

The seal of the Texas Comptroller of Public Accounts is visible in the background. It features a central five-pointed star surrounded by a wreath of olive and oak branches. The words "THE COMPTROLLER" are arched above the star, and "TEXAS" is arched below it.

Glenn Hegar

Texas Comptroller of Public Accounts

Field

Appraisers'

Procedures

Manual

Property Tax Assistance Division

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Introduction

This manual is an internal document that outlines the procedures followed by Property Tax Assistance Division (PTAD) field appraisers when conducting the school district property value study (PVS) under Government Code Section 403.302. These procedures employ generally accepted appraisal and audit techniques and incorporate requirements of Texas law, Comptroller rules and International Association of Assessing Officers (IAAO) standards. PTAD field appraisers follow these procedures in performing the tasks related to the local properties portion of the PVS and is not intended for any other purpose. Deviations from these procedures must be approved by the PTAD director.

Note Regarding Property Classification Guide: The *Texas Property Tax Assistance Property Classification Guide* governs the PVS. PTAD may re-categorize incorrectly categorized property in conducting the PVS. Comptroller Rule 9.101 states that “[a]ppraisers shall categorize sample properties as they are categorized by appraisal districts (Category A, B, C, etc.), unless the comptroller determines that a property or portion of property is categorized incorrectly, in which case the comptroller may move the value of the property into the correct category.”

Comptroller Rule 9.101 provides that PTAD’s appraisers “must exclude sales of properties that change category after the sale but before the assessment date.” This provision does not apply to re-categorization of improperly categorized property, but rather circumstances such as when property has changed category after a sale based on changed use of the property by the purchaser.

It is PTAD’s option whether or not to study a category or class of property (except land qualified for appraisal based on its productive capacity) that has an appraised value as determined by the appraisal district of 5 percent or less of the total appraised value of property in categories sampled in the PVS.

Any questions regarding improperly categorized property, re-categorization of property or whether or not to study a category or class of property should be directed to your supervisor, manager or the division director.

Commonly used acronyms in this publication are:

- ARB** – appraisal review board
- CAD** – appraisal district(s)
- DAT** – PTAD’s Data Analysis Team
- EPTS** – electronic property transaction submission
- FAS** – field appraisal system
- IAAO** – International Association of Assessing Officers
- ID** – identification
- ISD** – independent school district or split
- MLS** – multiple listing service(s)
- PTAD** – Property Tax Assistance Division
- PTS** – property tax system
- PVS** – school district property value study

CHAPTER 1

Preliminary Work

Procedure 1.1

Review the Sample Size (Parcel Count) for Each ISD in Each CAD Assigned

On or shortly after Feb. 1 of each year, after the preliminary findings (from the previous year's PVS) are certified to the Texas Education Agency, DAT runs programs in PTS to generate sample size requirements (parcel counts) for the current year's PVS.

The sample size or parcel count is the number of properties in each stratum of each property category in each ISD in those CADs being tested in the PVS each year (about half of the 253 CADs are included in the PVS each year).

Value stratification helps ensure that the sample represents the population of properties in the category. The *IAAO Standard on Ratio Studies, Definitions* (2013) defines a representative sample as "a sample of observations from a larger population of observations, such that statistics calculated from the sample can be expected to represent the characteristics of the population being studied" All properties in a sample need not be typical for the sample to be representative. A representative sample is composed of individual properties that collectively reflect the characteristics of the population from which they were drawn. It is appropriate to use any property drawn from the population as a part of the sample because each property in the population, regardless of how unusual that property may be, represents some characteristic of the population.

Sample size requirements are computed for an entire ISD first and allocated to each property category based on sample variability (from the previous PVS) and total category value. It is further allocated to stratum within the property category if sufficient stratification data is available. Samples are

generated for each tested local property category that contains at least \$250 million in value or at least 5 percent of ISD value.

Should parcel counts fall below the required minimum during the course of either the PVS or the protest process, a ratio will be calculated for strata or categories from the remaining observations.

The sample size for each ISD is determined by using a statistical model designed to achieve a uniform 3 percent margin of error in each ISD. The program uses a 3 percent margin of error as the default to ensure enough samples are generated to achieve a 5 percent margin of error in the PVS.

DAT provides the parcel counts to the field appraisers' manager who makes all assignments with the supervisors' assistance. If there is an ISD within your region for which no parcel count is assigned, contact your team lead, supervisor or manager, as appropriate.

Sampled properties, sample sizes and tested categories are subject to change based on updated information. Final parcel count requirements may be changed by your supervisor.

Procedure 1.2

Determine and Document Annual Plan of Completion for Region

Each field appraiser, with direct assistance of the team lead, analyzes the work load within his or her region and develops an annual plan to submit to the supervisors for written approval. The annual plan and work progress shall be monitored weekly by the team lead. This plan will consider all interim and final production deadlines. Field appraisers must work only one county at a time, completing all necessary tasks before moving on to the next assignment. Special

circumstances may require a field appraiser to work on more than one county at a time. This practice will be monitored by each team lead and requires prior written approval by the supervisor. Upon completion of a county, the appraiser should notify the supervisor and the data should be reviewed by a team lead for completeness and accuracy. Please refer to [Appendix 4](#) for important information regarding the FAS contact and specific issues regarding collapsing strata, changing parcel counts and changing tested categories.

Development and adherence to an annual calendar is required.

Tasks:

1. Using parcel counts provided by DAT, determine the order in which your counties will be worked and estimate how long each county will take. The following rates of completion should be achieved.

Residential / Commercial

May 31	10% complete
June 30	20% complete
July 31	35% complete
Aug. 31	50% complete
Sept. 30	65% complete
Oct. 31	80% complete
Nov. 30	95% complete
Dec. 14	100% complete

Business Personal Property

June 30	5% complete
July 31	15% complete
Aug. 31	35% complete
Sept. 30	55% complete
Oct. 31	75% complete
Nov. 30	95% complete
Dec. 14	100% complete

2. Each field appraiser must submit a written plan to his or her team lead and supervisor by the deadline specified by the supervisor. If no deadline has been specified, the written plan must be submitted no later than two weeks after the appraiser received his or her assigned counties and parcel counts.
3. Concentrate work efforts on one county at a time to completion. Although, if and as approved by the supervisor, certain preliminary work may be necessary in the next county on your plan, your main efforts should focus on the primary county until it is complete.
4. Any deviation from or revision to your original plan must be discussed with your team lead and approved in writing by your supervisor.
5. Your team lead is required to monitor completion rates, ensure adherence to your written plan and provide assistance throughout the process.
6. The sample will be reviewed by the team lead prior to each deadline. Any parcel for which all information has not been completed as reflected in the system will not be considered in making determinations as to whether the appraiser met the applicable deadline.

CHAPTER 2

Gathering Sales and Market Data

Procedure 2.1

Gather All Available Sales and Market Data in Assigned Property Categories

The research and collection of all available and relevant market data in each ISD for each property category is the crucial first part of the field appraiser's work. Sales price information is critical for all property categories. The EPTS file provided to DAT from each CAD typically is the first data source reviewed in gathering relevant property sales price information. Each EPTS file contains data regarding recent property transactions in a county, including sales and other types of property transfers. For single family residential properties, sales price data obtained (not only from the EPTS file, but also from local MLS) is extremely important. For commercial properties in particular, other fundamental market data to be gathered include market rents and other leasing information, income and expense data, vacancy rates and cap rates, to name a few.

Texas is one of only about six states that does not require some form of sales price disclosure for property taxing purposes. As a result, PTAD relies on each field appraiser to be diligent and resourceful in compiling all available, relevant and reliable market data for their work on each year's PVS. To assist each field appraiser in this duty, PTAD makes access to some of this critical data available through third-party subscription services, such as local MLS, CoStar and the annual Texas Hotel Performance Factbook. Field appraisers are to use these resources and to research and develop a variety of additional data sources, including PTAD sales survey (confirmation) letters, sales verification letters, publications of the Real Estate Center at Texas A&M University (<http://recenter.tamu.edu/>) and other publicly available information on the Internet (e.g., filings with the federal Securities and Exchange Commission, company websites, real estate websites and Google searches generally).

Procedure 2.2

Select Sales for the Sample

If there are enough sales in the ISD, the entire sample will consist of sales. If there are not enough sales after expanding the time frame, use all market sales and supplement your sample with appraisals.

Order of Selection

When selecting sales to be included in the PVS, depending on the circumstances, sales not available to the CAD are used first. If sample requirements are not met, add CAD sales for which a sales confirmation has been provided. Where sample requirements still are not met, add the remaining CAD sales.

Time Frames: Standard and Extended

The standard sales time frame is a 12-month period from July 1 through June 30 of the PVS year. To obtain the required sample size in categories or in strata with insufficient sales, the period may be extended as far back as May 1 preceding the PVS year and as far forward as Aug. 31 of the PVS year. Extensions occur in one month increments of both the beginning and ending period. You may extend the period in individual stratum as necessary. If the required sample size is met within the standard time frame, extended time sales are not permitted.

Time Frames: Extraordinary

A different sales date period applies to property categories in CADs where sold properties appear to be appraised at a different level from unsold or if the clustering of ratios around a defined point is statistically improbable. In this instance, the time period runs from the time Notice of Appraised Values were delivered through Dec. 31 of the PVS year (termed late sales). Please refer to [Appendix 7](#) for information on the testing of unequal appraisals of sold and unsold properties. Sales the CAD did not have may be used in CADs whether they

are in the time period determined above or in the late sales time period.

Source Codes for Sales Data

Record a code for the source of each sale included in the PVS. Prescribed source codes for sales are as follows:

1. CAD – EPTS
2. CAD – Document
3. CAD – Subscribed
4. CAD – View only
5. PTAD – Survey Letter
6. PTAD – Subscribed
7. PTAD – Verbal verification
8. PTAD – Internet
9. PTAD – View only

CAD Sales Limitations

To maintain the independence of the PVS, use of sales samples obtained solely from the CAD without an attempt to obtain outside source sales is prohibited. If you can obtain sales from sources other than the CAD without using PTAD sales surveys, request supervisor approval to not use PTAD sales surveys.

Capped homestead values – For sales values obtained from the CAD, use the market value BEFORE any cap. These are homesteads that have been appraised at a limited (capped) value because they increased in market value more than 10 percent per year.

Tasks:

1. Obtain the Excel spreadsheets of the EPTS files the CADs provide to DAT. There are two EPTS submission deadlines for the CADs –Feb. 1 and Aug. 1. You are to review each EPTS file and undertake the following Task 2 for the sales selected from each. If you do not receive an EPTS file for a CAD, immediately contact your supervisor. If the CAD did not provide a sales submission file, request from the CAD all sales in the CAD’s possession. The request for sales data from the CAD must be in writing (e.g., letter or email).
2. Revise the EPTS spreadsheet files for generation of PTAD sales survey (or confirmation) letters. Review the EPTS data and identify those transactions on the spreadsheet for which a PTAD sales survey letter is to be sent to the

buyer or grantee, namely those transactions for which no sales price was provided. Identify transactions that do not represent valid sales for purposes of inclusion in the sample (e.g., divorce-related sales) and combine into one entry multiple account listings that represent a single sale as well as duplicate entries. Be sure to include the EPTS confidentiality code as the first entry in the comments field. Space permitting, you can use the comments field to enter ISD codes or other information relating to the transaction. Save the revised spreadsheet and email it to your team lead for review before sending to the sales verification coordinator for processing.

PTAD’s Document Management Section will generate, print and mail a PTAD sales survey (confirmation) letter to those buyers or grantees identified on your spreadsheet for which no sales price information was provided. PTAD staff in Austin will forward to you the responses it receives to these letters from the buyers or grantees. Upon supervisor approval, sales survey letters are not required to be sent to buyers or grantees for CAD sales that are verified by an outside source other than the CAD.

3. Access and collect MLS, CoStar and other Market Data Materials. Access and collect all available sales data for single family residential properties from the local MLS and other reliable sources. Access and collect all available sales data and other relevant market information for commercial properties from CoStar and other third-party subscription services as well as research publications and Internet websites. Contact your supervisor or team lead for assistance with access or research issues.

Procedure 2.3

Use Random Sampling Techniques to Select Sales for the Sample

Random selection, or random sampling, involves selecting properties using random numbers. When selecting a sample of sales for inclusion in the PVS, PTAD staff must use random selection procedures in all categories if possible. Random selection should be used in any stratum in which the number of sales exceeds the parcel count by more than 50 (unless a greater number has been approved by your supervisor).

Keep the list of random numbers and properties used for parcel selection or the database files and criteria. Depending

on sample statistics, you may need to add observations. In order for the sample to remain random, the additional observations need to come from the original list. You may not arbitrarily omit sales from the randomly selected sales. All randomly selected sales that are suspect must be investigated. Any omissions should be documented as to the reason and approved by the supervisor.

In order to ensure that correct procedures in selecting samples to be included in the PVS are followed, detailed guidelines for completing this procedure are given in [Appendix 2](#).

Tasks:

1. In cases where the sales population in the standard time frame exceeds the parcel count by more than 50 per stratum, the random sampling procedure should be performed. Random sampling is not necessary in a stratum if the sales population contains 1 to 50 more sales than the parcel count. In this case you may include all of the sales to meet the category or stratum parcel count. For example, if you need to select 40 parcels but the population of sales consists of 90 parcels, all 90 parcels may be used, eliminating the need to randomly select.
2. If you need to select 40 parcels randomly but the population of sales in the stratum consists of 500 parcels, it would be appropriate to select up to 50 more (or 90) in that stratum. Larger samples can be approved by your supervisor, if appropriate.

Procedure 2.4

Confirm and Verify Sales

A sale is confirmed when you have documentation necessary to ensure that the correct sale price is used in the PVS. A sale is verified when you have documentation necessary to ensure that a sale meets the definition of a market value transaction.

Comptroller Rule 9.101(g)(6)(D)(iii) requires the appraiser to confirm and verify from sources other than the CAD at least 20 percent of the sales included in each category sample for each ISD. Data required will vary according to type of sale. To determine whether sufficient information is available to verify a sale, consider the definition of market value in Tax Code Section 1.04(7):

“Market value” means the price at which a property would transfer for cash or its equivalent under prevailing market conditions if:

- (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.

Confirmation/Verification Tools

Any one of the following items will provide some level of confirmation of the sale price and/or sale verification.

1. Publication of the sale price for the subject property in MLS, CoStar or other comparable reporting service. If a copy of the data taken from the publication is not obtained and is only available for review, you must provide notes indicating you have observed the document and include other information available from the publication, such as the list price, days on market, method of financing, etc.;
2. Multiple Listing Service, TransUnion, CoStar or other similar electronic exports.
3. Closing statement or documented notes from a closing statement;
4. Sales confirmation/verification letter signed by the grantor or grantee;
5. Copy of the page in a fee appraisal showing that the sale was used as a comparable as long as it includes all relevant information about the property and the transaction terms;
6. Oral confirmation received from one of the parties to the transaction (include the name, date and phone number of the person contacted);
7. A copy of the recording instrument showing full consideration, or a copy of the recording instrument showing grantor, grantee, the amount of down payment and the length and terms of the note, including the note amount.

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8. Online real estate database verifications including but not limited to: Zillow, Redfin, Trulia, Realtor.com, Opendoor, etc.

Types of Invalid Sales

Pursuant to IAAO Standard on Ratio Studies, Section A.4.1 (2013), the following types of sales are often found to be invalid for ratio studies: sales involving governmental agencies and public utilities; sales involving charitable, religious or educational institutions; sales involving financial institutions; sales between relatives or corporate affiliates; sales settling an estate; forced sales; and sales of doubtful title. Other types of sales may also have characteristics that warrant special verification. Additional considerations must be given to legal provisions applicable to the conduct of the PVS and legal provisions and appraisal standards applicable to local jurisdictions being studied ([Appendix 1](#)).

Verification Guidelines for Certain Transfer Types

Listed below are verification guidelines and procedures that appraisers must follow in addressing several specific types of transfers.

1. Owner financed sales. Determine the facts surrounding the sale. Establish a comparison of terms and rates for owner-financed and conventionally-financed sales. Determine the need for any adjustment to the sale price by direct market comparison or other means. If financing terms are comparable to market rates, you may use the sale without adjustment. If the financing terms are unknown but market comparison indicates the transaction is valid, you may use the sale.
2. Sales settling an estate. Estate sales are valid for use in a ratio study unless the property is sold without regard to its market value. As set forth in the IAAO Standard on Ratio Studies, Section A.4.1 (2013), “[a] conveyance by an executor or trustee under powers granted in a will may not represent fair market value, particularly if the sale takes place soon after the will has been filed and admitted to probate in order to satisfy the decedent’s debts or the wishes of an heir.” Unless the appraiser obtains information that indicates that an estate sale is not a market value transaction as defined by Tax Code Section 1.04(7), it may be included in the PVS.
3. Time on the market (Days on Market/DOM). Pursuant to the IAAO Standard on Ratio Studies, Section A.2 (2013),

“[s]ales that have been exposed to the open market too long, not long enough, or not at all may not represent market value.” Depending on individual circumstances, a sale exposed to the market for any length of time – short or long – may indeed represent market value. For example, a short marketing period may have been the result of the existence of a number of interested buyers, such that the property did sell for an amount that represents market value.

Time on the market information, as noted in the Standard, is one source of data used in sales verification. Time on the market, absent any other factors suggesting that a sale is not a market value transaction, does not warrant or require exclusion of a sale from the PVS. It may be an indicator that additional information should be obtained to verify a sale.

If your documentation indicates a property was listed on the market for a very short or a very long period as compared to the average days on the market for similar types of property in the area and the sales amount does not represent market value, the sales price can be adjusted as warranted by available information. Typically, this adjustment would be upward for shorter days on the market, and downward for longer days on the market. As a guideline, appraisers may use 1-7 days on the market as representative of a very short period. As a guideline, appraisers may use over 365 days or more than twice the average DOM in the area, whichever is greater, as representative of a very long period.

All information upon which an adjustment is based must be documented in the appraisal file. If MLS information indicates one or two days on the market, keep in mind that the property may have been offered for a period of time through another agent (previously listed on MLS) or through some other source. Sales that have not been listed on the open market should not be used. Properties listed for sale by owner, in newspapers or on the Internet, meet the criteria for being listed on the open market.

4. Assemblage of land. Assemblage is defined in IAAO Standard on Verification and Adjustment of Sales, Glossary (2020) as “the assembling of adjacent parcels of land into a single unit.” If there is no information that a buyer paid more than fair market value for property as a result of assemblage, a sale may be used in the PVS without any adjustment.

5. Changed property conditions. A sale must be excluded from the sample if the property characteristics have changed significantly between the sale date and the assessment date. Standard or expected maintenance does not constitute a change in a property's characteristics. Generally, a change should be considered significant if the change constitutes 10 percent of the value for residential property or 25 percent of the value for commercial property.
6. Supplemented values. CADs supplement local values for a variety of reasons. If the local value on any property included in the sample is supplemented after the CAD became aware that the property is included in the sample, you must use the certified value for the property that existed prior to the supplement. You should record the date you deliver the clerical error report or any date prior to that for which the CAD makes a request for information included in the current PVS. Your recorded date of delivery will be considered the date the CAD was aware of the properties included in the sample.
7. **Appendix 1** considerations. Additional consideration must be given to legal provisions applicable to the conduct of the PVS and legal provisions and appraisal standards applicable to the local jurisdictions being studied. **Appendix 1** identifies and describes several of these considerations, including, for example, performance of a review of foreclosure-related sales to determine inclusion of these transactions in the PVS.

Tasks:

1. Pursuant to Comptroller Rule 9.101(g)(6)(D)(iii), you must confirm and verify from sources other than the CAD at least 20 percent of the sales included in each category sample for each ISD.
2. In confirming sales, the field appraiser must request the CAD sales documentation for all sales that cannot be confirmed from an outside source other than the CAD. The IAAO Standard on Ratio Studies, Part 2, Section 3.3 (2013) states:

The reliability of a ratio study depends in part on how accurately the sales or independent appraisals used in the study reflect market values. For sales-based studies, oversight agencies should conduct an independent sales verification and screening program if resources permit. Steps must be taken to ensure that errors in the database made by the local jurisdiction do not materially or significantly affect the conclusions or opinions of value developed by the oversight agency.

Note: Common errors made by local jurisdictions include but are not limited to unequal appraisal and the misclassification of property types.

After you receive the EPTS file for a CAD, you should check it for accuracy to the extent that you have verification from outside sources. You should request all documentation from the CAD supporting the sales that the CAD included in the EPTS file for which you do not have outside verification. If the CAD fails to respond within the allotted time, you must immediately notify your team lead and supervisor so the CAD can be contacted again to obtain the requested information. The team lead and the supervisor will work with the field operations area manager to follow up on the CAD's failure to respond to your request and to determine how much additional time, if any, the CAD will be given to supply the requested information. After this second request is made, the EPTS file of any CAD that still fails to respond or provide all information responsive to the request is considered questionable.

This procedure is very important because sales are never added after the release of the PVS preliminary findings. This applies to all sales including, but not limited to sales:

 - of which the CAD was unaware prior to the release of the preliminary findings;
 - from a CAD that has failed to properly respond to a request for information verifying EPTS sales;
 - from a CAD that failed to timely provide the sale in the required EPTS submission; and
 - from a CAD that failed to provide accurate sales information in the EPTS file.
3. Use the EPTS data in the Excel spreadsheets (Procedure 2.2, Tasks 1 and 2) to identify those sales transactions for which a sales verification letter is to be sent to the buyer or grantee because the CAD sale cannot be verified through other means. Based on the county, region, grantee name and address, legal description, account number, sale price and sale date shown on the Excel spreadsheet, PTAD staff

in Austin will generate and mail a sale verification letter that lets the buyer or grantee know that PTAD has the sale date and sale price. The letter simply asks the buyer or grantee to provide information necessary to verify the sale as a market transaction.

Procedure 2.5

Adjust Sale Prices

If necessary, a sale price of a valid market transaction may be adjusted to reflect the market value of the property as of Jan. 1 of the PVS year. You can adjust sales that:

- are a combination of real and personal property;
- include more than one category of property;
- have unusual financing; and
- are in markets that show significant value changes during the PVS time frame.

IAAO Standard on Ratio Studies, Section A.5 (2013) discusses adjustments to sales prices. Adjustments to sales prices should be supported by market data because any component that adds or removes value to the property will be represented in the sale prices of properties in competing markets. You must retain documentation for your adjustments.

Types of Adjustments

1. Personal property adjustments. According to IAAO Standard on Ratio Studies, Section A.5.3 (2013), the value of any personal property must be significant in order to qualify for an adjustment to the sales price. According to the Texas Real Estate Commission, personal property must be negotiated in a Non-Realty Items Addendum, and the monetary consideration given to personal property is not included in the contract sales price, nor reported into MLS.

- a. Identify and estimate the value of personal property using one of the following methods:
 - i. a signed statement or warranty deed letter from the buyer indicating that personal property transferred in the sale, that the buyer paid more because of the personal property items and how much more the buyer paid. An estimate of value from the buyer, agent or CAD is insufficient unless it is accompanied by market data that supports the estimate;

- ii. obtain data from a rendition, tax return or other reliable source in order to trend and depreciate using the PTAD computer program; or
- iii. market data comparison with properties that sold without the inclusion of personal property.

- b. If an adjustment is appropriate, subtract the value of the personal property from the sale price. Sales prices should be adjusted by subtracting the contributory value of personal property received by the buyer, based on evidence of the effect of personal property on the sale price. If a portion of the sale price is designated as being for personal property and if that amount appears reasonable and can be supported by other market data, it should be deducted from the sale price. When evidence of the value of personal property is not provided, no adjustment is necessary.

Ordinary window treatments, outdated models of freestanding appliances and common-grade used furniture included with residential property do not usually influence the sale price of real property and do not require an adjustment unless the items were specifically broken out in the contract as personal property included in the sale price. If the value of personal property appears to be substantial (10 percent for residential; 25 percent for commercial), the sale should be excluded unless the sample size is small.

2. Multi-category adjustment. If a sale includes more than one property category and needs adjustment [i.e., a residence and lot (Category A) and a vacant lot (Category C)], the following procedure will be used. In ISDs with large sample sizes, these sales may be excluded.
 - a. Calculate a ratio by dividing the CAD value of all categories included in the sale by the sale price.
 - b. Divide the CAD value of the vacant lot by the overall ratio for the property. The resulting value is the portion of the sale price attributable to the vacant lot.
 - c. Calculate the percent of the sale price attributable to the second category. Include the apportioned amounts in your sample for both categories, if tested.

Example: A property sold for \$110,000. The sale included a Category A property which the CAD valued at \$80,000 and a Category C property which the CAD valued at \$10,000.

Step 1: $\$80,000 + \$10,000 = \$90,000$
Total CAD Value

Step 2: $\$90,000/\$110,000 = .82$
Ratio for entire sale

Step 3: $\$10,000/.82 = \$12,195$
Portion of sale price attributable to
Category C

Step 4: $\$110,000 - \$12,195 = \$97,805$
Adjusted sale price for Category A

3. Seller and lender the same. Adjust sale prices when the seller and lender are the same party and financing is not at prevailing market rates.
 - a. Adjust sale prices downward when the contract interest rate is lower than prevailing market rates for comparable transactions and adjust sales prices upward when the contract interest rate is higher than rates for comparable transactions.
 - b. According to the IAAO Standard on Ration Studies, Section A.5.1 (2013), the amount of the adjustment can be found by capitalizing the difference between the monthly payments based on the prevailing market rate and those based on the contract rate.
4. Seller paid points. Adjust a sale price downward by the value of any points paid by the seller.
 - a. Adjustments should be calculated on the loan amount, not the total sale price.
 - b. If documentation clearly indicates that the seller paid points but you do not know the amount of down payment, use 5 percent as a standard down payment and adjust the sale price accordingly.
5. Buyer paid commissions or delinquent taxes. Adjust sale prices upward by the amount of any payment made by the buyer for real estate commissions and delinquent property taxes.
6. Assumption of below-market lease. IAAO Standard on Ratio Studies, Section A.5.2 (2013), states to adjust sale prices when the buyer assumes an existing lease at a non-market rate:
 - a. If the contract rent exceeds market rent, subtract the present worth of the difference between the two rent streams from the sale price.
 - b. If the contract rent is less than market rent, add the present worth of the difference between the two rent streams to the sale prices.
7. Repair allowances. IAAO Standard on Ratio Studies, Section A.5.5 (2013) states to adjust for repair allowances only if the property was in an unrepaired state on the appraisal data (as of Jan. 1), but sold at a higher price reflecting the value of the repairs. If the sale occurred before the appraisal date and the repairs were made prior to that date, no adjustment should be made.
8. Seller concessions. Adjust for seller concessions, when necessary. If an appraiser identifies and confirms that concessionary items were included in a transaction and if the normal consideration or contract price was impacted by the concession, an appraiser should make an adjustment to approximate the market's reaction to the concession's impact on the comparable sale's contract price. Evidence identifying seller concessions can include, but are not limited to, MLS documents and closing statements.
9. Multi-parcel sale. If all the parcels included in the sale are in the same stratum (e.g. Stratum 2) and stay in the same stratum after combined, if included in the PVS, include the sale in that stratum. If the parcels included in the sale are in the same stratum, but move to a different stratum after combined, they must not be combined; instead, if included in the PVS, the parcels should be used as individual sales (calculated with the mixed use-parcel template). Likewise, if parcels included in the sale are originally in different strata, they must not be combined; instead, if included in the PVS, the parcels should be used as individual sales (calculated with the mixed use-parcel template).
10. Time Adjustments. Adjust sale prices for time, if necessary, as set forth in [Appendix 6](#).

CHAPTER 3

Appraising Properties

Procedure 3.1

Select Properties to Appraise

To the extent you do not have a sufficient number of sold properties to meet the required sample size for each stratum or property category, you will need to perform appraisals of the randomly selected properties on the schedule DAT provided. (See Chapter 1, Procedure 1.1.) Each schedule identifies by tax ID number each property to be appraised in each stratum and property category that was randomly selected.

Appraisals are to be performed on the properties on the schedule in the order in which they appear. The following guidelines and procedures indicate how each property on the list is to be addressed:

Tasks:

1. Verify that CAD values are accurate. Values of properties selected from the previous year's appraisal roll may have changed, possibly moving a property from one value stratum to another. If the property moves to another stratum, you may skip it.
2. Do not skip a randomly-selected property simply because it may be unusual. A representative sample is composed of individual properties that collectively reflect the characteristics of the population from which they were drawn. Any property that is part of the population is a component of the population and its characteristics are a part of the characteristics of the population.
3. If you encounter a randomly-selected property that will require an inordinate amount of time and/or resources to appraise, you must contact your supervisor. Options for handling these properties include:
 - a. Assistance from in-house staff or other field appraisers; or
 - b. Omission of the property from the sample and appraisal of the next randomly-selected property.
4. If an account is randomly selected and the entire property includes more than one account in the same category (i.e., a six-building apartment complex has individual account numbers and value assigned to each building and one building is randomly selected), you should:
 - a. Consult your supervisor to determine whether the randomly-selected account can be accurately appraised as a single property. If so, appraise the single account for inclusion in the sample.
 - b. If the randomly-selected account cannot be accurately appraised as a single property, calculate the CAD value of all accounts included in the property. If each parcel is in the same stratum and the total value remains in that same stratum, you may combine the parcels and appraise the entire property for inclusion in the PVS. If any parcel is in another value stratum or if combining the parcels moves the total value to another stratum, you may skip the account or appraise the entire property and prorate the value of the randomly selected account to the appropriate stratum.
5. If a randomly selected property is owned by undivided interests, skip it and go to the next property on the schedule.

Procedure 3.2

Perform Appraisals

- A. Staff appraisals must be independent of the CAD appraisals. To ensure independence, appraise the property without referring to the CAD's value on the property. You must not make any adjustments to the appraisal based on the CAD's value.
 - B. An appraisal must reflect a property's market value as of Jan. 1 of the PVS year. Appraisers must use PTAD's FAS to classify and appraise sample property unless better information is available or that kind of property is not included in the FAS. You must include any property that existed on Jan. 1 of the PVS year whether the CAD included that property or not.
 - C. You must inspect each improved property to be appraised, either physically or through the use of technology, that provides dimensional images of the property. A photo should be obtained and attached to the appraisal record. If the CAD has online aerials or photographs that were obtained in the calendar year before the Jan. 1 appraisal date, these tools may be used.
 - D. If an improved property is inaccessible and cannot be viewed by online photographs, you must document this and not use the property in the sample.
 - E. If physical inspection of an unimproved property is judged to be unnecessary, appraisal cards, aerial photographs, soil maps or other relevant information should be used to perform the appraisal.
- c. Record property class, construction type, condition, age, amenities and any outbuildings or other additions such as pools. Take notes about property specifics such as neighborhood influences and restrictions. It is important to check the CAD record as you inspect the property to determine that the square footage is reasonable. If it is obvious that there is an error on the CAD record, you measure or estimate improvements to obtain an accurate square footage.
 - d. Along with the properties to be entered as appraisals, select, appraise and obtain a photograph of sold properties, to enable the development of a local modifier. A local modifier adjusts the Marshall Valuation Costs to account for local markets. Sales within the ISD should be considered first when developing the local modifier, but sales outside the ISD may be used as long as the market area is comparable. The field appraiser must inspect the sales and appraisals.
 - e. Develop a local modifier for each property appraised.
 - i. Enter the sold properties you have appraised into the FAS, including both sale and appraisal details. Flag each account to be used in the development of the local modifier.
 - ii. The final selection of an appropriate modifier for each property requires appraiser judgment and knowledge of the area. The modifier selected will be applied to those accounts selected for appraisals. Each appraisal will have its own unique modifier developed from the most appropriate market data available. The field appraiser is responsible for identifying the specific properties used to develop each local modifier for each property appraised.
 - f. Enter the random appraisals in the FAS and identify the sold properties used to develop the modifier for the property.
 - g. If a septic system exists but the value is not included in the land value, include it with the construction costs.

Tasks:

1. Appraise Category A [single-family residential] sample and Category E [rural land and improvements, not qualified] sample.
 - a. Develop land values. There are several methods of developing land values: building schedules, using comparative sales analysis or using the allocation method (Task 3). The land schedule must be reviewed and approved by the team lead.
 - b. Inspect every property to be appraised either physically or by aerial technology showing dimensions and condition. Photograph or obtain a photograph of each property.
2. Appraising mobile homes. Mobile homes may be included as sample properties in Categories A or E.
 - a. Inspect the subject mobile home, either physically or by aerial technology.
 - b. Determine age, make, model and manufacturer.

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- c. Determine quality and condition.
 - d. Determine value of the mobile home based on market data, information from a commercial service or the Marshall & Swift cost estimator.
 - e. Apply the appropriate local modifier.
3. Appraise Category C [vacant lots and tracts] sample.
 - a. Collect sales data for comparable tracts.
 - b. Build land schedules based on sales data and other market data as available. The land schedule itself contains only the size ranges or property types and the applicable values associated with the ranges or types. The particular sales and analyses are not the actual land schedule, but rather constitute supporting documentation for the land schedule and must be maintained in your appraisal file. Both the land schedules and supporting documentation must be filed and scanned in accordance with file maintenance and open records procedures. Schedules should be in a format like the examples in [Appendix 3](#).
 - c. Determine adjustments to land schedules for factors that affect value, such as size, location, availability of utilities, water, waste water, septic and use.
 - d. Alternatives to creating land schedules are using a comparative sales analysis and the allocation method. Allocation is based on the principle of balance and separates value between the component parts of a property which are the land and building. This method estimates land values in which sales of improved property are analyzed to establish a typical ratio of land value to total property value (L:B).
 4. Appraise Category B [multifamily residential] sample and Category F [commercial real property] sample.
 - a. Inspect every property to be appraised either physically or by dimensional image technology showing dimensions and condition. Obtain a photograph of each property.
 - b. Appraise the property using the income approach. The direct capitalization method is to be employed in a stable market; a discounted cash flow (DCF) analysis may be used in a changing market environment.
 - c. When using the direct capitalization method:
 - i. Estimate the stabilized net operating income (NOI) from market data for the subject.
 - ii. Determine the appropriate capitalization rate. Sales of properties that have market rents yield market capitalization rates.
 - iii. Divide the cap rate into the NOI to determine the value.
 - d. When using a DCF analysis:
 - i. Determine the holding period (typically 5 or 10 years) using market data available from brokers, fee appraisers and investors.
 - ii. Establish market-based assumptions (income, vacancies, expenses, stabilized vacancy, expense and income increase or decrease per year).
 - iii. Determine the appropriate capitalization (cap) rate and discount rate. The cap rate can be sales based or a built-up rate based on market financial data. The discount rate can be taken from investor surveys or built from your knowledge of investor yields.
 - iv. Determine the appropriate reversionary cap rate based on the market and the appropriate sales expense rate based on market data.
 - v. Run the DCF and estimate the value.
 - e. If enough recent and verifiable sales information is available, the sales comparison approach may be the most appropriate approach. Remember that both external and functional obsolescence must be identified as arising from a specific cause and any adjustment has to be quantified from market data. If the obsolescence cannot be quantified, it has no value and no adjustment should be made.
 - f. If sufficient market data is not available for either the income or sales comparison approaches, the property may be appraised using the Marshall & Swift commercial cost estimator. With the cost approach, supportable commercial land values must also be developed. If necessary, develop property-specific external or functional adjustments. Cost schedules do not take into account external or functional factors that affect the value of an individual property. When the value of a property is reduced by outside influences (external obsolescence) or by design problems (functional obsolescence), an external or functional adjustment must be used to make the reduction if the value can be quantified. When appraising commercial properties, ask the

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- property owner for income information such as vacancies and rent and use these as comparisons to estimate market rents to estimate an external adjustment.
5. Appraise Category D2 [farm and ranch improvements on qualified open-space land] sample.
 - a. Inspect the subject improvement, either physically or by aerial technology.
 - b. Determine quality and condition.
 - c. Determine value of the improvement based on market data, information from a commercial service or the Marshall & Swift cost estimator.
 6. Appraise Category L [commercial personal property] sample.
 - a. Request from the CAD all available data on each account. This should include the CAD record of the account, as well as any owner information, in particular the last available rendition. Prior year renditions may also be examined if available for relevant data. If a special inventory account is selected, skip the account.
 - b. Review the data on each account. Determine whether the rendition data is timely and appears reliable. It is appropriate to accept the value of inventory and supplies as stated on a signed rendition, unless the information is obviously unreliable. If the cost on the rendition is the actual acquisition cost and not retail, it would be inappropriate to allow an obsolescence factor for this cost unless the business identifies the tax advantage gained from the loss, if any, so that can be added back. If a rendition includes acquisition costs and dates for each asset, enter this data into the trend and depreciate program to develop an appraised value for the assets. Depreciating furniture, fixtures and equipment (FF&E) must be based on actual age or acquisition date. To determine the age, you must:
 - i. Use owner information if you determine it accurately describes the equipment on-site on the basis of a site inspection.
 - ii. Consider the age estimated by the CAD if you determine it is accurate and owner information is not available or reliable.
 - iii. Develop an estimate based on an inspection and any information obtained.
 - c. If there is no rendition or if the information in the rendition is incomplete or appears unreliable, you may send a letter seeking information about business personal property to the owner of the business. Allow a reasonable length of time for a response from the business owner. A follow-up call may be appropriate. If information is received, enter the data into the trend and depreciate program and proceed as above.
 - d. If no response is received or if the data appears unreliable, physically inspect the property and interview business personnel. If, at this time, you receive reliable owner information, use it.
 - e. If you cannot obtain owner information but a PTAD schedule is available, use the schedule to develop an appraised value for the property. Determine quantity, quality, density, condition and age of inventory and FF&E.
 - f. If none of the above methods are viable, discuss with your supervisor the options available. The property may have to be omitted from the sample.
 - g. If original cost is known, you can use the trend and depreciate program when valuing vehicles. If specific information is available for a particular vehicle, commercial estimators such as NADA or Edmunds can be used. In NADA, use the loan value; if Edmunds, use the True Market Value.
 - iv. Estimate the average age of the equipment based on an inspection and any information obtained in cases where there are several pieces of equipment and owner information is not available or reliable.
 - v. Document the basis for the estimate whenever an age estimate is developed. Do not base the estimate on the condition, unless the condition renders the equipment useless or restricts the equipment's operation. In this case, describe the problem and why additional depreciation is warranted. In cases where the condition of the FF&E is not what is expected for its age because of excessive wear and tear, use your own judgment and allow for additional depreciation, if necessary.

Procedure 3.3

Obtain CAD Information

For each sale and appraisal in each property category in the sample, obtain and record the following information from the CAD:

1. CAD ID code
2. ISD ID code
3. Category code
4. Account number
5. Legal description
6. Parcel address
7. Sale/appraisal code
8. Sale date
9. Sale price
10. Source code
11. CAD improvement value
12. CAD land value
13. CAD prior year total value
14. FF&E value
15. Inventory value

This information typically is available electronically as part of the appraisal roll submission project. If you find that any of the above information is not available from the CAD, you are required to make a reasonable effort to obtain all information possible.

Tasks:

1. Request in writing necessary information from the CAD. The CAD may respond by providing CAD appraisal cards, printouts of information or other documentation indicating certified values of properties.
2. If a CAD has classified an entire category improperly, notify your team lead and supervisor. The supervisor will notify DAT. DAT will move the value of the improperly categorized value to the proper category. If a CAD has classified an individual property or a portion of property included in an individual account in an incorrect category, notify your team lead and supervisor. The supervisor will contact the field appraiser operations area manager and a determination will be made as to whether the property should be recategorized or excluded from the PVS.
3. You must make a final review of information gathered and obtain any missing items. You must obtain all data required to replicate the CAD's certified estimate of market value, such as the personal property working file and all CAD assumptions used in the income, cost and sales comparison approaches to value.

CHAPTER 4

Completing Field Work/ Finalizing PVS Data

Procedure 4.1

Final Reports and Review

The reports necessary are:

1. Management Summary—percent complete strata parcels
2. Total Summary
3. Stratified Detail
4. Local Modifier Analyses
5. Sale Date Range Summary
6. Source Code Summary
7. Outlier Report
8. Clerical Error Report

The data on these eight reports will allow completion of the CAD review. Any results that are outside the required parameters should be corrected before submission of the CAD review. Once all results are within prescribed parameters, submit the CAD review to the team lead and supervisor. The outlier report must be printed. The other reports may be saved as a PDF.

An outlier is an unusually high or low ratio. Outliers may be the result of data errors, CAD errors or market variability. A data error can be:

- a clerical error (such as a keypunch error);
- a mismatch between the property in a PTAD sample and the property the CAD appraised;
- the inclusion of an appraisal in which PTAD staff made a procedural or judgmental error; or
- the inclusion of a non-market sale.

CAD errors include any error by a CAD that results in an appraised value substantially different from market value. Market variability may cause an unusually high or low ratio in

the absence of a data error or a CAD error. If the outlier was caused by a CAD error, leave the parcel in the PVS. Outliers caused by unusual market variability should remain in the PVS. Outliers may not be removed from the PVS unless the outlier ratio is the result of a non-market transaction.

Tasks:

1. After data is entered into the FAS and the sample is complete, run an outlier report. Outliers should be calculated using two standard deviations.
2. Confirm and verify all outliers identified by the report and document why the sample parcels were either left in the PVS or excluded.
3. If the outlier was caused by a PTAD data error, the error should be corrected and the account left in the PVS. In the case of a PTAD clerical error, a property mismatch or an error in PTAD appraisal judgement, correct the error and leave the sample parcel in the PVS. In the case of a nonmarket sale, exclude the sale.
4. No parcel should be excluded from the PVS sample, simply due to having a poor ratio. Outlier Sales once verified should remain in the PVS sample. Outlier PTAD appraisals, once scrutinized should also remain in the PVS sample.

Procedure 4.2

Generate and Deliver a Clerical Error Report to CAD

Clerical error report data must be generated and delivered to the CAD once a county is complete. In many cases, the CAD value for a property in the PTAD sample will change

from the time it is collected by you to the time protests are completed by appraisal review boards (ARB) in mid-summer to fall. To ensure that the CAD information is correct, clerical error reports must be sent to the CAD.

Tasks:

1. Your supervisor will generate a clerical error report when you have completed the county or portion of the county you are assigned. The supervisor or executive administrator will email, mail or deliver the clerical error report with a cover letter to the CAD.
2. Contact CAD personnel to ensure that CAD staff have reviewed the report and made the appropriate updates and corrections.
3. Verify all updates and corrections by conducting an on-site review of CAD records or by receipt of documentation reflecting changes by CAD.
4. If you receive a clerical error report response indicating that values in the report were determined by the ARB, follow the procedures in Appendix 1 regarding ARB protest determination adjustments.

Procedure 4.3

Attend Final Conference

Final appraisal conferences should be in person unless it is not practical to meet in person due to budgetary or health and safety restrictions. With approval from the field appraiser operations area manager, the final appraisal conference may be conducted virtually. Appraisal conferences will be with the team lead, supervisor or field appraiser operations area manager.

Tasks:

1. Obtain scheduling information from team lead.
2. Organize all information to facilitate review.
3. Attend conference.

Procedure 4.4

Organize, Scan and Store Documentation

Refer to the field appraisers' policies and procedures regarding document scanning, document storage and disclosure. Document retention is governed by the applicable records retention schedule.

Tasks:

1. Verify that all necessary documentation is in your records.
2. Organize and store data.

Procedure 4.5

Delivery of PVS Results for CADs that have Preliminary Invalid Findings

Supervisors and team leads will obtain a copy of the preliminary findings for all ISDs that have invalid findings. Seven days after the PVS is released, supervisors and team leads will contact the individual CADs and discuss the preliminary results with chief appraisers. If a personal visit is not possible or is impracticable, the supervisor or team lead may arrange for a telephone or video conference with the chief appraiser. Prior to scheduling a meeting with the chief appraiser, the supervisors and team leads shall review the findings to determine if the issues of discussion that would most benefit the ISD are issues involving multi-county property appraisals or productivity appraisal. If so, the supervisor should contact the area manager over the Multi-County Property Appraisal team to facilitate effective communications with the CAD.

Appendix 1

Statutorily Imposed Value Constraints

The Tax Code requires local appraisal of certain property using statutorily prescribed methods of appraisal that produce constrained values that are less than market value. One commonly recognized statutorily imposed value constraint in Texas involves the appraisal of agricultural land. There are additional constraints imposed on local jurisdictions in the appraisal of property. When conducting the PVS, you should be mindful of statutorily prescribed methods of appraisal and value constraints, including those discussed below.

- I. **Residence Homesteads.** Tax Code Section 23.01(d) provides that “[t]he 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.”
- II. **Property Values Lowered in Prior Year Under Subtitle F of the Tax Code.** Tax Code Section 23.01(e) provides that if the appraised value of property in a tax year is lowered under Subtitle F of the Tax Code, 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 and, 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 clear and convincing evidence. The ARB determines whether the appraisal district met its burden of establishing the current year value by clear and convincing evidence at an ARB hearing, pursuant to Tax Code Section 41.43(a-3).

PTAD will not make an adjustment to a market value determination based on values unchanged under Tax Code Section 23.01(e) unless the ARB makes a valid determination of a protest under Tax Code Section 41.43(a-4)

for the PVS year, thus signifying that the CAD did not meet the standard of proof required by Tax Code Sections 23.01(e) and 41.43(a-3). Please refer to the conditions and procedures for ARB protest determination adjustments.

- III. **Foreclosure-Related Sales** (Financial Institution as Seller). As explained in the IAAO Standard on Verification and Adjustment of Sales, Section 5.4.4 (2020), a foreclosure is not a sale, but the legal process by which a lien on a property is enforced.” The term “foreclosure-related sales” is used to describe sales in which a financial institution is the seller because the majority of such sales are properties the financial institution foreclosed on prior to the sale. Foreclosure-related sales, pursuant to both the IAAO Standard on Verification and Adjustment of Sales, Section 5.4 (2020) and the IAAO Standard on Ratio Studies, Section A.4.1 (2013), are among several types of sales that are generally considered invalid and can be excluded from ratio studies.

Standards and legal requirements for local jurisdictions include the following IAAO and Tax Code provisions:

- IAAO Standard on Verification and Adjustment of Sales, Section 5.4.4 (2020) provides:
Sales in which a financial institution is the seller typically should be considered as potentially valid for model calibration and ratio studies if they comprise more than 20 percent of sales in a specific market area.
- Tax Code Section 23.01(c) provides:
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.

Taking into consideration the IAAO standards, including those referenced above, and recognizing those sale adjustments for statutorily imposed value constraints, the following procedures have been developed for purposes of addressing foreclosure-related sales in the PVS. These procedures apply to ISDs in which foreclosure-related sales (other than those involving properties that have been vandalized or sold as a result of a banking regulator order) constitute more than 20 percent of the total number of ISD sales in the property category. In determining whether foreclosed properties comprise more than 20 percent of sales in a specific population, the market area for this analysis is deemed to be the group of all neighborhoods within the ISD's boundaries.

In such ISDs, foreclosure-related sales (other than those that have been vandalized or sold as a result of banking regulator order) that exceed the 20 percent threshold will be presumed valid and eligible for inclusion in the PVS sample. Sales in such ISDs should not be deleted simply because a financial institution is the seller. Foreclosure-related sales should still be excluded from the PVS if verification reveals something invalid about the transaction other than the price for which the property transferred (for example, the sale was not listed on the open market or the financial institution offered some atypical incentive for marketing the property). The price for which the property transferred may provide an indicator of some factor that would require exclusion of the sale from the PVS, so the selling price must be taken into consideration.

A. Analyze all sales and remove from the population of sales in the ISD all foreclosure-related sales of properties that are identified as having been vandalized and all foreclosure-related sales of properties that are identified as being sold as a result of banking regulator order to dispose of the property regardless of sales price.

B. If, after removing the sales referenced in A above, the remaining foreclosure-related sales constitute **more than 20 percent** of the total sales population containing a minimum of 30 sales for the ISD being studied (which will be considered the market area for purposes of the PVS), such sales are to be considered potentially valid and the following steps shall be taken:

1. Using the population of non-foreclosure related sales to be available for inclusion for a census or for random selection, as appropriate, determine the mean ISD ratio. Exclude foreclosure-related sales that fall outside two standard deviations from the mean.
2. Add the remaining foreclosure-related sales to the population of sales to be available for inclusion for a census or for random selection, as appropriate.
3. If foreclosure-related sales are selected for inclusion, they will be subject to the verification process to which other sales in the sample are subject. Special attention should be given to factors more typically seen in the context of foreclosure-related sales including, but not limited to:
 - seller-financed sales;
 - “as is” sales;
 - bulk sales;
 - sales involving financial institutions as both buyer and seller;
 - pocket listings; and
 - the actual DOM as compared to the average DOM.

Care must also be taken to consider data regarding any changes in property characteristics between the sale date and the appraisal date. If significant physical changes have occurred to the property between the sale date and the appraisal date, the sale should be excluded. The sales will be considered individually based on individual circumstances.

4. Document your work file to identify all foreclosure-related sales that are excluded, stating the reason each sale was excluded.

In ISDs in which foreclosure-related sales other than those involving properties that have been vandalized or sold as a result of banking regulator order constitute 20 percent or less of the total sales population, foreclosure-related sales are presumed invalid. In accordance with the IAAO Standard on Ratio Studies, Section A.4.1 (2013), such sales can be automatically excluded.

C. After the release of the preliminary PVS findings, this issue regarding foreclosures may only be addressed by way of formal protest pursuant to Government Code Section 403.303 and applicable Comptroller rules. Any Tax Code Section 23.01(c) challenge pertaining to an individual neighborhood or group of neighborhoods will not be considered unless the sales population for the individual neighborhood or group of neighborhoods consists of a minimum of 20 sales and at least 20 percent of those are foreclosure related.

D. Careful attention should be paid to this process as no protest seeking to add sales to the PVS is ever permitted.

IV. ARB Protest Determination Adjustments. Government Code Section 403.302(b)(4) requires that the Comptroller's office, in conducting the PVS, ensure that different levels of appraisal resulting from protests determined under Tax Code Section 41.43 are appropriately adjusted in the PVS.

Subject to the following conditions and in accordance with the following procedures, property values in the PVS sample that have been determined by ARBs under Tax Code Section 41.43 that are different than the property values determined by the CAD may result in adjustments to PTAD's values in the PVS.

Conditions:

A. The ARB must have issued a valid determination under Tax Code Section 41.43 for the PVS year at issue.

1. PTAD will not reduce its market value determination in response to a local value adjustment made as a result of an informal agreement or settlement between the CAD and a property owner.

2. PTAD will not reduce its market value determination in response to a local value determination made as a result of an agreement between the CAD and a property owner made during a protest hearing before the ARB, even if an ARB order is issued as, by law, such orders are void.
3. The ARB must have made a valid determination of a protest under Tax Code Section 41.43 that represents an increase of the CAD's value that was submitted to the ARB pursuant to Tax Code Section 25.22 or 25.23.

Procedures:

A. When responding to the clerical error report, the CAD must advise PTAD of all CAD-assigned values listed in the report that, as described above, were determined by the ARB pursuant to protests under Tax Code Section 41.43 and that were different than the property values determined by the CAD. For each such value identified, the CAD must submit to PTAD with the clerical error report supporting documentation regarding the ARB determinations. For each value change noted, the CAD must submit:

1. a copy of the ARB order determining value for the PVS year;
2. a copy of the property owner's protest upon which the ARB order was based;
3. a copy of the notice sent to the property owner pursuant to Tax Code Section 25.19 for the PVS year; and
4. evidence of the property value as submitted by the CAD to the ARB pursuant to Tax Code Section 25.22 or 25.23 (in most cases, the notice sent to the property owner pursuant to Tax Code Section 25.19 will suffice for the third and fourth submission).

B. The team lead and supervisor will review submitted documentation with the area manager, division director and division counsel, as appropriate. If the submitted documentation provides evidence that the property meets the conditions listed above, PTAD may reduce its market value determination for that property to reflect no more than the percentage decrease in value determined by the ARB, if appropriate. For example, if the CAD-assigned property value is decreased 12 percent by the ARB, PTAD's value may be decreased up to 12 percent.

C. After the release of the preliminary PVS findings, the issue may only be addressed by way of formal protest pursuant to Government Code Section 403.303 and applicable Comptroller rules. If you are advised by a chief appraiser or CAD staff after the release of the preliminary PVS findings, in a manner other than by way of a protest, that the CAD value of a property for the PVS year at issue was determined by an ARB as discussed above, refer the individual to this procedure.

V. Property Values Determined in Binding Arbitration.

The Tax Code requires, in the context of binding arbitration, that specific values be used for purposes of the PVS. An arbitrator's determination of market value of property under Tax Code Chapter 41A is, pursuant to Tax Code Section 41A.12, the market value of the property for purposes of the PVS. DAT will take steps to determine if properties included in the PVS are the subject of arbitration determinations. The team leads and supervisors will be notified of such properties and be given instructions for actions to be taken by the appraiser(s) assigned to the identified properties.

If you are advised at any time prior to the release of the preliminary PVS findings by a chief appraiser or CAD staff that the CAD value of a property for the PVS year at issue was assigned as a result of arbitration, notify your team lead and supervisor and request from the CAD a copy of the arbitration determination and award. Forward copies of all documentation received to your team lead and supervisor. The team lead and supervisor will review the documentation with the area manager, division director or division counsel, as appropriate. If a property is included in the PVS for which proper documentation evidences an arbitrator's determination of market value under Tax Code Chapter 41A, PTAD's value (and, if necessary, the CAD's assigned property value) will be adjusted to reflect the value determined by the arbitrator.

After the release of the preliminary PVS findings, the issue may only be addressed by way of formal protest pursuant to Government Code Section 403.303 and applicable Comptroller rules. If you are advised by a chief appraiser or CAD staff after the release of the preliminary PVS findings, in a manner other than by way of a protest, that the CAD value of a property for the PVS year at issue was assigned as a result of arbitration, refer the individual to this procedure.

Appendix 2

Random Sampling Procedures for Sales

Sampling is the foundation on which the ratio study is built. Statistics calculated from a sample of properties are used to draw conclusions about a population of properties. For PTAD purposes, when randomly selecting sales, the population consists of all parcels that sold in a property category or value stratum.

All randomly selected samples should be drawn from the August EPTS file, MLS export file, or a combination of both files depending on the circumstances. With supervisor approval a random selection may be drawn from the February EPTS file which includes sales before the assessment date of Jan. 1 and combined with a random selection from the August EPTS file which includes sales after the assessment data of Jan. 1.

The following procedure applies when random selection must be performed using Excel.

1. Make a copy of the entire sales file. You will work with the copy and keep the original as it is. On the working copy, remove all non-market transactions of which you are aware.
2. Sort the file by value, then by account number. This will place the file in strata order. Remove all sales that are in Strata 1.
3. In the first blank column to the right, enter the title Sale Number. Enter the number 1 in the cell below the Sale Number title. Fill Down and consecutively number the population of sales.
4. In the first blank column to the right, enter the title Strata. Since your file is in strata order, type in "Strata 2" in the cell below the strata title. Fill Down Strata 2 for all accounts whose value fits the Strata 2 range. Do the same for the other 3 Strata.
5. Generate a list of random numbers for the entire file. If there are 425 total sales, you will generate 425 random numbers. The following entries that you make within the random number module **MUST** be written down and retained.
 - a. In the first blank column to the right, place the label "Random Number" (this will be just to the right of Strata). In the header, click on data and choose data analysis from the far right.
 - b. Choose random number generation.
 - c. Change the distribution to uniform. The number of variables will be 1. The number of random numbers will be, in this example, 425 (the total number of sales on your spreadsheet). Between should be 0 and a number 2-3 times as large as your file, in this example, between 0 and 850 or 1275.
 - d. Random seed is a 3 to 4 digit number that you pick. Whatever number you pick should be unique to this file; in other words, do not use the same number every time. Next, click on the button for output range. In the cell next to it, enter the cell address under the random number column on the excel spreadsheet (i.e., if you placed "random number" in column K, cell 1, the output range will be K 2), click "OK."
6. Highlight the entire spreadsheet and sort by strata first, then by random number. This will place your sales in random number order, by strata.
7. You are now ready to select your sales. Within each strata, take the number of sales approved by your supervisor for each strata. For example, if you needed 75 Strata 2 sales, take the first 75 sales on the file. Repeat for each strata.
8. Save this file.

Appendix 3

Sample Land Schedule

[YEAR COUNTY] Rural Land Schedule

Acreage Range	Price Range	Size	Price
1–7.5 Acres	5,400–3,350	5	4,139
7.5–15 Acres	3,350–2,952	15	2,952
15–35 Acres	2,952–2,440	35	2,440
35–75 Acres	2,440–2,363	75	2,363
75–180 Acres	2,363–2,060	180	2,060
180–1,000 Acres	2,060–1,494	1,000	1,494

Appendix 4

Data Analysis Team FAS Contact

DAT administers FAS and PTS. DAT will designate an individual to be the FAS point of contact for Field Studies staff. DAT will also designate a backup contact for times that the contact is unavailable. If the designated FAS contacts are not available, the DAT supervisor may be contacted for assistance and may provide direct assistance or may redirect the request as necessary.

Each individual Field Studies appraiser is responsible for entering and maintaining data in the FAS, including marking the property to be included in the PVS. Once the data is entered, DAT is responsible for collapsing strata, changing parcel counts and changing tested categories according to its procedures. DAT will also work with Field Studies staff and the software vendor to remedy problems encountered. DAT may discuss these procedures with Field Studies area supervisors.

If circumstances arise whereby the available data is not sufficient to permit you to meet your parcel count, you should immediately contact your team lead and supervisor. The supervisor will work with the DAT FAS contact to get you additional randomly selected properties, collapse strata, adjust parcel counts or remove a category from testing.

Any issues on collapsing strata are resolved by DAT working with the Field Studies area supervisors. Issues on reducing parcel counts or changing the studied categories are decided by the supervisors, who will work with the DAT FAS contact to get the system updated. Field appraisers do not make decisions on collapsing strata, reducing parcel counts or changing tested categories.

Appendix 5

Exception Procedure

Definition

When PTAD applies a property's ratio to the value of that property only, the ratio is an exception ratio. This practice is an exception from the normal procedure. PTAD usually uses at least five properties in a stratum to compute the stratum ratio. When using an exception ratio, PTAD creates a separate stratum that consists of a single property.

Procedure

PTAD applies an exception ratio when:

- a single property's appraised value contains at least 20 percent of a property category's reported value in an ISD. This procedure occurs automatically on the mainframe.

Discussion

PTAD will use this exception procedure because a property that is more than 20 percent of the value in a category may result in a non-representative level of appraisal. The exception procedure removes this possibility by isolating the high-value property. It also improves the market value estimate for the remainder of the category by preventing the ratio from the large property from overwhelming the ratios of the rest of the sample.

Why does PTAD ever include these large properties in samples if they may not be representative?

PTAD will include these significant properties to increase the accuracy of the ISD value estimates. Properties that are this significant in value cannot be excluded because doing so will result in an inaccurate estimate of value. These properties are isolated for purposes of representativeness, but included in the PVS results because of the need for accuracy. PTAD gives ISD values priority because the state bases several billion dollars in school funding on them.

Appendix 6

Time Adjustment Procedure

Adjust sales prices for time, if necessary. IAAO Standard on Ratio Studies, Section 4.1 (2013) asserts that using a balanced time frame reduces the importance of time adjustments. IAAO Property Appraisal and Assessment Administration, Calibrating Sales Comparison Models, page 367. “In general, jurisdictions with a good data base and one hundred or more arm’s-length residential sales per year can develop effective sales comparison models.” Jurisdictions with at least 100 residential sales can be analyzed for possible time adjustments, using the inverse ratio trend analysis. Many ISDs will not have enough sales to accurately calculate a time adjustment factor. In these cases, benchmark ISDs (preferably in the same county) that have 100 or more sales will be calculated. The smaller ISDs will be compared to the benchmark ISD, to determine whether a time adjustment factor should be applied.

The steps in performing a time adjustment analysis are as follows:

1. Due to the importance of only arm’s-length sales being included in the calculations, the analysis will be run from the PTAD final PVS sample for the jurisdiction.
2. The inverse ratio of each sale will be calculated. The inverse ratio is simply the market value / CAD’s assigned value.
 - a. Using the CAD’s assigned value minimizes the effects of other variables on the final trend line. Variables such as location, size, quality, age, etc. are taken into account by the CAD appraisal, so using the ratios is an attempt to isolate the time factor.
 - b. The inverse ratio is used rather than the normal ratio calculated for the PVS. While either ratio would provide an accurate reflection of the effects of time on the properties, the inverse ratio creates an easier to read graph. A positive time adjustment will have an upward sloping trend line using inverse ratios.
3. Linear regression is performed on the data, by inserting a trend line across the data points.
4. Using a balanced time frame minimizes the need to apply a time adjustment factor to the PVS sample. There are instances when the time adjustment factor is not linear. There are instances when a significant event occurs during the time frame of the PVS which causes spikes or changes in the effects of time, based on when each property sells. For example, a significant change in the price of oil during the PVS time frame may significantly alter the effect of time on sale prices in those jurisdictions heavily dependent on oil. In these cases, the event must be identified and a separate time adjustment analysis should be run before and after the associated event. Careful consideration should be given if the percent of change (previous year value / current year value) is drastically different for sales before and after the appraisal date. If a difference exist this may create a false spike with the inverse ratio results and is not due to the market but rather reappraisal efforts.

Appendix 7

Testing for Unequal Appraisals of Sold and Unsold Properties

Prior to a PVS year, PTAD must determine whether sold and unsold properties are being appraised at different levels in the categories and ISDs that are to be tested. PTAD may apply up to three different tests, detailed below.

Distribution Test

The distribution test is the Comparison of Observed versus Expected Distribution of Ratios, as outlined in IAAO Standard on Ratio Studies, Appendix E, Section 4 (2013).

This test looks for sales ratios that fall within a particularly narrow range of the mean given the lowest likely standard deviation as a strong indication of the likelihood of “sales chasing”.

IAAO states that with a standard deviation of five percent given a normal distribution, about 32 percent of the ratios would be expected to fall within plus or minus two percent of the mean. Finding such a high concentration of ratios around any measure of central tendency is a strong indicator of “sales” chasing” or of a non-representative ratio study. IAAO suggests that such results call into question the representativeness of the ratio study and additional tests should be instituted.

Alternate Test

The alternate test is a Comparison of Average Value Changes, as outlined in IAAO Standard on Ratio Studies, Appendix E, Section 1 (2013).

This test evaluates the average percentage change in appraised values of sold and unsold properties from year to year. If the appraised values of sold properties increased at a significantly greater rate than unsold properties in the same stratum, “sales chasing” is a likely conclusion.

IAAO states that the distribution of value changes for sold and unsold properties can be compared, or statistical tests can be used to determine whether the distributions are different at a given level of confidence.

Mann-Whitney Test

The Mann-Whitney Test is a Comparison of Average Unit Values, as outlined in IAAO Standard on Ratio Studies, Appendix E, Section 2 (2013).

The test is used to compare differences between two independent groups when the dependent variable is either ordinal or continuous, but not normally distributed. In the appraisal of sold and unsold properties, the dependent variable is changes in value and the independent variable is the properties, which has two groups: sold and unsold.

IAAO states that the Mann-Whitney test can be conducted to determine if there is a statistically significant difference in the distribution of value change of these properties.

Testing Procedure

In each category and ISD with a minimum of 30 sales in the most recent study, the following procedure will apply:

1. The initial test is the distribution test.
 - a. An ISD will pass the distribution test for a category if the category does not have at least 32 percent of the ratios within one distribution range. The ISD will not be subject to another test or a “late sale” sample.
 - b. For any category in which 32 percent or more ratios are within one distribution range, the ISD will be subject to the alternate test.
2. The secondary test is the alternate test. PTAD will only administer the alternate test if the ISD does not pass the distribution test.

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- a. PTAD will conduct a t-test using data in the current year EARS file. An ISD will pass that alternate test if it passes the t-test. The ISD will not be subject to another test or a “late sale” sample.
 - b. For any category in which an ISD “fails” the t-test, the ISD will be subject to Mann-Whitney test.
3. The final test is the Mann-Whitney test. PTAD will only administer the Mann-Whitney test if the ISD does not pass the distribution test and the alternate test.
- a. An ISD will not pass the Mann-Whitney test for a category if there is more than a five percent difference between the weighted mean change of sold and unsold properties.
 - b. Should any CAD have a category in an ISD fail the Mann-Whitney test, PTAD will notify the CAD and the CAD will have 10 days to appeal the test results.

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