of the properties. The calculated ratio derived from the sum of the cost value of the sold properties divided by the sum of the sales prices indicates the neighborhood level of value based on the unadjusted cost value for the sold properties.

The district compares this cost-to-sale ratio to the appraisal-to-sale ratio to determine the market adjustment factor for each neighborhood. The district needs this market adjustment factor 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 would reflect the market influences and conditions only for the specified neighborhood, thus producing more representative and supportable values.

The district applies the market adjustment factor calculated for each updated neighborhood uniformly to all properties within a neighborhood. Once the appraisers apply the market-trend factors, they generate a second set of ratio studies that compares recent sale prices with the proposed appraised values for these sold properties. From this set of ratio studies, the appraisers judge the appraisal level and uniformity in both update and non-update neighborhoods, and finally, for the school district as a whole.

8.4 The Sales Comparison Approach

The sales approach is the primary method of valuing residential property. The district conducts residential valuation and neighborhood analysis on each of the political entities known as independent school districts (ISD). If there are not enough sales in a particular neighborhood, then the appraisers use sales in comparable neighborhoods to determine market value for the neighborhood in question.

Once staff identifies a neighborhood the next step is to define or delineate its boundaries. Some factors 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
- story height

Delineation can involve the physical drawing of neighborhood boundary lines on a map, but it can also include 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 have a fixed character.

Each neighborhood may be in a stage of growth, stability or decline. The growth period is a time of development and construction. As new neighborhoods in a community develop, 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 are 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 that promotes increased demand and economic desirability.

Neighborhood identification and delineation are the cornerstones of the residential valuation system at EPCAD. 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. Staff periodically reviews neighborhoods to determine if it warrants further neighborhood delineation. Whereas neighborhoods incorporate similar properties in the same location, a neighborhood group integrates similar neighborhoods in similar locations.

The district assigns each residential neighborhood to a neighborhood group based on observable aspects of homogeneity among 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. The district performs sales ratio analysis on a neighborhood basis and in soft sale areas on a neighborhood group basis.

EPCAD's residential appraisal staff reviews the property record for accuracy prior to generation of the final value. This includes quality of construction, condition, physical, functional, and economic obsolescence, percent complete, special features, and improvement additives such as porches, garages, carport and swimming pools and other factors significantly affecting the market value of the property.

After preliminary estimates of value have been determined in targeted areas, the appraisers take valuation documents to the field to test the computer-assisted values against their own appraisal judgment. During this review, the appraisers are able to physically inspect both sold properties and

unsold properties for comparability and consistency of values. The appraisal staff also reviews similar properties in the same neighborhood as the subject to insure relative equity.

The appraisal staff may also use sales and equity comparable grids to insure market accuracy. For more complex or higher value properties, a senior appraiser reviews of the property to insure the final value is appropriate. The district releases the estimates of value for notices of appraised value once the appraisers are satisfied with the level and uniformity of value for each neighborhood within their area of responsibility.

PACS' comparable program uses a point system that derives a score. This score measures how well the comparable rates relative to the subject. The higher the comparable scores, the more comparable it is to the subject.

For being in the same school district, the comparable program rates thirty-five points. For having the same class, the comparable program rates fifteen points. For being in the same neighborhood, the comparable program rates thirty points. For being on the same street, the comparable program rates twenty points. The comparable program adds a maximum of twenty-five points for similar living area and deducts five points for every one-hundred square feet of difference. The comparable program adds a maximum of ten points for similar year built and deducts three points for every one year of difference. The maximum score is one-hundred.

Many factors adjust the comparable to the subject. The residential sales comparable system adjusts for every component. The class adjustment takes the comparable living area and multiplies it by the difference in the qualities. The land adjustment is the difference in land value.

The district adjusts for garages, pools, Jacuzzis, open porches, balconies, storage structures, and so forth, dependent on the attributes. If both the subject and the comparables have these components, the system will take the difference of each value. If the subject has a component and the comparable does not, the system will add the value of the subject component to the comparable.

Due to the limited number of commercial sales, EPCAD only applies this approach to commercial property types when sales information is adequate. Issues of equity arise when the district gives more weight to the sales comparison over the income or the cost approaches to value. This issue restricts the use of the sales comparison approach on income producing properties.

For commercial properties, the district uses the debt to equity ratio study to establish a probable sale amount. We send sales questionnaires but receives a less than one percent response. The attempts to confirm sales by phone are even less productive due to property owner's unwillingness to disclose sales information. Other sources of sales are from sale service organizations and property owners during the equalization phase.

The district maintains land valuation tables, sales comparison adjustments such as physical and location differences. We use multiple regression analysis in the sales comparison approach to value. A multiple regression analysis allows us to factor multiple elements contributing to value.

8.5 The Income Approach

The district uses the income approach to appraise apartments, multi-tenant retail, large warehouses, hotels/motels, office warehouses, and multi-tenant office buildings. The district places these classes of property into a stratum with their incomes as the primary selection criteria. Although the district values these selected properties by using the income approach, other classes of properties are constantly under review for possible use of the income approach to value.

At the end of the certification process, when the final values have been determined, the district uses PACS' query system to access all information and process it into the appropriate stratum in property identification number (PID) order. The district then transfers the data to a spreadsheet for income and expense information.

The district then reviews individual records to see if it can use the information to establish value. We also review the information in the appropriate strata for consistency. If there are at least three years of information for a specific property and we considered it an outlier in its current strata, we then transfer that property to a different stratum.

If there are sufficient sales to develop and calibrate the cap rates, then the district uses the debt coverage ratio (DCR), and mortgage equity band of investment (BOI) to develop the capitalization rate. If there are insufficient sales, then we perform the DCR capitalization rate method and use the mortgage equity band of investment as supporting documentation for the DCR capitalization rate. The primary document for development of the DCR and BOI is from realtyrates.com web site. In 2015 and 2016, a cap rate study was done by a local MAI.

EPCAD has defined separate market areas or neighborhoods for income producing properties. The district designated the effective gross income (EGI), expenses, and net operating income (NOI) as the key determinants for strata location for properties it values using the income approach.

Property Tax Code, Section 23.24, *Furniture, Fixtures, and Equipment* requires that the district disregard personal property value for tax purposes if it used the income approach to value. The staff creates a personal property account with the appropriate value annotated on the account and maintains this account as inactive for tax purposes. If they value the property using the cost approach and the information is available, then they make the appropriate adjustment to the record.

The commercial department has procedures set up to identify income producing properties within market areas. Some of the components to determine homogeneity in the strata are size, age, income information, use, and physical location. The Effective Gross Income (EGI), expenses, and Net Operating Income (NOI) figures are used from the stratified income and expense information as the primary component to conclude if the property fits into the strata. This results because there may be gaps in the evidence, such as, potential gross rent (PGR) or vacancy and collection (V&C) information.

Clearly secondary incomes, V&C, along with the PGR are important, however, the district considers it important to maintain strata cohesion by concentrating on the income that the property produces. Additionally, there may be more than one similar economic location within the county. If so, the district places similar income producing properties in the same strata to classify a

comparable economic area. Such a profile and the subject area under study must be within plus or minus of five percent.

8.6 Land Valuation

The commercial department uses specific mass appraisal techniques through our CAMA system in conformity with Standard 6 of the Uniform Standards of Professional Appraisal Practice (USPAP). The specific mass appraisal techniques incorporate land use classification and comparable land sales analysis. EPCAD has land tables for unit value by sales comparison/analysis. The district applies adjustments to adjust parcels outside the neighborhood norm for such factors as view, shape, size, and topography, among others, where necessary. The standard procedure for the calculation of land value is a basic formula:

Land Size X Base Land Rate X Adjustment Factor (If applicable)

Both the base land rate and the adjustment factors are automated table driven to select base land rate from a table based on the market code from which we select the adjustment factor.

The district stratifies land for analysis and value using a land segment classification coding. The process entails assigning a market code to each land segment of a parcel. The market code consists of the neighborhood, the land use code, the rating code, and the segment code. The first three characters of the six-character code represent the commercial neighborhood location code as defined by the market data. This serves as the location variable for sales stratification or comparable sales analysis.

The land use code occupies the fourth position indicating the highest and best use of the segment, that is, primary, secondary, interstate highway; also classification codes for medical, office, retail, industrial, apartment, and mix-use districts. The rating code occupies the fifth position that describes either above average, average, or below average. The segment code occupies the sixth position, that is, pad-site, corner, interior frontage, and interior rear. The district expands intersection streets to include primary, secondary, and tertiary corners.

The district generates the indicated valuation for the specific classification from the automated base land rate tables from the sales base. The automated land code tables provide a basic, median land-price range that is adjusted by the medium, land size range yielding an adjusted per unit value indication for the selected parcel's highest and best use/size relationship.

EPCAD uses multiple strata for multiple neighborhood and classification groupings. This process employs land segmentation and coding, delineating, and defining various segments within a parcel. Highest and best use analysis, supported by the sales data, defines the classification for various parcels. The sales data indicate differing land values for primary arterials, secondary arterials, interstate highway, also medical, office, retail, industrial, apartment, and mix-use districts.

The process of stratification consists of grouping properties within a specific street classification or land classification and then assigning a market code to each land segment. The district applies adjustment codes where necessary. Grouping or stratification simplifies the coding of land segments.

In the residential department, 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.

The district stratifies parcels first by zoning or use and then by location. It also classifies parcels by school district, region, and neighborhood. The largest stratification is by school district followed by the region. The smallest is the neighborhood. There is also a subdivision demarcation that is generally larger than a neighborhood demarcation. However, because the neighborhood demarcation is more detailed than the subdivision, the district does not use it.

The school district demarcation is an actual school district boundary. The state uses it to audit appraisal district performance. It is the largest of the demarcations. The region demarcation is a geographic area of El Paso County. This region is very similar to the Greater El Paso Association of Realtors Market Area. It is larger than a neighborhood demarcation.

The neighborhood demarcation is the smallest demarcation. The definition of a *neighborhood* for analysis purposes is the largest geographic grouping of properties where the property is physical, economic, governmental, and social forces are generally similar and uniform. This geographic stratification accommodates the local supply and demand factors that vary across a jurisdiction.

Once the district identifies a neighborhood, the next step is to define or delineate its boundaries. Some factors 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 include 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.

8.7 Considerations by Property Type

Properties are appraised using the most applicable approach to value by category of property; sales comparison, cost or income approach. Figure 8.1 represents the various categories of property, the method of appraisal used for each category and the percentage of frequency of each method.

Figure 8.7: Considerations by Property Type

| CATEGORY | APPROACH to VALUE | | | COMMENT |
|-----------------------------------------------|----------------------|------|--------|-----------------------------------------------------------------------|
| | SALES | COST | INCOME | |
| A Residential | 90 | 10 | 0 | Market comparison with cost approach to support |
| B1 Residential Multi-family | 90 | 10 | 0 | Market comparison with cost approach to support |
| B2 Commercial Multi-family | 2 | 4 | 94 | Income used backed by sales. Cost used when other data not available. |
| C Residential Land + Commercial Land | 100 | 0 | 0 | |
| D Rural Land | 100 | 0 | 0 | Agricultural open space value on productivity value |
| E Agricultural Improved | 90 | 10 | 0 | Market comparison with cost approach to support |
| F1 Commercial | 0 | 70 | 30 | Income used baked by sales. Cost used when other data not available. |
| F2 Industrial | 0 | 61 | 39 | Consideration given to units of production |
| G1 Non- producing Mineral | 100 | 0 | 0 | |
| J Utilities | 5 | 90 | 5 | Consideration given to units of production |
| L1 Business Personal Property | 0 | 100 | 0 | Information received from renditions |
| L2 Industrial Personal Property | 0 | 100 | 0 | Information received from renditions |
| M Manufactured Homes | 0 | 100 | 0 | Cost approach using NADA pricing guide for support |
| O Inventory | 0 | 100 | 0 | Builders' inventory based on builders' data. |
| S Special Inventory | 0 | 100 | 0 | Information from monthly dealers' inventory reports |
| X Exempt | | | | Dependent upon type of property |

IX Preparation of Appraisal Roll

Preparation of the appraisal roll requires the District to mail notices of applications for exemptions, agricultural or special use values and then process the responses. The district publishes notices in the local media of these application requirements.

The records are reviewed for accuracy and equity. In early March, departments flag records that are incomplete. This includes any records that are contracted for appraisal by our outside appraisal firm, Capitol Appraisal Group, Inc. As the work is completed, the flags are released.

Records are listed in their entirety to include the identity of the property owner, their address, market value of land and improvements separately, as well as the taxable value and the situs or location of the property. The exception to this is the identity of certain property owners who by law have been permitted to keep their address confidential.

EPCAD sends a Notice of Appraised Value to all properties whose accounts have been released. In 2017, only properties meeting the requirements under 25.19 (a) will receive a Notice a Notice. In 2018, a reappraisal year all properties will receive a Notice. The requirements under 25.19 (a) are:

- Properties whose values have increased over 2016 over the limit set by the Property Tax Code, except for homesteaded properties whose values have changed by more than this limit, either increased or decreased.
- Properties whose owners have submitted a rendition of value but the appraised value is higher than the value rendered.
- The property was not on the roll in the previous year.
- Properties whose ownership has changed.

Notices for single-family residential properties are mailed by April 1, the remainder are mailed by May 1. Additional notices are sent as the accounts are released.

By May 15 the district submits the appraisal roll to the ARB for review and determination of hearings in the form and content as required by Section 25.01 and 25.02 of the Texas Property Tax Code. The chief appraiser submits an affidavit that the records are complete in as much as can be determined. The affidavit also states that the values have been determined as required by law.

Once the roll has been submitted to the ARB, changes to the roll requires submission of a motion under Section 41.10, Correction of Records on Recommendation of Chief Appraiser, to the ARB for approval. If the change will result in an increase in tax liability, a 41.11 notice of the change is sent to the property owner informing them of their right to protest the change.

The law requires the ARB to complete their work and approve the records by July 20 or as soon as possible thereafter. Their duties include hearing and determining protests and challenges. The law accepts a level of completion as 95% of the total value of the properties in the district. This action is referred to as certifying the roll. This certified roll constitutes the appraisal roll for the district in accordance with Texas Property Tax Code, Section 25.24.

X Defense of Values

Evidence used in informal hearings is garnered from information available within the CAMA system and photos on file. Evidence to be used to meet its burden of proof in formal hearings includes information from the property owner presented during informal hearings and the information specified in the Figure 10.1. Information to assist residential property owners in preparing for a hearing for unequal value is available upon request.

Figure 10.1 Value Defense

| CATEGORY | EVIDENCE USED IN VALUE DEFENSE |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A. Residential | Confirmed sales of similar properties and District ratio and equity studies |
| B1. Residential Multi-family | Confirmed sales of similar properties and District ratio and equity studies |
| B2. Commercial Multi-family | Cost tables from Marshall & Swift. Income models derived from income and sales |
| C. Residential Land + Commercial Land | Confirmed sales of similar properties and District ratio and equity studies |
| D. Rural Land | Confirmed sales of similar properties and District ratio and equity studies. Agricultural and open space land uses productivity value to support price per acre. |
| E. Agricultural Improved | Confirmed sales of similar properties and District ratio and equity studies |
| F1. Commercial | Cost tables from Marshall & Swift. Income models derived from income and sales |
| F2. Industrial | Cost tables from Marshall & Swift and industry standards |
| G1. Non-producing Mineral | Sales when available |
| J. Utilities | Cost tables from Marshall & Swift and industry standards |
| L1. Business Personal Property | Cost less depreciation from renditions |
| L2. Industrial Personal Property | Cost less depreciation from renditions |
| M. Manufactured Homes | Confirmed sales of similar properties and information from NADA pricing guide. |
| O. Inventory | Information provided by owner and/or information on similar properties |
| S. Special Inventory | Dealer Monthly Inventory reports |
| X. Exempt | Dependent upon type of property |

XI Maintenance of Property Data

The ARB will issue an Order Determining Protest to advise the property owner of the result of their hearing. The district must change the appraisal roll to reflect these changes. Any changes that are required after the roll has been certified must be supplemented and submitted to the ARB in order to maintain the integrity of the records.

A property owner may appeal the decision of the Appraisal Review Board to an arbitrator or to the District Court. Any decisions to change the records coming from a decision from these venues or from a settlement agreement entered into by the property owner and the district, must also be supplemented.

After certification the district will run new ratio studies to measure and evaluate the accuracy and uniformity of the new values. This study is part of a summary of the achievements of the appraisal activities and become the starting point to determine the extent of the work in the next appraisal cycle. The activities include capturing data on new construction, data from building permits, new utility installations and subdivision plats in addition to the routine rechecks done either using orthogonal imagery and oblique imagery or field inspection.

In 2017 this is not anticipated as being a complete reappraisal. It will only address regular data collection activities as well as address market areas where values do not meet acceptable standards.

Values are also updated as a result of ratio studies, ongoing market analysis to identify trending factors based on size, location, age and other market influences. Supporting tables are adjusted to reflect the new information.

It should be noted that in 2017 the Texas Legislature meets and may enact new legislation that may change the manner, substance and or content of this document.

XII Mass Appraisal and Annual Reports

The Mass Appraisal Report will be attached to this document in Appendix G, after the completion of each appraisal year covered by this plan. This report is a recap of the reappraisal year. The Mass Appraisal Report for 2016 will be available in September 2016. The Mass Appraisal Report for 2017 will be available in September 2017.

The Annual Report summarizes the statistical results of the year and highlights special activities of interest to the public and the governing bodies of the entities we serve. It is normally available at the same time as the Mass Appraisal Report and is posted to the district's website. It will appear in Appendix H.

Appendix A: Statutes

Sec. 1.04. DEFINITIONS. In this title:

- (1) "Property" means any matter or thing capable of private ownership.
- (2) "Real property" means:
 - (A) land;
 - (B) an improvement;
 - (C) a mine or quarry;
 - (D) a mineral in place;
 - (E) standing timber; or
 - (F) an estate or interest, other than a mortgage or deed of trust creating a lien on property or an interest securing payment or performance of an obligation, in a property enumerated in Paragraphs (A) through (E) of this subdivision.
- (3) "Improvement" means:
 - (A) a building, structure, fixture, or fence erected on or affixed to land;
 - (B) a transportable structure that is designed to be occupied for residential or business purposes, whether or not it is affixed to land, if the owner of the structure owns the land on which it is located, unless the structure is unoccupied and held for sale or normally is located at a particular place only temporarily; or
 - (C) for purposes of an entity created under Section [52](#), Article III, or Section [59](#), Article XVI, Texas Constitution, the:
 - (i) subdivision of land by plat;
 - (ii) installation of water, sewer, or drainage lines; or
 - (iii) paving of undeveloped land.
- (3-a) Notwithstanding anything contained herein to the contrary, a manufactured home is an improvement to real property only if the owner of the home has elected to treat the manufactured home as real property pursuant to Section [1201.2055](#), Occupations Code, and a certified copy of the statement of ownership and location has been filed with the real property records of the county in which the home is located as provided in Section [1201.2055\(d\)](#), Occupations Code.
- (4) "Personal property" means property that is not real property.
- (5) "Tangible personal property" means personal property that can be seen, weighed, measured, felt, or otherwise perceived by the senses, but does not include a document or other perceptible object that constitutes evidence of a valuable interest, claim, or right and has negligible or no intrinsic value.
- (6) "Intangible personal property" means a claim, interest (other than an interest in tangible property), right, or other thing that has value but cannot be seen, felt, weighed, measured, or otherwise perceived by the senses, although its existence may be evidenced by a document. It includes a stock, bond, note or account receivable, franchise, license or permit, demand or time deposit, certificate of deposit, share account, share certificate account, share deposit account, insurance policy, annuity, pension, cause of action, contract, and goodwill.
- (7) "Market value" means the price at which a property would transfer for cash or its equivalent under prevailing market conditions if:
 - (A) exposed for sale in the open market with a reasonable time for the seller to find a purchaser;
 - (B) both the seller and the purchaser know of all the uses and purposes to which the property is adapted and for which it is capable of being used and of the enforceable restrictions on its use;and

- (C) both the seller and purchaser seek to maximize their gains and neither is in a position to take advantage of the exigencies of the other.
- (8) "Appraised value" means the value determined as provided by Chapter 23 of this code.
- (9) "Assessed value" means, for the purposes of assessment of property for taxation, the amount determined by multiplying the appraised value by the applicable assessment ratio, but, for the purposes of determining the debt limitation imposed by Article III, Section [52](#), of the Texas Constitution, shall mean the market value of the property recorded by the chief appraiser.
- (10) "Taxable value" means the amount determined by deducting from assessed value the amount of any applicable partial exemption.
- (11) "Partial exemption" means an exemption of part of the value of taxable property.
- (12) "Taxing unit" means a county, an incorporated city or town (including a home-rule city), a school district, a special district or authority (including a junior college district, a hospital district, a district created by or pursuant to the Water Code, a mosquito control district, a fire prevention district, or a noxious weed control district), or any other political unit of this state, whether created by or pursuant to the constitution or a local, special, or general law, that is authorized to impose and is imposing ad valorem taxes on property even if the governing body of another political unit determines the tax rate for the unit or otherwise governs its affairs.
- (13) "Tax year" means the calendar year.
- (14) "Assessor" means the officer or employee responsible for assessing property taxes as provided by Chapter 26 of this code for a taxing unit by whatever title he is designated.
- (15) "Collector" means the officer or employee responsible for collecting property taxes for a taxing unit by whatever title he is designated.
- (16) "Possessory interest" means an interest that exists as a result of possession or exclusive use or a right to possession or exclusive use of a property and that is unaccompanied by ownership of a fee simple or life estate in the property. However, "possessory interest" does not include an interest, whether of limited or indeterminate duration, that involves a right to exhaust a portion of a real property.
- (17) "Conservation and reclamation district" means a district created under Article III, Section [52](#), or Article XVI, Section [59](#), of the Texas Constitution, or under a statute enacted under Article III, Section [52](#), or Article XVI, Section [59](#), of the Texas Constitution.
- (18) "Clerical error" means an error:
- (A) that is or results from a mistake or failure in writing, copying, transcribing, entering or retrieving computer data, computing, or calculating; or
- (B) that prevents an appraisal roll or a tax roll from accurately reflecting a finding or determination made by the chief appraiser, the appraisal review board, or the assessor; however, "clerical error" does not include an error that is or results from a mistake in judgment or reasoning in the making of the finding or determination.
- (19) "Comptroller" means the Comptroller of Public Accounts of the State of Texas.

Sec. 5.102. REVIEW OF APPRAISAL DISTRICTS. (a) 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. After consultation with the advisory committee created under Section [403.302](#), Government Code, the comptroller by rule may establish procedures and standards for conducting and scoring the review.

- (b) In conducting the review, the comptroller is entitled to access to all records and reports of the appraisal district, to copy or print any record or report of the appraisal district, and to the assistance of the appraisal district's officers and employees.
- (c) At the conclusion of the review, the comptroller shall, in writing, notify the appraisal district concerning its performance in the review. If the review results in a finding that an appraisal district is not in compliance with generally accepted standards, procedures, and methodology, the comptroller shall deliver a report that details the comptroller's findings and recommendations for improvement to:
- (1) the appraisal district's chief appraiser and board of directors; and
 - (2) the superintendent and board of trustees of each school district participating in the appraisal district.
- (d) If the appraisal district fails to comply with the recommendations in the report and the comptroller finds that the board of directors of the appraisal district failed to take remedial action reasonably designed to ensure substantial compliance with each recommendation in the report before the first anniversary of the date the report was issued, the comptroller shall notify the Board of Tax Professional Examiners, or a successor to the board, which shall take action necessary to ensure that the recommendations in the report are implemented as soon as practicable.
- (e) Before February 1 of the year following the year in which the Board of Tax Professional Examiners, or its successor, takes action under Subsection (d), and with the assistance of the comptroller, the board shall determine whether the recommendations in the most recent report have been substantially implemented. The presiding officer of the board shall notify the chief appraiser and the board of directors of the appraisal district in writing of the board's determination.

Sec. 22.01. RENDITION GENERALLY. (a) Except as provided by Chapter 24, a person shall render for taxation all tangible personal property used for the production of income that the person owns or that the person manages and controls as a fiduciary on January 1. A rendition statement shall contain:

- (1) the name and address of the property owner;
 - (2) a description of the property by type or category;
 - (3) if the property is inventory, a description of each type of inventory and a general estimate of the quantity of each type of inventory;
 - (4) the physical location or taxable situs of the property; and
 - (5) the property owner's good faith estimate of the market value of the property or, at the option of the property owner, the historical cost when new and the year of acquisition of the property.
- (b) When required by the chief appraiser, a person shall render for taxation any other taxable property that he owns or that he manages and controls as a fiduciary on January 1.
- (c) A person may render for taxation any property that he owns or that he manages and controls as a fiduciary on January 1, although he is not required to render it by Subsection (a) or (b) of this section.
- (c-1) In this section:
- (1) "Secured party" has the meaning assigned by Section [9.102](#), Business & Commerce Code.
 - (2) "Security interest" has the meaning assigned by Section [1.201](#), Business & Commerce Code.
- (c-2) With the consent of the property owner, a secured party may render for taxation any property of the property owner in which the secured party has a security interest on January 1,

although the secured party is not required to render the property by Subsection (a) or (b). This subsection applies only to property that has a historical cost when new of more than \$50,000.

(d) A fiduciary who renders property shall indicate his fiduciary capacity and shall state the name and address of the owner.

(d-1) A secured party who renders property under Subsection (c-2) shall indicate the party's status as a secured party and shall state the name and address of the property owner. A secured party is not liable for inaccurate information included on the rendition statement if the property owner supplied the information or for failure to timely file the rendition statement if the property owner failed to promptly cooperate with the secured party. A secured party may rely on information provided by the property owner with respect to:

- (1) the accuracy of information in the rendition statement;
- (2) the appraisal district in which the rendition statement must be filed; and
- (3) compliance with any provisions of this chapter that require the property owner to supply additional information.

(e) Notwithstanding Subsections (a) and (b), a person is not required to render for taxation cotton that:

- (1) the person manages and controls as a fiduciary;
- (2) is stored in a warehouse for which an exemption for cotton has been granted under Section [11.437](#); and
- (3) the person intends to transport outside of the state within the time permitted by Article VIII, Section [1-j](#), of the Texas Constitution for cotton to qualify for an exemption under that section.

(f) Notwithstanding Subsections (a) and (b), a rendition statement of a person who owns tangible personal property used for the production of income located in the appraisal district that, in the owner's opinion, has an aggregate value of less than \$20,000 is required to contain only:

- (1) the name and address of the property owner;
- (2) a general description of the property by type or category; and
- (3) the physical location or taxable situs of the property.

(g) A person's good faith estimate of the market value of the property under Subsection (a)(5) is solely for the purpose of compliance with the requirement to render tangible personal property and is inadmissible in any subsequent protest, hearing, appeal, suit, or other proceeding under this title involving the property, except for:

- (1) a proceeding to determine whether the person complied with this section;
- (2) a proceeding under Section [22.29](#)(b); or
- (3) a protest under Section [41.41](#).

(h) If the property that is the subject of the rendition is regulated by the Public Utility Commission of Texas, the Railroad Commission of Texas, the federal Surface Transportation Board, or the Federal Energy Regulatory Commission, the owner of the property is considered to have complied with the requirements of this section if the owner provides to the chief appraiser, on written request of the chief appraiser, a copy of the annual regulatory report covering the property and sufficient information to enable the chief appraiser to allocate the value of the property among the appropriate taxing units for which the appraisal district appraises property.

(i) Subsection (a) does not apply to a property owner whose property is subject to appraisal by a third party retained by the appraisal district if the property owner provides information substantially equivalent to that required by Subsection (a) regarding the property directly to the third party appraiser.

(j) Subsection (a) does not apply to property that is exempt from taxation.

(k) Notwithstanding Subsections (a) and (b), an individual who has been granted or has applied for an exemption from taxation under Section [11.254](#) for a motor vehicle the individual owns is not required to render the motor vehicle for taxation.

(l) If the information contained in the most recent rendition statement filed by a person in a prior tax year is accurate with respect to the current tax year, the person may comply with the requirements of Subsection (a) by filing a rendition statement on a form prescribed or approved by the comptroller under Section [22.24](#)(c) on which the person has checked the appropriate box to affirm that the information continues to be complete and accurate.

(m) Notwithstanding Subsections (a) and (b), a person is not required to render for taxation personal property appraised under Section [23.24](#).

Sec. 23.01. APPRAISALS GENERALLY. (a) Except as otherwise provided by this chapter, all taxable property is appraised at its market value as of January 1.

(b) The market value of property shall be determined by the application of generally accepted appraisal methods and techniques. If the appraisal district determines the appraised value of a property using mass appraisal standards, the mass appraisal standards must comply with the Uniform Standards of Professional Appraisal Practice. The same or similar appraisal methods and techniques shall be used in appraising the same or similar kinds of property. However, each property shall be appraised based upon the individual characteristics that affect the property's market value, and all available evidence that is specific to the value of the property shall be taken into account in determining the property's market value.

(c) Notwithstanding Section [1.04](#)(7)(C), in determining the market value of a residence homestead, the chief appraiser may not exclude from consideration the value of other residential property that is in the same neighborhood as the residence homestead being appraised and would otherwise be considered in appraising the residence homestead because the other residential property:

(1) was sold at a foreclosure sale conducted in any of the three years preceding the tax year in which the residence homestead is being appraised and was comparable at the time of sale based on relevant characteristics with other residence homesteads in the same neighborhood; or

(2) has a market value that has declined because of a declining economy.

(d) 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 use of the property.

(e) Notwithstanding any provision of this subchapter to the contrary, if the appraised value of property in a tax year is lowered under Subtitle F, the appraised value of the property as finally determined under that subtitle is considered to be the appraised value of the property for that tax year. In the following tax year, the chief appraiser may not increase the appraised value of the property unless the increase by the chief appraiser is reasonably supported by substantial evidence when all of the reliable and probative evidence in the record is considered as a whole. If the appraised value is finally determined in a protest under Section [41.41](#)(a)(2) or an appeal under Section [42.26](#), the chief appraiser may satisfy the requirement to reasonably support by substantial evidence an increase in the appraised value of the property in the following tax year by presenting evidence showing that the inequality in the appraisal of property has been corrected with regard to the properties that were considered in determining the value of the subject property. The burden of proof is on the chief appraiser to support an increase in the appraised value of property under the circumstances described by this subsection.

Sec. 23.011. COST METHOD OF APPRAISAL. If the chief appraiser uses the cost method of appraisal to determine the market value of real property, the chief appraiser shall:

- (1) use cost data obtained from generally accepted sources;
- (2) make any appropriate adjustment for physical, functional, or economic obsolescence;
- (3) make available to the public on request cost data developed and used by the chief appraiser as applied to all properties within a property category and may charge a reasonable fee to the public for the data;
- (4) 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 percent; and
- (5) 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.

Sec. 23.24. FURNITURE, FIXTURES, AND EQUIPMENT. (a) If real property is appraised by a method that takes into account the value of furniture, fixtures, and equipment in or on the real property, the furniture, fixtures, and equipment shall not be subject to additional appraisal or taxation as personal property.

(b) In determining the market value of the real property appraised on the basis of rental income, the chief appraiser may not separately appraise or take into account any personal property valued as a portion of the income of the real property, and the market value of the real property must include the combined value of the real property and the personal property.

Sec. 25.01. PREPARATION OF APPRAISAL RECORDS. (a) By May 15 or as soon thereafter as practicable, the chief appraiser shall prepare appraisal records listing all property that is taxable in the district and stating the appraised value of each.

(b) The chief appraiser with the approval of the board of directors of the district may contract with a private appraisal firm to perform appraisal services for the district, subject to his approval. A contract for private appraisal services is void if the amount of compensation to be paid the private appraisal firm is contingent on the amount of or increase in appraised, assessed, or taxable value of property appraised by the appraisal firm.

(c) A contract for appraisal services for an appraisal district is invalid if it does not provide that copies of the appraisal, together with supporting data, must be made available to the appraisal district and such appraisals and supporting data shall be public records. "Supporting data" shall not be construed to include personal notes, correspondence, working papers, thought processes, or any other matters of a privileged or proprietary nature.

Sec. 25.07. LEASEHOLD AND OTHER POSSESSORY INTERESTS IN EXEMPT PROPERTY. (a) Except as provided by Subsection (b) of this section, a leasehold or other possessory interest in real property that is exempt from taxation to the owner of the estate or interest encumbered by the possessory interest shall be listed in the name of the owner of the possessory interest if the duration of the interest may be at least one year.

(b) Except as provided by Sections [11.11](#)(b) and (c), a leasehold or other possessory interest in exempt property may not be listed if:

- (1) the property is permanent university fund land;
- (2) the property is county public school fund agricultural land;
- (3) the property is a part of a public transportation facility owned by a municipality or county and:

- (A) is an airport passenger terminal building or a building used primarily for maintenance of aircraft or other aircraft services, for aircraft equipment storage, or for air cargo;
- (B) is an airport fueling system facility;
- (C) is in a foreign-trade zone:
 - (i) that has been granted to a joint airport board under Subchapter C, Chapter 681, Business & Commerce Code;
 - (ii) the area of which in the portion of the zone located in the airport operated by the joint airport board does not exceed 2,500 acres; and
 - (iii) that is established and operating pursuant to federal law; or
- (D)(i) is in a foreign trade zone established pursuant to federal law after June 1, 1991, that operates pursuant to federal law;
- (ii) is contiguous to or has access via a taxiway to an airport located in two counties, one of which has a population of 500,000 or more according to the federal decennial census most recently preceding the establishment of the foreign trade zone; and
- (iii) is owned, directly or through a corporation organized under the Development Corporation Act (Subtitle C1, Title 12, Local Government Code), by the same municipality that owns the airport;
- (4) the interest is in a part of:
 - (A) a park, market, fairground, or similar public facility that is owned by a municipality; or
 - (B) a convention center, visitor center, sports facility with permanent seating, concert hall, arena, or stadium that is owned by a municipality as such leasehold or possessory interest serves a governmental, municipal, or public purpose or function when the facility is open to the public, regardless of whether a fee is charged for admission;
- (5) the interest involves only the right to use the property for grazing or other agricultural purposes;
- (6) the property is:
 - (A) owned by a municipality, a public port, or a navigation district created or operating under Section [59](#), Article XVI, Texas Constitution, or under a statute enacted under Section [59](#), Article XVI, Texas Constitution; and
 - (B) used as an aid or facility incidental to or useful in the operation or development of a port or waterway or in aid of navigation-related commerce; or
- (7) the property is part of a rail facility owned by a rural rail transportation district operating under Chapter 172, Transportation Code.
- (c) Subsection (a) does not apply to:
 - (1) any portion of a facility owned by the Texas Department of Transportation that is a rail facility or system or is a highway in the state highway system and that is licensed or leased to a private entity by that department under Chapter 91 or 223, Transportation Code; or
 - (2) a leasehold or other possessory interest granted by the Texas Department of Transportation in a facility owned by that department that is a rail facility or system or is a highway in the state highway system.

Sec. 25.18. PERIODIC REAPPRAISALS. (a) Each appraisal office shall implement the plan for periodic reappraisal of property approved by the board of directors under Section [6.05](#)(i). (b) The plan shall provide for the following reappraisal activities for all real and personal property in the district at least once every three years:

- (1) identifying properties to be appraised through physical inspection or by other reliable means of identification, including deeds or other legal documentation, aerial photographs, land-based photographs, surveys, maps, and property sketches;
 - (2) identifying and updating relevant characteristics of each property in the appraisal records;
 - (3) defining market areas in the district;
 - (4) identifying property characteristics that affect property value in each market area, including:
 - (A) the location and market area of property;
 - (B) physical attributes of property, such as size, age, and condition;
 - (C) legal and economic attributes; and
 - (D) easements, covenants, leases, reservations, contracts, declarations, special assessments, ordinances, or legal restrictions;
 - (5) developing an appraisal model that reflects the relationship among the property characteristics affecting value in each market area and determines the contribution of individual property characteristics;
 - (6) applying the conclusions reflected in the model to the characteristics of the properties being appraised; and
 - (7) reviewing the appraisal results to determine value.
- (c) A taxing unit by resolution adopted by its governing body may require the appraisal office to appraise all property within the unit or to identify and appraise newly annexed territory and new improvements in the unit as of a date specified in the resolution. On or before the deadline requested by the taxing unit, which deadline may not be less than 30 days after the date the resolution is delivered to the appraisal office, the chief appraiser shall complete the appraisal and deliver to the unit an estimate of the total appraised value of property taxable by the unit as of the date specified in such resolution. The unit must pay the appraisal district for the cost of making the appraisal. The chief appraiser shall provide sufficient personnel to make the appraisals required by this subsection on or before the deadline requested by the taxing unit. An appraisal made pursuant to this subsection may not be used by a taxing unit as the basis for the imposition of taxes.

Sec. 25.19. NOTICE OF APPRAISED VALUE. (a) By April 1 or as soon thereafter as practicable if the property is a single-family residence that qualifies for an exemption under Section [11.13](#), or by May 1 or as soon thereafter as practicable in connection with any other property, the chief appraiser shall deliver a clear and understandable written notice to a property owner of the appraised value of the property owner's property if:

- (1) the appraised value of the property is greater than it was in the preceding year;
 - (2) the appraised value of the property is greater than the value rendered by the property owner;
- or
- (3) the property was not on the appraisal roll in the preceding year.
- (b) The chief appraiser shall separate real from personal property and include in the notice for each:
- (1) a list of the taxing units in which the property is taxable;
 - (2) the appraised value of the property in the preceding year;
 - (3) the taxable value of the property in the preceding year for each taxing unit taxing the property;
 - (4) the appraised value of the property for the current year and the kind and amount of each partial exemption, if any, approved for the current year;

- (5) if the appraised value is greater than it was in the preceding year, the amount of tax that would be imposed on the property on the basis of the tax rate for the preceding year;
 - (6) in italic typeface, the following statement: "The Texas Legislature does not set the amount of your local taxes. Your property tax burden is decided by your locally elected officials, and all inquiries concerning your taxes should be directed to those officials";
 - (7) a detailed explanation of the time and procedure for protesting the value;
 - (8) the date and place the appraisal review board will begin hearing protests; and
 - (9) a brief explanation that the governing body of each taxing unit decides whether or not taxes on the property will increase and the appraisal district only determines the value of the property.
- (b-1) For real property, in addition to the information required by Subsection (b), the chief appraiser shall state in a notice required to be delivered under Subsection (a), the difference, expressed as a percent increase or decrease, as applicable, in the appraised value of the property for the current tax year as compared to the fifth tax year before the current tax year.
- (b-2) This subsection applies only to a notice of appraised value for residential real property that has not qualified for a residence homestead exemption in the current tax year. If the records of the appraisal district indicate that the address of the property is also the address of the owner of the property, in addition to containing the applicable information required by Subsections (b), (b-1), and (f), the notice must contain the following statement in boldfaced 12-point type: "According to the records of the appraisal district, the residential real property described in this notice of appraised value is not currently being allowed a residence homestead exemption from ad valorem taxation. If the property is your home and you occupy it as your principal place of residence, the property may qualify for one or more residence homestead exemptions, which will reduce the amount of taxes imposed on the property. The form needed to apply for a residence homestead exemption is enclosed. Although the form may state that the deadline for filing an application for a residence homestead exemption is April 30, a late application for a residence homestead exemption will be accepted if filed before February 1, (insert year application must be filed). There is no fee or charge for filing an application or a late application for a residence homestead exemption." The notice must be accompanied by an application form for a residence homestead exemption.
- (c) In the case of the residence homestead of a person 65 years of age or older or disabled that is subject to the limitation on a tax increase over the preceding year for school tax purposes, the chief appraiser shall indicate on the notice that the preceding year's taxes may not be increased.
- (d) Failure to receive a notice required by this section does not affect the validity of the appraisal of the property, the imposition of any tax on the basis of the appraisal, the existence of any tax lien, the deadline for filing an application for a residence homestead exemption, or any proceeding instituted to collect the tax.
- (e) The chief appraiser, with the approval of the appraisal district board of directors, may dispense with the notice required by Subsection (a)(1) if the amount of increase in appraised value is \$1,000 or less.
- (f) In the notice of appraised value for real property, the chief appraiser shall list separately:
- (1) the market value of the land; and
 - (2) the total market value of the structures and other improvements on the property.
- (g) By April 1 or as soon thereafter as practicable if the property is a single-family residence that qualifies for an exemption under Section [11.13](#), or by May 1 or as soon thereafter as practicable in connection with any other property, the chief appraiser shall deliver a written notice to the owner of each property not included in a notice required to be delivered under Subsection (a), if the property was reappraised in the current tax year, if the ownership of the property changed

during the preceding year, or if the property owner or the agent of a property owner authorized under Section [1.111](#) makes a written request for the notice. The chief appraiser shall separate real from personal property and include in the notice for each property:

- (1) the appraised value of the property in the preceding year;
 - (2) the appraised value of the property for the current year and the kind of each partial exemption, if any, approved for the current year;
 - (3) a detailed explanation of the time and procedure for protesting the value; and
 - (4) the date and place the appraisal review board will begin hearing protests.
- (h) A notice required by Subsection (a) or (g) must be in the form of a letter.
- (i) Delivery with a notice required by Subsection (a) or (g) of a copy of the pamphlet published by the comptroller under Section [5.06](#) or a copy of the notice published by the chief appraiser under Section [41.70](#) is sufficient to comply with the requirement that the notice include the information specified by Subsection (b)(7) or (g)(3), as applicable.
- (j) The chief appraiser shall include with a notice required by Subsection (a) or (g):
- (1) a copy of a notice of protest form as prescribed by the comptroller under Section [41.44\(d\)](#); and
 - (2) instructions for completing and mailing the form to the appraisal review board and requesting a hearing on the protest.
- (k) Notwithstanding any other provision of this section, the chief appraiser may not deliver a written notice concerning property that is required to be rendered or reported under Chapter 22 until after the applicable deadline for filing the rendition statement or property report.

Sec. 25.24. APPRAISAL ROLL. The appraisal records, as changed by order of the appraisal review board and approved by that board, constitute the appraisal roll for the district.

Sec. 41.10. CORRECTION OF RECORDS ON RECOMMENDATION OF CHIEF APPRAISER. At any time before approval of the appraisal records as provided by Section [41.12](#) of this code, the chief appraiser may submit written recommendations to the appraisal review board for corrections in the records. If the board approves a recommended correction and it will not result in an increase in the tax liability of a property owner, the board may make the correction by written order.

Sec. 41.12. APPROVAL OF APPRAISAL RECORDS BY BOARD. (a) By July 20, the appraisal review board shall:

- (1) hear and determine all or substantially all timely filed protests;
 - (2) determine all timely filed challenges;
 - (3) submit a list of its approved changes in the records to the chief appraiser; and
 - (4) approve the records.
- (b) The appraisal review board must complete substantially all timely filed protests before approving the appraisal records and may not approve the records if the sum of the appraised values, as determined by the chief appraiser, of all properties on which a protest has been filed but not determined is more than five percent of the total appraised value of all other taxable properties.
- (c) The board of directors of an appraisal district established for a county with a population of at least one million by resolution may:
- (1) postpone the deadline established by Subsection (a) for the performance of the functions listed in that subsection to a date not later than August 30; or

(2) provide that the appraisal review board may approve the appraisal records if the sum of the appraised values, as determined by the chief appraiser, of all properties on which a protest has been filed but not determined does not exceed 10 percent of the total appraised value of all other taxable properties.

Sec. 41.67. EVIDENCE. (a) A member of the appraisal review board may swear witnesses who testify in proceedings under this chapter. All testimony must be given under oath.

(b) Documentary evidence may be admitted in the form of a copy if the appraisal review board conducting the proceeding determines that the original document is not readily available. A party is entitled to an opportunity to compare a copy with the original document on request.

(c) Official notice may be taken of any fact judicially cognizable. A party is entitled to an opportunity to contest facts officially noticed.

(d) Information that was previously requested under Section [41.461](#) by the protesting party that was not made available to the protesting party at least 14 days before the scheduled or postponed hearing may not be used as evidence in the hearing.

Sec. 42.26. REMEDY FOR UNEQUAL APPRAISAL. (a) The district court shall grant relief on the ground that a property is appraised unequally if:

(1) the appraisal ratio of the property exceeds by at least 10 percent the median level of appraisal of a reasonable and representative sample of other properties in the appraisal district;

(2) the appraisal ratio of the property exceeds by at least 10 percent the median level of appraisal of a sample of properties in the appraisal district consisting of a reasonable number of other properties similarly situated to, or of the same general kind or character as, the property subject to the appeal; or

(3) the appraised value of the property exceeds the median appraised value of a reasonable number of comparable properties appropriately adjusted.

(b) If a property owner is entitled to relief under Subsection (a)(1), the court shall order the property's appraised value changed to the value as calculated on the basis of the median level of appraisal according to Subsection (a)(1). If a property owner is entitled to relief under Subsection (a)(2), the court shall order the property's appraised value changed to the value calculated on the basis of the median level of appraisal according to Subsection (a)(2). If a property owner is entitled to relief under Subsection (a)(3), the court shall order the property's appraised value changed to the value calculated on the basis of the median appraised value according to Subsection (a)(3). If a property owner is entitled to relief under more than one subdivision of Subsection (a), the court shall order the property's appraised value changed to the value that results in the lowest appraised value. The court shall determine each applicable median level of appraisal or median appraised value according to law, and is not required to adopt the median level of appraisal or median appraised value proposed by a party to the appeal. The court may not limit or deny relief to the property owner entitled to relief under a subdivision of Subsection (a) because the appraised value determined according to another subdivision of Subsection (a) results in a higher appraised value.

(c) For purposes of establishing the median level of appraisal under Subsection (a)(1), the median level of appraisal in the appraisal district as determined by the comptroller under Section [5.10](#) is admissible as evidence of the median level of appraisal of a reasonable and representative sample of properties in the appraisal district for the year of the comptroller's determination, subject to the Texas Rules of Evidence and the Texas Rules of Civil Procedure.

(d) For purposes of this section, the value of the property subject to the suit and the value of a comparable property or sample property that is used for comparison must be the market value determined by the appraisal district when the property is a residence homestead subject to the limitation on appraised value imposed by Section [23.23](#).

Sec. 403.302. DETERMINATION OF SCHOOL DISTRICT PROPERTY VALUES. (a)

The comptroller shall conduct a study using comparable sales and generally accepted auditing and sampling techniques to determine the total taxable value of all property in each school district. The study shall determine the taxable value of all property and of each category of property in the district and the productivity value of all land that qualifies for appraisal on the basis of its productive capacity and for which the owner has applied for and received a productivity appraisal. The comptroller shall make appropriate adjustments in the study to account for actions taken under Chapter 41, Education Code.

(a-1) The comptroller shall conduct a study:

(1) at least every two years in each school district for which the most recent study resulted in a determination by the comptroller that the school district's local value was valid; and

(2) each year in a school district for which the most recent study resulted in a determination by the comptroller that the school district's local value was not valid.

(a-2) If in any year the comptroller does not conduct a study, the school district's local value for that year is considered to be valid.

(b) In conducting the study, the comptroller shall determine the taxable value of property in each school district:

(1) using, if appropriate, samples selected through generally accepted sampling techniques;

(2) according to generally accepted standard valuation, statistical compilation, and analysis techniques;

(3) ensuring that different levels of appraisal on sold and unsold property do not adversely affect the accuracy of the study; and

(4) ensuring that different levels of appraisal resulting from protests determined under Section [41.43](#), Tax Code, are appropriately adjusted in the study.

(c) If after conducting the study the comptroller determines that the local value for a school district is valid, the local value is presumed to represent taxable value for the school district. In the absence of that presumption, taxable value for a school district is the state value for the school district determined by the comptroller under Subsections (a) and (b) unless the local value exceeds the state value, in which case the taxable value for the school district is the district's local value. In determining whether the local value for a school district is valid, the comptroller shall use a margin of error that does not exceed five percent unless the comptroller determines that the size of the sample of properties necessary to make the determination makes the use of such a margin of error not feasible, in which case the comptroller may use a larger margin of error.

(c-1) This subsection applies only to a school district whose central administrative office is located in a county with a population of 9,000 or less and a total area of more than 6,000 square miles. If after conducting the study for a tax year the comptroller determines that the local value for a school district is not valid, the comptroller shall adjust the taxable value determined under Subsections (a) and (b) as follows:

(1) for each category of property sampled and tested by the comptroller in the school district, the comptroller shall use the weighted mean appraisal ratio determined by the study, unless the ratio is more than four percentage points lower than the weighted mean appraisal ratio determined by

the comptroller for that category of property in the immediately preceding study, in which case the comptroller shall use the weighted mean appraisal ratio determined in the immediately preceding study minus four percentage points;

(2) the comptroller shall use the category weighted mean appraisal ratios as adjusted under Subdivision (1) to establish a value estimate for each category of property sampled and tested by the comptroller in the school district; and

(3) the value estimates established under Subdivision (2), together with the local tax roll value for any categories not sampled and tested by the comptroller, less total deductions determined by the comptroller, determine the taxable value for the school district.

(d) For the purposes of this section, "taxable value" means the market value of all taxable property less:

(1) the total dollar amount of any residence homestead exemptions lawfully granted under Section [11.13](#)(b) or (c), Tax Code, in the year that is the subject of the study for each school district;

(2) one-half of the total dollar amount of any residence homestead exemptions granted under Section [11.13](#)(n), Tax Code, in the year that is the subject of the study for each school district;

(3) the total dollar amount of any exemptions granted before May 31, 1993, within a reinvestment zone under agreements authorized by Chapter 312, Tax Code;

(4) subject to Subsection (e), the total dollar amount of any captured appraised value of property that:

(A) is within a reinvestment zone created on or before May 31, 1999, or is proposed to be included within the boundaries of a reinvestment zone as the boundaries of the zone and the proposed portion of tax increment paid into the tax increment fund by a school district are described in a written notification provided by the municipality or the board of directors of the zone to the governing bodies of the other taxing units in the manner provided by former Section [311.003](#)(e), Tax Code, before May 31, 1999, and within the boundaries of the zone as those boundaries existed on September 1, 1999, including subsequent improvements to the property regardless of when made;

(B) generates taxes paid into a tax increment fund created under Chapter 311, Tax Code, under a reinvestment zone financing plan approved under Section [311.011](#)(d), Tax Code, on or before September 1, 1999; and

(C) is eligible for tax increment financing under Chapter 311, Tax Code;

(5) the total dollar amount of any captured appraised value of property that:

(A) is within a reinvestment zone:

(i) created on or before December 31, 2008, by a municipality with a population of less than 18,000; and

(ii) the project plan for which includes the alteration, remodeling, repair, or reconstruction of a structure that is included on the National Register of Historic Places and requires that a portion of the tax increment of the zone be used for the improvement or construction of related facilities or for affordable housing;

(B) generates school district taxes that are paid into a tax increment fund created under Chapter 311, Tax Code; and

(C) is eligible for tax increment financing under Chapter 311, Tax Code;

(6) the total dollar amount of any exemptions granted under Section [11.251](#) or [11.253](#), Tax Code;

- (7) the difference between the comptroller's estimate of the market value and the productivity value of land that qualifies for appraisal on the basis of its productive capacity, except that the productivity value estimated by the comptroller may not exceed the fair market value of the land;
- (8) the portion of the appraised value of residence homesteads of individuals who receive a tax limitation under Section [11.26](#), Tax Code, on which school district taxes are not imposed in the year that is the subject of the study, calculated as if the residence homesteads were appraised at the full value required by law;
- (9) a portion of the market value of property not otherwise fully taxable by the district at market value because of:
- (A) action required by statute or the constitution of this state, other than Section [11.311](#), Tax Code, that, if the tax rate adopted by the district is applied to it, produces an amount equal to the difference between the tax that the district would have imposed on the property if the property were fully taxable at market value and the tax that the district is actually authorized to impose on the property, if this subsection does not otherwise require that portion to be deducted; or
- (B) action taken by the district under Subchapter B or C, Chapter 313, Tax Code, before the expiration of the subchapter;
- (10) the market value of all tangible personal property, other than manufactured homes, owned by a family or individual and not held or used for the production of income;
- (11) the appraised value of property the collection of delinquent taxes on which is deferred under Section [33.06](#), Tax Code;
- (12) the portion of the appraised value of property the collection of delinquent taxes on which is deferred under Section [33.065](#), Tax Code; and
- (13) the amount by which the market value of a residence homestead to which Section [23.23](#), Tax Code, applies exceeds the appraised value of that property as calculated under that section.
- (d-1) For purposes of Subsection (d), a residence homestead that receives an exemption under Section [11.131](#) or [11.132](#), Tax Code, in the year that is the subject of the study is not considered to be taxable property.
- (e) The total dollar amount deducted in each year as required by Subsection (d)(4) in a reinvestment zone created after January 1, 1999, may not exceed the captured appraised value estimated for that year as required by Section [311.011](#)(c)(8), Tax Code, in the reinvestment zone financing plan approved under Section [311.011](#)(d), Tax Code, before September 1, 1999. The number of years for which the total dollar amount may be deducted under Subsection (d)(4) shall for any zone, including those created on or before January 1, 1999, be limited to the duration of the zone as specified as required by Section [311.011](#)(c)(9), Tax Code, in the reinvestment zone financing plan approved under Section [311.011](#)(d), Tax Code, before September 1, 1999. The total dollar amount deducted under Subsection (d)(4) for any zone, including those created on or before January 1, 1999, may not be increased by any reinvestment zone financing plan amendments that occur after August 31, 1999. The total dollar amount deducted under Subsection (d)(4) for any zone, including those created on or before January 1, 1999, may not be increased by a change made after August 31, 1999, in the portion of the tax increment retained by the school district.
- (e-1) This subsection applies only to a reinvestment zone created by a municipality that has a population of 70,000 or less and is located in a county in which all or part of a military installation is located. Notwithstanding Subsection (e), if on or after January 1, 2017, the municipality adopts an ordinance designating a termination date for the zone that is later than the termination date designated in the ordinance creating the zone, the number of years for which the

total dollar amount may be deducted under Subsection (d)(4) is limited to the duration of the zone as determined under Section [311.017](#), Tax Code.

(f) The study shall determine the values as of January 1 of each year:

- (1) for a school district in which a study was conducted according to the results of the study; and
- (2) for a school district in which a study was not conducted according to the market value determined by the appraisal district that appraises property for the district, less the amounts specified by Subsection (d).

(g) The comptroller shall publish preliminary findings, listing values by district, before February 1 of the year following the year of the study. Preliminary findings shall be delivered to each school district and shall be certified to the commissioner of education.

(h) On request of the commissioner of education or a school district, the comptroller may audit the total taxable value of property in a school district and may revise the study findings. The request for audit is limited to corrections and changes in a school district's appraisal roll that occurred after preliminary certification of the study findings by the comptroller. Except as otherwise provided by this subsection, the request for audit must be filed with the comptroller not later than the third anniversary of the date of the final certification of the study findings. The request for audit may be filed not later than the first anniversary of the date the chief appraiser certifies a change to the appraisal roll if the chief appraiser corrects the appraisal roll under Section [25.25](#) or [42.41](#), Tax Code, and the change results in a material reduction in the total taxable value of property in the school district. The comptroller shall certify the findings of the audit to the commissioner of education.

(i) If the comptroller determines in the study that the market value of property in a school district as determined by the appraisal district that appraises property for the school district, less the total of the amounts and values listed in Subsection (d) as determined by that appraisal district, is valid, the comptroller, in determining the taxable value of property in the school district under Subsection (d), shall for purposes of Subsection (d)(13) subtract from the market value as determined by the appraisal district of residence homesteads to which Section [23.23](#), Tax Code, applies the amount by which that amount exceeds the appraised value of those properties as calculated by the appraisal district under Section [23.23](#), Tax Code. If the comptroller determines in the study that the market value of property in a school district as determined by the appraisal district that appraises property for the school district, less the total of the amounts and values listed in Subsection (d) as determined by that appraisal district, is not valid, the comptroller, in determining the taxable value of property in the school district under Subsection (d), shall for purposes of Subsection (d)(13) subtract from the market value as estimated by the comptroller of residence homesteads to which Section [23.23](#), Tax Code, applies the amount by which that amount exceeds the appraised value of those properties as calculated by the appraisal district under Section [23.23](#), Tax Code.

(j) For purposes of Chapter 42, Education Code, the comptroller shall certify to the commissioner of education:

(1) a final value for each school district computed on a residence homestead exemption under Section [1-b\(c\)](#), Article VIII, Texas Constitution, of \$5,000;

(2) a final value for each school district computed on:

(A) a residence homestead exemption under Section [1-b\(c\)](#), Article VIII, Texas Constitution, of \$15,000; and

(B) the effect of the additional limitation on tax increases under Section [1-b\(d\)](#), Article VIII, Texas Constitution, as proposed by H.J.R. No. 4, 75th Legislature, Regular Session, 1997; and

(3) a final value for each school district computed on the effect of the reduction of the limitation on tax increases to reflect any reduction in the school district tax rate as provided by Section [11.26](#)(a-1), (a-2), or (a-3), Tax Code, as applicable.

(j-1) Expired.

(k) For purposes of Section [42.2522](#), Education Code, the comptroller shall certify to the commissioner of education:

(1) a final value for each school district computed without any deduction for residence homestead exemptions granted under Section [11.13](#)(n), Tax Code; and

(2) a final value for each school district computed after deducting one-half the total dollar amount of residence homestead exemptions granted under Section [11.13](#)(n), Tax Code.

(l) If after conducting the study for a year the comptroller determines that a school district is an eligible school district, for that year and the following year the taxable value for the school district is the district's local value.

(m) Subsection (d)(9) does not apply to property that was the subject of an application under Subchapter B or C, Chapter 313, Tax Code, made after May 1, 2009, that the comptroller recommended should be disapproved.

(m-1) The Comptroller's Property Value Study Advisory Committee is created. The committee is composed of:

(1) one member of the house of representatives, appointed by the speaker of the house of representatives;

(2) one member of the senate, appointed by the lieutenant governor;

(3) two members who represent appraisal districts, appointed by the comptroller;

(4) two members who represent school districts, appointed by the comptroller; and

(5) three members appointed by the comptroller who are residents of this state and are school district taxpayers or have expertise in school district taxation or ratio studies.

(n) Chapter 2110 does not apply to the size, composition, or duration of the Comptroller's Property Value Study Advisory Committee.

(o) The comptroller shall adopt rules governing the conduct of the study after consultation with the Comptroller's Property Value Study Advisory Committee.

Appendix B: Ratio Studies

| Market Area | Count | Median | Mean | W Mean | PRD | COD |
|----------------------|-------|--------|--------|-----------|--------|---------|
| A. West Area | 356 | 1.0000 | 1.0156 | 1.0061 | 1.0095 | 7.4370 |
| B. Upper Valley Area | 119 | 1.0078 | 1.0231 | 0.9987 | 1.0244 | 8.3777 |
| C. Northeast Area | 377 | 0.9792 | 0.9991 | 0.9863 | 1.0130 | 7.8632 |
| D. Central Area | 40 | 1.0031 | 1.0281 | 1.0053 | 1.0227 | 10.2594 |
| E. East Area | 409 | 1.0050 | 1.0375 | 1.0257 | 1.0116 | 8.7161 |
| F. Lower Valley | 137 | 1.0002 | 1.0356 | 1.0229 | 1.0125 | 9.3963 |
| G. Anthony | 47 | 0.9797 | 1.0264 | 1.0264 | 1.0000 | 7.6918 |
| H. Canutillo | 19 | 1.0295 | 1.0763 | 1.0534 | 1.0218 | 10.5378 |
| J. Clint | 24 | 1.0402 | 1.0290 | 1.0226 | 1.0062 | 5.8596 |
| K. Fabens | 2 | 1.0865 | 1.0865 | 1.0852 | 1.0012 | 1.8841 |
| L. San Elizario | 7 | 1.0320 | 1.0426 | 1.0391 | 1.0035 | 7.0050 |
| N. City of Socorro | 6 | 0.9838 | 1.0311 | 1.0114 | 1.0196 | 9.0579 |
| P. Socorro | 22 | 1.0070 | 1.0305 | 1.0268 | 1.0036 | 6.0629 |
| R. City of Horizon | 49 | 0.9654 | 0.9854 | 0.9789 | 1.0066 | 8.8551 |
| Total | 1614 | | | | | |

RATIO STUDIES SUMMARIES
SINGLE FAMILY IMPROVED PROPERTIES
SALES DATE 01/01/2015 TO 07/26/2016

| | COUNT | MEDIAN | AVG MEAN | WT MEAN | PRD | COD |
|------------------------------------------------------|-------|--------|-------------|------------|--------|--------|
| ALL ISDs | 1614 | 1.0000 | 1.0205 | 1.0076 | 1.0128 | 8.2770 |
| ANTHONY ISD | | | | | | |
| ALL CLASSES | 16 | 0.9788 | 1.0179 | 1.0230 | 0.9950 | 7.0187 |
| CANUTILLO ISD | | | | | | |
| ALL | 223 | 1.0119 | 1.0366 | 1.0250 | 1.0114 | 7.9175 |
| CLINT ISD | | | | | | |
| ALL | 70 | 0.9944 | 0.9930 | 0.9904 | 1.0026 | 7.8863 |
| EL PASO ISD | | | | | | |
| ALL CLASSES | 452 | 1.0000 | 1.0153 | 0.9987 | 1.0166 | 7.8720 |
| FABENS ISD | | | | | | |
| ALL CLASSES | 2 | 1.0865 | 1.0865 | 1.0852 | 1.0012 | 1.8841 |
| SAN ELIZARIO ISD | | | | | | |
| ALL CLASSES | 7 | 1.0320 | 1.0426 | 1.0391 | 1.0035 | 7.0050 |
| SOCORRO ISD | | | | | | |
| ALL | 253 | 1.0000 | 1.0245 | 1.0189 | 1.0055 | 7.2890 |
| YSLETA ISD | | | | | | |
| ALL | 591 | 0.9913 | 1.0196 | 1.0039 | 1.0156 | 9.1954 |
| NOTE: INSUFFICIENT SALES OR NO SALES TORNILLO ISD | | | | | | |

Appraisal Ratios Report

| Neighborhood | Count | Median | Mean | W Mean | PRD | COD |
|--------------|-------|--------|--------|-----------|------|-------|
| AC34011280 | 2 | 101.49 | 101.49 | 101.1 | 1 | 6.23 |
| AC34013300 | 2 | 101.97 | 101.97 | 101.77 | 1 | 5.24 |
| AC34013385 | 2 | 103.2 | 103.2 | 103.58 | 1 | 3.1 |
| AC34013550 | 2 | 128.49 | 128.49 | 128.47 | 1 | 2.06 |
| AC34014300 | 3 | 108.87 | 109.64 | 109.2 | 1 | 6.14 |
| AC34014365 | 2 | 94.89 | 94.89 | 94.71 | 1 | 5.39 |
| AC34016260 | 5 | 111.17 | 107.84 | 107.01 | 1.01 | 6.79 |
| AC34019270 | 4 | 105.2 | 104.96 | 105.03 | 1 | 4.24 |
| AC54011575 | 3 | 93.34 | 95.29 | 95.85 | 0.99 | 3.6 |
| AC81811230 | 2 | 126.19 | 126.19 | 125.88 | 1 | 5.48 |
| AC81816230 | 3 | 91.1 | 92.79 | 92.72 | 1 | 9.59 |
| AC84812350 | 2 | 100.56 | 100.56 | 100.65 | 1 | 2.43 |
| AF16917325 | 2 | 94.95 | 94.95 | 94.82 | 1 | 3.68 |
| AF31511180 | 2 | 87.7 | 87.7 | 87.72 | 1 | 3.03 |
| AF60908650 | 2 | 99.97 | 99.97 | 99.85 | 1 | 3.09 |
| AF60914700 | 2 | 93.03 | 93.03 | 93.2 | 1 | 3.92 |
| AF60918800 | 5 | 100.98 | 98.41 | 99.1 | 0.99 | 4.93 |
| AH41512325 | 2 | 89.1 | 89.1 | 89.06 | 1 | 1.8 |
| AH45414400 | 2 | 89.16 | 89.16 | 88.98 | 1 | 1.64 |
| AK21612300 | 3 | 97.22 | 98.14 | 98.25 | 1 | 0.95 |
| AK21612450 | 2 | 88.49 | 88.49 | 88.66 | 1 | 0.84 |
| AL62608450 | 4 | 130.59 | 123.46 | 122.71 | 1.01 | 6.37 |
| AL62610500 | 6 | 105.83 | 107.66 | 107.23 | 1 | 5.22 |
| AM34431280 | 2 | 100.81 | 100.81 | 100.74 | 1 | 0.93 |
| AM57623210 | 2 | 118.86 | 118.86 | 118.54 | 1 | 13.64 |
| AP32718800 | 6 | 95.76 | 97.16 | 97.55 | 1 | 4.65 |
| AP78314230 | 2 | 94.19 | 94.19 | 94.49 | 1 | 4.44 |
| AR46013380 | 6 | 98.81 | 100.11 | 99.4 | 1.01 | 3.17 |
| AR46014400 | 2 | 104.54 | 104.54 | 103.74 | 1.01 | 5.27 |
| AS10216210 | 2 | 96.04 | 96.04 | 95.73 | 1 | 4.12 |
| AS38008375 | 4 | 102.74 | 102.09 | 101.45 | 1.01 | 9.12 |
| AS38010375 | 3 | 93.01 | 95.55 | 95.37 | 1 | 4.32 |
| AT21308375 | 2 | 96.55 | 96.55 | 96.7 | 1 | 2.58 |
| AT25109220 | 2 | 114.93 | 114.93 | 112.22 | 1.02 | 18.7 |
| AT26216340 | 2 | 136.36 | 136.36 | 136.36 | 1 | 0 |
| AT95727675 | 6 | 99.06 | 98.93 | 101.46 | 0.98 | 8.3 |

Appraisal Ratios Report

| Neighborhood | Count | Median | Mean | W Mean | PRD | COD |
|--------------|-------|--------|--------|--------|------|-------|
| AW14509325 | 6 | 102.36 | 100.73 | 99.88 | 1.01 | 5.31 |
| AW14509350 | 8 | 102.84 | 100.7 | 100.9 | 1 | 4.08 |
| AW14510400 | 2 | 106.84 | 106.84 | 106.21 | 1.01 | 10.1 |
| BB69006320 | 2 | 119.58 | 119.58 | 118.26 | 1.01 | 10.49 |
| BB69011100 | 2 | 90.85 | 90.85 | 90.85 | 1 | 0 |
| BC08530425 | 2 | 96.1 | 96.1 | 95.57 | 1.01 | 4.87 |
| BC73616225 | 2 | 93.16 | 93.16 | 93.16 | 1 | 0.02 |
| BL13017525 | 3 | 103.81 | 102.02 | 101.63 | 1 | 3.7 |
| BL21436400 | 2 | 101.05 | 101.05 | 102.29 | 0.99 | 7.61 |
| BL77735235 | 2 | 100 | 100 | 100 | 1 | 0 |
| BM76513250 | 4 | 110.71 | 110.42 | 110.15 | 1 | 3.16 |
| BR57607385 | 4 | 97.17 | 97.35 | 96.98 | 1 | 5.88 |
| BR57611385 | 2 | 113.35 | 113.35 | 113.25 | 1 | 2.94 |
| BR57723350 | 3 | 104.78 | 100.92 | 100.73 | 1 | 3.68 |
| BS55916425 | 5 | 101.74 | 103.13 | 102.72 | 1 | 3.1 |
| BS68832215 | 2 | 83.56 | 83.56 | 83.68 | 1 | 3.05 |
| BS81407425 | 3 | 99.6 | 100.45 | 100.45 | 1 | 2.37 |
| BS98709425 | 2 | 117.78 | 117.78 | 117.07 | 1.01 | 5.04 |
| BT23018325 | 2 | 96.38 | 96.38 | 95.75 | 1.01 | 6.74 |
| BT23027325 | 2 | 105.72 | 105.72 | 104.41 | 1.01 | 9.57 |
| BU81900000 | 3 | 100 | 95.9 | 98.98 | 0.97 | 4.1 |
| CC23107375 | 2 | 101.36 | 101.36 | 100.77 | 1.01 | 4.19 |
| CC23112230 | 2 | 101.96 | 101.96 | 100.69 | 1.01 | 8.67 |
| CC74109200 | 2 | 116.14 | 116.14 | 116.6 | 1 | 4.87 |
| CD04710220 | 5 | 107.09 | 105.13 | 105.46 | 1 | 5.15 |
| CD67209200 | 3 | 96.62 | 98.79 | 98.73 | 1 | 2.8 |
| CF63406500 | 2 | 110.27 | 110.27 | 109.99 | 1 | 2.99 |
| CM39507550 | 9 | 106.02 | 108.03 | 107 | 1.01 | 5.5 |
| CM42510200 | 6 | 94.35 | 98.86 | 97.66 | 1.01 | 8.42 |
| CM85109150 | 2 | 98.45 | 98.45 | 98.61 | 1 | 1.57 |
| CN42508280 | 5 | 100 | 100.27 | 99.87 | 1 | 5.67 |
| CN42508320 | 2 | 106.98 | 106.98 | 101.43 | 1.05 | 20 |
| CN42512255 | 2 | 96.92 | 96.92 | 95.06 | 1.02 | 10.03 |
| CN47108200 | 4 | 117.21 | 114.27 | 113.5 | 1.01 | 6.67 |
| CN49010180 | 2 | 111.37 | 111.37 | 106.51 | 1.05 | 18.91 |
| CP32414110 | 2 | 109.33 | 109.33 | 109.63 | 1 | 3.4 |
| CP32414130 | 2 | 106.03 | 106.03 | 105.21 | 1.01 | 7.71 |
| CR32507400 | 3 | 95.75 | 96.83 | 96.85 | 1 | 1.93 |
| CR70607500 | 2 | 113.59 | 113.59 | 111.98 | 1.01 | 9.72 |

Appraisal Ratios Report

| Neighborhood | Count | Median | Mean | W Mean | PRD | COD |
|--------------|-------|--------|--------|-----------|------|-------|
| CS13707550 | 3 | 101.13 | 101.65 | 101.63 | 1 | 1.26 |
| CS13807600 | 10 | 101.72 | 104.04 | 103.53 | 1 | 4.9 |
| CS16208200 | 2 | 107.8 | 107.8 | 105.96 | 1.02 | 8.02 |
| CS36308200 | 2 | 114.33 | 114.33 | 113.69 | 1.01 | 15.74 |
| CS67005210 | 3 | 125.5 | 118.64 | 116.43 | 1.02 | 9.93 |
| CS78208420 | 11 | 92.29 | 92.86 | 92.33 | 1.01 | 5.84 |
| CS81610200 | 5 | 108 | 106.47 | 106.64 | 1 | 5.41 |
| CT11609165 | 2 | 90.37 | 90.37 | 90.55 | 1 | 2.34 |
| DG56908210 | 8 | 96.18 | 99.45 | 94.91 | 1.05 | 8.01 |
| DG68608220 | 2 | 117.61 | 117.61 | 117.72 | 1 | 1.37 |
| DH45308220 | 5 | 104.51 | 102.03 | 98.28 | 1.04 | 10.81 |
| DM05608220 | 2 | 111.95 | 111.95 | 112.06 | 1 | 6.39 |
| DM05608300 | 2 | 85.78 | 85.78 | 85.78 | 1 | 0 |
| DM79408220 | 3 | 93.32 | 89.2 | 89.45 | 1 | 4.41 |
| DS80414210 | 2 | 94.08 | 94.08 | 94.05 | 1 | 0.14 |
| EC51815260 | 9 | 99.39 | 102.41 | 102.03 | 1 | 7.11 |
| EE05410220 | 8 | 106.69 | 107.18 | 106.51 | 1.01 | 7.56 |
| EE07816240 | 2 | 109.02 | 109.02 | 108.49 | 1 | 5.3 |
| EE20711185 | 3 | 100.41 | 100.18 | 100.17 | 1 | 1.19 |
| EE22210225 | 3 | 101 | 104.43 | 103.99 | 1 | 8.59 |
| EE22214185 | 3 | 101.82 | 105.13 | 104.93 | 1 | 4.71 |
| EE22216265 | 2 | 120.76 | 120.76 | 116.26 | 1.04 | 15.39 |
| EI25611250 | 8 | 111.24 | 113.71 | 112.14 | 1.01 | 10.87 |
| EM63814170 | 2 | 103.07 | 103.07 | 102.61 | 1 | 3.71 |
| EN22907300 | 2 | 98.29 | 98.29 | 98.26 | 1 | 1.71 |
| EO10101400 | 5 | 98.98 | 98.99 | 99.33 | 1 | 4.96 |
| EP40509180 | 2 | 97.81 | 97.81 | 97.68 | 1 | 1.01 |
| EP48110200 | 2 | 95.77 | 95.77 | 95.64 | 1 | 4.13 |
| EP65410225 | 14 | 98.52 | 101.45 | 100 | 1.01 | 8.59 |
| EP65413250 | 4 | 112.09 | 108.4 | 107.64 | 1.01 | 10.06 |
| EP65414235 | 2 | 93.77 | 93.77 | 93.99 | 1 | 2.1 |
| EQ55007300 | 2 | 96.54 | 96.54 | 96.27 | 1 | 3.32 |
| ES22511190 | 6 | 97.43 | 96.17 | 95.96 | 1 | 4.92 |
| ES23111220 | 5 | 97.3 | 97.28 | 97.34 | 1 | 5.66 |
| ES23711190 | 3 | 99.02 | 96.7 | 96.7 | 1 | 4.46 |
| ES27510200 | 2 | 107.53 | 107.53 | 107.29 | 1 | 5.16 |
| ES81208215 | 2 | 107.91 | 107.91 | 106.8 | 1.01 | 6.82 |
| ES81209330 | 3 | 104.59 | 104.69 | 103.98 | 1.01 | 4.55 |
| ET28706300 | 4 | 100.63 | 102.2 | 101.7 | 1 | 6.96 |
| ET28706360 | 3 | 112.6 | 113.29 | 112.08 | 1.01 | 11.19 |
| ET28707500 | 4 | 105.14 | 103.53 | 102.47 | 1.01 | 8.17 |

Appraisal Ratios Report

| Neighborhood | Count | Median | Mean | W Mean | PRD | COD |
|--------------|-------|--------|--------|-----------|------|-------|
| ET28708460 | 2 | 109.83 | 109.83 | 108.43 | 1.01 | 8.95 |
| ET28708480 | 3 | 111.42 | 109.44 | 108.73 | 1.01 | 3 |
| ET28709450 | 2 | 97.04 | 97.04 | 96.99 | 1 | 3.05 |
| ET28710370 | 2 | 126.08 | 126.08 | 124.56 | 1.01 | 7.16 |
| ET28710580 | 3 | 99.49 | 96.74 | 95.39 | 1.01 | 3.11 |
| ET28715450 | 2 | 100.43 | 100.43 | 100.41 | 1 | 3.5 |
| ET82006460 | 2 | 99.51 | 99.51 | 99.61 | 1 | 1.15 |
| EV15009180 | 2 | 126.07 | 126.07 | 126.07 | 1 | 0 |
| EV63907600 | 2 | 106.81 | 106.81 | 105.02 | 1.02 | 8.3 |
| EV65506275 | 2 | 121.4 | 121.4 | 121.35 | 1 | 0.67 |
| EV89309230 | 5 | 105.6 | 110.36 | 107.62 | 1.03 | 12.15 |
| EV89310235 | 3 | 96.48 | 96.16 | 96.11 | 1 | 1.43 |
| EV89311240 | 2 | 92.25 | 92.25 | 91.83 | 1 | 3.38 |
| EV89312240 | 4 | 114.02 | 112.36 | 111.99 | 1 | 7.51 |
| EV89315250 | 2 | 102.05 | 102.05 | 101.92 | 1 | 1.24 |
| EV89316260 | 3 | 96.72 | 96.84 | 96.55 | 1 | 2.61 |
| EV89317250 | 2 | 99.22 | 99.22 | 99.22 | 1 | 0.11 |
| EV89713330 | 4 | 102.42 | 104.58 | 103.87 | 1.01 | 3.98 |
| EV92706300 | 2 | 108.3 | 108.3 | 108.53 | 1 | 3.6 |
| EV92707270 | 2 | 98.34 | 98.34 | 97.98 | 1 | 1.69 |
| FC30109180 | 6 | 96.29 | 100.28 | 97.28 | 1.03 | 11.48 |
| FC73209200 | 4 | 92.75 | 97.52 | 95.94 | 1.02 | 8.97 |
| FD37710205 | 2 | 100.76 | 100.76 | 100.91 | 1 | 0.76 |
| FG71804305 | 2 | 105.04 | 105.04 | 105.05 | 1 | 2.55 |
| FH33309180 | 3 | 95.63 | 95.09 | 95.11 | 1 | 1.17 |
| FH41310180 | 3 | 104.39 | 104.21 | 104 | 1 | 2.67 |
| FP88008200 | 2 | 94.01 | 94.01 | 94.01 | 1 | 0.9 |
| FR20009220 | 3 | 92.67 | 92.46 | 92.42 | 1 | 2.47 |
| FR21509220 | 4 | 103.16 | 103.75 | 102.02 | 1.02 | 10.11 |
| FR22110205 | 4 | 97.2 | 96.5 | 96.36 | 1 | 1.83 |
| FS12010180 | 2 | 113.89 | 113.89 | 113.89 | 1 | 0 |
| FT24009180 | 2 | 88.82 | 88.82 | 88.82 | 1 | 0.7 |
| FV88714095 | 2 | 98.66 | 98.66 | 98.45 | 1 | 1.36 |
| FV89307280 | 2 | 103.31 | 103.31 | 103.31 | 1 | 3.2 |

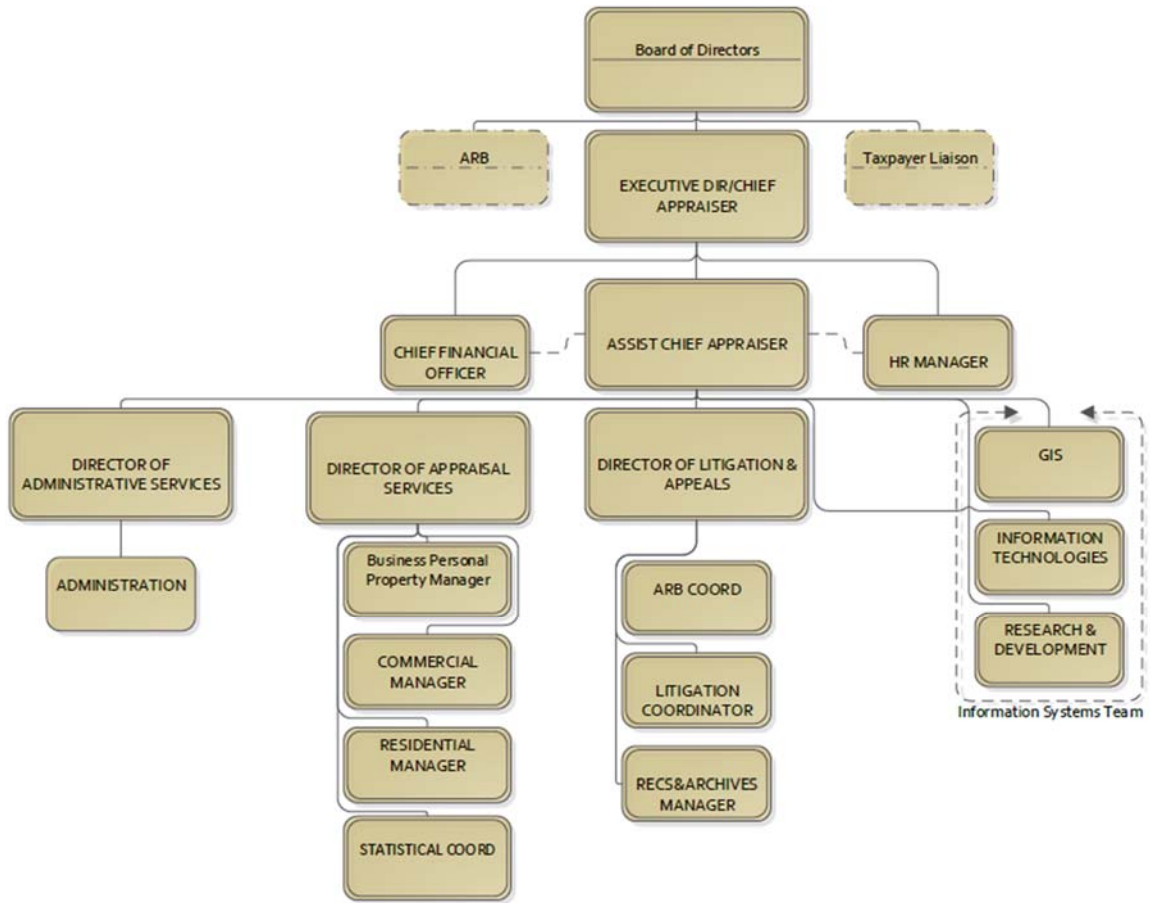
Appraisal Ratios Report

| Neighborhood | Count | Median | Mean | W Mean | PRD | COD |
|--------------|-------|--------|--------|-----------|------|-------|
| FV89310300 | 2 | 100.96 | 100.96 | 100.33 | 1.01 | 10.42 |
| FV89411275 | 2 | 119.79 | 119.79 | 119.05 | 1.01 | 6.91 |
| GL19710425 | 9 | 96.73 | 103.49 | 102.5 | 1.01 | 9.3 |
| HC10217260 | 9 | 105.9 | 107.56 | 107.3 | 1 | 5.02 |
| HT02706375 | 3 | 100.19 | 111.6 | 109.51 | 1.02 | 11.93 |
| JC65000000 | 3 | 103.53 | 102.68 | 102.54 | 1 | 1.86 |
| JH01000000 | 4 | 110.6 | 106.66 | 106.75 | 1 | 8.15 |
| JP65516215 | 2 | 97.75 | 97.75 | 97.75 | 1 | 0 |
| LR24207260 | 3 | 97.3 | 99.26 | 99.32 | 1 | 2.02 |
| LS07500000 | 3 | 112.05 | 112.52 | 112.52 | 1 | 0.43 |
| PE74613350 | 2 | 94.59 | 94.59 | 94 | 1.01 | 6.85 |
| RD41709400 | 2 | 91.68 | 91.68 | 91.64 | 1 | 0.98 |
| RE07609340 | 2 | 99.22 | 99.22 | 99.26 | 1 | 0.78 |
| RH77108350 | 3 | 99.51 | 99.57 | 100.39 | 0.99 | 6.27 |
| RH78509180 | 2 | 87.67 | 87.67 | 87.75 | 1 | 5.06 |
| RH78809420 | 3 | 97.24 | 98.81 | 99.21 | 1 | 5.01 |
| RR22009280 | 3 | 86.21 | 88.02 | 87.72 | 1 | 5.19 |

Neighborhoods to be Inspected

| Neighborhoods | Count | Median | Mean | W Mean | PRD | COD |
|---------------|-------|--------|--------|-----------|------|-------|
| AC34016260 | 5 | 111.17 | 107.84 | 107.01 | 1.01 | 6.79 |
| AL62610500 | 6 | 105.83 | 107.66 | 107.23 | 1 | 5.22 |
| AP32718800 | 6 | 95.76 | 97.16 | 97.55 | 1 | 4.65 |
| | | | | | | |
| CD04710220 | 5 | 107.09 | 105.13 | 105.46 | 1 | 5.15 |
| CM39507550 | 9 | 106.02 | 108.03 | 107 | 1.01 | 5.5 |
| CM42510200 | 6 | 94.35 | 98.86 | 97.66 | 1.01 | 8.42 |
| CS78208420 | 11 | 92.29 | 92.86 | 92.33 | 1.01 | 5.84 |
| CS81610200 | 5 | 108 | 106.47 | 106.64 | 1 | 5.41 |
| | | | | | | |
| DG56908210 | 8 | 96.18 | 99.45 | 94.91 | 1.05 | 8.01 |
| | | | | | | |
| EE05410220 | 8 | 106.69 | 107.18 | 106.51 | 1.01 | 7.56 |
| EI25611250 | 8 | 111.24 | 113.71 | 112.14 | 1.01 | 10.87 |
| ES22511190 | 6 | 97.43 | 96.17 | 95.96 | 1 | 4.92 |
| ES23111220 | 5 | 97.3 | 97.28 | 97.34 | 1 | 5.66 |
| EV89309230 | 5 | 105.6 | 110.36 | 107.62 | 1.03 | 12.15 |
| | | | | | | |
| FC30109180 | 6 | 96.29 | 100.28 | 97.28 | 1.03 | 11.48 |
| | | | | | | |
| HC10217260 | 9 | 105.9 | 107.56 | 107.3 | 1 | 5.02 |

Appendix C: Organizational Chart and Department Calendar of Events



Appendix C: Organizational Chart and Department Calendar of Events

| MONTH | ACTIVITY OR EVENT | TARGET | DEPT |
|-------|------------------------------------------------------------------------------------------|--------|-------|
| 12 | CFO provides budget request forms for next fiscal year budget | | ACCT |
| 1 | Auditor presents results of financial audit to Board | JAN | ACCT |
| 1 | Prepare, disburse, submit tax statements to employees and IRS | FEB | ACCT |
| 1 | Departments submit budget requests | MARCH | ACCT |
| 2 | Executives prepare budget | MARCH | ACCT |
| 3 | Submit preliminary budget to Board and taxing entities | MARCH | ACCT |
| 4 | Budget workshops and notification of public hearing for budget | APR | ACCT |
| 5 | Public hearing, final budget review and adoption | JUNE | ACCT |
| 6 | Perform physical inventory of assets and reconciles with records | AUG | ACCT |
| 9 | Prepare for financial audit | NOV | ACCT |
| 10 | Begins fiscal year | OCT | ACCT |
| 10 | Managers discuss goals and objectives for budget | DEC | ACCT |
| 11 | Financial field audit | NOV | ACCT |
| 1 | Publish press releases for renditions, exemption applications and special valuations, ag | | ADMIN |
| 1 | Review/revise enclosures for notices of value | MARCH | ADMIN |
| 1 | Review/revise enclosures for appointment letters | MARCH | ADMIN |
| 1 | Create Annual Report | | ADMIN |
| 2 | Review online protest systems for revisions, improvements | | ADMIN |
| 3 | Mail Notices of Appraised Value to homesteaded residential properties | JUNE | ADMIN |
| 3 | Mail Notices of Appraised Value to all remaining properties | JUNE | ADMIN |
| 4 | Begin collecting customer service reports and recording statistics | JULY | ADMIN |
| 6 | Schedule and revise forms and procedures to comply with new legislation | | ADMIN |
| 6 | Schedule training for ARB hearings with new legislation | | ADMIN |
| 6 | Submit Operations Survey to Comptroller's Office | | ADMIN |
| 6 | Submit appraisal roll for ARB approval | | ADMIN |
| 7 | Certify the appraisal roll to taxing units by July 25th | | ADMIN |
| 8 | Prepare Mass Appraisal Report | | ADMIN |

Appendix C: Organizational Chart and Department Calendar of Events

| MONTH | ACTIVITY OR EVENT | TARGET | DEPT |
|-------|---------------------------------------------------------------------------------------------------|--------|---------|
| 11 | Review and update all forms and letters in PACS for revisions, dates, signatures, contact numbers | | ADMIN |
| 11 | Check state forms for revisions and replace/add to intranet folders | | ADMIN |
| 12 | Review, revise annual press releases | | ADMIN |
| 12 | Review district's website for additions/deletions | | ADMIN |
| 1 | Monitor progress | DEC | ALL |
| 1 | Quality control | DEC | ALL |
| 1 | Mail balance of annual exemption, rendition, ag application and other form mailings | | ALL |
| 8 | Work plan development | DEC | ALL |
| 9 | Begin employee evaluations of all district staff | | ALL |
| 12 | Begin mailing annual forms, renditions, exemption applications | | ALL |
| 1 | Review department manuals and revise and publish as needed | | APPR |
| 1 | Documentation gathering | DEC | APPR |
| 1 | Begin processing renditions | MAY | APPR/PP |
| 1 | Mail and process freeport exemption applications | MAY | APPR/PP |
| 1 | Begin processing special inventory reports | DEC | APPR/PP |
| 1 | Mail and process data forms for warehouse listings, taxis and airplane hangars | MAY | APPR/PP |
| 1 | Sales file development | DEC | APPR/R |
| 2 | Flag accounts not ready for Notice of Appraised Value | MARCH | APPR |
| 2 | Begin processing requests for rendition extensions | MAY | APPR/PP |
| 2 | Review/implement residential neighborhood market adjustments | MARCH | APPR/S |
| 2 | Revise approved appraisal model specification where needed | JAN | APPR/S |
| 2 | Gather evidence for defense of values | APRIL | APPR/S |
| 3 | Deadline to submit Property Value Study Appeals Evidence | | APPR/R |
| 3 | Analyze values for final value edits | | APPR/S |
| 4 | Defend values in informal & formal hearings | AUG | APPR |
| 4 | Work with contract appraisers on values and defense of values | JUNE | APPR/PP |
| 5 | Track protest trends | AUG | APPR/S |

Appendix C: Organizational Chart and Department Calendar of Events

| MONTH | ACTIVITY OR EVENT | TARGET | DEPT |
|--------------|----------------------------------------------------------------------------------------------|---------------|-------------|
| 7 | Begin training staff for data collection, field work | | APPR |
| 7 | Begin field work for building permits, new construction, rechecks | | APPR |
| 7 | Run sales ratio studies to determine focus of field work for coming tax year | | APPR |
| 8 | Review depreciation guidelines | JAN | APPR |
| 7 | ARB approves appraisal records for tax year | JULY | ARB |
| 8 | Schedule motions under Section 25.25 to ARB | | ARB |
| 8 | Receive, process motions to correct roll | MARCH | ARB |
| 4 | Complete timely ARB hearings | AUG | ARB |
| 1 | Begin processing exemption applications | | D&E |
| 1 | Maintain single family residence ownership records | DEC | D&E |
| 1 | Coordinate mailing of exemption applications | | D&E |
| 1 | Verify exemption eligibility of veterans organizations | FEB | D&E |
| 1 | Validate, update veterans' disability exemptions | FEB | D&E |
| 1 | Dispose of prior year scanned source documents | FEB | D&E |
| 3 | Mail reminder letters to veterans failing to respond to request for information | APRIL | D&E |
| 4 | Process undeliverable mail coming from Notices of Appraised Value | SEPT | D&E |
| 7 | Dispose of prior years' records that have met retention schedules | SEPT | D&E |
| 8 | Change addresses of single family residences resulting from returned mail as Undeliverable | SEPT | D&E |
| 8 | Remove exemptions from single family residences from undeliverable mail/mismatched addresses | JULY | D&E |
| 10 | Provide customer support when tax bills are mailed | | D&E |
| 1 | Customer service training | APRIL | HR |
| 9 | Open enrollment for employee benefits Health and Dental | SEPT | HR |
| 12 | Supplemental Vision | DEC | HR |
| 9 | Employee evaluations process | NOV | HR |
| 9 | Evaluation review by HR | OCT | HR |
| 12 | Enrollment employees into Vision plan | DEC | HR |
| 1 | TML Driver Training bi annually | | HR |

Appendix C: Organizational Chart and Department Calendar of Events

| MONTH | ACTIVITY OR EVENT | TARGET | DEPT |
|-------|-----------------------------------------------------------------------------|--------|----------|
| 9 | Wellness Fair | OCT | HR |
| 1 | Provide support as needed for completing Open Records and Evidence Requests | DEC | IT/OS |
| 1 | Mailing Address/Ownership Database Edits | | IT/OS |
| 1 | Address Scrub - Run 4 x year | | IT/OS |
| 1 | Run Homestead Applications Forms | | IT/OS |
| 1 | Run Mobile Home and Business Personal Property Renditions | | IT/OS |
| 1 | Run mobile home park manager listing | | IT/OS |
| 2 | Run requests and reminders for VA exemption | MARCH | IT/OS |
| 7 | Prepare and run certified appraisal rolls | | IT/OS |
| 7 | Review, setup supplemental sub-system for current year's supplements | | IT/OS |
| 7 | Begin preparation for bill file creation, supplements and submission | SEPT | IT/OS |
| 7 | Create new year layer in PACS system for appraisal work for coming year | | IT/OS |
| 8 | Run state reports | FEB | IT/OS |
| 9 | Run address scrub to prepare for bill file | | IT/OS |
| 9 | Create bill file | | IT/OS |
| 9 | Monitor, provide support in processing supplements as prior years | | IT/OS |
| 12 | Review and update district's intranet for additions/deletions | | IT/OS |
| 12 | Review & coordinate with departments for updates for January mailings | JAN | IT/OS |
| 9 | Hardware and software modifications | | IT/OS/JS |
| 1 | GIS map maintenance (New Subdivision maps & inventory) | SEPT | MAP |
| 2 | Shredding inventory preparation | MARCH | MAP |
| 3 | Subdivisions & deeds for future layer | APRIL | MAP |
| 3 | GEO IDs, topology & special boundaries reviewed | | MAP |
| 6 | GEO IDs, topology & special boundaries reviewed | | MAP |
| 7 | GIS SDE replication update to entities | AUG | MAP |
| 7 | GIS training | DEC | MAP |
| 9 | Shredding inventory preparation | OCT | MAP |

Appendix C: Organizational Chart and Department Calendar of Events

| MONTH | ACTIVITY OR EVENT | TARGET | DEPT |
|--------------|----------------------------------------------------------------------------|---------------|-------------|
| 9 | GEO IDs, topology & special boundaries reviewed | | MAP |
| 11 | GIS hardware and software modification | DEC | MAP |
| 12 | GEO IDs, topology & special boundaries reviewed | | MAP |
| 2017 | | | |
| 1 | MAP audit onsite review begins | | ADMIN |
| 1 | Begin tracking new legislation | | ADMIN |
| 1 | Begin review of procedures revised or created in 2016 | | ADMIN |
| 1 | Deadline to submit Property Value Study Appeals Evidence for 2016 | | ADMIN |
| 3 | Address any MAP audit recommendations | | ADMIN |
| 4 | Review new legislation for changes effective immediately | MAY | ADMIN |
| 5 | Publish new legislation recap for managers | | ADMIN |
| 6 | Publish results of legislative session and changes required for compliance | | ADMIN |
| 6 | Revise procedures affected by legislation effective immediately | | ADMIN |
| 6 | Complete revision of procedures affected by legislation effective 9/1 | | ADMIN |
| 9 | Complete revision of procedures affected by legislation effective 1/1 | | ADMIN |
| 2018 | | | ADMIN |
| 1 | Begin review of procedures revised or created in 2017 | | ADMIN |
| 7 | Begin review/revision of Reappraisal Plan for 2019-2020 | | ADMIN |
| 8 | Complete Reappraisal Plan and submit for Chief Appraiser's approval | | ADMIN |
| 9 | Begin preparation for MAP audit | | ADMIN |
| 9 | Board of Directors review/revise/approve Reappraisal Plan | | ADMIN |

Appendix D: Budget 2016-2017

Appendix E: Wardlaw Appraisal Group

Contract Valuation Support

Appraisal Responsibility

Wardlaw Appraisal Group, LC (Wardlaw) provides complex property appraisal support services for the El Paso Central Appraisal District (CAD). The complex properties Wardlaw appraises are generally referred to as utility, industrial, commercial and real properties and fall under the F, G, J, and L Categories. El Paso Central Appraisal District contracts with Wardlaw to appraise properties where they lack the in-house expertise to appraise these complex properties. Under the contracts, Wardlaw acts as an agent of the CAD and provides many of the appraisal and support services required under the Texas Property Tax Code and the Uniform Standard of Professional Appraisal Practices (USPAP). This document details the reappraisal practices that Wardlaw performs on behalf of the client CADs and is intended to be incorporated by the CADs into their own Reappraisal Plan.

Appraisal Calendar

Wardlaw adheres to the property tax calendar as established by the State of Texas Property Tax Code. The Wardlaw appraisal calendar generally follows this schedule:

| | |
|-------------------------|----------------------------------------------------------------------------------------------------------------------|
| November – April: | Field Inspections of Properties |
| January 1: | Beginning of the Tax Year |
| Prior to January 31: | Rendition Request Letters mailed |
| January 31: | Last day for receipt of 25.25 protests from prior year |
| April 15: | Renditions due |
| Around May 1: | Mail Notices of Appraised Value |
| May 1: | Begin Equalization Process. Work with property owners to explain appraisals and work on formal and informal protests |
| Around June 1: | Mail Notices of Appraised Value for properties with an Extension |
| Late June – Early July: | ARB Hearings |
| Mid-July: | Deliver totals and Certified Rolls to CADs |
| August – November: | Process Property Supplements, Additions and Deletions |
| November: | Begin Field Appraisals for coming Tax Year |

Equalization Period

Preliminary values established by the 25.19 Notices of Appraised Value are subject to change during the equalization period. These changes can be initiated by property owner formal or informal protests. The changes can also be initiated by Wardlaw if new information regarding a property becomes available. Formal and informal protests on the mineral, utility, industrial, commercial and real properties are handled directly by Wardlaw, within the appropriate timetables established by the Property Tax Code. Wardlaw attempts to contact protesting taxpayers so that we can;

- 1) Provide the taxpayer an opportunity to explain the reason for their protest*
- 2) Explain the appraisal methodology and appraisal parameters used on each protested property*
- 3) Consider whether the preliminary appraisal should be adjusted in light of taxpayer evidence*

4) Provide settlement and withdrawal paperwork to the taxpayer if appropriate

Wardlaw directly responds to taxpayer requests for appraisal information and supporting appraisal documentation by providing the requested information in a timely manner. Wardlaw then goes on to represent the CAD before the Appraisal Review Board (ARB) to justify appraised values for all protested properties that fall under the mineral, utility, industrial, commercial and real contract.

Documentary evidence of formal and informal changes is then provided to the CAD and ARB in the form of Withdrawal of Protest Settlement waivers on formally protested accounts. The final values are then delivered for certification.

Utility, Industrial & Commercial Property Valuation Process

Appraisal Responsibility

Utility, Industrial and Commercial properties are the tangible assets of various businesses including electric production, transmission, and distribution companies, railroads, petroleum product gathering and delivery pipelines, telephone and communication providers and others. Utility properties are identified in the Texas Property Tax Code as Category J property. Industrial properties are identified under the Texas Property Tax Codes as categories L2 (Industrial, Personal), F2 (Industrial, Real) and L1 (Commercial). The valuation of these properties is considered to be complex due to the involvement of both tangible and intangible property elements that comprise these businesses and due to the size of some of the utilities that are regional and national companies. The appraisal of these companies becomes complex when considering the valuation of the property as a unit in place, evaluating the property by the approaches to value at the company level. The appraisal district does not have personnel qualified to perform this type of appraisal. An appraisal firm is employed to provide the expertise to perform this type of appraisal. Once the estimated value of the unit is determined by the appraisal firm, that estimated market value is allocated based on the tangible property assets that are located within each CAD.

Appraisal Resources

- Personnel – The appraisal firm provides adequate personnel to perform the appraisals.
- Data - A common set of data characteristics for each utility, industrial and commercial property account in each CAD is collected from the various government regulatory agency records, field inspections, data resources, and property owner renditions. This data is entered to the appraisal firm's computer. Individual company financial information is gathered through industry specific governmental filings such as Federal Energy Regulatory Commission Reports, Securities and Exchange Commission 10-k filings, Railroad Commission and Public Utility Commission publications. Other company information is gathered from annual reports, internal appraisals, and other in-house and industry publications. Property owner renditions are requested in order to document and list property

owned and located in our particular jurisdictions (i.e.: track mileage, number of meters, pipeline size and mileage, substation and transmission capacity, etc.). The property characteristic data drives the computer-assisted appraisal of the property.

The appraisal of utility and industrial property utilizes three-approach analysis to form an opinion of value for the property. Financial and capital market information is pertinent to understanding factors affecting valuation of complex property. It is necessary to gather financial data to attempt understanding investor and corporate attitudes for capital return expectations and to give consideration to return components such as current interest rates, capital debt structure, bond market rates, and capital supply and demand trends. These financial factors result in overall return rates and capital structure for these companies and affects capitalization rates. The weighted average cost of capital is the most commonly used method of estimating capitalization rates for utility properties. Capitalization rates are estimated using capital return expectations from various publications: Duff & Phelps Valuation Handbook, Wall Street Journal, Mergent Bond Record, Moody's Corporate Bond Yield Averages, S & P Capital IQ. Industry specific information is also gathered from web sites, publications, periodicals, and reference manuals. The appraisal firm then estimates the capitalization rate for utility appraisal under the income approach.

VALUATION AND STATISTICAL ANALYSIS (model calibration)

Approaches to Valuation, Reconciliation

Valuation of tangible assets for utility and industrial companies relies primarily on indications of value based on the cost and income approaches to value under the unit value approach. This methodology involves developing and estimating market value considering the entirety of the company's tangible assets and resolving an allocated value for that portion of specific tangible assets located in particular tax jurisdictions. The valuation opinion is based on three approach analysis utilized for the indicated unit appraisal of all company tangible assets, then an estimated allocation of unit value for only assets located in the district and particular jurisdictions. This methodology is approved and recommended by the Property Tax Assistance Division of the Comptroller's Office and is an accepted standard within the industry and appraisal community.

Value Review Procedures

Review of the valuation of utility property is based on verifying economic and financial factors utilized in the methodology as relevant to current capital markets and that these factors reflect current return expectations. Market sales of utility properties do occur and are a good source for comparison and review when the price of the tangible assets can be abstracted or allocated from the selling price. Typically, the sale of utility companies involve significant intangible property assets such as customer base, goodwill, favorable contracts, name recognition, etc. and the contributory value and allocation of these assets is subjective and unknown. In Texas, intangible property assets are exempt from taxation and must not be included on the appraisal roll as taxable property. Therefore, because of the lack of specific market information on sales

of utility properties, appraised value is regularly compared to the valuation of similar property within the same set of property characteristics, business type and size. More of comparison for equity concerns on valuation rather than the full recognition of a market level certainty about appraisal level. Of course, the estimated value is based on recognized methodology for considering the valuation of these tangible assets, but true market confirmation of these factors may not be possible due to minimal market knowledge and experience.

Ratio studies are also a method of review for relevance of appraisal valuation to market value. Again, in the absence of full disclosure of prices paid and without the abstraction of prices paid for the tangible asset components from recent utility property acquisitions or sales, market based analysis and review is not possible. Ratio studies for utility property must rely on a comparison of one appraisal opinion as the basis for the reasonable property valuation with the district's appraised value to determine the ratio for level and uniformity of appraisal. The PTAD conducts the annual ratio study of selected utility properties to gauge the appraisal district's performance. The PTAD utilizes the same valuation methodology to estimate appraisal valuations of utility properties and the results, when compared to the appraisal valuation estimated by the appraisal firm for these properties yield ratios. This ratio study of certain utility properties indicates the level and uniformity of appraisal for this category of property

Appendix F: Glossary

Appraisal Accuracy: Closeness of an estimated (for example, measured or computed) value to a standard or accepted value of a particular quantity. Compare integrity, precision, validity.

Aerial Photograph: A photograph of a part of the earth's surface taken by an aircraft-supported camera.

Agricultural Property: Improved or unimproved land that is devoted to or available for the production of crops and/or other agricultural products, livestock, and agricultural support buildings.

Appraisal Ratio: (1) The ratio of the appraised value to an indicator of market value. (2) By extension, an estimated fractional relationship between the appraisals and market values of a group of properties. See also level of appraisal.

Appraisal Ratio Study: A ratio study using independent expert appraisals as indicators of market value.

Appraisal to Sale Price Ratio: The ratio of the appraised value to the sale price (or adjusted sale price) of a property; a simple indication of appraisal accuracy.

Appraised Value: The estimate of the value of a property before application of any fractional assessment ratio, partial exemption, or other adjustments.

Array: An ordered arrangement of data, such as a listing of sales ratios, in order of magnitude.

Assemblage: The assembling of adjacent parcels of land into a single unit. Compare plottage.

Assembly Value—The excess of the value of a large parcel of land formed from a number of smaller parcels over the sum of the values of the unassembled parcels.

Assessed Value: (1) A value set on real estate and personal property by a government as a basis for levying taxes. (2) The monetary amount for a property as officially entered on the assessment roll for purposes of computing the tax levy. Assessed values differ from the assessor's estimate of actual (market) value for three major reasons: fractional assessment ratios, partial exemptions, and decisions by assessing officials to override market value. The process of gathering and interpreting economic data to provide information that can be used by policymakers to -----

Assessment, Special: A compulsory charge imposed by a government on the owners of a selected group of properties to defray, in whole or in part, the cost of a specific improvement or service that is presumed to be of general benefit to the public and of special benefit to the owners of such properties. Synonymous with betterment tax. Note: Some authorities conceive of a special assessment as a non-recurring charge, but such a concept is inapplicable to the charges made for nuisance abatement, which are now commonly called special assessments.

Assessment to Appraisal Ratio: The ratio of the assessed value of a property to an independent appraisal.

Assessment Equity: The degree to which assessments bear a consistent relationship to market value.

Assessment Level: The common or overall ratio of assessed values to market values.

Board of Appeals: A public body (other than a court) charged with the duty of hearing and deciding appeals taken by taxpayers or tax districts on assessments established by public officers or bodies other than the courts. Synonymous with Board of Tax Appeals. Note: The decisions of such a board are subject to further review by the courts on matters of law, but its findings are often made conclusive as to matters of fact.

Building Cost Schedule: A table giving approximate reproduction costs per cubic foot, per square foot of floor area, or per square foot of ground area for each of the standard buildings in the building classification schedule. Note: The building cost schedule must be supplemented by cost schedules for parts of a building, such as an oil heating system or air-conditioning system, to take care of situations in which a building has specifications differing in some detail from those of the standard building.

Cadastral Map: A scale map displaying property ownership boundaries and showing the dimensions of each parcel with related information such as parcel identifier, survey lines, and easements. Annotations on recent sales prices and land value are sometimes added.

Calibration: The process of estimating the coefficients in a mass appraisal model.

Capitalization: The phenomenon whereby one or more events of economic consequence expected to happen in the future exert an economic effect on values, processes, and decisions in the present. Specifically, the conversion of expected income and rate of return into an estimated present value in the income approach to value. Property taxes, anticipated changes, and land-related government services may also be capitalized. See also yield capitalization.

Capitalization Rate: Any rate used to convert an estimate of future income to an estimate of market value; the ratio of net operating income to market value.

Central Tendency: (1) The tendency of most kinds of data to cluster around some typical or central value, such as the mean, median, or mode. (2) By extension, any or all such statistics. Some kinds of data, however, such as the weights of cars and trucks, may cluster about two or more values, and in such circumstances, the meaning of central tendency becomes unclear. This may happen in ratio studies when two or more classes of property are combined.

Central Tendency, Measure of: A single point in a range of observations around which the observations tend to cluster. The three most commonly used measures of central tendency are the mean, median, and mode.

Class: A set of items defined by common characteristics. (1) In property taxation, property classes such as residential, agricultural, and industrial may be defined. (2) In assessment, building classification systems based on type of building design, quality of construction, or structural type are common. (3) In statistics, a predefined category into which data may be put

for further analysis. For example, ratios may be grouped into the following classes: less than 0.500, .500 to 0.599, 0.600 to 0.699, and so forth.

Classification: (1) The act of segregating property into two or more classes for the application of different effective tax rates by means of one or more special property taxes (see tax, special property) or a classified property tax system. For a representative scheme, see property use category. (2) In a geographic information system, the process of assigning individual pixels of a multispectral image to categories, generally on the basis of spectral reflectance characteristics.

Coefficient of Dispersion (COD): The average deviation of a group of numbers from the median expressed as a percentage of the median. In ratio studies, the average percentage deviation from the median ratio.

Coefficient of Variation (COV): A standard statistical measure of the relative dispersion of the sample data about the mean of the data; the standard deviation expressed as a percentage of the mean.

Comparable Sales: Comparables: (1) Recently sold properties that are similar in important respects to a property being appraised. The sale price and the physical, functional, and locational characteristics of each of the properties are compared to those of the property being appraised in order to arrive at an estimate of value. (2) By extension, the term "comparables" is sometimes used to refer to properties with rent or income patterns comparable to those of a property being appraised.

Computer-Assisted Mass Appraisal (CAMA): A system of appraising property, usually only certain types of real property, that incorporates computer-supported statistical analyses such as multiple regression analysis and adaptive estimation procedure to assist the appraiser in estimating value.

Cost Approach: (1) One of the three approaches to value, the cost approach is based on the principle of substitution—that a rational, informed purchaser would pay no more for a property than the cost of building an acceptable substitute with like utility. The cost approach seeks to determine the replacement cost new of an improvement less depreciation plus land value. (2) The method of estimating the value of property by: (a) estimating the cost of construction based on replacement or reproduction cost new or trended historic cost (often adjusted by a local multiplier); (b) subtracting depreciation; and, (c) adding the estimated land value. The land value is most frequently determined by the sales comparison approach

Cost Schedules: Charts, tables, factors, curves, equations, and the like intended to help estimate the cost of replacing a structure from a knowledge of some other factors, such as its quality class and number of square feet.

Covenant: A covenant is a promise written into a legal agreement (such as a deed) that binds the parties to abide by or refrain from certain acts. A deed restriction is a special kind of covenant.

Declaration: A term occasionally used to designate a property list filed by a taxpayer.

Declaration of Restrictions—A set of recorded restrictions that applies to a specific area or subdivision.

Demarcation: to show the limits or edges of (something).

Density: The total number of specific items present within a designated unit of area.

Depreciation: Loss in value of an object, relative to its replacement cost new, reproduction cost new, or original cost, whatever the cause of the loss in value. Depreciation is sometimes subdivided into three types: physical deterioration (wear and tear), functional obsolescence (suboptimal design in light of current technologies or tastes), and economic obsolescence (poor location or radically diminished demand for the product).

Depreciation, Book: An accounting term referring to the total accruals recorded on the books of the owner of property summarizing the systematic and periodic expenses charged toward amortizing the investment of limited-life property over its expected life.

Depreciation, Curable: That part of depreciation that can be reversed by correcting deferred maintenance and by remodeling to relieve functional obsolescence. See also cost to cure.

Depreciation, Economic: (1) Depreciation due either (a) to an increase in supply of the property under consideration or (b) to a reduction in monetary demand for properties of the type under consideration unaccompanied by shifts in demand from such properties to other properties and/or personal services (preferred). (2) Depreciation of any sort other than physical depreciation. Note: A depression is accompanied by economic depreciation of the type indicated in 1(b) because of a general decline in purchasing power. Depressions are also accompanied by obsolescence because of changes in the relative distribution of purchasing power. Contrast depreciation, physical; obsolescence.

Depreciation, Functional: Synonymous with the preferred term obsolescence.

Depreciation, Observed: The amount of depreciation, expressed as a percentage of original or reproduction cost new, estimated on the basis of an actual inspection of the property.

Depreciation, Physical: Depreciation arising solely from a lowered physical condition of the property or a shortened life span as the result of ordinary use, abuse, and action of the elements.

Depreciation, Structural: Synonymous with the preferred term physical depreciation.

Depreciation in Accounting: (1) In accounting, a method providing for systematic allocation or recovery of cost over an asset life. (2) In appraisal, a loss of market value of an asset relative to its cost. Depreciation may stem from any cause that results in actual loss.

Depreciation Schedules: Tables used in mass appraisal that show the typical loss in value at various ages or effective ages for different types of properties.

Dispersion: The degree to which data are distributed either tightly or loosely around a measure of central tendency. Measures of dispersion include the average deviation, coefficient of dispersion, coefficient of variation, range, and standard deviation.

Economic Area: A geographic area, typically encompassing a group of neighborhoods, defined on the basis that the properties within its boundaries are more or less equally subject to a set of one or more economic forces that largely determine the value of the properties in question.

Equalization: The process by which an appropriate governmental body attempts to ensure that all property under its jurisdiction is assessed at the same assessment ratio or at the ratio or ratios required by law. Equalization may be undertaken at many different levels. Equalization among use classes (such as agricultural and industrial property) may be undertaken at the local level, as may equalization among properties in a school district and a transportation district; equalization among counties is usually undertaken by the state to ensure that its aid payments are distributed fairly.

Equity: (1) In assessment, the degree to which assessments bear a consistent relationship to market value. Measures include the coefficient of dispersion, coefficient of variation, and price-related differential. See also horizontal inequity and vertical inequity. (2) In popular usage, a synonym for tax fairness. (3) In ownership, the net value of property after liens and other charges have been subtracted.

Exemption, Absolute: A complete or total exemption that excludes an entire property from taxation without regard to its value; a reduction in the property tax base.

Exemption, Homestead: Freedom of part or all of the value of a homestead from property taxation; a reduction in the property tax base.

Exemption, Industrial: An exemption granted to property used in industrial pursuits as a means of stimulating industrial development or inducing relocation of plants; a reduction in the property tax base. See also enterprise zone.

Exemption, Institutional: Freedom from the property tax granted to property owned and/or used by charitable, educational, or religious institutions or agencies, in recognition of the public services rendered by them; a reduction in the property tax base.

Exemption, Personal: Freedom from the property tax of some or all classes of property in limited or unlimited amounts by reason of its ownership by natural persons or particular groups of natural persons, or persons with certain attributes; a reduction in the property tax base.

Field Review: The practice of reviewing the reasonableness of assessments by viewing the properties in question, sometimes by examining their interiors but more often by looking at their exteriors

Geographic Information System (GIS): (1) A database management system used to store, retrieve, manipulate, analyze, and display spatial information. (2) One type of computerized mapping system capable of integrating spatial data (land information) and attribute data among different layers

Gross Rent Multiplier (GRM): (1) The factor by which gross rent is multiplied in order to obtain an estimate of value (2) The ratio between sale price and potential gross income or effective gross income. By convention, the gross rent multiplier is typically the term used when developing the relationship based on monthly rent.

Homestead: A building occupied by the owner of the freehold and his or her family, with the primary intention of making it their home, together with the parcel of land on which it stands and

the other improvements appurtenant to it. See estate of freehold. Note: This is a term variously defined by the several states and for several purposes. Most definitions pertain to the exemption of property from levy and sale and, as such, are not concerned with the nature of the estate that a householder owns in his or her home. The above definition, which is intended only for purposes of homestead tax exemption laws, requires further elaboration to indicate what constitutes a family, what constitutes occupancy primarily as a home, how large a parcel of land can be included as part of the homestead, and what constitutes an improvement appurtenant to the home. There is as yet no substantial agreement on these points among the states.

Homogeneous: Possessing the quality of being alike in nature and therefore comparable with respect to the parts or elements; said of data if two or more sets of data seem to be drawn from the same population; also said of data if the data are of the same type (that is, if counts, ranks, and measures are not all mixed in together).

Hybrid Model: A model that incorporates both additive and multiplicative components. See also additive model and multiplicative model.

Improvement: Anything done to raw land with the intention of increasing its value. A structure erected on the property constitutes one very common type of improvement, although other actions, such as those taken to improve drainage, are also improvements. Although such cases are rarely intentional, "improvements" can conceivably diminish the value of the land; note, however, that easements restricting the use and value of land are not considered improvements.

Improvements: Buildings, other structures, and attachments or annexations to land that are intended to remain so attached or annexed, such as sidewalks, trees, drives, tunnels, drains, and sewers. Note: Sidewalks, curbing, sewers, and highways are sometimes referred to as betterment, but the term improvements is preferred.

Improvements Other than Buildings: A fixed asset account that reflects the acquisition value of permanent improvements, other than buildings, that add value to land. Examples of such improvements are fences, retaining walls, sidewalks, pavements, gutters, and tunnels. This account contains the purchase or contract price; if improvements are obtained by gift, the account reflects the appraised value at time of acquisition.

Improvement to Land: Designed to enhance a site's utility for general use (fill, water, and wastewater lines, for example), or to reshape the land's natural contours for more specific use (stock tanks, for example). Any publicly constructed improvement that does not fulfill a specific use—such as curbs, gutters, and sidewalks—constitutes an improvement to land.

Income: The payments to its owner that a property is able to produce in a given time span, usually a year, and usually net of certain expenses of the property.

Income Approach: One of the three approaches to value, based on the concept that current value is the present worth of future benefits to be derived through income production by an asset over the remainder of its economic life. The income approach uses capitalization to convert the anticipated benefits of the ownership of property into an estimate of present value.

Income Capitalization: The process of dividing a property's net annual income by a capitalization rate in order to arrive at an estimated value.

Interest (Interest Rate): The premium paid for the use of money; a (rate of) return on capital; the equilibrium price in money markets. The interest rate usually incorporates a risk factor, an illiquidity factor, a time-preference factor, an inflation factor, and potentially, other factors.

Inventory: (1) The group of personal property items whose value is exhibited by value in exchange, that is, ownership is solely for the purpose of sale rather than use. (2) In general, any detailed list showing quantities and descriptions, and usually values or prices, of property. (3) Frequently used in the plural form to designate all types of current, physical assets that are customarily listed by quantities, descriptions, and values or prices for regular accounting purposes; for example, raw materials, goods in process, finished goods, office supplies, stores. (4) Occasionally (for example, in Vermont), a tax list.

Jurisdiction: (1) The right and power to interpret and apply the law; also, the power to tax and the power to govern. (2) The territorial range of authority or control.

Land: (1) In economics, the surface of the earth and all the natural resources and natural productive powers over which possession of the earth's surface gives man control. (2) In law, a portion of the earth's surface, together with the earth below it, the space above it, and all things annexed thereto by nature or by man.

Lease: A written contract by which the lessor (owner) transfers the rights to occupy and use real or personal property to another (lessee) for a specified time in return for a specified payment (rent).

Legal Description: Delineation of dimensions, boundaries, and relevant attributes of a real property parcel that serve to identify the parcel for all purposes of law. The description may be in words or codes, such as metes and bounds or coordinates (see coordinate system). For a subdivided lot, the legal description would probably include lot and block numbers and subdivision name.

Level of Appraisal: The common, or overall, ratio of appraised values to market values. Three concepts are usually of interest: the level required by law, the true or actual level, and the computed level, based on a ratio study.

Linear Regression: A kind of statistical analysis used to investigate whether a dependent variable and a set of one or more independent variables share a linear correlation and, if they do, to predict the value of the dependent variable on the basis of the values of the other variables. Regression analysis of one dependent variable and only one independent variable is called simple linear regression, but it is the word simple (not linear) that distinguishes it from multiple regression analysis with its multiple independent variables.

Local Multiplier: An adjustment to replacement or reproduction cost new or historic cost, to reflect local costs.

Location: The numerical or other identification of a point (or object) sufficiently precise so the point can be situated. For example, the location of a point on a plane can be specified by a pair of numbers (plane coordinates) and the location of a point in space can be specified by a set of three numbers (space coordinates). However, location may also be specified in other terms than coordinates. A location may be specified as being at the intersection of two specific lines by identifying it with some prominent and known feature

Location Variable: A variable, such as the distance to the nearest commercial district or the traffic count on an adjoining street, that seeks to measure the contribution of locational factors to the total property value.

Map, Planimetric: A map that shows only the horizontal positions of the features represented.

Map, Tax: A map drawn to scale and delineated for lot lines or property lines or both, with dimensions or areas and identifying numbers, letters, or names for all delineated lots or parcels.

Map, Topographic: A map showing the horizontal and vertical locations of natural and artificial features. It is distinguished from a planimetric map by the presence of quantitative symbols showing the relief.

Market: (1) The topical area of common interest in which buyers and sellers interact. (2) The collective body of buyers and sellers for a particular product.

Marketability: The salability of a property at a specific time, price, and terms.

Market Adjustment Factors: Market adjustment factors, reflecting supply and demand preferences, are often required to adjust values obtained from the cost approach to the market. These adjustments should be applied by type of property and area and are based on sales ratio studies or other market analyses. Accurate cost schedules, condition ratings, and depreciation schedules will minimize the need for market adjustment factors.

Market Analysis: A study of real estate market conditions for a specific type of property.

Market Approach: A valuation term with several meanings. In its broadest use, it might denote any valuation procedure intended to produce an estimate of market value, or any valuation procedure that incorporates market-derived data, such as the stock and debt technique, gross rent multiplier method, and allocation by ratio. In its narrowest use, it might denote the sales comparison approach.

Market Price: The price a particular buyer and seller agree to in a particular transaction; the amount actually paid. Compare market value.

Market Rent: The rent currently prevailing in the market for properties comparable to the subject property. Market rent is capitalized into an estimate of value in the income approach.

Market Value: Market value is the major focus of most real property appraisal assignments. Both economic and legal definitions of market value have been developed and refined. A current economic definition agreed upon by agencies that regulate federal financial institutions in the United States is:

The most probable price (in terms of money) which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby: The buyer and seller are typically motivated; Both parties are well informed or well advised, and acting in what they consider their best interests; A reasonable time is allowed for exposure in the open market; Payment is made in terms of cash in United States dollars or in terms of financial arrangements comparable thereto; The price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.

Mass Appraisal: The process of valuing a group of properties as of a given date, using standard methods, employing common data, and allowing for statistical testing.

Mass Appraisal Model: A mathematical expression of how supply and demand factors interact in a market.

Mean: A measure of central tendency. The result of adding all the values of a variable and dividing by the number of values. For example, the mean of 3, 5, and 10 is 18 divided by 3, or 6. Also called arithmetic mean.

Median: A measure of central tendency. The value of the middle item in an uneven number of items arranged or arrayed according to size; the arithmetic average of the two central items in an even number of items similarly arranged; a positional average that is not affected by the size of extreme values.

Model Calibration: The development of adjustments, or coefficients based on market analysis, that identifies specific factors with an actual effect on market value.

Model Specification: The formal development of a model in a statement or equation, based on data analysis and appraisal theory.

Multiple Regression, Multiple Regression Analysis (MRA): A particular statistical technique, similar to correlation, used to analyze data in order to predict the value of one variable (the dependent variable), such as market value, from the known values of other variables (called "independent variables"), such as lot size, number of rooms, and so on. If only one independent variable is used, the procedure is called simple regression analysis and differs from correlation analysis only in that correlation measures the strength of relationship, whereas regression predicts the value of one variable from the value of the other. When two or more variables are used, the procedure is called multiple regression analysis. See linear regression.

Neighborhood:(1) The environment of a subject property that has a direct and immediate effect on value. (2) A geographic area (in which there are typically fewer than several thousand properties) defined for some useful purpose, such as to ensure for later multiple regression modeling that the properties are homogeneous and share important locational characteristics.

Neighborhood Analysis: A study of the relevant forces that influence property values within the boundaries of a homogenous area.

Operating Expenses: Expenses necessary to maintain the flow of income from a property. These are deducted from effective gross income to obtain net operating income, which is then capitalized in the income approach to obtain an indication of market value. Such expenses generally include the costs of property insurance; heat, water, and other utilities; repairs and maintenance; replacement reserves for such items as heat and air-conditioning systems, water heaters, built-in appliances, elevators, roofing, floor coverings, and other items whose economic life will expire before that of the structure itself; management; and other miscellaneous items necessary to operate and maintain the property. Not considered operating expenses are depreciation charges, debt service, income taxes, capital improvements, and personal or business expenses of the owner. In addition, for assessment purposes, property taxes are usually treated as an adjustment to the capitalization rate rather than as an expense item.

Ordinance: A statute or law that designates an enactment by a county's or municipal corporation's legislative body.

Outliers: Observations that have unusual values, that is, they differ markedly from a measure of central tendency. Some outliers occur naturally; others are due to data errors.

Ownership: The rights to the use of property, to the exclusion of others.

Parameter: Numerical descriptive measure of the population, for example, the arithmetic mean or standard deviation. Parameters are generally unknown and estimated from statistics calculated from a sample of the population.

Parcel Identification Number: A numeric or alphanumeric description of a parcel that identifies it uniquely. Assessors use various systems, many with common features. A growing number of these systems include geocoding. In the thirty states where it exists, the Public Land Survey System, authorized by the United States government in 1785, is often a basis for parcel identification.

Pilot Testing: Attempting to determine the workability of a system by testing it under realistic operating conditions before adopting it and abandoning the former system.

Price-Related Differential (PRD): The mean divided by the weighted mean. The statistic has a slight bias upward. Price-related differentials above 1.03 tend to indicate assessment regressively; price-related differentials below 0.98 tend to indicate assessment progressivity.

Productivity Value: Productivity value measures the worth of land based on its income-producing ability in its current use. Owners of farm and ranch property apply for agricultural-use or open-space valuation (both are forms of productivity value) to avoid having their properties assessed at a different highest and best use that would bring higher assessed values and presumably higher taxes.

Property: (1) An aggregate of things or rights to things. These rights are protected by law. There are two basic types of property: real and personal. (2) The legal interest of an owner in a parcel or thing (see bundle of rights).

Real Property: Consists of the interests, benefits, and rights inherent in the ownership of land plus anything permanently attached to the land or legally defined as immovable; the bundle of rights with which ownership of real estate is endowed. To the extent that real estate commonly includes land and any permanent improvements, the two terms can be understood to have the same meaning. Also called "realty."

Personal Property: Consists of every kind of property that is not real property; movable without damage to itself or the real estate; subdivided into tangible and intangible. Also called "personality."

Tangible Personal Property: Personal property that has a substantial physical presence beyond merely representational. It differs from real property in its capacity to be relocated. Common examples of tangible personal property are automobiles, boats, and jewelry.

Intangible Personal Property: Property that has no physical existence beyond merely representational, nor any extrinsic value; includes rights over tangible real and personal property, but not rights of use and possession. Its value lies chiefly in what it represents. Examples include corporate stock, bonds, money on deposit, goodwill, restrictions on activities (for example, patents and trademarks), and franchises. Note: Thus, in taxation, the rights evidenced by outstanding corporation stocks and bonds constitute intangible property of the security holders because they are claims against the assets owned and income received by the corporation rather than by the stockholders and bondholders; interests in partnerships, deeds, and the like are not ordinarily considered intangible property for tax purposes because they are owned by the same persons who own the assets and receive the income to which they attach.

Property Use Category: A United States Census Bureau classification scheme based on actual utilization of real property. There are seven classes of real property:

Residential (Nonfarm) Single-Family: Includes each detached, semidetached, or attached house, if separately assessed and not on a farm, that is a residence for one family only. For detached houses, this would include one-family rural properties or suburban estates not used primarily for farming, and mobile homes assessed as real property. This category includes each condominium unit in a multiunit dwelling structure, plus each condominium's share of the common area, unless the common area is separately assessed.

Residential (Nonfarm), Multifamily: Includes each residential property that contains two or more living units, including duplexes, apartment houses, and cooperatives that are assessed as a single entity. The category encompasses street level stores and doctors' offices in apartment buildings, but excludes motels or hotels.

Acreage (or Acreage and Farms): Includes farms, timberland, recreational acreage, idle land, and waste land in rural locations. Excludes vacant platted lots that lie within or adjacent to a municipality and that usually carry a lot/block system designation rather than acreage. Separately assessed timber or mineral rights are omitted from this category.

Vacant Platted Lots: Unimproved parcels described in terms other than acreage, usually by a convention using lot, block, and subdivision name. Vacant platted lots are often located either within a municipality or in areas of higher population density than the surrounding territory.

Commercial Property: Generally any non-industrial, nonresidential realty of a commercial enterprise. Includes realty used as a retail or wholesale establishment, retail establishment with living quarters, office building, hotel or motel, gasoline service station, commercial garage, parking lot, warehouse, theater, bank, clinic, nursing home, proprietary school, and the like.

Industrial Property: Generally, any property used in a manufacturing activity, including a factory, wholesale bakery, dairy plant, food processing plant, mill, mine, quarry, all locally assessed utility property, and the like.

Other and Unallocable: Includes any property not classified within any of the preceding groups. Examples are mineral rights, timber rights, and oil rights, if they are separately assessed as real estate.

Ratio Study: A study of the relationship between appraised or assessed values and market values. Indicators of market values may be either sales (sales ratio study) or independent "expert" appraisals (appraisal ratio study). Of common interest in ratio studies are the level and uniformity of the appraisals or assessments. See also level of appraisal and level of assessment.

Reappraisal: The mass appraisal of all property within an assessment jurisdiction accomplished within or at the beginning of a reappraisal cycle (sense 2). Also called revaluation or reassessment.

Reappraisal Cycle: (1) The period of time necessary for a jurisdiction to have a complete reappraisal. For example, a cycle of five years occurs when one-fifth of a jurisdiction is reappraised each year and also when a jurisdiction is reappraised all at once every five years. (2) The maximum interval between reappraisals as stated in laws.

Reassessment: (1) The relisting and revaluation of all property, or all property of a given class, within an assessment district by order of an authorized officer or body after a finding by such an officer or body that the original assessment is too faulty for correction through the usual procedures of review and equalization. (2) The revaluation of all real property by the regularly constituted assessing authorities, as distinguished from assessment on the basis of valuations most or all of which were established in some prior year. See also revaluation.

Rendition: A term occasionally used synonymously with declaration

Replacement Cost; Replacement Cost New: The cost, including material, labor, and overhead, that would be incurred in constructing an improvement having the same utility to its owner as a subject improvement, without necessarily reproducing exactly any particular characteristics of the subject. The replacement cost concept implicitly eliminates all functional obsolescence from the value given; thus only physical depreciation and economic obsolescence need to be subtracted to obtain replacement cost new less depreciation (RCNLD).

Revaluation: A reappraisal of property; especially a complete reappraisal of real property after assessment for one or more years on valuations most (or all) of which were established in some prior year. Compare reassessment and reappraisal.

Sales Ratio/Assessment Ratio: The ratio of an appraised (or assessed) value to the sale price or adjusted sale price of a property. See also assessment to sale price ratio.

Sales Ratio Study: A ratio study that uses sales prices as proxies for market values.

Schedules: Tables, equations, or some other means of presenting the relationship between the values of two or more variables that are functionally related. For example, cost schedules present the relationship between cost per square foot and living area for a number of quality classes, building heights, and other characteristics.

Standard Deviation: The statistic calculated from a set of numbers by subtracting the mean from each value and squaring the remainders, adding together all the squares, dividing by the size of the sample less one, and taking the square root of the result. When the data are normally distributed, one can calculate the percentage of observations within any number of standard deviations of the mean from normal probability tables. When the data are not normally distributed, the standard deviation is less meaningful, and one should proceed cautiously.

Tax, Ad Valorem: A tax levied on a base that is measured by value. Note: This term is often used to refer only to property taxes or to general property taxes, although technically it is applicable to income taxes, ad valorem tariffs, special property taxes, and so on. Contrast tax, specific.

Taxable Value: Taxable value is the appraised value minus all applicable partial exemptions. Property taxes are levied on taxable value.

Three Approaches to Value: A convenient way to group the various methods of appraising a property. The cost approach encompasses several methods for estimating replacement cost new of an improvement less depreciation plus land value. The sales comparison approach estimates values by comparison with similar properties for which sales prices are known. The methods included in the income approach are based on the assumption that value equals the present worth of the rights to future income.

Time-Adjusted Sale Price: The price at which a property sold, adjusted for the effects of price changes reflected in the market between the date of sale and the date of analysis.

Trending: Adjusting the values of a variable for the effects of time. Usually used to refer to adjustments of assessments intended to reflect the effects of inflation and deflation and sometimes also, but not necessarily, the effects of changes in the demand for micro-locational goods and services.

Trending Factor: A figure representing the increase in cost or selling price over a period of time. Trending accounts for the relative difference in the value of a dollar between two periods.

Uniformity: The equality of the burden of taxation in the method of assessment.

Uniform Standards of Professional Appraisal Practice: Annual publication of the Appraisal Standards Board of the Appraisal Foundation-These Standards deal with the procedures to be followed in performing an appraisal, review or consulting service and the manner in which an appraisal, review or consulting service is communicated. STANDARD 6 sets forth criteria for the development and reporting of mass appraisals for ad valorem tax purposes or any other universe of properties" (p. 1).

Unitary Method of Valuation: The unit rule is a method that values the property within a particular jurisdiction based on the fair share of the value of an operating enterprise, of which the property is an integral part. The unit value concept values all the property as a going concern without geographical or functional division of the whole and includes tangible and intangible assets. The unit rule concept is typically associated with the valuation of public utilities, telecommunications networks, railroads, and other transportation properties. However, the concept of unit valuation is similarly applicable to the appraisal of a single-family residence when comparable sales are used to value the entire property without segregation of land values. Similarly, when rents are capitalized into a value estimate for commercial properties, the unit rule is used.

Unit-in-Place Method: A method of cost estimating in which all the direct and some of the indirect costs of individual construction components (such as the foundation walls) are specified in appropriate units (such as cost per unit of area, volume, or length), multiplied by an estimate of the quantity required by the particular structure, and added to obtain an estimate of the cost of the structure. Compare comparative unit method (sense 2); quantity survey method.

Vacancy and Collection Loss: The amount of money deducted from potential annual gross income

Value: (1) The relationship between an object desired and a potential owner; the characteristics of scarcity, utility, desirability, and transferability must be present for value to exist. (2) Value may also be described as the present worth of future benefits arising from the ownership of real or personal property. (3) The estimate sought in a valuation. (4) Any number between positive infinity and negative infinity.

Weighted Mean; Weighted Average: An average in which each value is adjusted by a factor reflecting its relative importance in the whole before the values are summed and divided by their number.

Weighted Mean Ratio: Sum of the appraised values divided by the sum of the sales prices, which weights each value in proportion to its sale price.

Appendix G: Mass Appraisal Reports