

NAVARRO CENTRAL APPRAISAL DISTRICT

2020 MASS APPRAISAL SUMMARY REPORT

Navarro Central Appraisal District, hereafter referred to as NCAD, is charged with the responsibility of appraising property in the district for ad valorem taxes on property in the district. Each taxing entity sets its own tax rate to generate revenue. Those entities are:

City of Barry, City of Blooming Grove, City of Corsicana, City of Dawson, City of Emhouse, City of Frost, City of Goodlow, City of Kerens, City of Rice, City of Richland, City of Streetman, Fairfield Hospital District, Blooming Grove ISD, Bynum ISD, Corsicana ISD, Dawson ISD, Ennis ISD, Fairfield ISD, Frost ISD, Hubbard ISD, Kerens ISD, Mildred ISD, Rice ISD, Wortham ISD, Navarro County, Navarro College, Navarro County Emergency Service District #1, Navarro County Flood Control, Navarro County Road and Bridge, Hill College, and Henderson County Improvement Levee District #3

Appraisals established by NCAD allocate the year's tax burden on the basis of each taxable property's January 1st market value as defined in the Texas Property Tax Code, Section 1.04(7).

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

- (A) exposed for sale in the open market with a reasonable time for the seller to find a purchaser;*
- (B) both the seller and the purchaser know of all the uses and purposes to which the property is adapted and for which it is capable of being used and of the enforceable restrictions on its use; and*
- (C) both the seller and purchaser seek to maximize their gains and neither is in a position to take advantage of the exigencies of the other.*

PERFORMANCE ANALYSIS

A performance analysis determines whether values are equitable and consistent with the market. The primary tool for analysis is the ratio study used in accordance with IAAO Standard on Ratio Studies. The estimates of appraisal level will be measured in mean, median, and weighted mean. The primary measure of appraisal uniformity will be calculated by the coefficient of dispersion (COD), which represents the average percent deviation from the median ratio.

Various times of each year, NCAD will run ratio reports on categories of properties within the district to determine if NCAD values are consistent with the market.

REAPPRAISAL DECISION

As required by Section 25.18 of the Property Tax Code, NCAD will provide for the reappraisal of all real and personal property located within the district. It will be the plan of NCAD to reappraise properties annually, although physical inspections of real properties will be made at least once every three years.

ANALYSIS OF AVAILABLE RESOURCES

For reappraisal purposes, NCAD uses its current staff for appraising real and personal properties. All district employees will strive to assist property owners, taxing entities and the general public with information the district is able to provide. NCAD will contract with **Pritchard and Abbott, Inc.** for the appraisal of oil and gas properties, public utilities, railroads, pipelines, and other industrial properties.

The computer assisted mass appraisal (CAMA) system used by NCAD will be the Assessment package supported by Harris Local Government Solutions Inc. a/k/a True Automation, Inc. For the geographic information system (GIS), NCAD is currently using Eagle View Pictometry, and ARC Map by ESRI.

MASS APPRAISAL SYSTEM DEVELOPMENT

Properties scheduled for reappraisal were identified by a physical inspection or by other reliable means of identification, including deeds or other legal documentation, aerial photographs, land based photographs, surveys, maps, building permits, utility hookups, septic tank permits, listing of commercial vehicles and renditions.

The district strives to maximize the efficiency of the field review by sorting the appraisal cards in a route order. During field reviews of property, the appraiser updates the relevant characteristics of each property and looks for changes in the condition of the property, i.e. fire damage, remodeling, additions, demolitions or physical deterioration of the improvements. As new improvements are discovered, they will be inspected, classified, and added to the appraisal roll.

Real property market areas, stratified by property classification, were tested for low or high sales ratios, and high coefficients of dispersion. Market areas that fail any or all of these tests are reviewed. Field reviews are scheduled to verify and correct property characteristics data. Additional sales data is researched and verified in order to assess whether the market area is correctly defined and stratified.

Market areas are defined by the physical, economic, governmental and social forces that influence property values. The effects of these forces are used to identify, classify, and stratify or delineate similarly situated properties into smaller, more comparable and manageable subsets for valuation purposes. Delineation can involve the physical drawing of neighborhood boundary lines on a map or, it can also involve statistical stratification based on characteristics. Uniform properties are delineated into valuation neighborhoods for residential property or economic class for commercial property. Because there are noticeable patterns of growth that characterize a neighborhood or market segment, appraisers evaluate and redefine the neighborhood boundaries or market segments when necessary in order to ensure uniformity of property characteristics.

NCAD uses sales data, income data and/ or cost data to define market areas within the district. Additionally, NCAD uses the Marshall & Swift Appraisal Manual and the Commercial and Residential Estimator as needed for appraisal of commercial properties of specially classed residential properties.

NCAD makes an annual review of the various forms used by the districts i.e. exemption forms, agricultural application forms, renditions forms, appraisal notices etc. Forms and applications are revised when necessary to conform to changes made by the state. NCAD staff provides general information and assistance regarding the information required on the forms and the filing deadlines for those applications.

PILOT STUDY

Once all the entry work was completed, properties were recalculated in the CAMA system. We compared NCAD appraisals to sold property prices, which indicate the level of appraisal. We reviewed the results and addressed indicated modifications to our procedures.

DATA COLLECTION

In the field inspection, appraisers collect information on the improvements, including judgment calls on effective age, construction grade (classing the improvement) and percent of depreciation (physical, functional or economic).

Sales were collected by multiple listing service (MLS), and renditions from property owners. Additional data was collected by the sales questionnaire sent to buyers and sellers of property within the county. Information requested includes the names and address of the buyer and seller, legal description, parcel identifier, type of transfer, type of financing, personal property included in the sales price, date of transfer and sale.

Further data was obtained by inspecting deeds, deeds of trust, mechanics liens, closing statements, contacting realtors and relying on appropriate appraisal manuals.

Real estate sales offerings listed in local newspapers and on internet sites were reviewed also.

NCAD was provided a copy of building permits and demolition permits by the county and cities which require them.

PRODUCTION OF VALUES

The NCAD appraised values were compared to prices paid for comparable properties in a market area, income valuation, and regional cost valuation. We then used existing appraisal classifications and adjusted formulas, tables and schedules to reflect current market values. In accordance with IAAO and USPAP standards, these preliminary value calculations were tested for accuracy and uniformity using ratio studies and further adjusted, if so indicated.

RESIDENTIAL REAL PROPERTY

The valuation process for residential property began in September. Land analysis, sales outlier review, neighborhood sales analysis, and finalization of proposed estimates of value occurred from September through March.

Valuation Methods Used:

Sales Comparison Approach

As indicated in *Property Appraisal and Assessment Administration* (IAAO, 1990), in the absence of a sale of the subject, sales prices of comparable properties are usually considered the best evidence of market value. The sales comparison approach models the behavior of the market by comparing the properties being appraised with comparable properties that have recently sold or for which offers to purchase have been made. Their sales prices were then adjusted for differences from the subject and a market value for the subject is estimated from the adjusted sales prices of comparable properties.

Cost Approach

NCAD used a cost approach when valuing single-family and multi-family residential properties. A review and revision as needed of the base cost and additional residential cost schedules was performed before each reappraisal year.

The district also used the comparative unit method to develop the “base” cost of a structure. In this method the base would be the remaining difference (constant) after all additional components are determined by using the unit-in-place method. Table-driven cost factors, taken from Marshall & Swift, were adjusted for local or regional construction and labor costs. When reliable data is available from the local market it is used. The results of this comparison will be analyzed using several measures, including stratification by quality and review of estimated building costs, as well as land value to sales prices.

The focus on new cost (discussed above), results in a pattern of under-appraisal of older properties and neighborhoods. This sometimes occurs because of limited data in our market required to accurately adjust depreciation tables. Ratio studies limited to sales of homes with depreciated RCNs may be used to determine the necessary adjustment to the base-cost to more accurately appraise the older homes/neighborhoods. This enables efficient and more accurate direct equalization between neighborhoods, in effect providing for direct compensation of any appraisal inaccuracies in new construction on a neighborhood basis. Neighborhood or Market Adjustment factors were developed from appraisal statistics provided by ratio studies to ensure that estimated values reflect both the supply and demand side of the market. The following equation denotes the model used:

$$MV = [((RCN - D) + AV) * MA] + L$$

Where:

MV= Appraised or estimated market value

RCN= Replacement cost new of improvement(s)

MA= Market Area-specific adjustment factor
D= Accrued depreciation
AV= Additional improvement value
L= Land value

Market Area-specific adjustment factors were applied to account for local differences between defined areas. This appraisal phase is also known as direct equalization.

Residential land values were estimated based on market sales. Adjustments to land appraisals may be based on parcel size, shape, rights-of-way or easements, slope, drainage issues, and where necessary, economic obsolescence. Land values were calculated by any of the various units in place or, when data is insufficient to accurately determine the appropriate unit or unit values, by site value.

In saturated Market Areas (Neighborhoods) where there are insufficient vacant land sales available, market area specific adjustment factors for land were calculated based upon ratio studies. The appropriate land adjustments were determined by calculating the MA required to achieve an appropriate land: total value or land: total sale price ratio. This model may be described in equation form as follows:

$$MV = ((RCN - D) + AV) + (L * MA)$$

After this was completed the ratio study was used to determine whether an additional MA is required to adjust the improvement values to accomplish accurate appraisals. The model required to adjust both the improvement and land values may be described in the equation form as follows:

$$MV = [((RCN - D) + AV) * MA] + (L * MA)$$

The sales used to determine the market adjustment factor(s) will reflected the market influences and conditions only for the specified neighborhood, thus producing more representative and supportable values. The market adjustment factor(s) calculated for each update neighborhood were applied uniformly to all properties within a neighborhood and a second set of ratio studies will be generated that compares recent sale prices with the proposed market values for these sold properties. From this set of ratio studies, the analyst judged the appraisal level and uniformity in both update and non-update neighborhoods.

Income Approach

The income approach is based on the principle that the value of an investment property reflects the quality and quantity of the income it is expected to generate over its life. In other words, value is the estimated present value of future benefits, namely income and proceeds from the sale of the property. The appraiser must estimate income from a property and capitalize the income into an estimate of current value.

The model used to estimate the present value of income expected in the future is represented by the following formulas known as IRV.

Value = Income/Rate or, Income = Rate x Value or, Rate = Income/Value

The income approach is most suitable for types of properties frequently purchased and held for the purpose of producing income, such as apartments, commercial buildings, and office buildings. It is not conducive to the valuation of single-family residential properties that are seldom rented, or where market demand factors such as personal preferences or location unduly influence the market.

INVENTORY RESIDENTIAL PROPERTY

Residential improved and vacant property, when qualified as an inventory, was appraised in compliance with the Texas Property Tax Code, Section 23.12 (a).

In general, the district used its land value estimates and the actual itemized construction, labor, and material costs, plus other soft or indirect costs to estimate market value as of the assessment date. The market values of improved inventory is reviewed annually and inventory consideration is eliminated when ownership transfers to the individual property owner.

Vacant residential inventory, when appropriate, was valued using a discounted cash flow formula that considers value relative to the income or cash flow, the interest or discount rate, and the number of years the property is likely to be held. As with improved inventory, full market value was applied once the vacant land is absorbed and ownership transfers for the purpose of residential construction.

COMMERCIAL REAL PROPERTY

All commercial properties including but not limited to retail properties, apartments, warehouses, medical offices, golf courses, office buildings and mobile home parks were valued by the cost approach, the income approach, or the sales comparison approach as deemed most appropriate pursuant to Section 23.0101 of the Property Tax Code. Ratio studies were performed to test the level and uniformity of appraisal within specific property use categories.

Valuation Methods Used:

Sales Comparison Approach

Although all three of the approaches to value are based on market data, the Sales Comparison Approach is most frequently referred to as the Market Approach. This approach was utilized not only as a primary method for estimating land value but also in comparing sales of similarly improved properties to each parcel on the appraisal roll. Pertinent data from actual sales of properties, both vacant and improved, was obtained throughout the year in order to analyze relevant information, which was then used in all aspects of valuation. Sales of similarly improved properties can provide a basis for the depreciation schedules in the cost approach, rates and multipliers used in the income approach, and as a direct comparison in the sales comparison approach. Improved sales was also used in ratio studies, which gives the analyst an excellent means of judging the present level and uniformity of the appraised values.

Based on the market data analysis and review discussed in the cost, income and sales approaches, the cost and income models was calibrated annually. The calibration results were keyed to the schedules and models in the CAMA system for utilization on all commercial properties in the district.

Cost Approach

The cost approach to value was applied using the comparative unit method. This methodology involves the use of national cost data estimating services as well as actual cost information on comparable properties whenever possible. Cost models are typically developed based on *Marshall & Swift Service* and cost tables developed from local construction indexes. Cost models include the use of replacement cost new (RCN) of all improvements. The “replacement cost” was used because it values the cost of a property that is a utility equivalent of the property being appraised using current construction methods and materials. Such costing is contra to “reproduction cost”, which is defined as the cost to construct an exact duplicate of the property being appraised. Replacement cost new includes comparative base rates, per unit adjustments and lump sum adjustments. Time and location modifiers was necessary to adjust cost data to reflect conditions in a specific market and changes in costs over a period of time. Because a national cost estimating service is used as a primary basis for our cost models, local modifiers were applied to adjust the base costs.

Market adjustment factors such as external, economic and functional obsolescence were applied, if warranted. A depreciation calculation override were applied if the condition or effective age of a property varies from the norm. This override is indicated by appropriately noting the physical condition and functional utility ratings on the property data characteristics. These adjustments are typically applied to a specific property type or location and were developed through ratio studies or other market analyses. Accuracy in the development of the cost schedules, condition ratings, and depreciation schedules usually minimize the necessity of this type of an adjustment factor.

Income Approach

The income approach to value was applied to those real properties that are typically viewed by market participants as “income producing”, which are bought and sold based on the property’s ability to produce income, and for which the income methodology is considered a leading value indicator. The first step in the income approach pertains to the estimation of market rent. This is derived primarily from actual rent data furnished by property owners and local market study publications. This per unit rental rate multiplied by the number of units results in the estimate of potential gross rent.

A vacancy and collection loss allowance is the next item to consider in the income approach. The projected vacancy and collection loss allowance is established from actual data furnished by property owners and local market publications. This allowance accounts for periodic fluctuations in occupancy, both above and below an estimated stabilized level. The market derived stabilized vacancy and collection loss allowance is subtracted from the potential gross rent estimate to yield an effective gross rent. A secondary income or service income is calculated as a percentage of stabilized effective gross rent. Secondary income represents parking income, escalations, reimbursements, and other miscellaneous income generated by the operations of real property. The secondary income estimate is derived from actual data collected and available market information. The secondary income estimate is then added to effective gross rent to arrive at an effective gross income or EGI.

Allowable expenses and expense ratio estimates will be based on a study of the local market, with the assumption of “prudent management”. An allowance for non-recoverable expenses such as leasing costs and tenant improvements will be included in the expenses. A non-recoverable expense represents costs that the owner pays to lease rental space. Different expense ratios will be developed for different types of commercial property based on use. For instance, retail properties are most frequently leased on a triple-net basis, whereby the tenant is responsible for his pro-rata share of taxes, insurance and common area maintenance. In comparison, a multi-tenant office building is most often leased on a base year expense stop. This lease type stipulates that the owner is responsible for all expenses incurred during the first year of the lease. However, any amount in excess of the total per unit expenditure in the first year is the responsibility of the tenant. Under this scenario, the total operating expense in year one establishes the base rate. Any increase in expense over the base rate throughout the remainder of the lease term would be the responsibility of the tenant. As a result, expense ratios was implemented based on the type of commercial property.

Another form of allowable expense is the replacement of short-lived items, such as roof or floor coverings, air conditioning or major mechanical equipment, or appliances requiring expenditures of large lump sums. When these capital expenditures are analyzed for consistency and adjusted, they may be applied on an annualized basis as stabilized expenses. When performed according to local market practices by commercial property type, these expenses when annualized are known as replacement reserves. Subtracting the allowable expenses from the effective gross income yields an estimate of net operating income or NOI.

Rates and multipliers were used to convert income into an estimate of market value. These include income multipliers, overall capitalization rates, and discount rates. Each of these were used in specific applications. Rates and multipliers also vary between property types, as well as by location, quality, condition, design, age, and other factors. Therefore, application of the various rates and multipliers must be based on a thorough analysis of the market. There are national and regional surveys produced by companies however, the market in Navarro County is particularly too small to be reflected in these national and regional surveys.

Capitalization analysis was used in the income approach models. This methodology involves the capitalization of net operating income as an indication of market value for a specific property. Capitalization rates, both overall (going-in) cap rates for the direct capitalization method and terminal cap rates for discounted cash flow analyses were derived from the market. Sales of improved properties from which actual income and expense data are obtained provide a very good indication of what a specific market participant is requiring from an investment at a specific point in time. Additionally, overall capitalization rates can be derived from the built-up method, band-of-investment, debt coverage ratio, and published sources for similar properties, as well as results from verified sales. The capitalization rates relate to satisfying the market return requirements of both the debt and equity positions of a real estate investment. This information was obtained from real estate and financial publications, as well as cap rate studies conducted by the district using verified sales and income information for that specific property.

Rent loss concessions was made on specific properties with known vacancy problems. A rent loss concession accounts for the impact of lost rental income while the building is moving toward stabilized occupancy. The rent loss was calculated by multiplying the rental rate by the percent difference of the property's stabilized occupancy and its actual occupancy. Build out allowances (for first generation space or retrofit/second generation space) and leasing expenses was added to the rent loss estimate. A leasing expense necessary to bring the property to a stabilized level is also included in this adjustment. The total adjusted loss from these real property operations was discounted using an acceptable risk rate. The discounted value, inclusive of rent loss due to extraordinary vacancy, build out allowances and leasing commissions, becomes the rent loss concession and was deducted from the value estimate of the property at stabilized occupancy. A variation of this technique allows that for every year that the property's actual occupancy is less than stabilized occupancy a rent loss deduction may be estimated. Conversely, if a property were consistently above the stabilized occupancy level as of the appraisal date, the market would pay a premium for this situation. In this instance, the present value of the excess income over the stabilized level was added to the value of the property.

AGRICULTURAL AND TIMBER LAND

The appraisal of agricultural or timber land is governed by Chapter 23 of the Property Tax Code. The appraised value of qualified open-space or timber land is determined on the basis of the category of land, using accepted income capitalization methods applied to average net to land. At this time, timber land is non typical for Navarro County.

Schedules for valuing qualified agricultural land have been developed for various agricultural uses and production. These schedules are reviewed annually and updated as needed using data from recognized sources such as the Texas Agricultural Extension Service as well as local landowners engaged in leasing land for agricultural use.

INDUSTRIAL REAL PROPERTY

Navarro Central Appraisal District contracts with Pritchard and Abbott, Inc. to appraise and defend the values of large industrial plants, producing oil and gas wells, tank farms, pipelines, railroad systems and related properties, oil field supply companies, drilling companies, public utilities including electric power generation and distribution companies, telephone companies, and other industrial properties annually.

Identifying properties to be appraised: - Appraisal of properties is limited to those indicated in the contract with the appraisal district, unless additionally requested by the appraisal district. Newly discovered properties was discussed with the appraisal district to confirm they are to be appraised by Capitol Appraisal. Industrial properties are identified as part of the appraiser's physical inspection process each year and through submitted data by the property owner. The appraiser may also refer to legal documents, photography, and other descriptive items.

Identifying and updating relevant characteristics of each property in the appraisal records: - The appraiser identifies and updates relevant characteristics through the inspection process. Confidential rendition, assets lists and other confidential data also provide additional information. Subject property data is verified through previously existing records and through published reports.

Defining market areas in the district: - Market areas for industrial properties tend to be regional, national and sometimes international. Published information such as prices, financial analysis and investor services reports are used to help define market area.

Developing an appraisal approach that reflects the relationship among property characteristics affecting value and determines the contribution of individual property characteristics: - Among the three approaches to value (market, cost and income), industrial properties are most commonly appraised using replacement/reproduction cost new less depreciation models because of readily available cost information. If sufficient income or market data are available, those appraisal models may also be used.

Comparison and review: - The appraiser considers results that best address the individual characteristics of the subject property and that are based on the most reliable data when multiple models are used. Year to year property value changes for the subject property are examined using computer assisted statistical review. Periodic reassignment of properties among appraisers or the review of appraisals by a more experienced appraiser also contributes to the review process.

Valuation Methods Used:

Sales Comparison Approach

ASPCP/U = PU

PU x SU = Market Data Indicator of Value

Where:

ASPCP = Adjusted Sales Price of Comparable Property

U = Unit of Comparison

PU = Price per Unit of Comparison

ASPU = Adjusted Sales Price per Unit of Comparison

SU = Subjects property number of Units of comparison

Cost Approach

RCN - PD - FO - EO = Cost Indicator of Value

Where:

RCN = Replacement or Reproduction Cost New

PD = Physical Depreciation

FO = Functional Obsolescence

EO = Economic Obsolescence

Income Approach

PGR - VCL - FE - VE = NOI

NOI/R = Income indicator Value

Where:

NOI = Net Operating Income

PGR = Potential Gross Rent

VCL = Vacancy and Collection Loss

FE = Fixed Expenses

VE = Variable Expenses

R = Discount Rate or Cost of Capital

INDUSTRIAL PERSONAL PROPERTY

Identifying properties to be appraised: - Appraisal of properties is limited to those indicated in the contract with the appraisal district, unless additionally requested by the appraisal district. Newly discovered properties were discussed with the appraisal district to confirm they are to be appraised by Capitol Appraisal. Through inspection the appraiser identifies personal property to be appraised. The appraiser may also refer to other documents, both public and confidential, to assist in identification of these properties. Such documents might include but are not limited to the previous year's appraisal roll, vehicle listing services and private directories.

Identifying and updating relevant characteristics of each property in the appraisal records:

- The appraiser identifies and updates relevant characteristics through the inspection process. Confidential rendition, assets lists and other confidential data also provide additional information. Subject property data is verified through previously existing records and through published reports.

Defining market areas in the district: - Market areas for industrial personal properties are generally either regional or national. Published price sources are used to help define market areas.

Developing an appraisal approach that reflects the relationship among property characteristics affecting value and determines the contribution of individual property characteristics:

- Personal property was appraised using replacement/reproduction cost new less depreciation models. Income approach models were used when economic and/or subject property income was available, and a market data model was used when appropriate market sales information was available.

Comparison and review: - The appraiser reconciled multiple models by considering the model that best addressed the individual characteristics of the subject property. Year to year property value changes for the subject property are examined using computer assisted statistical review. Periodic reassignment of properties among appraisers or the review of appraisals by a more experienced appraiser also contributes to the review process.

Valuation Methods Used:

Sales Comparison Approach

$$\text{ASPCP}/\text{U} = \text{PU}$$

$$\text{PU} \times \text{SU} = \text{Market Data Indicator of Value}$$

Where:

ASPCP = Adjusted Sales Price of Comparable Property

U = Unit of Comparison

PU = Price per Unit of Comparison

ASPU = Adjusted Sales Price per Unit of Comparison

SU = Subjects property number of Units of comparison

Cost Approach

$$\text{RCN} - \text{PD} - \text{FO} - \text{EO} = \text{Cost Indicator of Value}$$

Where:

RCN = Replacement or Reproduction Cost New

PD = Physical Depreciation

FO = Functional Obsolescence

EO = Economic Obsolescence

Income Approach

$PGR - VCL - FE - VE = NOI$

$NOI/R = \text{Income indicator Value}$

Where:

NOI = Net Operating Income

PGR = Potential Gross Rent

VCL = Vacancy and Collection Loss

FE = Fixed Expenses

VE = Variable Expenses

R = Discount Rate or Cost of Capital

UTILITY, RAILROAD AND PIPELINE PROPERTY

Identifying properties to be appraised: - Appraisal of properties is limited to those indicated in the contract with the appraisal district, unless additionally requested by the appraisal district. Newly discovered properties were discussed with the appraisal district to confirm they are to be appraised by Capitol Appraisal. Utility, railroad and pipeline properties that are susceptible to inspection were identified by inspection. The appraiser may also refer to other documents, both public and confidential to assist in identification of these properties. Due to the varied nature of utility, railroad, and pipeline properties, there is no standard data collection form or manual. New permitting documents on record with the Railroad Commission of Texas provide a source to identify potential new pipeline projects but does not provide indication if the project was actually started, completed, or a distinct location of the proposed project. Every effort is made to discover new utility, railroad, and pipeline properties through personal observation combined with permitting documents.

Identifying and updating relevant characteristics of each property in the appraisal records: - The appraiser identified and updated relevant characteristics through the inspection process. Confidential rendition, assets lists and other confidential data also provide additional information. Subject property data was verified through previously existing records and through published reports.

Defining market areas in the district: - Market areas for utility, railroad and pipeline property tend to be regional or national in scope. Financial analyst and investor services reports were used to help define market areas.

Developing an appraisal approach that reflects the relationship among property characteristics affecting value and determines the contribution of individual property characteristics: - For all three types of property, the appraiser must first form an opinion of highest and best use. Among the three approaches to value (cost, income and market), pipeline value was calculated using replacement/reproduction cost new less depreciation model. In addition to the RCNLD indicator, a unit value model was also used if appropriate data were available. Utility and railroad property were appraised in a manner similar to pipeline except that the RCNLD model is not used. Personal property was appraised using replacement/reproduction cost new less depreciation models.

Income approach models were used when economic and/or subject property income was available, and a market data model was used when appropriate market sales information was available.

Comparison and review: - The appraiser considered results that best addressed the individual characteristics of the subject property when multiple models are examined using computer-assisted statistical review. Periodic reassignment of properties among appraisers or the review of appraisals by a more experienced appraiser also contributes to the review process. These types of property were also subject to review by the property Tax Division of the Texas Comptroller's Office through their annual Property Value Study.

Valuation Methods Used:

RCNLD Approach

$RCN - PD - FO - EO = RCNLD$ Indicator of Value

Where:

RCN = Replacement or Reproduction Cost New

PD = Physical Depreciation

FO = Functional Obsolescence

EO = Economic Obsolescence

Unit Cost Approach

$OC - AD - EO =$ Unit Cost Approach Indicator of Value

Where:

OC = Original Cost

AD = Allowed Depreciation

EO = Economic Obsolescence

Unit Income Approach

$PGR - VCL - FE - VE = NOI$

$NOI/R =$ Income indicator Value

Where:

NOI = Net Operating Income

PGR = Potential Gross Rent

VCL = Vacancy and Collection Loss

FE = Fixed Expenses

VE = Variable Expenses

R = Discount Rate or Cost of Capital

Stock and Debt Approach

$MVE + MVD =$ Market Value of Assets

Where:

MVE = Market Value Equity

MVD = Market Value of Debt

OIL AND GAS PROPERTY

Identification of new property and its situs: - As subsurface mineral properties lie within the earth, they cannot be physically identified by inspection like other real property. However, the inability to directly inspect does not appreciably affect the ability to identify and appraise these properties. To identify new properties, Pritchard and Abbott, Inc. obtains monthly oil and gas lease information from the Railroad Commission of Texas (RRC) to compare against oil and gas properties already identified. The situs of new properties was determined using plats and W-2/G-1 records from the RRC as well as Pritchard and Abbott, Inc's in-house map resources.

Identifying and updating relevant characteristics of all oil and gas properties to be appraised - Relevant characteristics necessary to estimate value of remaining oil or gas reserves are production volume and pattern, product prices, expenses borne by the operator of the property, and the rate at which the anticipated future income should be discounted to incorporate future risk. CAGI obtains information to update these characteristics annually from regulatory agencies such as the RRC, the Comptroller of Public Accounts, submissions from property owners and operators, as well as from published investment reports, licensed data services, service for fee organizations and through comparable properties, when available.

Defining market areas in the district and identifying property characteristics that affect property value in each market area - Oil and gas markets are regional, national and international. Therefore, they respond to market forces beyond defined market boundaries as observed among more typical real properties.

Developing an appraisal approach that best reflects the relationship among property characteristics affecting value and best determines the contribution of individual property characteristics - Among the three approaches to value (cost, income, and market), the income approach to value is most commonly used in the oil and gas industry. Through use of the discounted cash flow technique in particular, the appraiser is able to bring together relevant characteristics of production volume and pattern, product prices, operating expenses and discount rate to determine an estimate of appraised value of an oil or gas property.

Comparison and review - Use of the income approach is the first step in determining an estimate of market value. After that, the appraiser reviewed the estimated market value compared to its previous certified value and also compares it to industry expected payouts and income indicators. The appraiser examined the model's value with its previous year's actual income, expecting value to typically vary within a range of 2-5 times actual annual income, provided all appropriate income factors have been correctly identified. Finally, periodic reassignment of properties among appraisers and review of appraisals by a more experienced appraiser further expand the review process.

Valuation Methods Used:

Discounted Cash Flow

The income method of Appraisal, as described in Section 23.012 of the Texas Property Tax Code, is the principle appraisal method used. The Market Data Comparison Method of Appraisal, PTC (Section 23.013) and the Cost Method of Appraisal, PTC (Section 23.011) are considered. The DCF method is versatile and widely used to appraise income producing property. An appraiser using DCF first projects an anticipated net income for each year of the property's remaining economic life. Each annual cash flow is discounted to present value, and then all the present values are added to obtain the total market value of the real property interest being appraised.

$$PV = CF_1M \times (PWF_1) + CF_2 \times (PWF_2) + \dots + CF_n \times (PWF_n)$$

Where:

PV = Present Value

CF = Cash Flow or Income

PWF = End of Period Present Worth Factor, equals $1/((1+i)^n)$

i = Discount Rate

n = Period for Present Worth Factor Being Calculated

The three acceptable techniques for estimating discount rates are:

1. Market Surveys
2. Oil and Gas Sales Analysis
3. Weighted Average Cost of Capital (WACC), also known as Band of Investment"

To estimate the present value (PV), an estimate of the income (cash flow) to be received in each period is necessary. The number of periods, n, (usually years) used in the analysis is determined by the number of years that the mineral property is expected to produce a positive net income.

There are many variations on the DCF formula. The formulas vary based on the time the money is received, i.e. continuously, beginning of period, middle of period or end of period. The period may be continuous, daily, monthly, quarterly, bi-annual or annual. Many oil properties are evaluated using an annual mid-period discounting variation of the DCF formula. The appropriate present worth factor for mid-year DCF analysis is:

$$PWF_{MY} = 1/((1+i)^{(n-.5)})$$

Where:

PWF_{MY} = Mid - Year Present Worth Factor

HIGHEST AND BEST USE ANALYSIS

The highest and best use of property is the reasonable and probable use that supports the highest present value as of the date of the appraisal. The highest and best use must be physically possible, legal, financially feasible, and productive to its maximum. The highest and best use of residential property is normally its current use. This is due in part to the fact that residential development, in many areas, through use of deed restrictions and zoning, precludes other land uses. Residential Valuation undertakes reassessment of highest and best use in transition areas and areas of mixed residential and commercial use. In transition areas with ongoing gentrification, the analyst reviews the existing residential property use and makes a determination regarding highest and best use. Once the conclusion is made that the highest and best use remains residential, further highest and best use analysis is done to decide the type of residential use on a neighborhood basis. As an example, it may be determined in a transition area that older, un-remodeled homes are economically obsolete and the highest and best use of such property is the construction of new dwellings. In areas of mixed residential and commercial use, the appraiser reviews properties in these areas on a periodic basis to determine if changes in the real estate market require reassessment of the highest and best use of a select population of properties.

For commercial/industrial properties, highest and best use was evaluated as improved and as if the site were still vacant. This assists in determining if the existing improvements have a transitional use, interim use, nonconforming use, multiple uses, speculative use, excess land, or a different optimum use if the site were vacant. For vacant tracts of land within this jurisdiction, the highest and best use is considered speculative based on the surrounding land uses. Improved properties reflect a wide variety of highest and best uses which include, but are not limited to: office, retail, apartment, warehouse, light industrial, special purpose, or interim uses.

Personal property includes but is not limited to inventory, equipment, furniture, fixtures and vehicles used in a business. Due to its nature, the highest and best use of personal property will normally be its current use.

CORRELATION OF COMPARABLE SALES

All comparables must be analyzed to determine whether they need to be adjusted for time and location in relation to the subject property. (IAAO's *Property Appraisal and Assessment Administration*, Chapter 5) The other elements of comparison will differ depending upon the property type being appraised. In selecting elements for adjustment, the appraiser must give consideration to the same factors that influence prospective buyers in the marketplace.

A fairly effective unit of comparison, which weighs the income-producing characteristics in the Sales Comparison Approach, is the Gross Rent Multiplier or G.R.M. The G.R.M. is calculated by dividing the gross annual income into the sale price. Using such units of comparison enables the appraiser to compare two properties, which are similar in use and structural features, but differ significantly in size and characteristics.

Having selected the major factors of comparison, it remains for the appraiser to adjust each of the factors to the subject property. In comparing the site, adjustment for size, location, accessibility and site improvement must be made. In comparing the structure, adjustments for size, quality,

design, condition and significant structural and mechanical components also must be recognized. The adjusted selling prices of the comparable properties establish a range of value in that the estimated value of the subject property will fall. Further analysis of the factors should enable the appraiser to narrow the range to a reasonable and realistic indication of value for the subject property.

VALUE DEFENSE

NCAD staff handled informal appeals filed by property owners in an effort to explain the appraisal process and how the value of the property had been derived. NCAD staff also verified that all allowable exemptions and special appraisals were being applied. This was also an opportunity for property owners to show evidence or bring information to the district that may affect the value, which at the time, was unknown to the appraiser.

If a settlement could not be reached, a hearing was scheduled for the property owner to meet before the Appraisal Review Board. An information packet was mailed to the property owner/agent notifying them of the date, time and place of the hearing. They were also provided a copy of the ARB Hearing Rules & Procedures and a copy of the Taxpayers Rights & Remedies. If requested, the protester was provided with the evidence NCAD intended to use at the hearing. NCAD realized the burden of proof lies with the district to prove the property's value and defended such values at the ARB hearings.

NCAD STAFF

Karen Morris, RPA, RTA, CTA, CCA is the District's Chief Appraiser. Ms. Morris is the Chief Administrative Officer of Navarro Central Appraisal District. Statutory responsibilities include; discovering, listing and appraising all taxable property within the appraisal district; determining exemption and special use requests; organizing periodic reappraisals; and notifying taxpayers and taxing units of matters that affect property values; in addition to all financial budgets and reporting to the Board of Directors. The Chief Appraiser, Karen Morris, is also responsible for compliance issues relating to Legislative updates for the district.

Hector Castaneda, RPA,Field Appraiser for the district. His assigned area was Rice ISD, Corsicana ISD, Wortham ISD and Ennis ISD. He gathered information and analyzed cost schedules and made recommendations to the Chief Appraiser of any adjustments for this area. Mr. Castaneda calculated agricultural productivity values and assisted in verifying the qualification of parcels for open-space and wildlife management. Finally, Mr. Castaneda worked with the property owners during informal and formal protests.

Leroy Pardue, RPA, served as Commercial Appraiser and the Personal Property Appraiser for the District. As personal property appraiser, Mr. Pardue mailed, received and reviewed all renditions submitted by business owners and performed inspections as needed to verify rendition statements. He was also responsible for photographing and cataloging each commercial property within Navarro County. Finally, Mr. Pardue worked with property owners during informal and formal protests.

Joe E. McClure, Level III, Field Appraiser for the District. His assigned area was City of Corsicana. He gathered information and analyzed cost schedules and made recommendations to the Chief Appraiser of any adjustments for this area. He also assisted in verifying the qualification of parcels for open-space and wildlife management.

Todd Welch, RPA, Field Appraiser for the District. His assigned area was Frost ISD, Blooming Grove ISD, Dawson ISD, Bynum ISD and Hubbard ISD. He gathered information and analyzed cost schedules and made recommendations to the Chief Appraiser of any adjustments for this area. He also assisted in verifying the qualification of parcels for open-space and wildlife management.

Tom Dally, RPA, Field Appraiser for the District. His assigned area was Mildred ISD, Kerens ISD, and all of Fairfield ISD. He gathered information and analyzed cost schedules and made recommendations to the Chief Appraiser of any adjustments for this area. He also assisted in verifying the qualification of parcels for open-space and wildlife management.

Jason Matous, District Mapper, Mr. Matous was responsible for the maintenance of the District's mapping system and updated ownership changes as they occurred as indicated by recorded deeds. He was also responsible for performing research regarding ownership issues. Additionally, Mr. Matous aided appraisers in organizing maps needed for field work.

Linda Dunbar, Data Systems Administrator, Ms. Dunbar was responsible for the data entry work as delivered to her by the field appraisers. Also she assisted property owners, taxing entities and the general public with information the District was able to provide. Ms. Dunbar applied abatements to industrial accounts, worked closely with the City of Corsicana to apply TIF exemptions, and worked with the Appraisal Review Board during protest time.

Kelly Lawhon, Director of Business Services, Level III, Ms. Lawhon assisted with daily operations of the District. She received and processed all bills for the district, and performed limited clerical work as needed by the appraisers. Ms. Lawhon was also responsible for accounts payable and receivable, ordering office supplies, handling insurance and retirement information, and all board agendas and minutes. Also, she assisted property owners, taxing entities and the general public with information the District was able to provide.

Ray Carroll, Data Processor/Exemption Specialist, Mr. Carroll assisted with daily operations of the District. He was responsible for maintaining and requesting updates for agricultural appraisal applications and performed clerical work as needed by the appraisers. Mr. Carroll also performed data entry and scheduling relating to ARB hearings. Additionally, he received, reviewed and processed exemption applications submitted to the District.

Sheila Torres, Clerk/ Receptionist, Ms. Torres assisted with daily operations of the District. She was responsible for maintaining and requesting updates for agricultural appraisal applications. She assisted property owners, taxing entities and the general public with information the District was able to provide. Ms. Torres also performed data entry.

Stephanie Cates, Clerical/ARB Coordinator, Level III, Ms. Cates assisted with daily operations of the District. She was responsible for maintaining and requesting updates for agricultural appraisal

applications and performed clerical work as needed by the appraisers. She assisted property owners, taxing entities and the general public with information the District was able to provide. Ms. Cates also performed data entry and scheduling relating to ARB hearings.

Board of Directors, The Board of Directors responsibilities included hiring the Chief Appraiser. They also reviewed and approve the annual budget and the financial accounting reports on a monthly basis. They also appointed the Appraisal Review Board Members. The Board of Directors also reviewed with the Chief Appraiser all litigation issues concerning the District. The Board was comprised of five members and the County tax assessor-collector. The Board of Directors had no authority to set value or appraisal methods.