

The seal of the Texas Comptroller of Public Accounts is visible in the background, featuring a five-pointed star surrounded by a laurel wreath, with the words "THE COMPTROLLER OF PUBLIC ACCOUNTS" and "STATE OF TEXAS" around the perimeter.

Glenn Hegar

Texas Comptroller of Public Accounts

School District Property Value Study Procedures Manual

For Categories A, B, C1, D2, E, F1 & L1

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) appraisers when conducting the school district property value study (SDPVS) under Government Code Section 403.302. These procedures only apply to property Categories A, B, C1, D2, E, F1 and L1. These procedures do not apply to property Categories D1, G and J.

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 appraisers follow these procedures in performing the tasks related to the local properties portion of the SDPVS and they are not intended for any other purpose. Deviations from these procedures require approval of the PTAD director.

Local values used in the SDPVS sample will reflect the appraisal district (CAD) market value before any limitations (caps) set in Tax Code Sections 23.23 and 23.231.

Note Regarding Property Classification Guide: The *Texas Property Tax Assistance Property Classification Guide* governs the SDPVS. PTAD may re-categorize incorrectly categorized property in conducting the SDPVS. 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 property category or class (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 property value in categories sampled in the SDPVS.

Direct any questions regarding improperly categorized property, property re-categorization or whether or not to study a property category or class 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
- SDPVS** – 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 SDPVS) are certified to the Texas Education Agency, DAT runs programs in PTS to generate sample size requirements (parcel counts) for the current year's SDPVS.

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 SDPVS each year (about half of the 253 CADs are included in the SDPVS 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 includes 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 SDPVS) 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 SDPVS or the protest process, a ratio will be calculated for strata or categories from the remaining observations.

PTAD determines the sample size for each ISD 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 SDPVS.

DAT provides the parcel counts to the Appraisal Operations Area manager who makes all assignments with appraisal manager and supervisor 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. Your supervisor may change parcel count requirements.

Procedure 1.2

Determine and Document Annual Plan of Completion for Region

Each appraiser, with direct assistance of the team lead, analyzes the workload within his or her region and develops an annual plan to submit to the supervisors for written approval. The team lead will monitor the annual plan and work progress weekly. This plan will consider all interim and final production deadlines. Appraisers must work only one county at a time, completing all necessary tasks before moving on to the next assignment. Special circumstances may require an appraiser to work on more than one county at a time. Each team

lead will monitor this practice and get prior written approval from the supervisor. Upon completion of a county, the appraiser should notify the supervisor and the team lead should review the data for completeness and accuracy. Refer to [Appendix 4](#) for important information regarding the FAS contact and specific issues regarding collapsing strata, changing parcel counts and changing tested categories.

Each appraiser must develop and adhere to an annual calendar.

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	25% complete
July 31	40% complete
Aug. 31	55% complete
Sept. 30	70% complete
Oct. 31	85% complete
Nov. 30	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 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 appraiser must submit the written plan no later than two weeks after receiving 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. Discuss any deviation from or revision to your original plan with your team lead and get approval in writing from your supervisor.
5. Your team lead monitors completion rates, ensures adherence to your written plan and provides assistance throughout the process.
6. The team lead will review the sample 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 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. Sales data obtained (not only from the EPTS file, but also from outside sources) is extremely important. For commercial properties in particular, gather any other fundamental market data including 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 appraiser to be diligent and resourceful in compiling all available, relevant and reliable market data for their work on each year's SDPVS. To assist each appraiser in this duty, PTAD makes access to some of this critical data available through third-party subscription services, such as local MLS, TransUnion, CoStar and the annual Texas Hotel Performance Factbook. 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 include in the SDPVS, 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 SDPVS 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 SDPVS year and as far forward as Aug. 31 of the SDPVS 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, PTAD will use a late sales sample wherein the time period runs from the time notice of appraised values were delivered through Dec. 31 of the SDPVS year. 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 SDPVS. Prescribed source codes for sales are as follows:

1. CAD – EPTS
2. CAD – Document
3. CAD – View only
4. PTAD – Survey Letter
5. PTAD – TransUnion
6. PTAD – MLS
7. PTAD – CoStar
8. PTAD – Internet
9. PTAD – View or Verbal only

CAD Sales Limitations

To maintain the independence of the SDPVS, PTAD prohibits the use of sales samples obtained solely from the CAD without an attempt to obtain outside source sales. 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.

Tasks:

1. Obtain the Excel spreadsheets of the EPTS files the CADs provide to DAT. There are two EPTS submission deadlines for 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 an EPTS 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.

The Comptroller's Support Services Division 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 notify you of 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, TransUnion, CoStar and other market data materials. Access and collect all available sales data for single family residential properties from the local MLS, TransUnion 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 SDPVS, 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 SDPVS 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 requirement. In this case you may include all of the sales to meet the category or stratum parcel count. For example, if the parcel requirement is 15 but the population of sales consists of 65 parcels, all 65 parcels may be used, eliminating the need to randomly select.
2. If the parcel requirement is 15 but the population of sales in the stratum consists of 150 parcels, it would be appropriate to select up to 50 more (or 65) in that stratum. Larger samples can be approved by your supervisor, if appropriate.

Procedure 2.4

Confirm and Verify Sales

A confirmed sale requires documentation necessary to ensure that the correct sale price is used in the SDPVS. A verified sale requires documentation necessary to ensure that a sale meets the definition of a market value transaction. *The IAAO Standard on Ratio Studies, Section A.4* (2013) states, “The sales reviewer should take the position that all sales are candidates as valid sales for the ratio study unless sufficient and compelling information can be documented to show otherwise.”

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 sale type. 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, TransUnion, 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. MLS, 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.

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 SDPVS and legal provisions and appraisal standards applicable to local jurisdictions being studied (**Appendix 1**). Exclude sales from the sample that involve property located in multiple ISDs.

Verification Guidelines for Certain Transfer Types

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

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 SDPVS.

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 SDPVS. It may be an indicator that additional information should be obtained to verify a sale.

If information indicates a short time 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. If information indicates a longer time on the market, the original asking price may have been overstated and reduced during exposure to more accurately reflect current market conditions. 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. The *IAAO’s Standard on Verification and Adjustment of Sales, Glossary* (2020) defines assemblage 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 SDPVS 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 SDPVS. 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 SDPVS 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 SDPVS.

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 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 a CAD's EPTS file, 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 appraisal 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.

In some circumstances, it may be unnecessary to request documentation from the CAD if the verification requirement has been met from outside sources. With supervisor approval, these sales may still be used in the sample without requesting verification documents from the CAD.

This procedure is very important because sales are never added after the release of the SDPVS 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 indicates 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 property's market value as of Jan. 1 of the SDPVS year. For purposes of the SDPVS, you can adjust sales that:

- are a combination of real and personal property;
- include more than one property category;
- include multiple accounts in different strata;
- are in markets that show significant value changes during the SDPVS 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), any personal property value 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 personal property value 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. A value estimate from the buyer, agent or CAD

is insufficient unless 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 personal property value from the sale price. Sales prices should be adjusted by subtracting the contributory personal property value 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 personal property value 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 real property's sale price 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 personal property value 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)], use the following procedure. 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 property ratio. 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. 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.
4. 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.
5. 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.
6. 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.

7. 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 SDPVS, 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 SDPVS, 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 SDPVS, the parcels should be used as individual sales (calculated with the mixed use-parcel template).
8. Other Adjustments. *IAAO Standard on Ratio Studies, Section A.5.5* (2013) states adjustments to sales prices should not be made for real estate sales and brokerage commissions; closing costs, such as attorney's fees, transfer taxes, and title insurance; and current or delinquent property taxes. Exceptions to this general rule occur when the buyer agrees to pay real estate commissions and delinquent property taxes, in which case the amounts of the payments should be added to the sale price if not already included in the sale amount. Other exceptions occur when the seller agrees to pay expenses normally paid by the buyer.
9. 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 from a schedule provided by DAT. Each schedule identifies by tax ID number each property to be appraised in each stratum and property category that was randomly selected.

Perform appraisals 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. Property values 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 includes 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 population's characteristics.
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 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 SDPVS. 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 randomly selected account value 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.
6. If a randomly selected property is located in more than one ISD, 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 property value. 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 SDPVS 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 SDPVS 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 with supervisor approval.
 - 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 deemed unnecessary, appraisal cards, aerial photographs, soil maps or other relevant information should be used to perform the appraisal.
- c. Record rank, condition, age, physical characteristics, amenities and any accessory buildings or 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 an error in the CAD record is obvious, 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 and Swift Valuation costs to reflect local markets. Consider sales within the ISD first when developing the local modifier, but sales outside the ISD may be used as long as the market area is comparable. The appraiser must inspect the sales and appraisals.
 - e. Develop a local modifier for each residential 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 modifier developed from the most appropriate market data available. The appraiser is responsible for identifying the specific properties used to develop each local modifier for each property appraised.
 - iii. Consistency in the applied rank, condition, effective age, components and land value between local modifiers and appraisals is necessary to accurately estimate market value. The calculated local modifiers reflect the characteristics of the independent appraisals used in the SDPVS.
 - f. Enter the rank, condition, effective age and physical characteristics observed during inspection of the property in the FAS. Each residential improvement entered in the FAS will include a component code reflecting the appropriate exterior wall construction, roof cover, floor structure (subfloor), plumbing

Tasks:

- 1. Appraise Category A [single-family residential] sample and Category E [rural land not qualified for open-space land appraisal and improvements] 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.

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- fixtures, plumbing rough-ins, automatic floor cover and automatic appliance allowance. Additional components will be entered as observed.
- g. Enter the random appraisals in the FAS and identify the sold properties used to develop the local modifier.
 - h. If a septic system exists but the value is not included in the land value, include it as an improvement component.
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.
 - c. Determine quality and condition.
 - d. Determine the mobile home's value 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. File and scan both the land schedules and supporting documentation 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 property's component parts which are the land and building. This method estimates land values in which improved property sales are analyzed to establish a typical land value to total property value ratio.
 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. In a stable market, use the direct capitalization method; 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 subject's market data.
 - 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
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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 an individual property's value. When a property's value 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 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 type, quality and condition.
- c. Determine improvement value 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 account record, 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 inventory and supplies value as stated on a signed rendition, unless the information is obviously unreliable. If the inventory amount reported 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.
 - iv. Estimate the equipment's average age 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.
- 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 property value. Determine quantity, quality, density, condition and age of inventory and FF&E.

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- f. If none of the above methods are viable, discuss with your supervisor the options available. You may need to omit the property 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.

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 property values.
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 appraisal manager and a determination will be made as to whether the property should be recategorized or excluded from the SDPVS.
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 market value estimate, 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 SDPVS Data

Procedure 4.1

Final Reports and Review

The reports necessary are:

1. Percent Complete
2. Totals Summary
3. Stratification Detail
4. Local Modifier
5. Sale Date Range Standard
6. Sales Source Code Summary
7. Outlier Report
8. Clerical Error Report

The data on these eight reports will facilitate completion of the ISD review. Any results that are outside the required parameters should be corrected before submission of the ISD review. Once all results are within prescribed parameters, submit the ISD review to the team lead and supervisor. Print the outlier report and save the other reports in PDF format.

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 SDPVS. Outliers caused by unusual market variability should remain in the SDPVS. Outliers may not be removed from the SDPVS unless the outlier ratio is the result of a non-market transaction.

Tasks:

1. After entering the data into the FAS and completing the sample run an outlier report. Outliers will be identified 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 SDPVS or excluded.
3. If the outlier was caused by a PTAD data error, correct the error and leave the account in the SDPVS. 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 SDPVS. In the case of a nonmarket sale, exclude the sale.
4. No parcel should be excluded from the SDPVS sample simply due to having a poor ratio. Outlier sales, once verified should remain in the SDPVS sample. Outlier PTAD appraisals, once scrutinized should also remain in the SDPVS sample.

Procedure 4.2

Generate and Deliver a Clerical Error Report to CAD

Generate and deliver clerical error report data to the CAD once a county is complete. In many cases, the CAD value of properties in the PTAD sample may change between the date you receive property cards from the CAD and the date of

appraisal roll certification. 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 for the SDPVS year at issue, 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 appraisal manager, the final appraisal conference may be conducted virtually. Appraisal conferences will be with the team lead, supervisor, appraisal manager or Appraisal 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 Appraisal Operations Area policies and procedures regarding document scanning, document storage and disclosure. The applicable PTAD records retention schedule governs document retention.

Tasks:

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

Procedure 4.5

Delivery of SDPVS 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 SDPVS is released, supervisors and team leads will contact the individual CADs and discuss the preliminary results with chief appraisers. Prior to contacting the chief appraiser, the supervisors and team leads must 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 Appraisal Operations Area manager 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 appraisal methods that produce constrained values that are less than market value. One commonly recognized statutorily imposed value constraint in Texas involves agricultural land appraisal. There are additional constraints imposed on local jurisdictions in property appraisal. When conducting the SDPVS, you should be mindful of statutorily prescribed appraisal methods 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 a property’s appraised value in a tax year is lowered under Subtitle F of the Tax Code, the property’s appraised value as finally determined under that subtitle is the property’s appraised value for that tax year and, in the following tax year, the chief appraiser may not increase the property’s appraised value 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 SDPVS 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 Section IV for the 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” describes 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 SDPVS. 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 SDPVS 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 SDPVS 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 SDPVS, 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 SDPVS), such sales are to be considered potentially valid and the following steps must 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 SDPVS 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. Pay careful attention to this process as no protest seeking to add sales to the SDPVS is ever permitted.

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

In accordance with the following procedures, property values in the SDPVS sample that have validly 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 SDPVS at issue.

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 a valid ARB order determining value for the SDPVS year at issue;
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 SDPVS year at issue; 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).

PTAD reserves the right to determine the validity of any ARB order of determination provided for a sample property.

- 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 of a decreased value through a valid ARB order of determination for the SDPVS year at issue, 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 SDPVS 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 SDPVS findings, in a manner other than by way of a protest, that the CAD value of a property for the SDPVS 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

SDPVS. An arbitrator's determination of a property's market value under Tax Code Chapter 41A is, pursuant to Tax Code Section 41A.12, the property's market value for purposes of the SDPVS. DAT will take steps to determine if properties included in the SDPVS 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 SDPVS findings by a chief appraiser or CAD staff that the CAD value of a property for the SDPVS 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 SDPVS for which proper documentation evidences an arbitrator's market value determination 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 SDPVS 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 SDPVS findings, in a manner other than by way of a protest, that the CAD value of a property for the SDPVS 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 within the standard time frame used by PTAD.

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 array 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, enter **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 three 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, enter the label **Random Number** (this will be just to the right of Strata). In the header, select the data option and select 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 three- to four-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, select 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 entered “random number” in column K, cell 1, the output range will be K 2), select “OK.”
6. Highlight the entire spreadsheet and sort by strata first, then by random number. This will array 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 designates an individual to be the FAS point of contact for Appraisal Operations Area staff. DAT also designates 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 Appraisal Operations appraiser is responsible for entering and maintaining data in the FAS, including marking the property to be included in the SDPVS. 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 Appraisal Operations Area staff and the software vendor to remedy problems encountered. DAT may discuss these procedures with Appraisal Operations 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 Appraisal Operations Area manager. 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. 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 consisting 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 a category's value 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 value estimate. These properties are isolated for purposes of representativeness, but included in the SDPVS 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 SDPVS 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 SDPVS. 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 SDPVS 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 SDPVS 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 SDPVS 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.
5. 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 date of the identified event. If a difference exists this may create a false spike with the inverse ratio results and is not due to the market but rather reappraisal efforts. If the reappraisal effort has been determined inconsistent before and after the associated event, the inverse ratio trend analysis will be considered unreliable. In these circumstances, PTAD will utilize an alternative dependent variable in linear regression models to estimate a reliable trend analysis.

Appendix 7

Testing for Unequal Appraisals of Sold and Unsold Properties

Government Code Section 403.302 requires the Comptroller's office to ensure that "different levels of appraisal on sold and unsold property do not adversely affect the accuracy of the study." Differing levels of appraisal are often referred to as unequal appraisal, and the most common cause of unequal appraisal is selective reappraisal of sold property.

Prior to an SDPVS 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 compares 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.
 - 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 of any failure and provide instruction on how to appeal. The CAD will have 10 business days to appeal the test results.

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