

**PARKER COUNTY
APPRAISAL DISTRICT**



**APPRAISAL MANUAL
2023-2024**

Introduction

The purpose of this manual is to aid appraisal district staff in the methods and techniques utilized by the Parker County Appraisal District (PCAD) in the valuation and reappraisal of taxable property within Parker County. The appraisal of property for mass appraisal purposes is a very detailed and extensive process; therefore, this manual aims to breakdown and explain the whole process of how the appraisal district operates.

All persons employed as appraisers with Parker County Appraisal District must adhere to the laws, regulations, and guidelines set forth by the Texas Property Tax Code, Texas Department of Licensing and Registration (TDLR), International Association of Assessing Officers (IAAO) and the Texas Association of Appraisal Districts (TAAD). Maintaining a high level of trust from the public is key within appraisal practices; thus, appraisers must adhere to these ethics and communicate their analyses and conclusions of their findings in ways that are significant.

Appraisal Procedures

To summarize, in an appraisal system the appraisal district first collects detailed descriptions of each taxable property in the district. The district then classifies properties according to a variety of factors, such as size, use and construction types. The district uses data from recent property sales and construction costs to replace the improvements at the same level of utility. With the help of modifiers that compensate for minor differences between individual properties, such as differences in age or location, appraisers use typical properties as benchmarks, or reference points, to appraise all the properties in each classification. Accuracy and uniformity are insured with error reports, for both Real Estate and Business Personal Property. In addition, random sampling is used to test the work product of all the staff. Errors in application and judgment are identified and corrected in a timely fashion. PCAD routinely provides training to staff to reinforce identification and coding to avoid errors.

A. Land

To appraise land, appraisers need to ensure the land schedule on the appraisal card and files on the computer are correct. Methods used for this are the lot table, acreage table or square foot method. All land will fall into one of these methods. These tables will be reviewed as needed for any adjustment based on sales analysis. Land is valued as if vacant and available for the highest and best use. Similar land recently sold or offered for sale is analyzed and comparisons made for such factors as size, time, location, and physical characteristics. The Sales Comparison Approach to value is primarily used to value vacant real property within the district. Vacant land is valued according to common units of comparison. Parker CAD develops per lot site land valuation tables for the platted town area. Land tables based on per acre value are utilized for rural platted and unplotted areas within the district. Land sale prices are also expressed on the same unit comparison basis and stratified (sorted) according to location and probable use. Sorting criteria ensure that land values will reflect market data for parcels with similar or competitive uses in the same market area. A computerized land table file stores the land information required to consistently value individual parcels within the market area.

B. Residential

“Residential Property”, as defined by the International Association of Assessing Officers (IAAO), is “Real property that might be vacant land or an improved parcel of land devoted to or available for residential use”. Residential properties could be improved or unimproved (vacant). Residential properties are physically inspected on an annual basis. Changes that have occurred and observed condition are noted by the field appraiser and entered into account records. Pictures of the exterior of the residence are taken of new homes and to existing homes whenever a change in physical appearance has occurred. The appraiser is responsible for verifying and collecting accurate and reliable property data. By reasoned use of developed models, an appraiser can finalize a preliminary property value while in the field. Parker CAD uses cost schedules to value residential parcels in the

district. These cost schedules (models) are actually hybrid models called “Market-Adjusted Cost Hybrid” computer assisted mass appraisal models. These hybrid models are the most predominately used by appraisal districts in the state. Residential structures are classified according to quality of construction, style and design, appeal, and the presence of certain features. Property specific features are additives to the main class such as attached/detached garages, covers, storage bldgs., etc. Age and condition of structures are adjusted for from depreciation tables. These depreciation tables adjust for not only physical deterioration, but also for market reactions to obsolescence. Review of residential cost schedules (models) is performed biennially and a decision is made as to whether the value level within a class of residential properties needs to be changed for the current appraisal year, or if the values are at acceptable existing level.

To appraise residential properties, appraisers measure the square footage and then draw out the structure to be put in the computer system. Appraising homes in residential areas include class of the house, year built, effective age, and features data. All these components are gathered by the appraiser in order to determine the value of the property. Upon completion of this, data entry clerks will enter all information gathered into the computer system.

In any determination of value, data is sought in the local market on such factors as sales and offerings of similar properties and tracts of vacant land; current costs of reproduction of the improvements; rentals of similarly improved properties; and the current rate of return on investments and comparable properties. From this data, a value can be developed for both the land and the property as a whole. For the latter, several methods may be used: the cost approach, the income approach, and the market (sales) data approach.

C. Commercial

Commercial property has a business or institutional purpose and may have an owner-occupied property or may be an investment property which generates income for the owner. All three appraisal approaches are considered when valuing commercial property. Information from a variety of sources is obtained and detailed analysis is undertaken. Maintaining current cost tables and accurately estimating depreciation are critical functions of cost approach.

The fee simple interest of commercial real property is appraised as required by state statute. The effect of easements, restrictions, encumbrances, leases, contracts or special assessments are considered on an individual basis, as is the appraisal of any non-exempt taxable fractional interests in real property (i.e. certain multi-family housing projects). Fractional interests or partial holdings of real property are appraised in fee simple for the whole property and divided based on their pro-rata interests.

How appraisers of the Parker County Appraisal District shall inspect the exterior of each structure. Interior data shall be obtained through on-site inspection or personal interviews when possible. Construction features, characteristics, appendages, accessory buildings or irregularities for each property shall be recorded on field worksheets or portable computers. Grade classification shall be distinctly considered and state appraisal classification guidelines followed for each commercial building. Periodic inspections of work of all appraisal personnel shall be made by the commercial department manager in the grading (or classifying) of structures to insure correct, uniform, and consistent grade classification use. A perimeter sketch of each commercial building will be drawn on the field worksheet or in portable computer and all necessary dimensions and identification symbols shall be placed on this sketch. Appendages such as covered porches, parking garages, etc. shall be carefully shown with dimensions and labeled accordingly. All other pertinent appraisal information will be gathered and recorded.

D. Multifamily

Properties such as multifamily are properties containing two or more residential units under single ownership. The best example of multifamily properties are apartments and non-owner-occupied duplexes. Multifamily properties are residential improvements containing two or more residential units under single ownership. Properties classified as

multifamily generally include apartment complexes. If listed separately, apartments located above street-level stores or offices are also included in the multifamily category. If not listed separately, the predominant use by value determines classification.

- Important Notes in Classifying Multifamily Residential Property

- Do not confuse Multifamily properties with hotels and motels, even when their occupancy turnover rate is high. Hotels and motels are commercial real properties and are never classified as Multifamily property.
- Do not classify owner-occupied duplexes, triplexes and fourplexes as multifamily property. They are classified as residential property. Non-owner-occupied duplexes, triplexes, and fourplexes should be classified as Multifamily property.
- Do not classify condominiums or townhomes as a Multifamily property. They are classified as residential property.
- If the property is owned by a developer or builder, has never been occupied and meets the other tests for Real property, it should be classified as such.

E. Business Personal Property

Business Personal property includes land and improvements associated with businesses that sell goods or services to the general public. Some examples of commercial businesses are wholesale and retail stores, shopping centers, office buildings, restaurants, hotels and motels, gas stations, parking garages and lots, auto dealers, repair shops, finance companies, insurance companies, savings and loan associations, banks, credit unions, clinics, nursing homes, hospitals, marinas, bowling alleys, golf courses and mobile home parks. Warehouses present a unique classification challenge because of the difficulty some appraisers have experienced in distinguishing between commercial real property and industrial real property.

Warehouses that receive goods from more than one manufacturer or distributor to sell wholesale or retail should be classified as commercial real property. The personal property should be classified as commercial personal property.

Examples of warehouses that should be classified as commercial real property, include:

- A warehouse that buys finished clothing from several manufacturers and sells it to wholesale or retail outlets.
- A warehouse that operates primarily as a retail outlet.
- Warehouses that receive good from only one manufacturer to hold for distribution or that provide storage as part of a manufacturing process should be classified as industrial real property. Industrial warehouses are normally owned by the manufacturer and are usually on or near the site of the manufacturing plant.

Examples of warehouses that should be classified as industrial real property include:

- A warehouse that stores various kinds of cloth, materials and supplies used by a manufacturing plant to manufacture clothing. The warehouse containing these items ensures the efficient operations of the manufacturing business by providing an uninterrupted supply of vital resources.
- A warehouse that only functions to receive the finished clothing from a manufacturing plant as it is manufactured, and then distributes it to wholesale or retail outlets. This warehouse enables the factory to maintain a regular and efficient production schedule by producing clothing even when there is no immediate buyer.

It cannot be overemphasized that personal property associated with either industrial real or commercial real properties should not be categorized as either commercial real or industry real, but should instead be categorized as either commercial personal or industrial personal property.

F. Minerals and Industrial (Pritchard and Abbott)

Working and royalty interests of producing oil and gas wells are appraised annually. The most recent production data available from the Texas Railroad Commission is downloaded into appraisal software that estimates economically recoverable reserves. Those reserves are then valued based upon State mandated pricing using the previous year's average of oil or gas values. A discount is applied over the anticipated life of the well in order to consider the value of money over time to recover those reserves. Each producing gas well is valued as a unit and that total value is divided according to the various owners of the lease listed in division orders. Parker County Appraisal District contracts with Pritchard & Abbott, Inc. for these services.

Minerals include the non-exempt value of oil and gas, other minerals and certain interests in subsurface land. Mines, quarries, limestone, sand, caliche, gravel and other substances that are part of the land are not minerals, but are classified in Minerals, as subsurface interests in land. In addition, equipment used to produce products is considered Minerals and should be reported in the applicable sub-category.

Tax Code Section 11.146 states:

- "A person is entitled to an exemption from taxation of a mineral interest the person owns if the interest has a taxable value of less than \$500."
- "The exemption provided by Subsection (a) applies to each separate taxing unit in which a person owns a mineral interest and, for the purposes of Subsection (a), all mineral interests in each taxing unit are aggregated to determine value."

The value of the Minerals category includes producing minerals and non-producing minerals unless they are exempt based on Tax Code Section 11.146.

Utility companies and pipelines are appraised annually using a unit value developed using all three approaches to value. For example, a utility company's total value in the State is estimated using cost, market, and income approaches to value and then the entire value is allocated using the components of that utility company that have situs in the various tax units of PCAD. Components include such things as miles of transmission lines, miles of distribution lines, substations and the like for an electric utility. These services are also contracted to Pritchard & Abbott, Inc.

Subcategories of utilities are:

- Water Systems
- Gas Distribution Systems
- Electric Companies and Electric Co-ops
- Telephone Companies and Telephone Co-ops
- Railroads
- Pipelines
- Cable Companies

As a result of restructuring of the electric generation industry in Texas and the separation of businesses owning generation facilities from businesses owning electric transmission and distribution utilities, most electric generation plants and equipment should be classified in Categories F2 and L2. Transmission and distribution facilities and equipment will continue to be categorized as Utility. Generation facilities and electric utility companies serving Texas but outside the Electric Reliability Council of Texas operating area should be classified as Utilities.

Property owned by a utility company but not an operation component of the company is not classified as Utilities. The use of the property determines the classification.

Residential Builders Inventory Procedures

HB 2445 (70th Texas Legislature) created this unique class of residential real property inventory. The law states that certain real property may be valued for tax purposes as inventory. The value of this inventory is defined by property Tax Code Sec. 23.12 as "the price for which it would sell as a unit to a purchaser who would continue the business."

To qualify:

There must be two or more platted lots or tracts, (and improvements, if any), meeting the following criteria:

1. under the same ownership;
2. contiguous to one another or at least located in the same subdivision for development;
3. held for resale by developers or builders in their ordinary course of business; are subject to zoning or enforceable deed restrictions limiting them to residential use only;
4. has never been occupied for residential purposes;
5. and they are not currently leased or producing income.

Procedure to qualify:

File application indicating each lot in your inventory as of January 1 each year between January 1 and April 15. Failure to file will result in removal of special value for that year.

Inspection Procedures and Data Collection

The appraiser is not a home inspector nor does he/she do a complete home inspection. The point of a home inspection is to investigate the structure of the home from bottom to attic. Usually, a home inspection report will evaluate the amenities and the necessities of the property: air conditioning (weather permitting), electrical functions, the condition of the heating system, the plumbing; then the structural capacity of the home such as the attic, exposed insulation, walls, floors, ceilings, windows, then the foundation, basement and other visible structures. Appraisers of the Parker County Appraisal District shall inspect the exterior of each structure. Interior data shall be obtained through personal interviews when possible. Construction features, characteristics, appendages, accessory buildings or irregularities for each property shall be recorded on field worksheets or portable computers. Grade classification shall be distinctly considered and state appraisal classification guidelines followed for each building. Periodic inspections of work of all appraisal personnel shall be made by the residential department manager in the grading (or classifying) of dwellings to insure correct, uniform, and consistent grade classification use. Staff appraisers will be assigned to designated areas in Parker County for the purpose of residential inspection. Each appraiser will be given the responsibility to visually and/or physically inspect each commercial property within their assigned area. The appraiser will conduct on-site slow-pass vehicular inspection of the residential property when passive inspections are inadequate. Inspections will include both passive and active inspection activities depending on the property requirements. Passive inspection is performed by on-site visual inspection and/or by utilizing oblique aerial images. Active inspection includes either physical observational walk-through; on-site measurement; on-site counting; person-to-person interviews with owners, managers, or agents of the property; or a combination thereof.

Sales Information Review Procedures

Economic trends, as well as national, regional and local trends affect the property appraised in Parker County. An awareness of social, economic, governmental and environmental conditions is essential in understanding, analyzing and identifying local trends that affect the real estate market. Market analysis is performed throughout the year. Both general and specific data is collected and analyzed. Examples of sources of general data include "Trends" published by The Real Estate Center at Texas A&M University, "Valuation Insights & Perspectives" published by the Appraisal Institute, as well as financing information from local lending institutions. Information on zoning, demographics, labor statistics and transportation are also obtained. Sales information of property is received from various sources. These sources include local real estate appraisers, agents and brokers. In addition to these sources, from deed transactions, the district mails a sales survey to the purchasers in an effort to obtain additional sales information that may not be otherwise discovered.

A. Collection and sources

Data collection is accomplished by appraisers performing property field checks on the permits in their driving report and making observations of the surrounding properties while in the field. At a minimum, every account's field sheet should include the Appraiser Name, the Date the inspection was done, and all data fields are verified and documented to January 1st status. It is important to correctly identify and record all essential information for the property on the appraisal card or directly into the CAMA System. Examples of sources of general data include "Trends" published by The Real Estate Center at Texas A&M University, "Valuation Insights & Perspectives" published by the Appraisal Institute, as well as financing information from local lending institutions. Information on zoning, demographics, labor statistics and transportation are also obtained. Sales information of property is received from various sources. These sources include local real estate appraisers, agents and brokers. In addition to these sources, from deed transactions, the district mails a sales survey to the purchasers in an effort to obtain additional sales information that may not be otherwise discovered.

Parker County value schedules or tables include land, residential improved, commercial improved and personal property. Data sources currently used by Parker County include cost information from Marshall and Swift Valuation Service, cost data obtained from local contractors and renditions provided by the property owners. Marshall and Swift Valuation Service is a nationally based cost manual that is generally accepted throughout the nation by the real estate appraisal industry. This cost manual is based on cost per unit or square foot and also uses the unit in place method. The unit in place method involves the estimated cost by using actual building components. This national based cost information service provides the base price of buildings by classification with modifications for equipment and additional items. The district's schedule is then modified for time and location.

Local contractors and builders are another source of cost data utilized by Parker County. Local contractors provide cost data on new structures that is compared to cost information obtained from Marshall and Swift.

Renditions are confidential sources and cannot be used for specific information; however, data from renditions may be compared with data obtained from cost manuals and used to test schedules for their accuracy.

Although Parker County schedules are formulated primarily from sales information, cost information is a valuable comparative tool or primarily used when sales information is not available.

Currently, single family residential dwellings are classified for quality of construction. The range of quality is low, fair, average, good, very good and excellent. Commercial and light industrial classifications are more detailed and are based on a variety of building styles and uses. The classification schedules with values for each quality and/or type and size within each quality are modified biennially for residential and commercial properties.

The number of quality classes and schedules are continually monitored in an effort to refine and reduce the number of residential classes to conform to accepted appraisal practices. The quality classes are without exception low, fair, average, good, very good and excellent.

The age of buildings is based on effective age and is used to estimate depreciation or as mentioned above, percent good or functional adjustments. Effective age is the age the property appears due to maintenance and upkeep. Effective age for a house that is properly maintained may be its actual or chronological age; however, if a structure suffers from deferred maintenance due to neglect, its effective age may be older than the actual age. In contrast, if a house is an older structure and has been remodeled or updated, its effective age may be less than its actual age. Effective age is not directly used to value property but is a very beneficial tool in the valuation process and should be understood by all appraisal related staff.

Depreciation is also estimated by condition of improvements. Condition ranges from poor, fair, average, good and very good. Appraisers in the field typically inspect structures from the exterior perspective. The interior condition is assumed, unless otherwise known, to be similar to the exterior. However, if the taxpayer requests an interior inspection this will be made by appointment. Additional depreciation may be estimated for a variety of reasons including functional obsolescence resulting from, for example, an inferior floor plan or out of date construction methods. Economic obsolescence results from a loss of value to a property due to adverse influences from outside the physical boundaries of the property. Examples of economic obsolescence may be proximity to commercial or industrial property or heavy traffic patterns. These are noted by "functional" or "economic" percent adjustments.

B. Review and Verification

In order for comparable sales data to be considered reliable it must contain a sales date, sales price, financing information, tract size, and details of the improvements. Commercial sales are often confirmed from the buyer and/or seller involved, including brokers. Confirmation of sales from local real estate appraisers is also considered reliable.

Sales information includes vacant land, subdivision lots, improved residential dwellings, commercial properties as well as industrial properties. Sales data is compiled and the improved properties are physically inspected and photographed. These sales are compared to the existing data on the appraisal cards and changes are made as indicated. These changes include age and condition as well as any improvements made to the property before the sale takes place. When sales data indicates a difference in the improvement's square footage, the buildings are measured again.

These sales may indicate upward or downward trends in the market as well as changes in property uses. Multiple sales of the same property over a period of several years are usually reliable indicators of changes in the market over time.

Individual sales are analyzed to meet the test of market value. Only arm's length transactions are considered.

Examples of reasons sales may be deleted or not considered are:

1. Properties acquired through foreclosures or auctions.
2. Properties sold between relatives.
3. The buyer or seller is under duress and may be compelled to sell or purchase.
4. Financing may be non-typical or below or above prevailing market rates.
5. Considerable improvements or remodeling have been completed since the date of the sale and the appraiser is unable to make judgements on the property's condition at the time of the transaction.
6. Sales may be unusually high or low when compared with typical sales located in the market area. Some sales may be due to relocation or through divorce proceedings.
7. Conversations with parties involved indicate that they believe they paid above or below current market value due unusual circumstances.
8. Properties are purchased by individual investors or investment companies for immediate resale.
9. The property is purchased through an estate sale.
10. The sale involves personal property that is difficult to value.
11. There are value-related data problems associated with the sale; i.e., incorrect

- land size or square footage of living area.
12. Property use changes occur after the sale.
 13. Adjoining or contiguous property is purchased.

After the sales have been inspected and analyzed, a sales ratio is derived by dividing the appraised value of the property by its actual sales price. These ratios are used to estimate current values and are good indicators of any changes that may be taking place in the market.

Statistical analyses and paired sales analyses are performed to update or modify schedules. The details of these analyses were discussed in the valuation section of this report.

A majority of the data received from all sources are single-family residential sales. Historically there are no accessible commercial databases located within Parker County. Attempts to organize these services have met with little enthusiasm from local commercial brokers as well as independent appraisers. This information is considered confidential. Therefore, reliable commercial sales data as well as income and expense information are difficult to obtain and is not generally available. The State of Texas is known as a non-disclosure state. The buyer or seller is under no obligation to report sales prices on deed transactions. Deeds filed typically state the consideration as "ten dollars and other consideration" and when financing is secured for the purchase a loan amount is stated in the Warranty Deed with Vendors Lien. These are not reliable indicators of actual sale prices as amounts financed for example can vary greatly.

PERFORMANCE TESTS

Sales ratio studies are used to evaluate the district's mass appraisal performance. These studies not only provide a measure of performance, but also are an excellent means of improving mass appraisal performance. PCAD uses ratio studies not only to aid in the reappraisal of properties, but also to test the State Comptroller's Property Tax Assistance Division Property Value Study results.

The ratio study usually begins in March of each year with the compilation of all sales that are grouped by type for each school district. Sales that fall outside the grouping of the majority of sale prices are termed outliers. Outliers are characterized as having low or high ratios. They can result from an erroneous or unrepresentative sale price, an error in the appraisal or a mismatch between the property sold and the property appraised. These properties are inspected in the field to determine any factor that affected the sale price. Should no reliable information be discovered or determined the sale is deemed unreliable and is not used. Appraisal cards indicating results of inspections are available for each individual sale to further aid the analysts in making decisions regarding outliers.

The remaining sales are then correlated to indicate comparable neighborhoods within each school district. The sales from each comparable neighborhood are grouped (stratified) according to classification. The median ratio indicated by the sales is then compared to the desired ratio. The coefficient of dispersion is also studied to indicate how tight the ratios are in relation to the measures of central tendency. The median and coefficient of dispersion are good indicators of the types of changes to be made if any are necessary. The use of market modifiers is the predominant method of adjusting sales for location and time to indicate market values. Market modifiers are methods of adjusting property values to equal the market with little or no change to the respective schedule.

Quality Control Procedures

Oversight is required to ensure that an appropriate number of appraisals, reappraisals, or physical inspections have been completed in a necessary time period. In such cases, clear rules and procedures are established and should be adhered to for accuracy and efficiency.

To achieve market value and uniform appraisals, accurate information is essential. Whether it involves applying exemptions, gathering appraisal data, properly working deed information or mapping, accuracy is essential throughout the appraisal process. All employees strive to ensure all appraisal records and data are correct and accurate.

DATA COLLECTION AND APPRAISAL FIELD WORK:

Appraisers gather data in the field through the reappraisal process such as measuring new improvements, additions, changes or requested inspections. Once properties are worked and appraised, the data is submitted to a data entry clerk. Data entry clerks are encouraged to be watchful of any large value changes and make certain the appraiser and/or Appraisal Supervisors are in agreement with adjusted values.

The Appraisal Supervisors check the fieldwork process to ensure that it is being worked timely and field sheets are submitted to the appraisal office on a regular basis. The Appraisal Supervisors also ensure that the field work for the year follows the areas and time schedules as set out in the district's Written Plan for Periodic Reappraisal.

UNIFORMITY OF APPRAISALS:

A. Residential

Parker County Appraisal District utilizes a residential classification guide that is cost-based. The guide sets out classification descriptions and costs per square foot. The basis of the cost schedule is Marshall & Swift Valuation Service. The descriptions set out in the guide allow the appraiser to make judgement calls in a uniform manner.

Ratio Studies of sold properties are performed and local modifiers are developed and applied to the universe of properties. Ratio studies are used for residential properties to determine level of appraisal for class and neighborhood location. Studies are performed each year to determine if properties or neighborhoods need adjustment. Model testing determines whether local appraisal models have been calibrated properly. More information can be found on this process in the district's Appraisal Guide and in its Ratio Study Procedures.

B. Commercial

To ensure market value and uniformity of appraisal, Parker County Appraisal District gathers sales and income and expense data, especially for hotels/motels. The data is broken down on a spread sheet to show extensive data of how each property is appraised. Other commercial properties are classed according to commercial schedules set out in the district's appraisal guide. The appraisal guide values commercial properties using the Marshall & Swift cost schedule which is then adjusted by applying local modifiers developed from sales in the district. This approach allows the commercial appraisals to be more consistent.

APPRAISAL ROLL EVALUATION AND APPROVAL

The chief appraiser evaluates appraisal rolls produced for the local jurisdictions to ensure compliance with state legal standards for completeness, accuracy, uniformity, and reliability. The basis for approval may include, but is not limited to, some or all the following oversight activities:

- Evaluation or approval of the completeness and accuracy of appraisal roll data by random testing and verification
- Ratio studies
- Procedural audits
- Field data quality audits

The evaluation process allows the chief appraiser to identify potential problems that can be corrected. Other activities such as valuation assistance, training, and development of procedural guidelines can provide opportunities for identifying and correcting problems.

MAPPING AND DEED WORK

Maintaining good maps and accurate deed work is essential to produce accurate appraisals and ownership of property. District staff works the deeds and codes the type of property as well as type of sale. While some deeds contain sales information, a larger percentage of deeds filed in the clerk's office do not. All ownership transfers are followed up with a sales letter requesting sales information. This letter may be sent to the seller, the buyer, or both. When the letter is returned to the district office, staff enters the sales price information and source of the information. As an additional check for accuracy of data, all deeds are transferred to the chief appraiser for inspection. The chief appraiser checks the sales codes for correctness and updates sales information from the deeds or sales listed on the deed. Sales information may also be obtained from other sources, such as realtors, fee appraisers, etc. The chief appraiser may do further research to gain knowledge unique to the property sold.

District staff update the district's mapping system to reflect ownership changes. Simple property ownership transfers automatically update within the computer system. Splits: (property ownership transfers that change shape or borders of the property) must be applied to the district's mapping system within 180 days of the deed change. Generally, the district is assisted by the contracted mapping company for this process.

ADDITIONAL AUDITS AND EVALUATIONS

Procedural Audits:

Procedural audits, also known as edits, constitute a review of operations intended to discover defective and inefficient practices. Procedural audits ensure that quality standards have been met. A few examples of areas that should be included in performance review are data collection procedures, valuation methods, and documentation for value overrides.

Performance evaluation:

Performance evaluations may have quality and quantity components. Quality thresholds as measured through ratio studies are more critical than quantities of appraisals. Ratio studies documented thoroughly and well-tested before application. The district details the use of data collection, confirmation, sale price adjustments, outliner trimming, and statistical calculations. Ratio studies are conducted for every class of property and for as many subclasses as can be supported by sales. When the available number of valid sales is insufficient to develop statistical samples or for property classes for which the selling price is not a valid indicator of true market value, the chief appraiser may consider adding independent appraisals or supplemental sales.

Research: The chief appraiser and district staff review and evaluate appraisal techniques and explore new technologies.

Additional Quality Controls:

The district's appraisal software has programs built in to help locate errors. The software also generates comparison reports such as value comparison reports, homestead cap loss reports, exemption reports, owner with multiple homestead reports, etc.

Aerial Photography:

Aerial photography is a valuable tool utilized by the district, especially for properties that have improvements behind locked gates. If a structure is added, changed, or demolished, the aerial may show the change and an appraisal card is created for more research or inspection.

Queries:

Data queries are completed to find errors in data entry and/or valuation.

Data Entry Query List:

Before notices:

Queries for clerks to work:

1. Partial complete with no "P" code- both imp and bld
2. Production acres that don't match legal acres
3. No Geo#
4. Nothing in Eff Age field
5. Values with no PTD code
6. PTD code with no value

Queries for clerks to run and give to appraiser to work:

1. History Comparison reports, by school district
2. Name & date on all cards (re-appraisal years only)
3. Homestead cap
4. Modified codes- REC every year, ARB, S, COM & NEW on re-appraisal years)
5. Re-run all P codes for re-check
6. No location code
7. % by condition field but not in developers

Queries for Appraisal Support Supervisor to work:

1. Year built same as current year (includes commercial)
2. Building class LA no imp class- can this be done by each clerk or appraisers?

Queries to give to Chief Appraiser to work:

1. Constitutional exempt (X1)
2. Run ABT code (misc. field) check abatement dates to see when they need to be removed

Before certification (July)

1. History Comparison report, by school district
2. Check Entities before we certify

After certification and new year is rolled:

1. Remove codes in Misc. field for the new year (ARF, FNP, AGD, NOT, PHO, etc.)
2. Remove name & date (re-appraisal years only)

After first of the year:

1. Developers Inventory
2. Modified codes (New, REC, ARB, S, COM, etc.)
3. Volume to Volume Ag, for re-file for new owners

Data Collection Procedures

The appraisers are assigned specific areas throughout the district to conduct field inspections. These geographic areas of assignment are maintained for several years to enable the appraiser assigned to that area to become knowledgeable of all the factors that drive values for that specific area. Appraisers of real estate and business personal property conduct field inspections and record information on the appraisal card noting any corrections and additions that the appraiser may find in his or her field inspection.

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

Data Entry clerks’ job is to input all information on properties gathered by appraisers into the CAMA system. The clerks scan and upload the drawn outline of residential homes, input classifications determined by the appraiser and also check to make sure measurements are correct. This acts as a checks and balance system to ensure accurate measurements and information for the proper value.

Residential Property-

Residential property is physically examined every second year by the appraisal staff. The on-site inspection by the appraisal staff determines the size, class, year built, effective year of construction and other property characteristics and features that are used in the cost and sales comparison valuation methods. Also, the condition of the improvement and looking for changes that might have occurred to the property since the last inspection. In some subdivisions where change of condition is frequent, homes are examined annually. Digital photos are taken of homes upon inspection. Every subdivision is statistically analyzed biennially to ensure the sales that have occurred in the subdivision during the past 24 months are within a +3% range of appraised value. If the sales do not indicate that range, adjustments are made to the subdivision using a process outlined in detail in the Residential Appraisal section of this report. Vacant rural land is valued using comparable sales. Lot values in subdivisions are computed by market sales, or if unavailable, as an allocated percentage.

Commercial & Industrial Property-

Commercial and industrial real estate is verified by attempting to field observe and photograph each property at least once every second year to confirm class, condition and other property data. Properties are also reviewed as part of an annual building permit inspection process. The appraisers determine highest and best use and define the economic unit characteristics for a grouping of associated accounts. On a biennial basis, commercial market values are established using generally accepted appraisal methods and techniques. Land values are generally determined using comparable sales. For improved properties, appraisers consider the cost, sales comparison and income approaches and then reconcile the final value, based on the quality and availability of the most accurate and credible data for each valuation approach.

The income approach to value is utilized to appraise larger valued commercial properties such as shopping centers, apartment complexes, office buildings, restaurants, motels and hotels, and other types of property that typically sell based on net operating income.

Business Personal Property-

The Business personal property staff reappraises businesses each year through various discovery methods. Business personal property appraisers utilize survey letters, phone calls, and on-site inspections of businesses to verify ownership, Standard Industrial Code (SIC) classification, quality and density of inventory, furniture and fixtures and other key information. The cost approach is the predominant techniques used to value personal property. Cost tables are developed for each SIC classification using actual historical cost data and market data from generally accepted cost valuation sources. Depreciation schedules are reviewed and adjusted as necessary. Business owners are required to annually file rendition reports and list key information about their tangible personal property assets. Appraisers consider information from field observations, SIC models and owner’s rendition values when determining the market value of the business personal property.

Minerals-

Working and royalty interests of producing oil and gas wells are appraised annually. The most recent production data available from the Texas Railroad Commission is downloaded into appraisal software that estimates economically recoverable reserves. Those reserves are then valued based upon State mandated pricing using the previous year's average of oil or gas values. A discount is applied over the anticipated life of the well in order to consider the value of money over time to recover those reserves. Each producing gas well is valued as a unit and that total value is divided according to the various owners of the lease listed in division orders. Parker County Appraisal District contracts with Pritchard & Abbott, Inc. for these services.

Utilities and Pipelines-

Utility companies and pipelines are appraised annually using a unit value developed using all three approaches to value. For example, a utility company's total value in the State is estimated using cost, market, and income approaches to value and then the entire value is allocated using the components of that utility company that have situs in the various tax units of PCAD. Components include such things as miles of transmission lines, miles of distribution lines, substations and the like for an electric utility. These services are also contracted to Pritchard & Abbott, Inc.

Value Review and Reconciliation

The Residential Valuation appraisers are responsible for developing equal and uniform market values for improved and vacant residential property located within the boundaries of the Parker County Appraisal District's jurisdiction. Residential appraisal assignments are kept delineated from commercial assignments based on state code guidelines, established by the State Property Tax Division. Generally, the residential staff handles Category A, D, E, O, C1 (Residential Lots & Tracts), & M1 (Mobile Home Improvement Only). A description of these codes is available on the Comptroller of the State of Texas website.

Data – A common set of data characteristics for each residential dwelling in Parker County is collected in the field and data entered to the CAMA software system. This property-specific data drives the PCAD modeled approaches to valuation. Residential appraisal also requires verified sales data, rental information, actual construction cost data, and property listings. Appraisers also review various real estate related publications to determine patterns and trends in the market data.

A. Market Adjustments

Analysis of market sales to achieve an acceptable sale ratio or level of appraisal is also the reconciliation of the market and cost approaches to valuation. Market factors are developed from appraisal statistics provided from market analyses and ratio studies and are used to ensure that estimated values are consistent with the market and to reconcile cost indicators. The district's primary approach to the valuation of residential properties uses a hybrid cost-sales comparison approach. This type of approach accounts for neighborhood market influences not particularly specified in a purely cost model.

The following equation denotes the hybrid model used:

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

In the cost approach, the estimated market value (MV) of the property equals the land value (LV) plus the market adjustment factor (MA) applied to the replacement cost new of property improvements (RCN) less depreciation (D). As the cost approach separately estimates both land and building contributory values and uses depreciated replacement costs, which reflect only the supply side of the market, it is expected that adjustments to the cost values may be needed to bring the level of appraisal to an acceptable standard as indicated by market sales. Thus, demand side economic factors and influences may be observed and considered. These market, or location adjustments, may be abstracted and applied uniformly within neighborhoods to account for locational variances between market areas or across a jurisdiction. Whereas, in accordance with the Market Approach, the estimated market value (MV) of the property equals the basic unit of property, under comparison, times the market price range per unit for sales of comparable property. For residential property, the unit of comparison is typically the price per square foot of living area or the price indicated for the improvement contribution. This analysis for the hybrid model is based on both the cost and market approaches as a correlation of indications of property valuation. A significant unknown for these two indications of value is determined to be the rate of change for the improvement contribution to total property value. The measure of change for this property component can best be reflected and based in the annualized depreciation rate. This cost related factor is most appropriately measured by sales of similar property. The market approach, when improvements are abstracted from the sale price, indicates the depreciated value of the improvement component, in effect, measuring changes in depreciation, a cost factor. The level of improvement contribution to the property is measured by abstraction of comparable market sales, which is the property sale price less land value. The primary unknown for the cost approach is to accurately measure accrued depreciation affecting the amount of loss attributed to the improvements as age increases and condition changes. This evaluation of cost results in the depreciated value of the improvement component based on age and condition. The evaluation of this market and cost information is the basis of reconciliation and indication of property valuation under this hybrid model.

When the appraiser reviews a neighborhood, the appraiser reviews and evaluates a ratio study that compares recent sales prices of properties, appropriately adjusted for the effects of time, within a delineated neighborhood, with the value of the properties' based on the estimated depreciated replacement cost of improvements plus land value. The calculated ratio derived from the sum of the sold properties' estimated value divided by the sum of the time adjusted sales prices indicates the neighborhood level of appraisal based on sold properties. This ratio is compared to the acceptable appraisal ratio, 96% to 100%, to determine the level of appraisal for each neighborhood. If the level of appraisal for the neighborhood is outside the acceptable range of ratios, adjustments to the neighborhood are made.

If reappraisal of the neighborhood is indicated, the appraiser analyzes available market sales, appropriately adjusted for the apparent effects of time, by market abstraction of property components. This abstraction of property components allows the appraiser to focus on the rate of change for the improvement contribution to the property by providing a basis for calculating accrued depreciation attributed to the improvement component. This impact on value is usually the most significant factor affecting property value and the most important unknown to determine by market analysis. Abstraction of the improvement component from the adjusted sale price for a property indicates the effect of overall market suggested influences and factors on the price of improvements that were a part of this property, recently sold. Comparing this indicated price or value allocation for the improvement with the estimated replacement cost new of the improvement indicates any loss in value due to accrued forms of physical, functional, or economic obsolescence. This is a market driven measure of accrued depreciation and results in a true and relevant measure of improvement marketability, particularly when based on multiple sales that indicate the trending of this rate of change over certain classes of improvements within certain neighborhoods. Based on this market analysis, the appraiser estimates the annual rate of depreciation for given improvement descriptions considering age and observed condition. Once estimated, the appraiser recalculates the improvement value of all property within the sale sample to consider and review the effects on the neighborhood sale ratio. After an acceptable level of appraisal is achieved within the sale sample, the entire neighborhood of property is recalculated utilizing the indicated depreciation rates taken from market sales. This depreciation factor is the basis for trending all improvement values and when combined with any other site improvements and land value, brings the estimated property value through the cost approach closer to actual market prices as evidenced by recent sale prices available within a given neighborhood. Therefore, based on analysis of recent sales located within a given neighborhood, estimated property values will reflect the market influences and conditions only for the specified neighborhood, thus producing more representative and supportable values. The estimated property values calculated for each update neighborhood are based on market indicated factors applied uniformly to all properties within a neighborhood. Finally, with all the market-trend factors applied, a final ratio study is generated that compares recent sale prices with the proposed appraised values for these sold properties. From this set of ratio studies, the appraiser judges the appraisal level and uniformity in both update and non-update neighborhoods and verifies appraised values against overall trends as exhibited by the local market, and finally, for the school district as a whole.

Neighborhood, or market adjustment, factors are developed from appraisal statistics provided from ratio studies and are used to ensure that estimated values are consistent with the market. The district's primary approach to the valuation of residential properties is the market or sales comparison approach.

Statistical analysis of present appraised value as compared with recent sales determines the appropriate market adjustment for a neighborhood. Statistical programs developed by the PCAD Information Technology and the Residential Department staffs are used to study market trends and to develop appropriate market adjustments.

B. Neighborhoods

Neighborhood analysis involves the examination of how physical, economic, governmental and social forces and other influences affect property values. The effects of these forces are also used to identify, classify, and stratify comparable properties into smaller, manageable subsets of the universe of properties known as neighborhoods. Residential valuation and neighborhood analysis is conducted on various market areas within each of the political entities known as Independent School Districts (ISD). Analysis of comparable market sales forms the basis of estimating market

activity and the level of supply and demand affecting market prices for any given market area, neighborhood or district. Market sales indicate the effects of these market forces and are interpreted by the appraiser into an indication of market price ranges and indications of property component change considering a given time period relative to the date of appraisal. Although all three approaches to value are considered, residential sales can best be interpreted and applied using two generally accepted appraisal techniques known as the cost and market or comparable sales approach. For multiple family properties the Income Approach to value is also utilized to estimate an opinion of value for investment level residential property, in the absence of recent sales data.

The first step in neighborhood analysis is the identification of a group of properties that share certain common traits. A "neighborhood" for analysis purposes is defined as the largest geographic grouping of properties where the property's physical, economic, governmental and social forces are generally similar and uniform. Geographic stratification accommodates the local supply and demand factors that vary across a jurisdiction. Once a neighborhood with similar characteristics has been identified, the next step is to define its boundaries. This process is known as "delineation". Some factors used in neighborhood delineation include location, sales price range, lot size, age of dwelling, quality of construction and condition of dwellings, square footage of living area, and story height. Delineation can involve the physical drawing of neighborhood boundary lines on a map, but it can also involve statistical separation or stratification based on attribute analysis. Part of neighborhood analysis is the consideration of discernible patterns of growth that influence a neighborhood's individual market. Few neighborhoods are fixed in character. Each neighborhood may be characterized as being in a stage of growth, stability or decline. The growth period is a time of development and construction. As new neighborhoods in a community are developed, they compete with existing neighborhoods. An added supply of new homes tends to induce population shift from older homes to newer homes. In the period of stability, or equilibrium, the forces of supply and demand are about equal. Generally, in the stage of equilibrium, older neighborhoods can be more desirable due to their stability of residential character and proximity to the workplace and other community facilities. The period of decline reflects diminishing demand or desirability. During decline, general property use may change from residential to a mix of residential and commercial uses. Declining neighborhoods may also experience renewal, reorganization, rebuilding, or restoration, which promotes increased demand and economic desirability.

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

C. Ratio Studies

Ratio study statistics provide concise, formal measures of appraisal performance and often constitute the primary basis for reappraisal or equalization decisions. The ratio study itself is a study of the relationship between the appraisal value derived from schedules and models, and the market value. Indicators of market values may be either sales (sales ratio study) or independent appraisals (appraisal ratio study). The ratio study will tell you how well you have met the two major goals of reappraisal:

- To appraise properties accurately. An accurate appraisal comes close to one hundred (100%) percent market value; and

- To appraise properties uniformly. To run a complete ratio study, you must examine both accuracy and uniformity. Doing so requires you to learn two types of statistical tools:
 - One measures central tendency (accuracy).
 - One measures dispersion (uniformity).

The property appraisers are responsible for conducting ratio studies and comparative analysis. Ratio studies are conducted on property located within certain neighborhoods or districts by appraisal staff. The sale ratio and comparative analysis of sale property to appraised property forms the basis for determining the level of appraisal and market influences and factors for the neighborhood. This information is the basis for updating property valuation for the entire area of property to be evaluated. Field appraisers, in many cases, may conduct field inspections to ensure the accuracy of the property descriptions at the time of sale for this study. This inspection is to ensure that the ratios produced are accurate for the property sold and that appraised values utilized in the study are based on accurate property data characteristics observed at the time of sale. Also, property inspections are performed to discover if property characteristics had changed as of the sale date or subsequent to the sale date. Sale ratios should be based on the value of the property as of the date of sale not after a subsequent or substantial change was made to the property after the negotiation and agreement in price was concluded. Properly performed ratio studies are a good reflection of the level of appraisal for the district.

Pilot studies will be used on new or revised mass appraisal models. The models will be tested on randomly selected market areas. Sales ratio studies will be used to test the models. Models not performing satisfactorily will be refined and retested.

D. Appraisal Review Board Decisions

(23.01(e)) Notwithstanding any provision of this subchapter to the contrary, if the appraised value of property in a tax year is lowered under Subtitle F, the appraised value of the property as finally determined under that subtitle is considered to be the appraised value of the property for that tax year. In the next tax year in which the property is appraised, 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 when all of the reliable and probative evidence in the record is considered as a whole. If the appraised value is finally determined in a protest under Section 41.41(a)(2) or an appeal under Section 42.26, the chief appraiser may satisfy the requirement to reasonably support by clear and convincing evidence an increase in the appraised value of the property in the next tax year in which the property is appraised by presenting evidence showing that the inequality in the appraisal of property has been corrected with regard to the properties that were considered in determining the value of the subject property. The burden of proof is on the chief appraiser to support an increase in the appraised value of property under the circumstances described by this subsection.

PCAD only reappraises in odd-numbered years. Therefore, any property that obtains a value reduction in an ARB hearings will not be reappraised in the subsequent year. However, there are some circumstances where a property is reappraised in a subsequent year. For example, new construction, ownership transfers, etc. When the property is reappraised, PCAD will follow the guidelines set forth in this manual and the PCAD reappraisal plan.

Cost Tables and Schedules

Cost Schedules

All residential parcels in the district are valued with a replacement cost estimated from identical cost schedules based on the improvement classification system using a comparative unit method. The district's residential cost schedules are estimated from Marshall and Swift, a nationally recognized cost estimator service. These cost estimates are compared with sales of new improvements and evaluated from year to year and indexed to reflect the local residential building and labor market. Costs may also be indexed for neighborhood factors and influences that affect the total replacement cost of the improvements in a smaller market area based on evidence taken from a sample of market sales. The cost schedules are reviewed regularly as a result of recent state legislation requiring that the appraisal district cost schedules be within a range of plus or minus 10% from nationally recognized cost schedules.

A review of the residential cost schedule is performed biennially to coincide with reappraisal efforts. As part of this review and evaluation process of the estimated replacement cost, newly constructed sold properties representing various levels of quality of construction in the district are considered. The property data characteristics of these properties are verified and photographs are taken of the samples. PCAD replacement costs are compared against Marshall & Swift, a nationally recognized cost estimator, and the indicated replacement cost abstracted from these market sales of comparably improved structures. The results of this comparison are analyzed using statistical measures, including stratification by quality and reviewing of estimated building costs plus land to sales prices. As a result of this analysis, a new regional multiplier or economic index factor and indications of neighborhood economic factors are developed for use in the district's cost process. This new economic index is estimated and used to adjust the district's cost schedule to be in compliance with local building costs as reflected by the local market.

Income Models

The income approach to value may be useful to those real properties that are typically viewed as "income producing" when sufficient income data is available and where comparable sales are not present. In the current residential market, the income approach is not generally used.

Sales Information

A sales file for the storage of sale data at the time of sale is maintained for residential real property. Residential improved and vacant sales are collected from a variety of sources, including: district questionnaires sent to buyer and seller, field discovery, protest hearings, appraisers, informal appeals, various sale vendors, builders, and realtors. A system of type, source, validity and verification codes has been established to define salient facts related to a property's purchase or transfer and to help determine relevant market sale prices. The effect of time as an influence on price was considered by paired comparison and applied in the ratio study to the sales as indicated within each neighborhood area. Neighborhood sales reports are generated as an analysis tool for the appraiser in the development and estimation of market price ranges and property component value estimates. Abstraction and allocation of property components based on sales of similar property is an important analysis tool to interpret market sales under the cost and market approaches to value. These analysis tools help determine and estimate the effects of change, with regard to price, as indicated by sale prices for similar property within the current market.

Monthly time adjustments are estimated based on comparative analysis using paired comparison of sold property. Sales of the same property were considered and analyzed for any indication of price change attributed to a time change or influence. Property characteristics, financing, and conditions of sale were compared for each property sold in the pairing of property to isolate only the time factor as an influence on price.

Section 23.013 of the Property Tax Code addresses the "Market Data Comparison Method Of Appraisal". During the 2009 Legislative session, Section 23.013 subsection (b) was added to specify that sales used in the market data comparable method should occur within 24 months of the appraisal date, unless too few sales occurred to produce a representative sample for a certain type of property. Subsection (c) was added to require appraisal districts to

appropriately adjust comparable sales for changes in the market value of the sales based on the sale date and subsection (d) includes a list of property characteristics to be considered in determining comparability between a sale and a subject property. These changes became effective on January 1, 2010.

Cost tables

The district makes use of Marshall & Swift Cost Tables to update the district's various residential building improvement types. Utilizing Marshall & Swift Cost Tables residential cost material, our property building improvement types are matched to the corresponding classifications of Marshall & Swift Cost Tables to get the base rate. After determining the correct Marshall & Swift Cost Tables class to use, the base rate can be determined for each square foot range. After a base rate is arrived at for each square foot increment the base rate is listed in the corresponding square footage chart in the Residential Cost Tables. Every year a local cost modifier (LCM) is then developed that will be applied to the base rate of building improvements. The LCM accounts for the fluctuation in the cost of building materials, labor, and equipment from one area of the country to another. A sales ratio study of a recently constructed building improvement type of known cost and the rates of the corresponding classifications from Marshall & Swift Cost Tables are done for each Building Improvement Type. The results of these ratio studies are then used to derive an adjusted mean that will be used as the LCM. Adjustments to the base rate are then determined to reflect the quality and condition specifications in the districts residential manual to cover all costs needed to estimate the RCN. Items affecting a building improvements quality, which could be both negative and positive, include such items as materials used, workmanship, architectural attractiveness, functional design and the like. The condition of the property determines which age depreciation chart is used for the property based on the property's maintenance or neglect.

To account for neighborhood specific factors that may affect value the district develops neighborhood specific adjustments for each neighborhood in Parker County. This Neighborhood specific adjustment is referred to as the Neighborhood Code Adjustment in the Districts Residential Cost Tables (listed on pages 10-17 of the residential cost tables). To develop a Neighborhood Code Adjustment a sales ratio analysis is performed using only the values of the properties in a specific neighborhood and sales that have occurred within that neighborhood to produce an adjustment factor that is applied to the properties only in the neighborhood it was developed for. Cost Tables are then verified for accuracy by applying their schedules to recently constructed improvements of known cost. If a property has any other improvements or features to or on the land then these items will need to be listed and calculated separately.

Residential Cost Table - Mobile Homes:

The mobile home cost tables are developed using NADA average values for each quality classification. These values are interpolated into the appropriate square foot price. There are four quality classifications per the NADA Manufactured Housing Appraisal Guide.

Residential Feature Improvement Cost Table Development:

The district makes use of Marshall & Swift Cost Tables to update the district's various residential feature improvement types. Utilizing Marshall & Swift Cost Tables residential cost material, our property feature improvement types are matched to the corresponding classifications of Marshall & Swift Cost Tables to get the base rate. After determining the correct Marshall & Swift Cost Tables classification to use, the base rate can be determined for each square foot range. After a base rate is arrived at for each square foot increment the base rate is listed in the corresponding square footage chart in the Residential Cost Tables. The local cost modifier (LCM) developed for the building improvements can be applied to the base rate of the feature improvements. The LCM accounts for the fluctuation in the cost of building materials, labor, and equipment from one area of the country to another. Adjustments to the base rate are then determined to reflect the quality and condition specifications in the districts residential manual to cover all costs needed to estimate the RCN. Items affecting a feature improvements quality, which could be both negative and positive, include such items as materials used, workmanship, architectural attractiveness, functional design and the like. The condition of the property determines which age depreciation chart is used for the property based on the property's

maintenance or neglect. If a property has any other improvements or features to or on the land then these items will need to be listed and calculated separately.

***All cost and land schedules for the following are available through our Gemini CAMA system per request:**

- **BUILDING**
- **DEPRECIATION**
- **FEATURES**
- **IMPROVEMENT CLASS**
- **LAND ACRES**
- **LAND**
- **LAND LOT**
- **LAND SQUARE FOOT**
- **PRODUCTION**

A. Sale Grid

SALES COMPARABLES
SUBJECT PROPERTY ID -

SUBJECT PROPERTY	COMP # 1	COMP # 2	COMP # 3	COMP # 4
<p>ACRES: 416.490 SUBD: 237.48 10</p> <p>SOFT MARKET VALUE 237.48 249.77 MEAN CPSF</p> <p>YEAR / EFF YEAR</p>	<p>ACRES: 225.42 SUBD: 7/27/2022 10</p> <p>SOFT CPSF SALES 387,500 255.64 COMPARATIVE CPSF</p> <p>YEAR / EFF YEAR</p> <p>SUPERIOR/INFERIOR 22,609 SITE (+) 27,665 AMENITIES (+) 437,774 INDICATED PRICE 255.64 COMPARATIVE CPSF</p>	<p>ACRES: 297.87 SUBD: 1/31/2022 10</p> <p>SOFT CPSF SALES 490,000 278.20 COMPARATIVE CPSF</p> <p>YEAR / EFF YEAR</p> <p>SUPERIOR/INFERIOR -39,607 SITE (+) 8,081 AMENITIES (+) 458,473 INDICATED PRICE 278.20 COMPARATIVE CPSF</p>	<p>ACRES: 178.78 SUBD: 4/13/2022 10</p> <p>SOFT CPSF SALES 300,000 194.79 COMPARATIVE CPSF</p> <p>YEAR / EFF YEAR</p> <p>SUPERIOR/INFERIOR 23,285 SITE (+) -2,268 AMENITIES (+) 321,018 INDICATED PRICE 194.79 COMPARATIVE CPSF</p>	<p>ACRES: 263.00 SUBD: 7/23/2022 10</p> <p>SOFT CPSF SALES 450,000 257.48 COMPARATIVE CPSF</p> <p>YEAR / EFF YEAR</p> <p>SUPERIOR/INFERIOR -20,163 SITE (+) -5,503 AMENITIES (+) 424,335 INDICATED PRICE 257.48 COMPARATIVE CPSF</p>

SUBJECT

EQUALITY COMPARABLES

SUBJECT PROPERTY	COMP # 1	COMP # 2	COMP # 3	COMP # 4
R0000988950 13888.001,001.00 O'BANNON JOHN WY RUEBEN 846 MOSS LN ACRES: 1.522 SUBD: O'BANNONS ADDITION, BLK...	ACRES: SUBD: 10 YEAR / EFF YEAR 1998/2012 1,648 SQFT 252.72 CPSF MARKET 416,490 MARKET VALUE	ACRES: SUBD: 10 YEAR / EFF YEAR 1998/2012 1,648 SQFT 252.72 CPSF MARKET 416,490 MARKET VALUE	ACRES: SUBD: 10 YEAR / EFF YEAR 1995/2013 1,661 SQFT 220.74 CPSF MARKET 366,650 MARKET VALUE	ACRES: 1.050 SUBD: SANCHEZ CREEK PH 1, BLK... R000024735 17246.001,016.00 DICKEN LESLIE D & JULIE 132 SANCHEZ CREEK CT
STATISTICAL ANALYSIS 253.52 MEDIAN CPSF 253.82 MEAN CPSF 0.12% COD	SUPERIOR/INFERIOR 22,536 SITE (+) 29,882 AMENITIES (+) 421,098 INDICATED PRICE 253.52 COMPARATIVE CPSF	SUPERIOR/INFERIOR -34,215 SITE (+) 11,140 AMENITIES (+) 422,055 INDICATED PRICE 256.10 COMPARATIVE CPSF	SUPERIOR/INFERIOR 23,751 SITE (+) 30,672 AMENITIES (+) 421,073 INDICATED PRICE 253.51 COMPARATIVE CPSF	SUPERIOR/INFERIOR 31,148 SITE (+) 22,426 AMENITIES (+) 421,084 INDICATED PRICE 253.51 COMPARATIVE CPSF

C. Gemini Automated Model

There has been some discussion with various taxpayers / agents regarding the Gemini automated comparable valuation model and how it calculates and adjusts comparable sales. Let's look at the background of the appraisal requirements, authority to use automated model, and how it works.

1. Statutory Requirement outlined in Texas Property Tax Code

Texas Property Tax Code - Section 23.01

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

2. Generally Accepted Appraisal Methods and Techniques authorized by the Appraisal Foundation



APB Valuation Advisory #5

Identifying Comparable Properties In Automated Valuation Models for Mass Appraisal

IV. Sales Comparison Method – Comparable Sales Selection

As with single property appraisal, Automated Valuation Models (AVMs) rely on arms-length sales primarily to adjust a model to local real estate trends. In market areas where properties have a high degree of homogeneity, the AVM will produce value estimates with a high degree of . Areas where the market is heterogeneous the error term of the AVM is usually higher and not as precise. The sales comparison model is a familiar format to appraisers and expressed as follows:

$MV = SPC + ADJC$ where:

MV = Market Value; SPC = Sale Price of the comparable; ADJC = adjustment to the comparable \pm .

Example Automated Comparable Report

Table 8: Automated Comparables Reports										
Page/Date/Database	1 4/24/12 /AVMCOMPS V3									
Filter	FLAG=1,2,3;YRMO=>200901;land use=1;sale use=3									
Comparative Sales Price Adjustment Report for Subject = 14-25-103-031										
PARCEL ID	Subject	Comparable No. 1		Comparable No2		Comparable No 3		Comparable No 4		
	14-25-103-031	14-25-103-022		15-31-176-024		14-25-103-037		14-25-102-011		
	Value	Value	\$Adj	Value	\$Adj	Value	\$Adj	Value	\$Adj	
ADDRESS	2501 KARA CROSSING	30 HODGEHAVEN CIR		38 CONWAY CR		2513 KARA CROSSING		7 HODGEHAVEN CIR		
Neighborhood #	65	65		79		65		65		
SF CRAWL	0	0		0		0		0		
SF SLAB		-						-		
Story Type	2 Story	2 Story		2 Story		2 Story		2 Story		
Wall Type	Brick Front	Brick Front		Alum/Vinyl		Brick Front		Alum/Vinyl		
Quality Name	B+5	B+5		B+5		B+5		B+5		
Year Built	1998	1997		2001		1997		1996		
Lot square feet	17,919	10,583		10,557		10,767		10,920		
Year month sale	199804	200901		201003		201103		201104		
Direct Model Val	\$ 296,951	\$ 295,114		\$ 296,989		\$ 286,463		\$ 270,118		
Comparability		100%		100%		99%		99%		
Sale Price / Market Conditions Adj.		\$260,000	(\$18,720)	\$290,000	(\$8,700)	\$267,500	\$1,605	\$227,500	\$2,048	
Total SF	2,954	2,796	\$0	2,853	\$0	2,424	\$0	2,357	\$0	
SIZEADJ	0.8273	0.8402	\$837	0.8354	\$528	0.8746	\$3,073	0.8815	\$3,522	
Fin. Basmt	0	0	(\$12,200)	1040	(\$20,800)	1030	(\$20,600)	1113	(\$22,260)	
Fin. Attic	0	0	\$0	0	\$0	0	\$0	0	\$0	
Land Value	\$ 64,929	\$ 50,799	\$14,130	\$ 53,121	\$11,808	\$ 51,321	\$13,608	\$ 51,759	\$13,170	
% AC	1	1	\$0	1	\$0	1	\$0	1	\$0	
Fire Place	1	3	(\$5,000)	2	(\$2,500)	1	\$0	1	\$0	
# Baths	2.5	3.5	(\$4,500)	2.5	\$0	3.5	(\$4,500)	2.5	\$0	
Porch SF	195	0	\$975	129	\$330	0	\$975	142	\$265	
DECK SF	0	0	\$0	0	\$0	0	\$0	196	(\$1,568)	
Garage SF	3	3	\$0	3	\$0	3	\$0	3	\$0	
Pool SF	0	0	\$0	0	\$0	0	\$0	0	\$0	
Wall Adj	1.057	1.057	\$0	1	\$11,571	1.057	\$0	1	\$9,519	
Quality Adj	1.2824	1.2824	\$0	1.2824	\$0	1.2824	\$0	1.2824	\$0	
Cond - % Good	0.9275	0.92	\$883	0.95	(\$3,175)	0.92	\$981	0.9125	\$1,741	
NH - Loc Adj	0.9667	0.9667	\$0	0.9945	(\$776)	0.9667	\$0	0.9667	\$0	
Story Type /Style	10	10	\$0	10	\$0	10	\$0	10	\$0	
Net \$Adj.			(\$23,595)		(\$11,714)		(\$4,858)		\$6,438	
Sum \$Adj.			\$38,525		\$51,488		\$43,737		\$52,046	
Adj Sales Price	\$ 252,817		\$236,405		\$278,286		\$262,642		\$233,938	








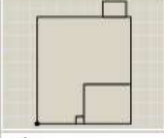
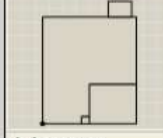
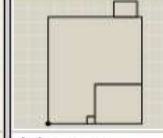
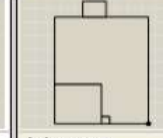
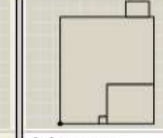
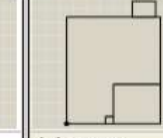
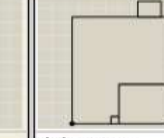
APB Valuation Advisory #5 - Identifying Comparable Properties In

An automated comparable sales selection method saves time and improves consistency in adjustments and results. The automated selection method provides a sophisticated methodology, with the simplicity of explanation that is common with single property comparison methods. Appraisers in the private sector have been entering comparable data into forms software since the mid-1980. The recent addition of the Uniform Appraisal Dataset (UAD) provides a method of standardizing comparable data for selection, thus improving results. The UAD will assist the appraiser in developing the AVM and adding value to their product by including an objective, impartial technique for selecting comparables. The automated comparables selection method saves time and builds efficiency into the appraisal process while providing accuracy and credibility not available in the manual comparables comparison approach.

3. How it works

Gemini Example #1






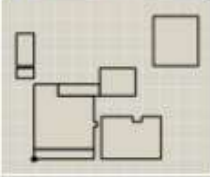
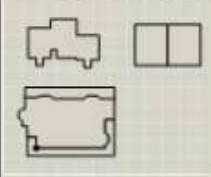
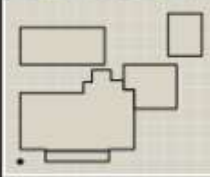
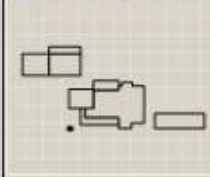
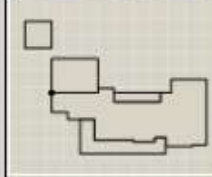
Let's look at a "cookie cutter" (tract home subdivision) neighborhood where all the variables are very similar except for lot size.

Property Summary							
GeoID-R2737.0822.00 Taxpayer-PALANISAMY NITHYA							
Sales Comparables							
	Subject Property	Sale Comparable #1	#2	#3	#4	#5	#6
Prop ID	R000484933	R000484933	R000484937	R000484909	R000484965	R000484969	R000484970
Owner	PALANISAMY NITH	PALANISAMY NITHYA	MEDFORD THERESA	SARGENT ADAM	WILLIAMS JASON	SOOFIZADA WAISE	HERNANDEZ ZACHA
Geo ID	R2737.0822.00	R2737.0822.00	R2737.0826.00	R2737.0717.00	R2737.0923.00	R2737.0927.00	R2737.0928.00
Situs	12222 BIG ROCK D	12222 BIG ROCK DR	12238 BIG ROCK DR	12229 BIG ROCK DR	12334 ORLOFF DRIV	12354 ORLOFF DRIV	12358 ORLOFF DRIV
Acres	0.141 ac	0.141 ac	0.141 ac	0.143 ac	0.175 ac	0.143 ac	0.144 ac
Legal Desc	Legal: Abst: A-743	Legal: Abst: A-743 S	Legal: Abst: A-743 S	Legal: Abst: A-743 S	Legal: Abst: A-743 S	Legal: Abst: A-743 S	Legal: Abst: A-743 S
Class	RSB7+	RSB7+	RSB7+	RSB7+	RSB7+	RSB7+	RSB7+
Year / Eff Year	2012/2012	2012/2012	2012/2012	2012/2012	2012/2012	2012/2012	2012/2012
Sqft	1,768 sf	1,768 sf	1,768 sf	1,768 sf	1,768 sf	1,768 sf	1,768 sf
Market Cpsf	80.64	80.64	80.61	80.79	84.08	81.69	81.79
Sale Cpsf	n/a	70.70	73.47	72.53	68.91	70.44	77.27
Date of Sale	n/a	12/5/2012	12/5/2012	2/27/2013	7/5/2012	8/6/2012	9/11/2012
Price	n/a	125,000	129,900	128,241	121,831	124,542	136,622
Ratio	n/a	114.1%	109.7%	111.4%	122.0%	116.0%	105.8%
Market Value	142,570	142,570	142,520	142,830	148,660	144,430	144,610
Photo							
Sketch							
Superior/Inferior	n/a	(+) 125,000	(+) 129,900	(+) 128,241	(+) 121,831	(+) 124,542	(+) 136,622
Site (+ -)	n/a	n/a	(+) 46	(-) 233	(-) 3,647	(-) 190	(-) 378
Amenities (+ -)	n/a	n/a	n/a	n/a	(-) 1,345	(-) 1,414	(-) 1,549
Indicated Price	n/a	(=) 125,001	(=) 129,946	(=) 128,008	(=) 116,841	(=) 122,938	(=) 134,695
Comparative Cpsf	80.64	70.70	73.50	72.40	66.09	69.54	76.18
Median Ratio	112.8%						
Mean Ratio	113.2%						
Median Cpsf	71.55						
Mean Cpsf	71.40						
COD	3.73%						

Note the adjustments are very small.... The only adjustments are for lot size variations and metal fireplaces. Appears that all properties have metal fireplaces, while are not coded as such. This was a 2014 tax year example of how this particular floor plan sold several times. If they were all this clear and concise it would be great, but they are not.

Gemini Example #2

This is little more complicated and more likely what we run into.

<div style="background-color: #333; color: white; padding: 5px;"> Fn Sales Comparables </div> <div style="background-color: #eee; padding: 5px; border: 1px solid #ccc;"> GeoID-R1400.0016.00 Taxpayer-REID ROBERT </div>					
<div style="display: flex; align-items: center;"> Sales Comparables </div>					
	Subject Property	Sale Comparable #1	#2	#3	#4
Prop ID	R000030976	R000031027	R000030984	R000030994	R000030991
Owner	REID ROBERT	WOLFF ROBERT & AL	GALLEGOS ALEX III	WONDOLOWSKI MAR	HANSON PAUL & TRI
Geo ID	R1400.0016.00	R1400.0067.00	R1400.0024.00	R1400.0034.00	R1400.0031.00
Situs	532 OAK HILLS DR	514 POST OAK DRIV	535 POST OAK DRIV	515 POST OAK DRIV	521 POST OAK DRIV
Acres	1.000 ac	1.000 ac	1.520 ac	1.000 ac	1.500 ac
Legal Desc	Legal: Subd: THOU	Legal: Subd: THOUS	Legal: Subd: THOUS	Legal: Subd: THOUS	Legal: Subd: THOUS
Class	RSF08	RSF09	RSB8+	RSB8+	RSB8+
Year / Eff Year	1996/1996	1996/2005	1996/1996	1997/1997	1998/1998
Sqft	3,208 sf	2,900 sf	2,791 sf	2,775 sf	2,538 sf
Market Cpsf	83.08	97.29	92.45	95.46	106.15
Sale Cpsf	n/a	103.10	88.86	101.62	104.41
Date of Sale	n/a	7/30/2014	7/14/2014	11/26/2014	5/13/2014
Price	n/a	299,000	248,000	282,000	265,000
Ratio	n/a	94.4%	104.0%	93.9%	101.7%
Market Value	266,530	282,150	258,040	264,910	269,410
Photo					
Sketch					
Superior/Inferior	n/a	(+) 299,000	(+) 248,000	(+) 282,000	(+) 265,000
Site (+ -)	n/a	n/a	(-) 11,302	n/a	(-) 10,712
Amenities (+ -)	n/a	(-) 16,553	(+) 19,462	(+) 1,725	(+) 7,879
Indicated Price	n/a	<u>(=) 282,446</u>	<u>(=) 256,159</u>	<u>(=) 283,725</u>	<u>(=) 262,167</u>
Comparative Cpsf	83.08	88.04	79.85	88.44	81.72
Median Ratio	98.1%				
Mean Ratio	98.5%				
Median Cpsf	84.88				
Mean Cpsf	84.51				
COD	4.44%				

In this subdivision there are only two basic lot sizes, 1.00 acre and 1.50 acre tracts. It adjusts for those differences. One of the houses is not as large as the subject and required adjustment.

Let's look closer at Comp #3 analysis details.

R000030976 Sale Comparable #3								
Sale Comparable #3								
(+ -) Site	Description	Comp Extent	Market Price	Subj Extent	(+ -) Adjustment	Equivalent Value	(+ -) Net Factoring	Comparitive Price
UU	n/a	1,000 ac	57,963	1,000 ac	n/a	57,963	n/a	57,963
			=====		=====	=====	=====	=====
			(+) 57,963		n/a	(=) 57,963	n/a	\$ 57,963
(+ -) Amenity	Description	Comp Extent	Market Price	Subj Extent	(+ -) Adjustment	Equivalent Value	(+ -) Net Factoring	Comparitive Price
LA	LIVING AREA	1,976 sf	124,994	1,872 sf	(-) 6,579	118,415	(-) 20,237	98,178
OPB8+	OPEN PORCH	572 sf	11,192	n/a	(-) 11,192	n/a	n/a	n/a
AGB8+	ATT GAR	506 sf	12,588	n/a	(-) 12,588	n/a	n/a	n/a
LS	2ND STORY	799 sf	50,541	1,336 sf	(+) 33,968	84,509	(-) 14,441	70,068
MB12	METAL BLDG	750 sf	8,718	n/a	(-) 8,718	n/a	n/a	n/a
CP02	CONCRETE	1,600 sf	4,262	n/a	(-) 4,262	n/a	n/a	n/a
CT06	CARPORT	625 sf	3,632	n/a	(-) 3,632	n/a	n/a	n/a
CT02	CARPORT	240 sf	465	n/a	(-) 465	n/a	n/a	n/a
6A	CENT H/A	2,775 sf	5,753	3,208 sf	(+) 898	6,651	(-) 228	6,423
8A	METAL FP	2,775 sf	1,892	n/a	(-) 1,892	n/a	n/a	n/a
OPF8	OPEN PORCH	n/a	n/a	572 sf	n/a	n/a	(+) 10,511	10,511
DGF8	DET GAR F8	n/a	n/a	528 sf	n/a	n/a	(+) 15,207	15,207
SH06	SHED	n/a	n/a	312 sf	n/a	n/a	(+) 1,794	1,794
ST08	STORAGE	n/a	n/a	96 sf	n/a	n/a	(+) 736	736
MB16	METAL BLDG	n/a	n/a	1,200 sf	n/a	n/a	(+) 20,235	20,235
8B	FP2 CONVERSION	n/a	n/a	3,208 sf	n/a	n/a	(+) 2,610	2,610
			=====		=====	=====	=====	=====
			(+) 224,037		(-) 14,462	(=) 209,575	(+) 16,187	\$ 225,762

Note that the square footage difference of 433 square feet was offset by other amenities that the Subject Property did not have or were smaller in the case of the metal building.

Now let's compare to a "Fee Appraisal" and see how the adjustments are measured.
 Fee Appraisal Example #1

LAPP 49-49-6-1236875
File # 1407033

Uniform Residential Appraisal Report

There are 6 comparable properties currently offered for sale in the subject neighborhood ranging in price from \$ 240,000 to \$ 325,000	
There are 23 comparable sales in the subject neighborhood within the past twelve months ranging in sale price from \$ 240,000 to \$ 325,000	
FEATURE	SUBJECT
Address: 1513 Briar Crossing Dr Decatur, TX 76234	3004 Treasure View Dr Decatur, TX 76234
Proximity to Subject	1.62 miles E
Sale Price	\$ 294,500
Sale Price/Gross Liv. Area	\$ 124.47 sq.ft.
Data Source(s)	NTREIS/CAD;DOM 220
Verification Source(s)	NTREIS #11993101
VALUE ADJUSTMENTS	DESCRIPTION DESCRIPTION +/- \$ Adjustment
Sales or Financing Concessions	ArmLth Conv:0
Date of Sale/Time	s03/14;c02/14
Location	N;Res;
Leasehold/Fee Simple	Fee Simple
Site	29,366 sf
View	N;Res;
Design (Style)	DT1.00;Tradition
Quality of Construction	Q3
Actual Age	0
Condition	C1
Above Grade	Total Bdrms Baths
Room Count	7 3 2.0
Gross Living Area	2,366 sq.ft.
Basement & Finished Rooms Below Grade	0sf
Functional Utility	Average
Heating/Cooling	Central H/A
Energy Efficient Items	Average
Garage/Carport	2ga2dw
Porch/Patio/Deck	Porch/Patio
Fireplace/Spk/Sys	1/FP/Spk/Sys
Kitchen	Strnd Kitchen
Fencing/Outbuilding/Pool	Fencing
Net Adjustment (Total)	\$ 18,500
Adjusted Sale Price of Comps	\$ 266,500

did did not research the sale or transfer history of the subject property and comparable sales. If not, explain:

My research did did not reveal any prior sales or transfers of the subject property for the three years prior to the effective date of this appraisal.

Data Source(s) NTREIS/CAD

My research did did not reveal any prior sales or transfers of the comparable sales for the year prior to the date of sale of the comparable sale.

Data Source(s) NTREIS/CAD

Repeat the results of the research and analysis of the prior sale or transfer history of the subject property and comparable sales (report additional prior sales on page 3).

ITEM	SUBJECT	COMPARABLE SALE #1	COMPARABLE SALE #2	COMPARABLE SALE #3
Date of Prior Sale/Transfer				
Price of Prior Sale/Transfer				
Data Source(s)	NTREIS/CAD	NTREIS/CAD	NTREIS/CAD	NTREIS/CAD
Effective Date of Data Source(s)	07/21/2014	07/21/2014	07/21/2014	07/21/2014

Analysis of prior sale or transfer history of the subject property and comparable sales: No sale of subject found for past three years and no sale of compa past one year. Texas is a non-disclosure state and sale prices are not always available.

Summary of Sales Comparison Approach: Sale #1 was adjusted for site value, bedroom count and living area size. Sale #2 was adjusted for site value, living area size and workshop. Sale #3 was adjusted for site value, age/condition, living area size and pool. All sales in the subdivision that occurred within the last two years were reviewed and no truly comparable sales were located. Some sales were located but were much larger than the subject and thus not utilized. Each of the comparable sales used were further from the subject than desired but this situation is not unusual when appraising properties in less populated areas such as the subject.

Indicated Value by Sales Comparison Approach \$ 295,000

Indicated Value by Sales Comparison Approach \$ 295,000 Cost Approach (if developed) \$ Income Approach (if developed) \$





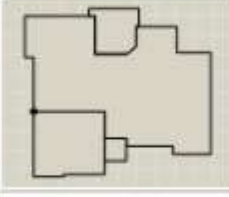
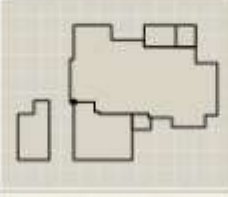
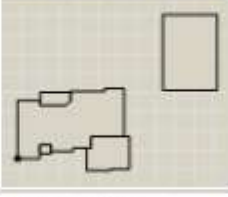
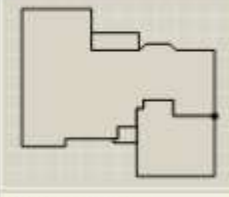
The Market Data Approach is considered to best indicate the value for the subject property in this appraisal. The Cost Approach was not used in this assignment because it was not included in the scope of work and the Income Approach was not utilized due to the lack of adequate market data.

The appraisal is made "as is", subject to completion per plans and specifications on the basis of a hypothetical condition that the improvements have been completed, subject to the following repairs or alterations on the basis of a hypothetical condition that the repairs or alterations have been completed, or subject to the following required inspection based on the extraordinary assumption that the condition or deficiency does not require alteration or repair. The subject is in the customer preference stage. Install appliances, landscaping, fencing and finish flatwork. Cost to cure is about \$20,000.

Based on a complete visual inspection of the interior and exterior areas of the subject property, defined scope of work, statement of assumptions and limiting conditions, and appraiser's certification, my (our) opinion of the market value, as defined, of the real property that is the subject of this report is \$ 295,000 as of 07/22/2014, which is the date of inspection and the effective date of this appraisal.

Now let's look at our analysis of the very same property using the very same comps in Gemini.

Fee Appraisal Example #1 - Compared to Gemini Automated Appraisal Model of the same property.

<div style="display: flex; align-items: center;"> Fn Valuation </div>				
GeoID-R1126.0A02.00 Taxpayer-RICHARDSON WILLIAM III ALICIA				
Sales Comparables				
	Subject Property	Sale Comparable #1	#2	#3
Prop ID	R000326363	R000502768	R000045114	R000502780
Owner	RICHARDSON WIL	KIRKLAND AMY	KIRKELIE TREVER &	SKATES JOSHUA & M
Geo ID	R1126.0A02.00	R2782.0E29.00	R2300.0623.00	R2782.0E41.00
Situs	1513 BRIAR CROS	3004 TREASURE VIE	123 CACTUS DRIVE	3000 DRY CREEK CT
Acres	0.651 ac	0.265 ac	1.580 ac	0.343 ac
Legal Desc	Legal: Abst: A-537	Legal: Abst: A-279 E	Legal: Subd: REATTA	Legal: Abst: A-279 E
Class	RSB12	RSB9+	RSB9+	RSB9+
Year / Eff Year	2014/2014	na/2012	2014/2014	na/2010
Sqft	2,369 sf	2,496 sf	1,961 sf	2,153 sf
Market Cpsf	128.08	103.81	126.70	115.88
Sale Cpsf	n/a	100.16	137.55	118.44
Date of Sale	n/a	3/7/2014	7/2/2014	7/16/2014
Price	n/a	250,000	269,730	255,000
Ratio	n/a	103.6%	92.1%	97.8%
Market Value	303,420	259,100	248,450	249,480
Photo				
Sketch				
Superior/Inferior	n/a	(+) 250,000	(+) 269,730	(+) 255,000
Site (+ -)	n/a	(+) 30,982	(+) 23,309	(+) 34,445
Amenities (+ -)	n/a	(+) 11,780	(+) 36,370	(+) 20,689
Indicated Price	n/a	<u>(=) 292,762</u>	<u>(=) 329,408</u>	<u>(=) 310,134</u>
Comparative Cpsf	128.08	123.58	139.05	130.91
Median Ratio	97.8%			
Mean Ratio	97.8%			
Median Cpsf	130.91			
Mean Cpsf	131.18			
COD	3.92%			

Note the major differences: site values and quality of construction adjustment reflected in Gemini whereas the fee appraisal appears to treat them all as equal. The end result is about a 5% higher value in Gemini vs. the fee appraisal.

Fee Appraisal Example #2 - Compared to Gemini Automated Appraisal Model of the same property.

Manufactured Home Appraisal Report

File # F58B0202RC

There are 10 comparable properties currently offered for sale in the subject neighborhood ranging in price from \$ 99,900 to \$ 195,000		There are 17 comparable sales in the subject neighborhood within the past twelve months ranging in sale price from \$ 30,000 to \$ 128,250			
FEATURE	SUBJECT	COMPARABLE SALE # 1	COMPARABLE SALE # 2	COMPARABLE SALE # 3	
Address	157 County Road 3579 Paradise, TX 76073	1633 Three Skillet Rd Springtown, TX 76082	178 County Road 2696 Abound, TX 76225	2160 County Road 3791 Paradise, TX 76073	
Proximity to Subject		2.53 miles SW	22.54 miles N	2.99 miles S	
Sale Price	\$ 95,000	\$ 111,900	\$ 115,000	\$ 128,250	
Sale Price/Gross Liv. Area	\$ 91.36 sq.ft.	\$ 83.26 sq.ft.	\$ 62.77 sq.ft.	\$ 69.40 sq.ft.	
Manufactured Home	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Date Source(s)	MLS#11732234;DOM;546	MLS#11583F88;DOM;290	MLS#11787228;DOM;60		
Verification Source(s)	Tax Records/Broker	Tax Records/Broker	Tax Records/Broker		
VALUE ADJUSTMENTS	DESCRIPTION	DESCRIPTION	DESCRIPTION	DESCRIPTION	
Sales or Financing Concessions	FHA/DCM 546 Seller Pd \$3370	-3,370	Condo/DCM 290 Seller Pd \$0	VA/DCM 60 Seller Pd \$7000	-7,000
Date of Sale/Time	05/23/2012		02/24/2012	09/25/2012	
Location	Rural	Rural	Rural	Rural	
Leasehold/For Simple	Fee Simple	Fee Simple	Fee Simple	Fee Simple	
Site	10.02 ac	10.0 ac	10.0 ac	5.0 ac	+30,000
View	Rural	Rural	Rural	Rural	
Design (Style)	Manufactured	Manufactured	Manufactured	Manufactured	
Quality of Construction	Avg./Siding	Avg./Siding	Avg./Siding	Avg./Siding	
Animal Age	30	17	24	13	
Condition	Average	Average	Average	Above Average	-10,000
Above Grade	Total Bsm. Bats	Total Bsm. Bats	Total Bsm. Bats	Total Bsm. Bats	
Room Count	4 2 2.0	5 3 2	5 3 2	6 3 2	
Gross Living Area	1,040 sq.ft.	1,344 sq.ft.	6,090	1,648 sq.ft.	-15,162
Basement & Finished Rooms Below Grade	0	0	0	0	
Functional Utility	Typical	Typical	Typical	Typical	
Heating/Cooling	Central	Central	Central	Central	
Energy Efficient Items	Typical	Typical	Typical	Typical	
Garage/Carport	No Garage	3 Car Carport	-4,000	3 Car Garage	+15,000
Porch/Patio/Deck	Cvd Porch/Patio	Cvd Porch/Patio	-1,000	Cvd Porch/Patio	-1,000
Fireplaces	No Fireplaces	One Fireplace	+15,000	One Fireplace	-1,000
Fence/Pool/Dr.	Wire	Wire	None	Wire	
Out Buildings	Workshop	Workshop		Workshop	+15,000
Net Adjustment (Total)					
Adjusted Sale Price or Comparables		Net Adj. 12.0 % Gross Adj. 12.0 % \$ 98,450	Net Adj. 5.1 % Gross Adj. 31.2 % \$ 108,160	Net Adj. 14.3 % Gross Adj. 61.7 % \$ 109,090	
<input checked="" type="checkbox"/> I did <input type="checkbox"/> I did not research the sale or transfer history of the subject property and comparable sales, if not, explain					
My research <input type="checkbox"/> did <input checked="" type="checkbox"/> did not reveal any prior sales or transfers of the subject property for the three years prior to the effective date of this appraisal.					
Data source(s) NTRIES/Multiple Listing Service and tax records.					
My research <input type="checkbox"/> did <input checked="" type="checkbox"/> did not reveal any prior sales or transfers of the comparable sales for the year prior to the date of sale of the comparable sale.					
Data source(s) NTRIES/Multiple Listing Service and tax records.					
Report the results of the research and analysis of the prior sale or transfer history of the subject property and comparable sales (report additional prior sales on page 4).					
ITEM	SUBJECT	COMPARABLE SALE #1	COMPARABLE SALE #2	COMPARABLE SALE #3	
Date of Prior Sale/Transfer	None found	None found	None found	None found	
Price of Prior Sale/Transfer					
Data Source(s)	MLS/Tax Records	MLS/Tax Records	MLS/Tax Records	MLS/Tax Records	
Effective Date of Data Source(s)	02/02/2013	02/02/2013	02/02/2013	02/02/2013	
Analysis of prior sale or transfer history of the subject property and comparable sales: The appraiser has utilized a variety of data sources to complete the appraisal including but not limited to county property appraisers' web sites, local MLS web sites, county clerk, of court web sites and knowledge of the local real estate market. The effective date of the above data was obtained is normally the same as the effective date of the appraisal. Agents involved in the comparable sales transactions were contacted, or an attempt was made to contact them, for further verification of the properties and inspections.					
Summary of Sales Comparison Approach See Comments on This Section Below.					
Indicated Value by Sales Comparison Approach \$ 109,000					
Indicated Value by: Sales Comparison Approach \$ 109,000 Cost Approach \$ 119,370 Income Approach (if developed) \$					
Of the three approaches to value only the cost approach and sales comparison approach have been utilized. Primary emphasis has been placed on the sales comparison approach with consideration given to the mean adjusted sales price. The income approach was not used as most homes in the subject neighborhood are owner occupied.					
This appraisal is made <input checked="" type="checkbox"/> "as is" <input type="checkbox"/> subject to completion per plans and specifications on the basis of a hypothetical condition that the improvements have been completed, <input type="checkbox"/> subject to the following repairs or alterations on the basis of a hypothetical condition that the repairs or alterations have been completed, or <input type="checkbox"/> subject to the following required inspection based on the extraordinary assumption that the condition of deficiency does not require alteration or repair:					
Based on a complete visual inspection of the interior and exterior areas of the subject property, defined scope of work, statement of assumptions and limiting conditions, and appraiser's certification, my (our) opinion of the market value, as defined, of the real property that is the subject of this report is \$ 109,000 as of 02/02/2013, which is the date of inspection and the effective date of this appraisal.					

Note the major differences: land adjustments for all comps on Gemini and considerably larger adjustments on improvements on Gemini. Bottom line the value with Gemini is 15% less than fee analysis.

Fee Appraisal Example #3 - Compared to Gemini Automated Appraisal Model of the same property.

Uniform Residential Appraisal Report

202525
File # 3101



There are 10 comparable properties currently offered for sale in the subject neighborhood ranging in price from \$ 124,900 to \$ 199,900		There are 15 comparable sales in the subject neighborhood within the past twelve months ranging in sale price from \$ 115,000 to \$ 190,000		
FEATURE	SUBJECT	COMPARABLE SALE #1	COMPARABLE SALE #2	COMPARABLE SALE #3
Address: 1200 W Main St Decatur, TX 76234	303 Circle Dr Decatur, TX 76234	401 Brookview Dr Decatur, TX 76234	1801 S Stratton St Decatur, TX 76234	
Proximity to Subject	1.87 miles SE	2.01 miles SE	1.30 miles SE	
Sale Price	\$ 140,000	\$ 145,000	\$ 170,000	
Sale Price/Gross Ltr. Area	\$ 58.28 sq.ft.	\$ 60.24 sq.ft.	\$ 68.78 sq.ft.	
Data Source(s)	MLS# 12162934;DOM 67	MLS# 12083293;DOM 65	MLS# 11654230;DOM 413	
Verification Source(s)	Inspected from street	Inspected from street	Inspected from street	
VALUE ADJUSTMENTS	DESCRIPTION	DESCRIPTION	DESCRIPTION	DESCRIPTION
Sales or Financing Concessions	ArmLth	ArmLth	ArmLth	
Date of Sale/Time	08/14;08/14	04/14;04/14	08/14;07/14	
Location	N;Res;	N;Res;	N;Res;	
Leashold/Fee Simple	Fee Simple	Fee Simple	Fee Simple	
Site	23400 sf	34,848 sf	19,848 sf	9,278 sf
View	N;Res;	N;Res;	N;Res;	
Design (Style)	DT1;Traditional	DT1;Traditional	DT2;Traditional	DT1;Traditional
Quality of Construction	Q4	Q4	Q4	Q4
Actual Age	44	51	0	28
Condition	C3	C3	C3	C3
Above Grade	Total Bdrms Baths	Total Bdrms Baths	Total Bdrms Baths	Total Bdrms Baths
Room Count	10 3 2.0	9 3 2.0	9 3 2.0	10 4 2.0
Gross Living Area	2,575 sq.ft.	2,402 sq.ft.	2,407 sq.ft.	2,892 sq.ft.
Basement & Finished Rooms Below Grade	0sf	0sf	0sf	0sf
Functional Utility	Typical	Typical	Typical	Typical
Heating/Cooling	Central H/A	Central H/A	Central H/A	Central H/A
Energy Efficient Items	Typical	Typical	Typical	Typical
Garage/Carport	2gb14dw	3cp4dw	2gb13cp4dw	2gb14dw
Porch/Patio/Deck	Porch / patio	Porch / patio	Porch / patio	Porch / patio
Net Adjustment (Total)	+ \$ 9,920	+ \$ 3,720	- \$ 12,680	
Adjusted Sale Price of Comparables	Net Adj. 7.1 % Gross Adj. 7.1 %	Net Adj. 2.6 % Gross Adj. 6.7 %	Net Adj. 7.5 % Gross Adj. 7.5 %	
I <input checked="" type="checkbox"/> did <input type="checkbox"/> did not research the sale or transfer history of the subject property and comparable sales. If not, explain N/A				
My research <input checked="" type="checkbox"/> did <input type="checkbox"/> did not reveal any prior sales or transfers of the subject property for the three years prior to the effective date of this appraisal.				
Data Source(s) MLS & tax records				
My research <input type="checkbox"/> did <input checked="" type="checkbox"/> did not reveal any prior sales or transfers of the comparable sales for the year prior to the date of sale of the comparable sale.				
Data Source(s) MLS & tax records				
Report the results of the research and analysis of the prior sale or transfer history of the subject property and comparable sales (report additional prior sales on page 3).				
ITEM	SUBJECT	COMPARABLE SALE #1	COMPARABLE SALE #2	COMPARABLE SALE #3
Date of Prior Sale/Transfer	10/09/2012			
Price of Prior Sale/Transfer	\$0			
Data Source(s)	Local tax records	MLS & tax records	MLS & tax records	MLS & tax records
Effective Date of Data Source(s)	12/01/2014	12/01/2014	12/01/2014	12/01/2014
Analysis of prior sale or transfer history of the subject property and comparable sales: **See Addendum**				
Summary of Sales Comparison Approach: **See Addendum**				
Indicated Value by Sales Comparison Approach \$ 150,000				
Indicated Value by: Sales Comparison Approach \$ 150,000 Cost Approach (if developed) \$ 158,077 Income Approach (if developed) \$				
The greatest emphasis was placed on the Sales Comparison Approach to value and is supported by the Cost Approach. This appraisal report is intended for use in the lending transaction of the client only and is not intended for any other user.				
This appraisal is made <input checked="" type="checkbox"/> "as is", <input type="checkbox"/> subject to completion per plans and specifications on the basis of a hypothetical condition that the improvements have been completed, <input type="checkbox"/> subject to the following repairs or alterations on the basis of a hypothetical condition that the repairs or alterations have been completed, or <input type="checkbox"/> subject to the following required inspection based on the extraordinary assumption that the condition or deficiency does not require attention or repair. To estimate the Market Value of the subject property as per the definitions and Limiting Conditions contained within this report.				
Based on a complete visual inspection of the interior and exterior areas of the subject property, defined scope of work, statement of assumptions and limiting conditions, and appraiser's certification, my (our) opinion of the market value, as defined, of the real property that is the subject of this report is \$ 150,000, as of 12/01/2014, which is the date of inspection and the effective date of this appraisal.				

Fee Appraisal Example #3 - Compared to Gemini Automated Appraisal Model of the same property. Gemini treats comp #1 and #3 very similar to the Fee Appraiser but adjusted comp #2 heavily which resulted in 11.5% lower value that the fee appraiser using the same comps.

Property Summary

GeoID-A0857.9127.00 Taxpayer-STEVENS LINDA K

Sales Comparables

	Subject Property	Sale Comparable #1	#2	#3
Prop ID	R000018990	R000026746	R000024779	R000025169
Owner	STEVENS LINDA K	COCKRELL DJANE	HARTLEY JAY	STORRS CHERI ANN
Geo ID	A0857.9127.00	D3155.0005.00	D0245.0024.00	D1065.0016.00
Situs	1200 W MAIN STR	303 CIRCLE DRIVE	401 BROOKVIEW DR	1601 S STRATTON S
Acres	0.536 ac	0.800 ac	0.451 ac	0.266 ac
Legal Desc	Legal: Abst: A-857	Legal: Abst: A-375 A	Legal: Abst: A-280 E	Legal: Abst: A-860 A
Class	RSB7+	RSB7+	RSB08	RSB08
Year / Eff Year	1970/1982	1963/1975	1986/1986	1960/1980
Sqft	2,481 sf	2,402 sf	2,407 sf	2,892 sf
Market Cpsf	66.67	69.83	87.67	60.50
Sale Cpsf	n/a	58.28	60.24	58.78
Date of Sale	n/a	9/2/2014	4/23/2014	8/13/2014
Price	n/a	140,000	145,000	170,000
Ratio	n/a	119.8%	145.5%	102.9%
Market Value	165,400	167,720	211,020	174,960
Photo				
Sketch				
Superior/Inferior	n/a	(+) 140,000	(+) 145,000	(+) 170,000
Site (+ -)	n/a	(-) 10,692	(-) 831	(+) 5,801
Amenities (+ -)	n/a	(+) 24,470	(-) 30,516	(-) 15,089
Indicated Price	n/a	<u>(=) 153,778</u>	<u>(=) 113,654</u>	<u>(=) 160,711</u>
Comparative Cpsf	66.67	61.98	45.81	64.78
Median Ratio	119.8%			
Mean Ratio	122.7%			
Median Cpsf	61.98			
Mean Cpsf	57.52			
COD	11.85%			
Derived Adjustment	-32,749			
Comparative Value	132,651			

Conclusion -

The Gemini Automated Appraisal Model (GAM) is not a perfect sales analysis tool, but neither is the fee simple appraiser. Each method complies with the requirements of their professional organizations. Each method depends on the existing data available. The more similar the comps the better each method will do in arriving at a more correct market value. Likewise, when either is using comps that require large adjustments the margin of error will also increase.

The Gemini Automated Appraisal Model (GAM) compares every detail of the improvements and makes + or = adjustments to compare to the subject. GAM will make adjustments for the different quality of construction based on classification / cost data of the house. The fee simple appraiser will take a look at the overall look at subject and comps and make lump sum adjustments for size, age, and condition. The fee appraiser occasionally makes adjustments for quality, but is not seen on many appraisals because it is a subjective decision to be made. The fee appraiser will also make concessions for financing which GAM does not.

The GAM provides a desktop analysis of the Subject Property and will provide a range of values much like the Fee Appraiser. The GAM analysis is not automatically trying to support a value and may be higher or lower than the fee analysis. A fee appraisal conducted by multiple appraisers on the same property will rarely reflect the same resulting computational appraised value. The GAM analysis is just another opinion of value used to compare sales of similar properties to the subject much like the fee appraiser analysis. The better the comps the more accurate each analysis of them will be.