



Board of Directors
Denton Central Appraisal District
3911 Morse
Denton, TX 76208

Ladies and Gentlemen of the Board:

Thank you for the opportunity to provide this report to you with an overview of the district with specific recommendations. These recommendations may be used as a template for reporting by the staff in future planning sessions or in monthly meetings. Typically, the chief executive either agrees with the recommendations and provides a timeline or disagrees with the recommendation and offers reasons why an alternate route is better. The format is based on the typical review of an appraisal district done by the International Association of Assessing Officers, and it is a high-level look at operations.

I accepted this project anticipating that it would be only an analysis of personnel, building needs, and perhaps, recommending some best practices. Unfortunately, I found serious problems with the culture that need immediate attention, but overall, there is more to report that is good about the district operations than is problematic. It certainly has been a rough two years with a great number of the problems tied to the software issues, and there are still internal issues going on that keep the district from running smoothly.

Trust is critical to any successful organization and trust is lacking at DCAD. To reestablish that trust requires a concerted effort of leadership to be examples and set the right tone. Employees must not feel threatened. Obviously, they are expected to do their jobs efficiently and effectively, but they must be allowed to express their concerns without retaliation. I have specifically suggested 13 steps necessary to rebuilding trust, and it must begin at the top. It will not be a quick fix because it did not develop into a distrusting environment overnight.

Personnel are definitely needed to make the entire process run more smoothly. State laws are making the appraisal districts operations more difficult. Rising prices of homes and construction of all types are adding stress to what has always been a difficult job. Appraisal districts are required to meet almost unrealistic standards promulgated by the State Legislature while having the tools of the trade such as full disclosure, withheld from them. Appeals are heavily slanted toward agents who often work on a contingency fee basis. In summary, it is a very difficult environment in which to work.

I believe the district is on the road to success, but it will not be an easy road for the next two years. Best wishes to the Board and staff as they undertake the challenges ahead. I hope that the information contained in this report will help you make appropriate decisions.

Respectfully submitted,

A handwritten signature in black ink that reads "Richard Petree".

Richard Petree, RPA/RTA/CCA

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Note to reader: This report is an overview of the operations of Denton Central Appraisal District based on typical reviews of appraisal districts in the nation. It is based on standards set by the International Association of Assessing Officers, the pre-eminent guide to appraisal standards for property tax. The standards of that organization are recognized by the Texas State Comptroller and the comparisons within this report are based on typical questions posed for compliance with international standards of mass appraisal. IAAO is not an underwriter of this report and the references within the report to IAAO are solely based on the State Comptroller’s adoption of IAAO standards.

CHAPTER 1: ENVIRONMENT

Texas is a market value state and the definition of market value is codified in Chapter 1 of the Property Tax Code as well as in 23.01(a). The definition states: “(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.”

Chapter 23.01(a) states: “(a) Except as otherwise provided by this chapter, all taxable property is appraised at its market value as of January 1.”

The Denton Central Appraisal District complies with state law in the appraisal of all properties unless they are appraised differently due to a jurisdictional exception.

Texas law requires the Texas State Comptroller of Public Accounts to monitor all appraisal districts in the state by conducting biennial ratio studies. The primary purpose of these studies is to equalize state funding for public education but it does give an independent report of ratios by category of properties in each county and the subset of each school district. Denton CAD does internal ratio studies regularly to monitor trends in market value of residential, commercial, and land categories and builds models to match necessary requirements of at least 95% of market value.

In the past two years, the district has struggled to keep up with the rapidly increasing property values, especially of homes, and has failed to reach the required levels of appraisal required by the State Comptroller. Several schools will face loss of funding due to the low values in these areas, unless the values are corrected. All are in year one of “grace”.

In the past two years, the district has struggled to keep up with the rapidly increasing property values, especially of homes, and has failed to reach the required levels of appraisal required by the State Comptroller.

State law requires a regular reappraisal of all properties at least once every three years in 25.18 of the tax code. Also, 6.05(h) of the code requires a biennial reappraisal plan to be adopted which designates the areas for reinspection and reappraisal. The plan equates to the scope of work required by USPAP standard 5. IAAO standards require a reinspection once every six years and the use of oblique photography is considered an acceptable method of inspection. The district uses oblique photography extensively.

Unfortunately, Texas does not have a disclosure law and commercial property owners have fought appraisal districts at every turn to keep districts from getting data either openly or through restricted measures. Appraisal districts must rely on buyer and seller letters for data, or services such as CoStar to provide information on which to build their models. No law currently exists that requires buyers or sellers to provide transaction data. No law exists even to permit appraisers to go onto property without permission from the owner or their representative.

Additionally, no law exists to require income producing properties to produce income statements nor is there any legal requirement to allow the audit of business personal property accounts.

All properties in the state are assessed at full market value. There is no difference between different categories of property. Residential property gets some break from the property tax burden through some state mandated homestead exemptions and optional jurisdiction exemptions. School exemptions are mandated by the state at \$40,000 of market value while over-65 homeowners and disabled persons get an additional \$10,000. In addition, the elderly and disabled taxes are capped for school tax the year after the owner qualifies for the exemption. Other tax units have the option to cap taxes for over-65 or disabled homesteads as well. Disabled veterans get additional exemptions based on their level of disability as designated by the Veterans Administration.

Other complete exemptions are granted by the legislature to religious, charitable, or other non-profit organizations that meet the coded standards of law. Local jurisdictions may grant abatements of property tax for companies bringing jobs to their area and meeting special provisions of law. Additionally, homesteads are protected from increases of greater than 10% annually if the same owner remains in the property.

The Education Code of Texas has been challenged on several occasions by low valued districts. The current law requires that all property be assessed at a minimum of 95% of market value or the school values being appraised will be adjusted upward to compensate for the under appraisal of property. For schools that have substantial value per student due to large industrial facilities or mineral values must pay money to the Texas Education Agency. The process is called "recapture" and the monies from wealthy schools are redistributed to poorer schools by the Agency to allow for equal educational opportunity.

A significant undermining of market value is due to a constitutional provision that allows agricultural property to be appraised based on its income rather than its market value. This law extends to properties that qualify for wildlife management as well as commercial production of crops, livestock, or timber. There is a rollback provision which allows for three years of recapture of lost taxes for properties that are converted to a non-qualifying use.

There is currently no law that limits the discretion of the appraiser in valuing property based on zoning or on highest and best use. However, as a practical matter, most assessors, including Denton CAD, consider current use as highest and best use.

There are no differences in assessment ratios between classes of property in Texas law.

There are numerous exemptions in Chapter 11 of the Property Tax Code that shield property owners from partial or complete taxation. Partial exemptions extend primarily to homesteads while complete exemptions are granted by legislative action to those non-profit organizations that qualify.

Appraised values of homesteads can only be increased 10% per year. If an increase of greater than 10% is applied, an additional rise of 10% of the prior year value continues to increase the assessed value until the value matches the market value of the property. Other categories of property are not subject to limitation.

The property tax system is supported by the jurisdictions that receive revenue from the values developed by the appraisal district and in proportion to the amount of revenue generated. The budgets of each county-wide appraisal district are allocated to each tax unit based on the tax dollars generated the prior year as a percentage of all of the dollars generated. The school districts of the state pay a majority of the appraisal district cost in most appraisal districts. The state pays nothing toward operations of appraisal districts but oversees operations through a biennial ratio study and a Methods and Procedures Audit. Punishment of the failure of either of these studies is inflicted on schools through a reduction of educational funding and the potential loss of license to practice by the chief appraiser.

Appraisal District boards of directors have the statutory authority to contract for appraisal services from other appraisal districts, a tax unit, or a private company. Denton CAD only uses private contractors in the appraisal of utilities, specialized industrial property, and minerals. All other appraisal work is done by staff of the district.

Texas relies very heavily on the property tax to fund local government. Counties are generally 60% funded by the property tax, cities are 30% funded, and schools are 45% funded although these figures vary greatly across the State.

The budget of the district is approximately \$15.3 million dollars in 2022. The budget of the district is lower than districts of similar size

The budget of the district is approximately \$15.3 million dollars in 2022. The budget of the district is lower than districts of similar size in rapidly growing areas.

in rapidly growing areas. Comparisons are normally based on cost per parcel as that is the product that is produced by each appraisal district. Please see comparison chart in Appendix.

CHAPTER 2: MANAGEMENT AND STAFFING

The Denton Central Appraisal District has been provided most of the resources it needs to do its job correctly with the exception of personnel. Copies of all applicable laws of the state of Texas as well as publications of professional publications are readily available to the entire staff. Trends in legislative activity are monitored by the Chief Appraiser by being a part of the state-wide legislative committee offering advice and counsel to the legislative bodies. State law regarding licensure also requires licensees to attend biennial training on the changes in the law after the legislature completes their activities.

A detailed explanation of personnel in the district is required by the tax code as a part of the budget. As the district has undergone rapid growth of properties and population, they have often been behind the curve in analyzing personnel needs. A part of this report's purpose was to generally look at personnel by department and to compare the personnel by industry standards. The result of that study is included in the recommendations, but generally, staffing is not adequate to satisfy current requirements. As the district continues to grow, the staffing levels will likely need to rise in proportion to the growth of parcel counts. The shortage of staff contributes to a troublesome cycle of inequity of values which increases the number of protests each year. Handling the massive number of appeals keeps the appraisers from getting back into the field, carefully studying sales data, and setting accurate values for the upcoming year.

The staff is very aware of growth trends in the county and how that growth impacts different types of improvements and land. It is recommended that the regular meetings of departments include a discussion of trends that members see in order to develop a consensus of opinion and a plan to move forward in the handling of those trends which impact values within their department. Data coming to the leadership of these different departments such as publications and data by email should be shared with members of that team to diversify the knowledge base.

As similar districts are staffing levels, it is my increase the appraisal staff total staff to 124 to be numbers of new homes district and the large If current growth trends recommend two added annually and three numbers will bring staffing

As similar districts are compared to Denton staffing levels, it is my recommendation to increase the appraisal staff to 54 and to increase the total staff to 124 to be able to handle the large numbers of new homes and businesses in the district and the large number of protests filed.

compared to Denton recommendation to to 54 and to increase the able to handle the large and businesses in the number of protests filed. continue, I would additional appraisers be support staff. These levels to a more efficient

level to handle protests and reappraise properties more accurately. (See appendix for comparisons to other districts)

Two separate buildings currently house the appraisal district. The remodel of the building that was flooded has had a very nice remodel and the new areas for customer service and appraisal discussion with taxpayers is a very nice design and appears to be very functional. However, I believe there is a need for additional space going forward. The question posed is whether a new building could be built in another location or if the district could expand their presence in the current location. I also considered the idea of a satellite facility in Lewisville or near that city. Significant discussion also centered on ideas for working remotely to avoid the cost of additional building space.

In my discussions with the county judge, he told me that the tax collections office will be moving into the building directly across from the appraisal district offices. He feels very strongly that the taxpayers of the community would be best served by having the two offices in proximity. I would tend to agree with his assessment considering the complexity of having two offices and the myriad of issues that would have to be addressed with management of two separate locations.

The district should investigate the purchase of the building between the two buildings, even to the point of using eminent domain, to demolish that building, turn the area into a large parking lot, and build additional space at the back of the lot as the growth demands. The buildings might be joined, based upon engineering and architectural studies to develop an administrative and ARB facility in the central building and wings to support appraisal and clerical functions in the existing buildings. Some additional space is needed quickly as new hires require a space to be, learn their responsibilities, and integrate into the entire office community. I would be concerned about doing remote work as education of staff is a significant challenge with so many new personnel. I am also very concerned about productivity. The most likely candidates for "work from home" are appraisers who could use iPad devices to appraise real estate, update data, and meet inspection requirements. A program available in the existing software monitors the appraiser's movements and productivity.

I also noted that signage for the building is not easily seen. Within city specifications, I would recommend signage at the curb to replace the small, portable sign that clearly indicates the entrance to the district office and additional signage to direct taxpayers to entrances that handle various needs.

The district has seen significant change in management in the last two years. Hope McClure was promoted to Chief Appraiser and her promotion was met with a lot of internal grumbling and protests at board meetings. Unfortunately, there are still people who are employed in the district that continue to struggle with Ms. McClure's leadership. There is currently a toxic environment in the building. Numerous retirements and dismissals have stoked the fire of discontent. In the recommendations, I have set up several steps to take to try to repair the

environment and make a more productive and pleasant workplace. It will take significant focus and a positive and open attitude to turn the environment around.

The employees seem to trust and work with the Deputy Chief Appraiser. My observation is that he struggles with the balance between loyalty to his Chief and the rank and file of employees. The large number of new employees in the district do not seem to be contaminated by the toxicity of past issues, but there seems to be a resistance to new ideas introduced by the staff. Ms. McClure has reached out to staff for new ideas, and this is a positive move to try to include staff in positive ideas moving forward.

Turnover is a major issue in the district. The total number of personnel leaving the district through retirements, terminations, and resignations in the past two years is 24.

Turnover is a major issue in the district. The total number of personnel leaving the district through retirements, terminations, and resignations in the past two years is 24. This is over a quarter of the workforce and increases problems with training and efficient operations.

I am recommending that new hires be done by the directors of different departments using guidelines developed by the chief appraiser. My observation is that Ms. McClure is very involved in the hiring and interview process. My opinion is that the department head with the vacancy should choose two or three additional members of staff as a hiring committee to make hiring choices. When these people are hired using this committee concept, those personnel are invested in the success of the new hire and will work with them to help them be successful. They also know the job and can ask appropriate questions of the applicants. I believe the Chief does not need to spend valuable time in the interview process as it gives the staff an out and does not encourage cooperation.

For the most part, members of the staff have sub-standard levels of training due to the number of new people and the tendency of the historical staff to resist new methods and technology. The Chief Appraiser is aware of this issue and is seeking solutions. The difficulty is that it is very hard to find a professional trainer who knows the business and is proficient in the software utilized and all its nuances. In the rapidly growing area and the current economy, it is difficult for the district to find qualified applicants and openings will remain open for longer periods of time as the district continues to seek the right education and skills for the jobs that are open. A significant training of new staff is necessary going forward. Their lack of training on what the software will do is a significant issue, even for some in leadership roles.

Salaries are reasonable and benefits are excellent. That certainly makes hiring easier, but the tight labor market continues to be a challenge as positions become vacant. It is important that a comprehensive compensation system be adopted based on the skills for each position

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and that pay be equalized throughout the district. Inflation at near 7% levels means that cost of living increases need to be applied to existing salaries to maintain competitive salaries until the inflation rate is slowed.

The mass appraisal system in Texas and the employees of those districts are a small community. They hear about problematic issues within appraisal districts and are hesitant to apply for jobs in a district in turmoil, regardless of the source of that turmoil. That creates a smaller pool of experienced candidates that might, otherwise, apply for open positions.

The staff assigned to the processing of exemptions are significantly behind in their work creating unhappy taxpayers and frustrated personnel. The issue is staffing. There needs to be a greater number of customer service personnel to ensure that exemptions are quickly and efficiently processed. Since the documents are electronically stored, best practice is to process and scan the appropriate documents, stamp them as received and return them to the taxpayer while they stand at the counter. For mail-ins, a verification of receipt might be emailed, but if it appears as updated on the website immediately, then the taxpayer can see that it has been received. Keeping the website updated regularly with exemption data and changing values will improve customer service and reduce complaints. Taxpayers can be told to check the website for verification of exemptions reducing phone calls and angry taxpayers.

Additionally, customer service handles protests of value and additional personnel will assist in the processing of those protests in a timely manner.

Appraisers should physically inspect parcels at least once every three years. In the recommendations, I will suggest that an appraiser physically see sold properties within a month of the sale. In today's real estate environment, it is very normal for buyers to remodel and flip a house. If an inspection of the house is not done based on its current condition, the sales data is distorted and will produce incorrect results in ratio studies.

The district has access to Eagleview, an oblique photography product that provides multi-sided visuals of improvements. This product also provides "change finder", a program which displays changes to properties such as add-ons or tear downs that may be done without a permit. These mapping systems are invaluable and should be continued as a device to assist the appraisers. It is important that the product be used to its maximum capability.

Standards of performance should be developed for each department based on the product they provide for their stakeholders. For appraisers, it would be inspections, quality of work

indicated by correct ratios and acceptable coefficients of dispersion, and perhaps, appeals worked. For deed clerks, it would be number of deeds processed and an accuracy factor. For an exemptions clerk, it could be exemptions processed. And so on through the organization. Without tools of measurement, it is not possible to accurately measure performance of staff for purposes of pay increases or incentive pay.

Accuracy of appraisal is monitored by the use of internal ratio studies of all properties by category and within neighborhoods. The ratio process meets the standards of IAAO and reasonable results are noted in residential property. However, the analyses are often rushed because of the shortage of personnel. External ratio studies are performed by the State Comptroller every other year provided the appraisal district passes their study with at least an overall ratio of 95% or better. Denton CAD has not met that standard for all their schools.

The appraisal district has years with the many issues honestly impossible for how important the district. Without a district cannot operate mistakes were made in cannot continue to blame majority of those with that there were many want a continued blame

The majority of tax unit personnel with whom I met understand that there were many problems, but they do not want a continued blame on past decisions-they want the problems fixed and desire a smooth and accurate appraisal roll to be created.

had two very difficult with software. It is any layman to understand software is to an appraisal functioning system, the successfully. Many the past, but the team or discuss the past. The whom I met understand problems, but they do not on past decisions-they

want the problems fixed and desire a smooth and accurate appraisal roll to be created.

The management team is meeting regularly to assess pending events and how to deal with those events through media or direct contact. One of the recommendations is that in the management and department meetings, the staff should speak first about issues and their ideas for addressing those issues. Ideas tend to be stifled if leadership speaks first with their ideas. The management group needs to constantly look at procedures to see what is working and what is not, and to address the activities that are not working efficiently. The group meets to examine the financial impact of the activities of the district and how to meet the needs through the existing budget or contingency funds.

An independent financial auditor audits the financial records of the district annually to ensure that proper financial procedures are being followed and that the financial activities of the district are accurately reflected to the tax units that pay the cost of operations as well as the citizens of the community who ultimately pay the costs through the property tax they pay.

The State Comptroller also of the district through the audit done every other evidence to support the IAAO standards by which must abide. In the most the Denton district

The State Comptroller also examines the operations of the district through the Methods and Procedures audit done every other year. In the most recent completed study, the Denton district received a perfect grade.

examines the operations Methods and Procedures year. They look at codified requirements and every appraisal district recent completed study, received a perfect grade.

CHAPTER 3: INFORMATION TECHNOLOGY

The current CAMA system is sufficient to handle all aspects of the appraisal district operations. The attempted conversion to True Prodigy was extremely problematic to the point that that it was abandoned and the previous provider, Harris True Automation was rehired to provide the software services. Though somewhat older technology, it is still considered the premier technology in Texas appraisal districts. They provide their services to over 120 of the 254 counties in the state. Like other software companies, they are struggling to keep qualified personnel and keep up with the law changes and current systems needed. They are planning to move to a more efficient system in the near future with cloud computing which is supposed to reduce cost and improve quality.

The CAMA system meets all state requirements of coding current and historical data. The database does meet IAAO standards for usability. The database supports aggregates and sub-parcel records using a parent-child concept of splitting properties.

The CAMA system allows for changes in the tables without impacting the current appraisal roll. The software models are developed and applied by neighborhood or type of commercial property and then ratios are run to verify the accuracy of the models. When the models are finalized in the CAMA system, the system is capable of developing comparables and adjusting those comparables to the subject property.

The CAMA system does integrate nicely with the ESRI mapping software. Oblique photography is also integrated helping the staff to verify improvements and measurements that are sometimes obscured by tall fencing or vegetation. "Change finder" is a program that is provided by the oblique photography company that highlights demolished improvements and additions to structures and helps the appraiser with what properties need to be inspected.

The CAMA system allows the storing of appeal data and schedules in various formats as well as the recordings of the formal hearings held by the Appraisal Review Board. Appeal documents remain in the system for future reference and for the production of open records requests.

The Information Technology staff is extremely busy keeping equipment running correctly and working to ensure a secure technological environment. One of the key responsibilities of the department is cyber-security. Threats must be monitored and handled at all times. There has been a large turnover in the IT staff, and they are still getting up to speed on the special needs of the appraisal district.

CHAPTER 4: CADASTRAL MAPPING

The mapping system meets IAAO standards and visually verifies and accounts for all property in the district. The data is up to date with less than 60 days from the filing of an instrument until the results are accurately mapped.

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Denton is a rapidly growing area with many plats are filed annually as well as the subdividing of existing parcels. There is a diversity of sources of information from various cities within the county as well as the unannexed areas, and the department is struggling to keep up due to the number of personnel. At least two additional personnel should be added to this department to keep records current.

Oblique photography meets this need for information. In most cases, the needs of the appraisers in the district to find accounts and determine the property lines to know what improvements go with each parcel are met by the current mapping system.

The GIS system coupled with oblique photography greatly enhances the appraisers' information and allows for the verification of improvements through that program and the measurement of improvements that are not readily available or when the taxpayer refuses entry to the property.

CHAPTER 5: PROPERTY USE CODES, MARKET AREAS, AND NEIGHBORHOODS

The district uses normal property types and classes that mirror the Marshall Valuation Service upon which the cost basis is derived. Mixed use properties can be classed and appropriately classified using existing software.

Neighborhoods have been class of property based on driving value in those analyses, several utility and market appeal a greater supply of sales models.

Neighborhoods have been developed for each major class of property based on the economic factors driving value in those identified areas.

developed for each major the economic factors identified areas. For subdivisions with similar may be combined to have data on which to develop

CHAPTER 6: PROPERTY DATA COLLETION AND MAINTENANCE

Rapid growth is occurring in Denton County and the district has developed a system of entering many of sketches of homes provided by the builders. This method is far superior to physical, on-site measurements as it takes less time and requires less coordination to arrive at the building site to measure the upstairs accurately. That department actually needs additional assistance to handle the volume of new construction occurring. Some homes still must be measured physically by staff appraisers.

The commercial appraisers also get permit data and go to the construction site to physically measure the structures. They class the structures appropriately according to Marshall Valuation standards in order to develop a cost approach to value. They also note any special characteristics of the property that would contribute to value such as docks, internal cranes, special environmental treatments, and many other factors. Additionally, they must develop income models to utilize an income approach on all commercial property that lends itself that approach. Capitalization rates must be gathered from the local market to apply to income streams of commercial properties.

Texas taxes business personal property. It is identified as non-real property that generates income. All businesses in Texas are required to “render” their property annually with a listing of furniture, fixtures, and equipment, vehicles, and inventory. Texas still taxes inventory held for sale at the owner’s cost or market, whichever is lower. The level of trade must be taken into consideration by the appraiser. The appraisers in BPP go to the accounts in the district, look at the personal property as much as they can, and if the property is not rendered, density/quality tables (a method to estimate inventory and furniture and fixtures per square foot, are used to estimate those values.

The CAMA records show the current use of the property and current zoning indicating permissible uses.

The inspections of property are typically done based on the exterior measurements unless the appraiser is on site during the later stages of construction. Only when requested to do so, are residences inspected on the interior and is only done within strict policy of the district to avoid numerous issues alleging wrongdoing.

The district seeks to re-inspect property on a three-year cycle and certainly complies with IAAO standards of at least once every six years. They both physically inspect and inspect using the oblique photography available to the district.

The district seeks to re-inspect property on a three-year cycle and certainly complies with IAAO standards of at least once every six years. They both physically inspect and inspect using the oblique photography available to the district. The oblique photography is very high resolution

and has the capability of accurately measuring the exterior dimensions of improvements to verify existing measurements done on site. Additionally, it allows the appraiser to discover pools, shops, and storage buildings in the back of homes that are often obscured by high fencing and/or vegetation.

New structures are typically discovered by getting permits from local cities and septic permits from county government. The rapid growth of the district causes a significant challenge to the appraisers who must be sure that all improvements are accounted for in their assigned areas.

The current data gathering card is sufficient in its design to ensure that the appraiser gathers all necessary data while on the site. For those using “mobile office” the system also seems to work well in the gathering of data. For mobile devices, it is helpful if the device is programmed to not close the account unless all the data requirements are completed. Drop downs are very helpful for the field personnel to ensure that correct coding is occurring in the field.

CHAPTER 7: SALES DATA AND RATIO STUDIES

Sales of all real estate are captured from the deed recording process. All data is received from the County Clerk, the repository for that data in Texas. The transfers are coded and routed to appropriate departments for processing. The software generates letters to buyers and sellers requesting sales information; however, the response from those letters is not high nor always reliable. Other sources of data are searched for sales information. Multiple Listing Service is not a source that the district is allowed to use but most sales data is now available from other sources; however, the district is able to acquire sales data from other sources for most residential property, but not commercial property. They do purchase data on sales and typical rents, but actual sales of all commercial property would enhance their quality of work.

Sales data is studied and appropriate adjustments are made to ensure that the sale is accurate and that it can be used in the data base of sold properties. Sales are time adjusted when supporting data is available to develop trends (paired sales). The current comparisons of sales to models is sufficient to meet IAAO standards for ratio studies. Sales data is used to produce

The current comparisons of sales to models is sufficient to meet IAAO standards for ratio studies.

sales comparison grids and adjustments to comparable properties is automated within the software. State law also requires a comparison of the equity of appraisals. The computer system also produces an equity grid for properties.

The available sales data is sufficient to allow the staff to run ratio studies by type of property and areas of the county or neighborhoods. Demand for housing in specific areas of the county (specifically school boundaries) fuel very different values and are appropriately reviewed and values appropriately adjusted to reflect market trends.

When the district sees that a neighborhood is out of compliance with value standards, they focus staff on reinspection and/or reanalysis of the factors that are causing problems to correct the values.

Current ratio study programs produce various results not only for the values compared to sales prices, but also to the consistency of appraisal between properties expressed through weighted mean, coefficient of dispersion, and price related differential. The additional statistical measurements are also measured by the State Comptroller in their biennial ratio study. Their results are on the universe rather than neighborhoods but certainly provide a measurement of the quality of work being done in the district. The most recent study available (2021) indicated an overall median level of appraisal of 97% with a coefficient of dispersion (COD) of 8.47 which is excellent. The COD of single-family residential property was 6.38 which is exceptional. The closer to zero the COD is, the more consistent the appraisal work is. IAAO standard for homogeneous neighborhoods is 15 and the lower the number, the better are the appraisals.

The appraisal district does intervals and expresses through the models applied uniformly to both ensuring equality of The sales ratios can be enhance user confidence.

The internal ratio results compare consistently with the State Comptroller study indicating that there is no bias occurring in the data analyzed.

calculate confidence and modifies those results created. The models are sold and unsold properties appraisal in all categories. shown graphically to The internal ratio results

compare consistently with the State Comptroller study indicating that there is no bias occurring in the data analyzed.

CHAPTER 8: LAND VALUATION

Land values are rising rapidly due to demand of all types of land so the district responds with regular and frequent reappraisals of land parcels.

Sales ratios of land are developed, as available, to assist in the preparation of the models the district applies to land.

The process of appraising agricultural land, timber, and wildlife management is mandated by law and the rules of the State Comptroller. The income is based on a five-year average specified by law and the capitalization rate is also codified at 10% or greater if interest rates

ever rise again. DCAD complies with the law and rules in the development of their agricultural values.

Producing minerals are values based on their market value by an outside appraisal firm that specializes in those type appraisals. The production of each well is analyzed, the economic life of the well is estimated based on the decline of production, and the future production is discounted to the January 1 value. All of these methods are in compliance with appraisal standards for this category of property.

CHAPTER 9: RESIDENTIAL VALUATION

The majority of the value of property in Denton County is residential bedroom county next to Counties, with good of life draws people to Therefore, the accurate critical to the success of within the district who are appraisals.

The accurate appraisal of homes is critical to the success of DCAD and to the schools within the district who are fully funded based on correct appraisals.

of property in Denton property. Being a Dallas, Collin, and Tarrant schools and a high quality Denton County. appraisal of homes is DCAD and to the schools funded based on correct

The primary method utilized in residential appraisal is comparative sales. There is a very active market in Denton County and most of the sales of homes are discovered by the district through various sources although the district does not have direct access to MLS sales. The appraisers of the district make comparisons of paired sales to develop time adjustments to models and those adjustments are significant as demand for housing is continuing to increase across the State, but especially in metropolitan areas.

The models that are developed are recalculated each year and applied every year because of the dynamic market. The failure to reevaluate annually would quickly put the district out of compliance with state standards of appraisal.

Neighborhoods are developed for comparison purposes using subdivisions of similar utility to the market. Age of improvements, location, school districts, and typical amenities are examined to develop a neighborhood. Where there are non-homogeneous structures within a neighborhood, the district relies on the cost tables to adjust those properties appropriately.

The models for residential property are analyzed to ensure that all characteristics of properties are valued based on their contributory value to the property.

Homes that suffer from external obsolescence are typically tied by neighborhood and sales of those properties are examined to make appropriate adjustments for whatever obsolescence occurs.

The costs used in the CAMA system are based on Marshall Valuation and are updated regularly. These costs are then adjusted appropriately to mirror what is going on in the market through comparisons to sales prices.

CHAPTER 10: COMMERCIAL VALUATION

In the last ratio study done by the State Comptroller, the commercial appraisals did not meet state standards with a weighted mean of 91.59% in Denton ISD and 94.02% in Lewisville ISD, the two largest districts with the most commercial property.

The commercial department of the Denton Appraisal District contains 11 personnel. There are many types of commercial property indicative of the suburban environment next to a major urban area. There are 9023 commercial accounts that must be valued annually. The total value of these accounts is approximately \$976,000,000. In the last ratio study done by the State Comptroller, the commercial appraisals did not meet state standards with a weighted mean of 91.59% in Denton ISD and 94.02% in Lewisville ISD, the two largest districts with the most

commercial property. The primary reason for the low ratio was the focus of the district on the cost approach rather than the utilization of the income approach to value. Most commercial property sells based on its ability to generate a return on investment to its purchaser. Since that study, steps have been taken to appraise more property categories using income models.

The district has access to Marshall Valuation data and keeps their costs up to date. Appropriate adjustments to costs are made based on local building costs and market information that is available. Again, as previously mentioned, Texas does not have a required disclosure and too often, the data is not available to this or any other appraisal district. Agents represent most of the commercial properties and exacerbate the appeals process with unrealistic data. The contingency fees that most of them charge present huge temptations to inaccurately describe income and expenses to the properties they represent. This is unlikely to change since their industry seems to control legislative action and appraisal districts are negatively impacted by the methods and procedures that agents use to attempt to reduce the properties they represent. Legal action frequently occurs when values are anywhere near true market value and they also tend to manipulate data in the comparisons of other property under the equality appeals. This situation is likely to worsen for the district and litigation is likely to increase when the 2022 roll is prepared, due to the expected increases of commercial property. This is certainly not unique to Denton CAD. Similar issue face practically every metro district in the state.

When data is available either through the appeals process or through publications of local rents and expenses, the appraisers and the commercial appraisers examine that data and adjust it according to the market areas of Denton CAD.

Apartment complexes are appraised using the income approach. The numbers generated by the last state study in 2021 were not good indicating a weighted mean of 85% in Lewisville and 79% in Denton. This was primarily caused by the utilization of cap rates that did not indicate what was going on in the market at the time. Market cap rates continue to be driven down in all Texas metro areas with Investment Trusts willing to accept rates of return as low as 4%. These rates of return have continued to drop faster than most appraisal districts have recognized, thus creating lower values than the sales would indicate. Again, most of the sales data is not available. Also, rent have been rapidly rising and this has not been projected by most appraisal districts in their analyses.

Apartment complexes are appraised using the income approach. The numbers generated by the last state study in 2021 were not good indicating a weighted mean of 85% in Lewisville and 79% in Denton.

More categories of commercial property (office and retail) are now being appraised using the income approach

CHAPTER 11: PERSONAL PROPERTY ASSESSMENT

Personal property that generates income to the owner is taxable in Texas. Basically, taxes are paid on the market value of furniture, fixtures, equipment, vehicles, and inventory at the level of trade of the individual business. There are numerous jurisdictional exceptions to the above statement, but that is the intent of the original law. Most notable jurisdictional exceptions include the vehicle inventory tax, boats and trailers under a similar system, and heavy equipment. Prior to the passage of these exceptions, this inventory was taxed at its value on January 1 at the appropriate level of trade.

The business personal property staff has 10 appraisers and staff to handle the approximately 30,000 BPP accounts. They visit the accounts annually to verify that they are still in business and identify new businesses. All businesses are required by law to render their property for taxation, but the penalty for failing to render is only 10% of the total billed amount. Too many owners ignore the requirement letting the appraisal district “appraise” their property and then only appealing if the value is higher than is indicated in their books. In addition to the BPP responsibility, the department handles exemptions of properties including religious, historical, charitable, tax-exempt housing, and abatements.

The district BPP staff has developed density/quality tables to utilize in better estimating values of taxable business personal property. Those tables are developed from taxpayers who accurately render their property and industry standards of various property. Each business is categorized based on its Standard Industrial Code (SIC) a coding system developed by the Federal government. The district can make comparisons of value per square foot within these categories.

The business personal property accounts are linked to real estate accounts so that staff can properly account for all businesses.

The district does not systematically address the failure to render other than to assess the 10% penalty to unrendered accounts. The system does not track or flag significant changes to value from one year to the next. This would be helpful for the supervisor to identify errors or potential fraud. The software does store the assets of a business and allows for entry of new assets and removal of retired assets without the reentry every year. A built-in depreciation system automatically depreciates the assets based on the class of asset.

The Business Personal Property appears to be well staffed for the number of accounts they are required to work. It was noted in the discussion with staff and taxpayers that some renditions were not worked and values were carried over from the prior year without verification. This should not be done. All renditions should be worked timely and correctly appraised regardless of size. Support personnel in that division should be considered for training to become appraisers. Most of the BPP personnel in appraisal districts are appraisers and can process all renditions and appraise properties

It was noted in the discussion with staff and taxpayers that some renditions were not worked and values were carried over from the prior year without verification.

CHAPTER 12: VALUE DEFENSE

The value defense systems throughout the state file they do not have
The past year, over 73,000 equaling 21% of active districts in metropolitan higher levels of appeal

The past year, over 73,000 appeals were filed in DCAD equaling 21% of active accounts.

in Texas are in crisis. Agents appeals even on property that authorization to represent. appeals were filed in DCAD accounts. Other appraisal areas experience similar or that threatens to bring the

process to a grinding halt. Taxpayers may file an appeal in person, by mail, or online at the district's website. A protest form is mailed with the notice of value and may be used to file the appeal although a formal document is not required. The owner can simply state in a letter or document their dissatisfaction with the proposed value. Agents for taxpayers can also file appeals. They must have authority from the taxpayer to be heard before the ARB, but authorization paperwork does not have to be presented until the hearing. This is an awful part of law, but again, in this instance, the agents have the ear of the legislature.

Denton has struggled to certify the values to the tax units in a timely manner. The appeals system is integrated into the CAMA system and works well to ensure that protests do not slip through the crack. Taxpayers may file protests in several ways including an online process.

State law requires the approval of the appraisal records by July 20 with at least 95% of the values having been finalized through the appeals process. To meet this requirement, the appeals department sets high-valued properties early in the hearing process and sets the lower valued properties later in the year. In 2021, a rather large number of residential properties were moved to the “certified” category and a 10% deduction was applied to each property as an estimate of value loss. Unfortunately, these accounts were not “uncertified” and the files were sent to the tax collector for billing. The taxes were paid, but then the protest was actually heard by the ARB, a value above the “certified value” was approved, and a supplemental tax bill was generated creating a lot of unhappy taxpayers. This should not be done in the future.

The Board of Directors has approved the appointment of 24 Appraisal Review Board (ARB) members to hear the appeals that are not settled informally. The members and officers of the ARB are appointed by the Administrative District Judge. They meet in five panels but plan to move up to seven to handle the number of protests. No requirement of specific knowledge is required to be appointed to the Appraisal Review Board. They are given some training by the State Comptroller, but the appraisal district is prohibited from providing more advanced training unless it is provided by the ARB’s attorney. The members are paid a daily rate based on the job they are filling. It continues to be difficult to find people who will accept appointment. Many of the members are retired. The ARB begins meeting in June and will meet throughout the summer. The hearings are recorded by audio into the CAMA system specific to the account.

Taxpayers are given instructions prior to their hearing on how to present their case to the ARB. They are given examples of good evidence to bring to support their case. The ARB listens to their evidence, then listens to the evidence presented by the staff of the appraisal district and makes their decision based on the preponderance of the evidence presented.

There are various types of appeals that can be filed included the exceeding of market value, equity with other similar property, denial of an exemption, denial of agricultural value designation, or anything else that effects the taxpayer’s amount of taxes. The formal appeal is restricted to the type of appeal filed in the notice of protest.

The appraisal district has the burden of proof in the appeals process and overcomes that burden by presenting their evidence of value such as a comparable sales or an equity grid. The evidence that the district will use in the formal process is typically given to the taxpayer at the informal meeting, if one is held. An informal meeting is now a requirement of law if requested by the taxpayer or agent. The staff of appraisers makes the presentation to the ARB based on an information packet developed prior to the hearing.

Briefing the ARB on the appraisal process is not allowed in Texas law.

When the ARB makes a decision, they are not required to give a reason for their decision. The taxpayer is sent a finding of the board by certified mail with instructions on how to appeal the decision. Appeals can be filed in District Court or by binding arbitration in qualified cases.

The district has a very good system of tracking appeals from the filing process through completion. Formal hearings are set on a schedule so that timely hearings can occur. The entire process is well documented by the ARB staff and management

There is no state agency or tax court authorized by the state for the appeal of property value.

CHAPTER 13: COMMUNICATIONS AND TAXPAYER ASSISTANCE

Denton CAD works very hard to assist taxpayers in various ways. They go beyond the standards required by IAAO in their outreach to the community with pamphlets, public information announcements, news releases, and a very effective presence on their website.

The district is very focused on positive direct contact with taxpayers either in person or by phone. The customer staff is well trained and has significant training to help taxpayers solve their issues and answer their questions. Our observation of that department indicated a very friendly environment capable of handling the most stressful situations. They do need additional personnel to handle the volume of taxpayer contacts.

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The website of the district allows for the search of properties by name of owner, address of property or by account number. Once on a parcel, the user can get a map of the subject in high resolution aerial photography along with surrounding parcels. The user can click on any parcel and get additional information about that parcel. The availability of all the data allows taxpayers to gather information about other properties and to make appropriate decisions about appeals and fairness of the system.

RECOMMENDATIONS

1. Now is not the optimum time to hire employees due to the large crowds and magnitude of work because of the reappraisal notices and the protests of property values. However, as soon as August, the hiring of residential appraisers should begin so that the reappraisal process for 2023 can begin. An additional eleven appraisers need to be added to bring Denton up to averages of similar metro areas with rapid growth. The numbers of appraisers in commercial and business personal property seem adequate based on appraisal standards. Most of the new people should be focused in residential appraisal, where most of the growth is occurring in Denton CAD.
2. Additional personnel are recommended in customer service and deeds/plats/and improvement drawings to meet the growing needs in those areas, and to reduce customer complaints. Customer service will likely need swing employees to assist in the appeals process, both informal and informal. The total employees to be added is 17 support personnel.
3. Add additional Appraisal Review Board members to facilitate the handling of the growing number of protests. The protests are exacerbated by the lack of personnel to put into the field and to build accurate models of appraisal. If the values are not equal and uniform, appeals increase rightfully, which keeps appraisers tied up in appeals all year rather than focusing on analysis of sales, building of neighborhoods, and selecting correct models and profiles. The number of ARB members will be necessarily constrained by current building configuration and support staff.
4. Consider assigning residential staff to a specific area to appraise, analyze, set values, and defend the values. This process gives the appraiser ownership in the work because it is vertically integrated with all responsibility in one appraiser. This also allows management to accurately measure the performance of the individual appraiser for quality and quantity of work by running ratio studies by appraiser. Similar assignments are recommended for commercial appraisers, but categorized based on types of improvements so that they can become specialists in apartments, retail, mini-storage facilities, warehouses, etc. This will develop consistency across the district is types of property.
5. Consider a public spokesperson for the district to prepare media releases, do interviews, make speeches to civic clubs, meet with stakeholders, and prepare information to be distributed to the public. There seems to be an adversarial relationship between Ms. McClure and the media and this might ameliorate this issue with professional relationships developed.
6. Have attorney look at the acquisition of the building between the two current district buildings. Since the county is moving the tax office across the street, it is probably better for the district to expand their complex by adding space at the back of the lot,

removing the building in the middle and expanding the parking lot. Consider building a specific area in the new building to house informal and formal hearings with numerous small offices that would house an ARB panel or a one-on-one discussion with a taxpayer. Obviously, this would need to be wired for computer access to all offices.

7. One of the most important aspects of a good model is to know everything possible about the sale at the time of sale. Older homes are often remodeled and flipped within weeks of the sale causing questions in the mind of the modeler as to time adjustments and other issues. If the district had a dedicated person to go to each property that sold within 2-3 weeks of the time of sale, note the condition of the property, and take an updated picture, that would create a "snapshot" of that property for accurate comparison.
8. Management and staff meetings should be done on a regular basis. Stephen Covey discussed the idea of developing "wildly important goals" of the organization, as well as each division of the organization. Wildly important goals (WIGS) are things that if not done well and timely, will cause the failure of the organization. Managers should state the issues to be faced that week/month and ask for input from the staff or other managers first. If the manager states his or her opinion about how to deal with issues, it tends to kill creativity. Scoreboard should be developed wherever they are applicable such as measuring protests completed, deeds completed, mapping of parcels completed, appraisals completed. Scoreboards are a quick way to see how well the department or organization is moving toward to attainment of their wildly important goals.
9. The district needs to work on a succession plan for all key positions in the district. We would recommend that each division head designate one or more persons that they have identified who can move to a leadership position. Once that person or persons are selected, they should receive training opportunities in leadership and management as well as cross-training on every aspect of the department. For those managers who are nearing retirement, this action is imperative. Every key position should have a replacement prepared to take over in the event of a retirement or a catastrophic event that would keep the manager from continuing his or her job.
10. The State Comptroller is moving commercial property to an income approach to value almost exclusively in the Property Value Study. One of the key components to the accurate appraisal of commercial property is the proper selection of a capitalization rate. It may be advisable for the District to contract with a local commercial appraiser to develop cap rates for various categories of property in Denton County. This person might also be willing to provide commercial sales data on a confidential basis, to be used in checking trends of value. This person should meet with all commercial appraisers to explain his or her reasoning in the cap rate study and to offer general guidance to the commercial staff as they prepare to defend values.
11. I would suggest that new employees be hired by a hiring committee made up of the department head and two or three rank and file employees. These people often have a

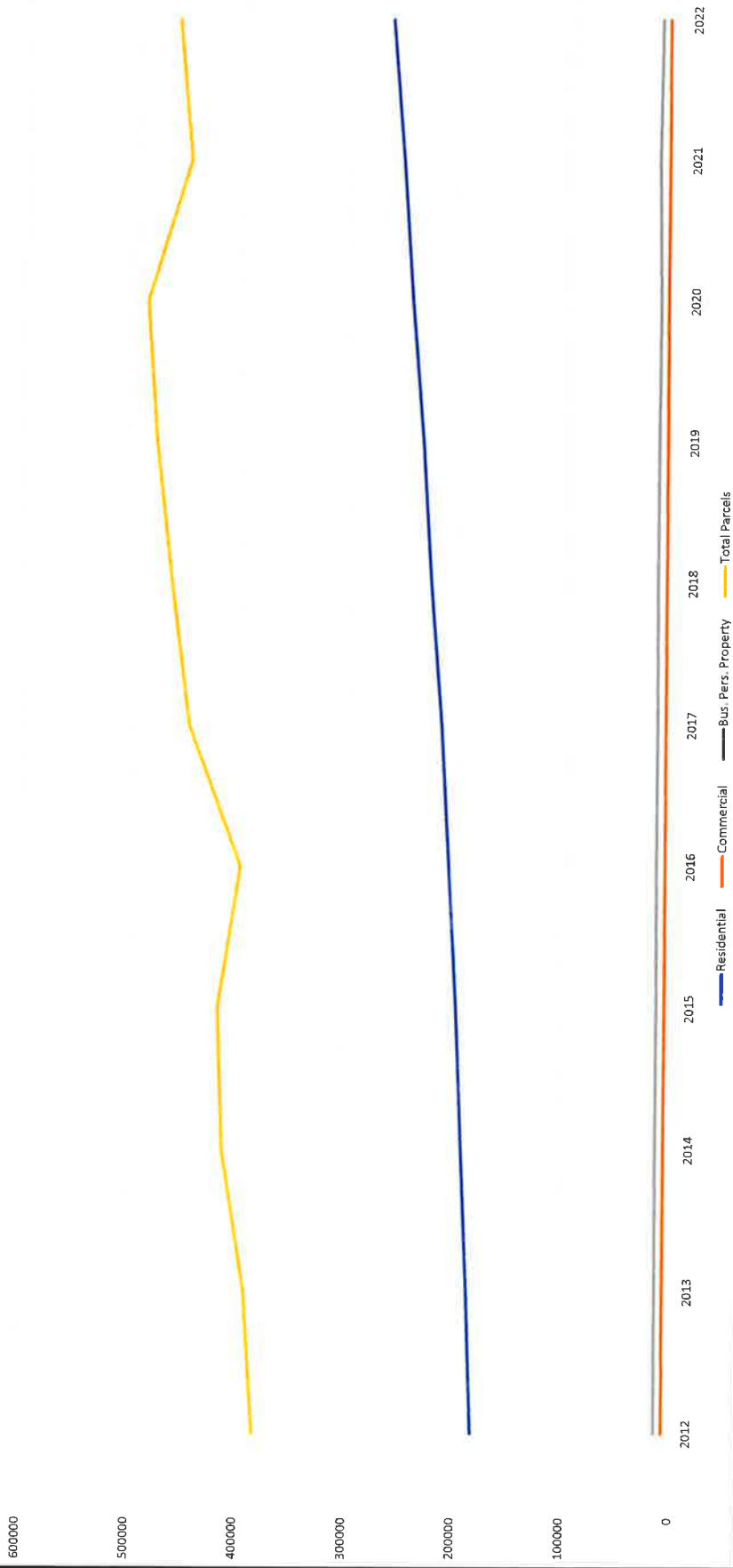
good idea of the kind of person that will be fit into the group and will know the right questions to ask. If they have a hand in the hiring, they are invested in the success of the new hire and will be more welcoming to the new person. The chief appraiser has too much to do to be a part of all the hiring experiences and the top-down decisions don't generally get the buy-in from rank-and-file employees if they are not included and consulted in the process. Of course, the chief appraiser should set standards for hires as far as qualifications and general expectations.

12. Improve the signage at the building. The signs on the main building are obscured to some extent by trees. The sign at the curb looks cheap and unprofessional. Consider putting up a nice sign compliant with building codes at the main entrance at street level. Also consider signs directing the public to the appropriate building for service. If codes allow, maybe an electronic sign that can display messages appropriate for the time of year.
13. Develop a system of exit interviews with report to the board directly. With the turnover experienced in the past two and a half years and the rumors flying, it is wise for the board to get an independent report of why people are leaving so that, if it an issue, they can address it appropriately or put the rumors to rest.
14. In his book, *The Speed of Trust*, Stephen M. R. Covey deeply discusses the importance of trust in any organization so that it can run smoothly and efficiently. When trust is broken, there are several steps that must come from leadership to reestablish trust.
 - a. Talk straight and direct, in person
 - b. Demonstrate respect for everyone on the team
 - c. Create Transparency
 - d. Right wrongs-apologize
 - e. Show loyalty- don't talk about others behind their back
 - f. Deliver results-be a servant leader
 - g. Get better in your job
 - h. Confront reality
 - i. Clarify expectations in writing
 - j. Practice accountability-when someone is not producing, hold them accountable
 - k. Listen first- seek first to understand others, then to be understood
 - l. Keep commitments-make a promise-keep a promise
 - m. Extend trust to others
15. Consider developing experienced appraisers into "modelers" who watch the sales that are occurring, develop neighborhoods for analysis, and guide the rank-and-file appraisers in correct analyses of their assigned areas.
16. Consider developing a land appraisal division that is specifically focused on all types of land including agricultural land, city lots, and commercial land. This is often an area that is not focused on by appraisal districts and becomes problematic in the overall values of property.

APPRAISAL DISTRICT COMPARATIVE ANALYSIS

	2022 Budget	Real										
		Total Parcels	Property Parcels	BPP	Total Employees	Total Appraisers	Parcels/ Employee	Total Employees	Total Appraisers	Parcels/ Appraiser	Total Employees	Total Appraisers
Collin	\$ 25,394,900	412493	378027	34466	152	53	2714	7783	7783	2714	53	7783
Dallas	\$ 31,205,055	844173	739418	87990	242	102	3488	8276	8276	3488	102	8276
Denton	\$ 15,324,294	382849	336509	14269	90	42	4254	9115	9115	4254	42	9115
Ft. Bend	\$ 18,194,846	322413	267568	26268	164	71	1966	4541	4541	1966	71	4541
Tarrant	\$ 26,790,117	749198	682281	62180	212	97	3534	7724	7724	3534	97	7724
Travis	\$ 22,786,110	463005	421146	41859	143	73	3238	6343	6343	3238	73	6343
Williamson	\$ 10,321,300	274283	258300	15983	73	34	3757	8067	8067	3757	34	8067
Averages	\$ 21,430,946	492631	440464	40431	154	67	3279	7407	7407	3279	67	7407

Denton CAD Parcel Growth



DENTON GROWTH PATTERN

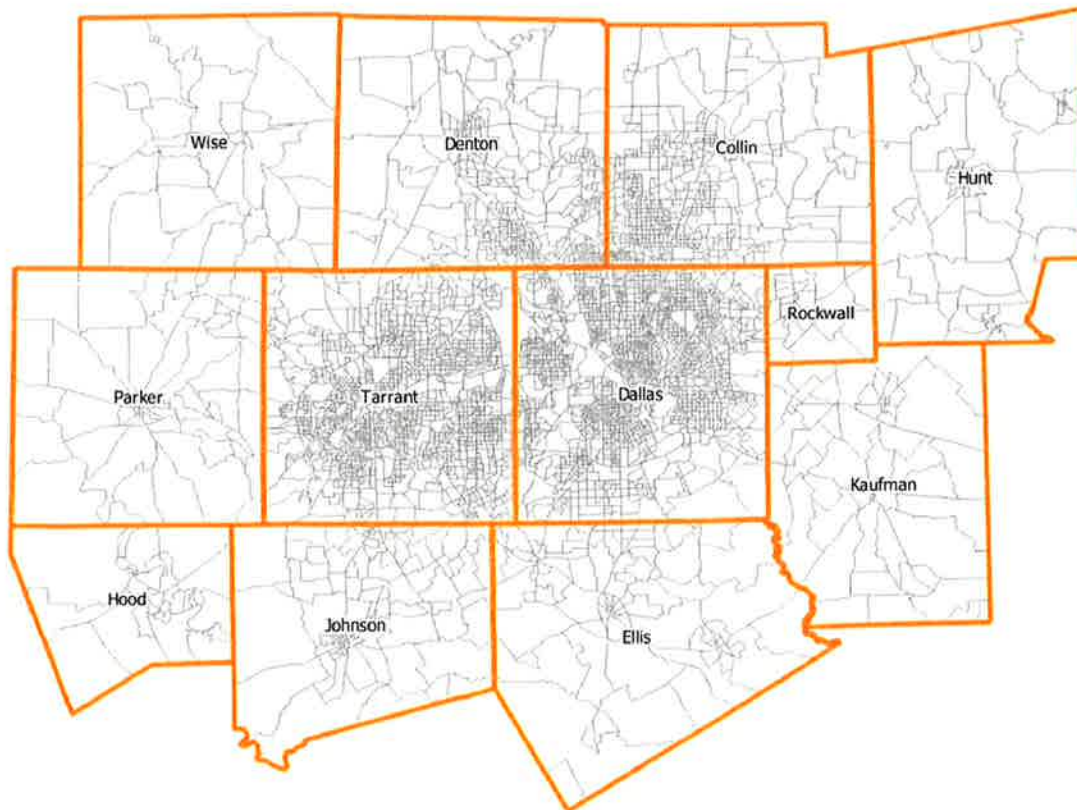
YEAR	HOMES	COMMERCIAL	BPP	TOTAL
2012	182347	6938	13723	382849
2013	187148	7113	14095	391834
2014	193359	7214	14585	413065
2015	199043	7421	14571	417868
2016	206400	7573	15385	397753
2017	214387	7737	15284	446273
2018	225099	8069	16016	463166
2019	233272	8260	15954	478455
2020	244313	8724	15747	488087
2021	253564	8784	17618	448531
2022	264564	9023	16042	460724

Decline in total parcels is a function of mineral accounts falling below taxable amount

North Central Texas 2045 Demographic Forecast

The 2045 Forecast released in 2022 is an entirely new data product and supersedes the 2045 Forecast released in 2017. The 2045 Forecast covers the 12 counties in the Metropolitan Planning Area (MPA) and is released at 2010 Census Block Group geography to ease integration with other readily available data. Figure 1 shows these twelve counties along with the 2010 Census Block Groups. There are over 4,100 Census Block Groups in the MPA. Digital files of these geographies suitable for use in geographic information systems are available from the Regional Data Center: <https://data-nctcogis.opendata.arcgis.com/>.

Figure 1. Counties and 2010 Census Block Groups



The 2045 Forecast was built start to finish using a new, more efficient process that not only made production faster and easier, but also eased internal evaluation, local review, and incorporation of feedback.

Step 1 –County Control Totals

NCTCOG commissioned The Perryman Group (TPG) to develop County control totals of households, household population, and employment by major sector¹. TPG delivered their work in March of 2020. The resulting county control totals are provided in figures 2, 3, 4, 5, and 6. The county control totals served as guides for the work performed in subsequent steps.

Figure 2. 2030 and 2045 County Control Totals - Households

County	2020 Census	2030	2045	2020 - 2045
				Change
Collin	381,318	454,207	624,350	243,032
Dallas	965,537	1,076,133	1,256,645	291,108
Denton	328,884	390,194	535,571	206,687
Ellis	64,996	76,599	105,405	40,409
Hood	24,811	28,435	36,855	12,044
Hunt	36,076	40,838	51,550	15,474
Johnson	61,654	71,295	89,845	28,191
Kaufman	47,673	49,824	66,014	18,341
Parker	53,482	59,663	80,325	26,843
Rockwall	36,326	41,747	54,534	18,208
Tarrant	760,739	860,864	1,057,748	297,009
Wise	24,306	28,065	35,748	11,442
MPA	2,785,802	3,177,865	3,994,592	1,208,790

Figure 3. 2030 and 2045 County Control Totals – Household Population

County	2020 Census	2030	2045	2020 – 2045
				Change
Collin	1,057,649	1,294,904	1,788,851	731,202
Dallas	2,581,853	3,010,733	3,533,305	951,452
Denton	897,070	1,099,640	1,516,874	619,804
Ellis	190,652	230,103	318,214	127,562
Hood	60,702	73,050	95,154	34,452
Hunt	96,972	113,190	143,594	46,622
Johnson	176,561	203,793	258,100	81,539
Kaufman	143,800	157,257	209,395	65,595
Parker	146,840	173,427	234,655	87,815
Rockwall	107,130	123,161	61,686	54,556
Tarrant	2,083,512	2,468,156	3,047,774	964,262
Wise	67,826	81,225	103,976	36,150
MPA	7,610,567	9,028,639	11,411,579	3,801,012

¹ Household population excludes people living in group quarters such as dorms, jails, and nursing homes.

Figure 4. 2030 and 2045 County Control Totals – Goods Employment

<i>County</i>	2020 BEA	2030	2045	2020 – 2045
				Change
<i>Collin</i>	103,507	131,987	162,150	58,643
<i>Dallas</i>	551,396	674,542	804,912	253,516
<i>Denton</i>	96,803	114,344	142,129	45,326
<i>Ellis</i>	29,317	33,850	38,970	9,653
<i>Hood</i>	8,082	11,467	13,035	4,953
<i>Hunt</i>	15,178	20,052	22,463	7,285
<i>Johnson</i>	28,145	33,116	38,170	10,025
<i>Kaufman</i>	19,499	20,670	23,852	4,353
<i>Parker</i>	21,299	26,877	30,420	9,121
<i>Rockwall</i>	11,580	13,292	15,745	4,165
<i>Tarrant</i>	363,106	437,324	522,913	159,807
<i>Wise</i>	13,770	17,624	19,688	5,918
MPA	1,261,682	1,535,143	1,834,447	572,765

Figure 5. 2030 and 2045 County Control Totals – Retail Employment

<i>County</i>	2020 BEA	2030	2045	2020 – 2045
				Change
<i>Collin</i>	63,192	79,423	97,351	34,159
<i>Dallas</i>	169,048	217,486	258,451	89,403
<i>Denton</i>	43,844	54,083	65,395	21,551
<i>Ellis</i>	9,543	11,917	15,539	5,996
<i>Hood</i>	3,497	4,218	4,970	1,473
<i>Hunt</i>	4,585	5,718	6,866	2,281
<i>Johnson</i>	8,421	10,582	12,710	4,289
<i>Kaufman</i>	6,163	7,607	9,248	3,085
<i>Parker</i>	7,843	8,733	10,563	2,720
<i>Rockwall</i>	7,150	8,494	10,416	3,266
<i>Tarrant</i>	127,785	150,608	179,173	51,388
<i>Wise</i>	3,246	3,890	4,679	1,433
MPA	454,317	562,758	675,361	221,044

Figure 6. 2030 and 2045 County Control Totals – Service Employment

<i>County</i>	2020 – 2045			
	2020 BEA	2030	2045	Change
<i>Collin</i>	486,441	619,087	818,576	332,135
<i>Dallas</i>	1,523,839	2,029,847	2,521,984	998,145
<i>Denton</i>	279,080	362,480	481,949	202,869
<i>Ellis</i>	46,547	60,195	81,590	35,043
<i>Hood</i>	17,270	22,145	28,710	11,440
<i>Hunt</i>	25,148	32,329	41,310	16,162
<i>Johnson</i>	41,679	53,494	69,152	27,473
<i>Kaufman</i>	30,222	38,159	49,517	19,295
<i>Parker</i>	36,836	47,101	61,307	24,471
<i>Rockwall</i>	34,831	46,780	62,186	27,355
<i>Tarrant</i>	782,008	1,056,817	1,368,178	586,170
<i>Wise</i>	17,333	23,272	30,011	12,678
MPA	3,321,234	4,391,706	5,614,469	2,293,235

Step 2 – Urban Growth Model

The 2015 to 2045 change was allocated in annual increments to 30-by-30-meter grid cells using an urban growth model developed by NCTCOG². The model uses a long time series of satellite imagery along with cadastral-based land use data to quantify the trend relationship between urban land use/land cover change and estimates of the control totals during that time. Small-area socioeconomic data, terrain and land cover descriptor data, and proximity variables were evaluated to create a set of logistic regression models for the probability of 30-by-30-meter cells becoming urbanized into different land uses. The logistic regression models were used along with locally adopted future land use plans and the trend relationship to the control totals to predict future urban expansion based on “building forward” from the 2015 Small Area Estimates. Densities of the newly built grid cells is determined by regression-based algorithms using similar variables subject to adjustments to match the control totals. The grid cell allocations of 2030 and 2045 were tabulated by 2010 Block Group to arrive at draft 2030 and 2045 forecasts sent out for local review. Detailed information on the selection, calibration, training, and testing of the algorithms along with validation of the overall process is available in the manuscript “High Resolution Demographic Forecasting: A Data Science and Remote Sensing Approach to Small Area Forecasting” https://rdc.dfwmaps.com/pdfs/Forecast2045_UrbanGrowthModel_ExtDoc.pdf.

² Folden M., High Resolution Demographic Forecasting: The Convergence of Socioeconomic and Remote Sensing Data for Small Area Forecasting. *Applying Census Data for Transportation: 50 Years of Transportation Planning Data Progress*, 2018.

Step 3 – Local Review

Local governments and other entities participated in the process in three important ways. The first of these was the provision of future land use plans³, which were used in the urban growth model. The second was the review of the 2000, 2005, 2010, and 2015 Small Area Estimates data, which were used to train algorithms used by the urban growth model and validate the urban growth model process. The third was review of the draft 2030 and 2045 Block Group forecasts. The draft household and employment projections were sent to over 516 local contacts. Thirty-five entities representing nearly 67% of the current population of the MPA commented on the draft figures.

Local reviewers provided their own expertise, experience, and knowledge along with substantiating information such as known development activity. Some communities indicated that the 2045 figures represent an anticipated build-out. In accordance with indications from these, little or no additional growth was allocated in the 2015 to 2045 period.

All comments received as part of the local review process were given due consideration and used along with data from various other sources including datasets developed by NCTCOG to refine the final Block Group allocations. Adjustments to the 2030 and 2045 figures were subject to some constraints, primarily a respecting of county control totals⁴ resulting in development patterns absorbing all available growth in the county. Due to these constraints, some valid comments could not be accommodated. The results of the local review process were finalized household, population, and employment projections by Block Group.

Select Cities

NCTCOG does not produce city-level forecasts. Published city-level figures are the results of aggregations of 30x30 meter grid cells to the most current city boundaries. All figures are for the most current city boundaries available to NCTCOG at the time of tabulation. The year of update will vary depending on the city. Figures for select cities do not take into account future annexations or extra-territorial jurisdiction. City growth through annexation is not captured in the city-level approximations.

“Select” cities include incorporated places with a total population of at least 5,000 based on the official count from the 2020 Census. City-level aggregations are provided merely as an informational item and are likely to differ from any projections produced by or specifically for any given city.

³ These plans were gathered and compiled in 2018-2019 and represent the most current plans available at the time. Where future land use plans were not available, zoning or current land use were used.

⁴ Subject to allowances for rounding and other relatively minor differences.

Additional Data

NCTCOG has several ongoing programs that support the demographic forecast and other work including census data support, population estimates, development monitoring, small-area estimates, and land use inventories. The demographic forecast data and additional data are available from the Regional Data Center: <https://data-nctcoggis.opendata.arcgis.com/>.

Acknowledgement

The 2045 Forecast was developed through collaboration of the NCTCOG Research and Information Services and Transportation departments. NCTCOG wishes to express its appreciation to the local jurisdictions and other organizations that shared valuable insight and provided support and patience during the process.

Disclaimer

These data were developed for regional planning activities and have not been evaluated for other uses. The North Central Texas Council of Governments makes no warranty, express or implied, including warranties of merchantability and fitness for a particular purpose. Responsibility for the use of these data lies solely with the user.

T10 = T8 minus 50 % of the loss to the local optional percentage homestead exemption

THE PVS FOUND YOUR LOCAL VALUE TO BE VALID, AND LOCAL VALUE WAS CERTIFIED

061-Denton /Denton County

043-905/Frisco ISD

Category	Local Tax Roll Value	2021 WTD Mean Ratio	2021 PTAD Value Estimate	2021 Value Assigned
A - SINGLE-FAMILY	12,029,285,582	0.9443	12,738,838,909	12,029,285,582
B - MULTIFAMILY	986,227,409	0.7894	1,249,337,990	986,227,409
C1 - VACANT LOTS	245,455,710	N/A	245,455,710	245,455,710
C2 - COLONIA LOTS	0	N/A	0	0
D1 ACRES - QUALIFIED OPEN-SPACE LAND	176,422	0.9071	194,481	176,422
D2 - FARM & RANCH IMPROVEMENTS	12,054	N/A	12,054	12,054
E - NON-AG LAND AND IMPROVEMENTS	32,599,372	N/A	32,599,372	32,599,372
F1 - COMMERCIAL REAL ESTATE	1,109,258,949	1.0402	1,066,390,068	1,109,258,949
F2 - INDUSTRIAL REAL ESTATE	229,515	N/A	229,515	229,515
G - ALL MINERALS	0	N/A	0	0
J - ALL UTILITIES	81,076,797	N/A	81,076,797	81,076,797
L1 - COMMERCIAL PERSONAL	155,587,813	N/A	155,587,813	155,587,813
L2 - INDUSTRIAL PERSONAL	6,150	N/A	6,150	6,150
M1 - MOBILE HOMES	18,047	N/A	18,047	18,047

T1 = School district taxable value for M & O purposes before the loss to the additional \$10,000 homestead exemption

T2 = School district taxable value for M & O purposes after the loss to the additional \$10,000 homestead exemption and the tax ceiling reduction

T3 = T1 minus 50% of the loss to the local optional percentage homestead exemption

T4 = T2 minus 50% of the loss to the local optional percentage homestead exemption

Value Taxable For I & S Purposes

T7	T8	T9	T10
14,141,181,308	13,953,669,133	14,141,181,308	13,953,669,133

T7 = School district taxable value for I & S purposes before the loss to the additional \$10,000 homestead exemption

T8 = School district taxable value for I & S purposes after the loss to the additional \$10,000 homestead exemption and the tax ceiling reduction

T9 = T7 minus 50 % of the loss to the local optional percentage homestead exemption

T10 = T8 minus 50 % of the loss to the local optional percentage homestead exemption

THE PVS FOUND YOUR LOCAL VALUE INVALID, BUT LOCAL VALUE WAS CERTIFIED BECAUSE YOUR SCHOOL DISTRICT IS IN YEAR ONE OF THE GRACE PERIOD

T10 = T8 minus 50 % of the loss to the local optional percentage homestead exemption

THE PVS FOUND YOUR LOCAL VALUE TO BE VALID, AND LOCAL VALUE WAS CERTIFIED

061-Denton /Denton County

057-903/Carrollton-Farmers Branch ISD

Category	Local Tax Roll Value	2021 WTD Mean Ratio	2021 PTAD Value Estimate	2021 Value Assigned
A - SINGLE-FAMILY	3,355,164,033	0.9442	3,553,446,339	3,355,164,033
B - MULTIFAMILY	1,471,979,662	0.8637	1,704,271,925	1,471,979,662
C1 - VACANT LOTS	13,991,323	N/A	13,991,323	13,991,323
C2 - COLONIA LOTS	0	N/A	0	0
D1 ACRES - QUALIFIED OPEN-SPACE LAND	86	1.5636	55	86
D2 - FARM & RANCH IMPROVEMENTS	0	N/A	0	0
E - NON-AG LAND AND IMPROVEMENTS	1,483,732	N/A	1,483,732	1,483,732
F1 - COMMERCIAL REAL ESTATE	440,876,683	0.9100	484,479,871	440,876,683
F2 - INDUSTRIAL REAL ESTATE	0	N/A	0	0
G - ALL MINERALS	0	N/A	0	0
J - ALL UTILITIES	47,100,861	N/A	47,100,861	47,100,861
L1 - COMMERCIAL PERSONAL	183,216,565	N/A	183,216,565	183,216,565
L2 - INDUSTRIAL PERSONAL	34,068,855	N/A	34,068,855	34,068,855
M1 - MOBILE HOMES	0	N/A	0	0

N - INTANGIBLE PERSONAL PROPERTY	0	N/A	0	0
O - RESIDENTIAL INVENTORY	1,118,026	N/A	1,118,026	1,118,026
S - SPECIAL INVENTORY	0	N/A	0	0
Subtotal	5,548,999,826	0	6,023,177,552	5,548,999,826
Less Total Deductions	561,169,047	0	613,409,742	561,169,047
Total Taxable Value	4,987,830,779	0	5,409,767,810	4,987,830,779

The taxable values shown here will not match the values reported by your appraisal district

See the ISD DEDUCTION Report for a breakdown of deduction values

Government code subsections 403.302(J) AND(K) require the Comptroller to certify alternative measures of school district wealth. These measures are reported for taxable values for maintenance and operation(M & O) tax purposes and for interest and sinking fund(I & S) tax purposes. For districts that have not entered into value limitation agreements, T1 through T4 will be the same as T7 through T10.

Value Taxable For M & O Purposes

T1	T2	T3	T4
5,076,073,483	4,987,830,779	5,076,073,483	4,987,830,779

Loss To the Additional \$10,000 Homestead Exemption	88,242,704	50% of the loss to the Local Optional Percentage Homestead Exemption	0
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T1 = School district taxable value for M & O purposes before the loss to the additional \$10,000 homestead exemption

T2 = School district taxable value for M & O purposes after the loss to the additional \$10,000 homestead exemption and the tax ceiling reduction

T3 = T1 minus 50% of the loss to the local optional percentage homestead exemption

T4 = T2 minus 50% of the loss to the local optional percentage homestead exemption

Value Taxable For I & S Purposes

T7	T8	T9	T10
5,076,073,483	4,987,830,779	5,076,073,483	4,987,830,779

T7 = School district taxable value for I & S purposes before the loss to the additional \$10, 000 homestead exemption

T8 = School district taxable value for I & S purposes after the loss to the additional \$10, 000 homestead exemption and the tax ceiling reduction

T9 = T7 minus 50 % of the loss to the local optional percentage homestead exemption

T10 = T8 minus 50 % of the loss to the local optional percentage homestead exemption

THE PVS FOUND YOUR LOCAL VALUE INVALID, BUT LOCAL VALUE WAS CERTIFIED BECAUSE YOUR SCHOOL DISTRICT IS IN YEAR ONE OF THE GRACE PERIOD



Glenn Hegar
Texas Comptroller of Public Accounts



Property Tax Assistance

2021 ISD Summary Worksheet

061-Denton /Denton County

061-901/Denton ISD

Category	Local Tax Roll Value	2021 WTD Mean Ratio	2021 PTAD Value Estimate	2021 Value Assigned
A - SINGLE-FAMILY	16,610,525,354	0.9619	17,268,453,430	16,610,525,354
B - MULTIFAMILY	2,450,717,414	0.7937	3,087,712,503	2,450,717,414
C1 - VACANT LOTS	545,204,829	N/A	545,204,829	545,204,829
C2 - COLONIA LOTS	0	N/A	0	0
D1 ACRES - QUALIFIED OPEN-SPACE LAND	2,560,157	1.0105	2,533,556	2,560,157
D2 - FARM & RANCH IMP	26,289,388	N/A	26,289,388	26,289,388
E - NON-AG LAND AND IMPROVEMENTS	514,355,297	0.9486	542,225,698	514,355,297
F1 - COMMERCIAL REAL	3,439,786,970	0.9159	3,755,635,954	3,439,786,970
F2 - INDUSTRIAL REAL	144,810,309	N/A	144,810,309	144,810,309
G - ALL MINERALS	48,086,259	N/A	48,086,259	48,086,259
J - ALL UTILITIES	290,020,004	0.9900	292,949,499	290,020,004

L1 - COMMERCIAL PERSONAL	919,773,534	1.0632	865,099,261	919,773,534
L2 - INDUSTRIAL PERSONAL	610,007,330	N/A	610,007,330	610,007,330
M1 - MOBILE HOMES	34,588,789	N/A	34,588,789	34,588,789
N - INTANGIBLE PERSONAL PROPERTY	0	N/A	0	0
O - RESIDENTIAL INVENTORY	285,806,379	N/A	285,806,379	285,806,379
S - SPECIAL INVENTORY	69,901,349	N/A	69,901,349	69,901,349
Subtotal	25,992,433,362	0	27,579,304,533	25,992,433,362
Less Total Deductions	2,541,068,175	0	2,690,292,172	2,541,068,175
Total Taxable Value	23,451,365,187	0	24,889,012,361	23,451,365,187

The taxable values shown here will not match the values reported by your appraisal district

See the ISD DEDUCTION Report for a breakdown of deduction values

Government code subsections 403.302(J) AND(K) require the Comptroller to certify alternative measures of school district wealth. These measures are reported for taxable values for maintenance and operation(M & O) tax purposes and for interest and sinking fund(I & S) tax purposes. For districts that have not entered into value limitation agreements, T1 through T4 will be the same as T7 through T10.

Value Taxable For M & O Purposes

T1	T2	T3	T4
23,826,272,110	23,451,365,187	23,826,272,110	23,451,365,187

T10 = T8 minus 50 % of the loss to the local optional percentage homestead exemption

THE PVS FOUND YOUR LOCAL VALUE INVALID, BUT LOCAL VALUE WAS CERTIFIED BECAUSE YOUR SCHOOL DISTRICT IS IN YEAR ONE OF THE GRACE PERIOD

061-901-02/Denton ISD

Category	Local Tax Roll Value	2021 WTD Mean Ratio	2021 PTAD Value Estimate	2021 Value Assigned
A - SINGLE-FAMILY	16,610,525,354	0.9619	17,268,453,430	16,610,525,354
B - MULTIFAMILY	2,450,717,414	0.7937	3,087,712,503	2,450,717,414
C1 - VACANT LOTS	545,204,829	N/A	545,204,829	545,204,829
C2 - COLONIA LOTS	0	N/A	0	0
D1 ACRES - QUALIFIED OPEN-SPACE LAND	2,560,157	1.0105	2,533,556	2,560,157
D2 - FARM & RANCH IMP	26,289,388	N/A	26,289,388	26,289,388
E - NON-AG LAND AND IMPROVEMENTS	514,355,297	0.9486	542,225,698	514,355,297
F1 - COMMERCIAL REAL	3,439,786,970	0.9159	3,755,635,954	3,439,786,970
F2 - INDUSTRIAL REAL	144,810,309	N/A	144,810,309	144,810,309
G - ALL MINERALS	48,086,259	N/A	48,086,259	48,086,259
J - ALL UTILITIES	290,020,004	0.9900	292,949,499	290,020,004
L1 - COMMERCIAL PERSONAL	919,773,534	1.0632	865,099,261	919,773,534
L2 - INDUSTRIAL PERSONAL	610,007,330	N/A	610,007,330	610,007,330

T10 = T8 minus 50 % of the loss to the local optional percentage homestead exemption

THE PVS FOUND YOUR LOCAL VALUE TO BE VALID, AND LOCAL VALUE WAS CERTIFIED

061-Denton /Denton County

061-903/Pilot Point ISD

Category	Local Tax Roll Value	2021 WTD Mean Ratio	2021 PTAD Value Estimate	2021 Value Assigned
A - SINGLE-FAMILY	432,735,966	0.9532	453,982,339	432,735,966
B - MULTIFAMILY	14,336,669	N/A	14,336,669	14,336,669
C1 - VACANT LOTS	25,586,937	N/A	25,586,937	25,586,937
C2 - COLONIA LOTS	0	N/A	0	0
D1 ACRES - QUALIFIED OPEN-SPACE LAND	3,013,694	1.0029	3,005,016	3,013,694
D2 - FARM & RANCH IMPROVEMENTS	33,217,792	N/A	33,217,792	33,217,792
E - NON-AG LAND AND IMPROVEMENTS	243,441,990	0.9841	247,375,257	243,441,990
F1 - COMMERCIAL REAL ESTATE	94,637,933	0.7645	123,790,625	94,637,933
F2 - INDUSTRIAL REAL ESTATE	1,035,457	N/A	1,035,457	1,035,457
G - ALL MINERALS	15,060	N/A	15,060	15,060
J - ALL UTILITIES	35,721,371	N/A	35,721,371	35,721,371
L1 - COMMERCIAL PERSONAL	34,483,925	N/A	34,483,925	34,483,925
L2 - INDUSTRIAL PERSONAL	3,525,389	N/A	3,525,389	3,525,389
M1 - MOBILE HOMES	1,620,071	N/A	1,620,071	1,620,071

N - INTANGIBLE PERSONAL PROPERTY	0	N/A	0	0
O - RESIDENTIAL INVENTORY	1,393,579	N/A	1,393,579	1,393,579
S - SPECIAL INVENTORY	4,021,820	N/A	4,021,820	4,021,820
Subtotal	928,787,653	0	983,111,307	928,787,653
Less Total Deductions	119,670,751	0	129,232,464	119,670,751
Total Taxable Value	809,116,902	0	853,878,843	809,116,902

The taxable values shown here will not match the values reported by your appraisal district

See the ISD DEDUCTION Report for a breakdown of deduction values

Government code subsections 403.302(J) AND(K) require the Comptroller to certify alternative measures of school district wealth. These measures are reported for taxable values for maintenance and operation(M & O) tax purposes and for interest and sinking fund(I & S) tax purposes. For districts that have not entered into value limitation agreements, T1 through T4 will be the same as T7 through T10.

Value Taxable For M & O Purposes

	T1	T2	T3	T4
	823,062,245	809,116,902	823,062,245	809,116,902

Loss To the Additional \$10,000 Homestead Exemption	13,945,343	50% of the loss to the Local Optional Percentage Homestead Exemption	0
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T1 = School district taxable value for M & O purposes before the loss to the additional \$10,000 homestead exemption

T2 = School district taxable value for M & O purposes after the loss to the additional \$10,000 homestead exemption and the tax ceiling reduction

T3 = T1 minus 50% of the loss to the local optional percentage homestead exemption

T4 = T2 minus 50% of the loss to the local optional percentage homestead exemption

Value Taxable For I & S Purposes

T7	T8	T9	T10
823,062,245	809,116,902	823,062,245	809,116,902

T7 = School district taxable value for I & S purposes before the loss to the additional \$10,000 homestead exemption

T8 = School district taxable value for I & S purposes after the loss to the additional \$10,000 homestead exemption and the tax ceiling reduction

T9 = T7 minus 50 % of the loss to the local optional percentage homestead exemption

T10 = T8 minus 50 % of the loss to the local optional percentage homestead exemption

THE PVS FOUND YOUR LOCAL VALUE INVALID, BUT LOCAL VALUE WAS CERTIFIED BECAUSE YOUR SCHOOL DISTRICT IS IN YEAR ONE OF THE GRACE PERIOD



Glenn Hegar
Texas Comptroller of Public Accounts



Property Tax Assistance

2021 ISD Summary Worksheet

061-Denton /Denton County

061-907/Aubrey ISD

Category	Local Tax Roll Value	2021 WTD Mean Ratio	2021 PTAD Value Estimate	2021 Value Assigned
A - SINGLE-FAMILY	1,227,459,192	0.9458	1,297,799,949	1,227,459,192
B - MULTIFAMILY	17,084,196	N/A	17,084,196	17,084,196
C1 - VACANT LOTS	49,809,608	N/A	49,809,608	49,809,608
C2 - COLONIA LOTS	0	N/A	0	0
D1 ACRES - QUALIFIED OPEN-SPACE LAND	1,024,303	0.9209	1,112,264	1,024,303
D2 - FARM & RANCH IMP	19,298,526	N/A	19,298,526	19,298,526
E - NON-AG LAND AND IMPROVEMENTS	226,277,342	0.9005	251,279,669	226,277,342
F1 - COMMERCIAL REAL	102,699,864	0.8856	115,966,423	102,699,864
F2 - INDUSTRIAL REAL	1,388,572	N/A	1,388,572	1,388,572
G - ALL MINERALS	0	N/A	0	0
J - ALL UTILITIES	53,498,568	N/A	53,498,568	53,498,568

L1 - COMMERCIAL PERSONAL	47,330,354	N/A	47,330,354	47,330,354
L2 - INDUSTRIAL PERSONAL	902,866	N/A	902,866	902,866
M1 - MOBILE HOMES	523,778	N/A	523,778	523,778
N - INTANGIBLE PERSONAL PROPERTY	0	N/A	0	0
O - RESIDENTIAL INVENTORY	40,675,760	N/A	40,675,760	40,675,760
S - SPECIAL INVENTORY	29,684	N/A	29,684	29,684
Subtotal	1,788,002,613	0	1,896,700,217	1,788,002,613
Less Total Deductions	187,534,297	0	201,673,325	187,534,297
Total Taxable Value	1,600,468,316	0	1,695,026,892	1,600,468,316

The taxable values shown here will not match the values reported by your appraisal district

See the ISD DEDUCTION Report for a breakdown of deduction values

Government code subsections 403.302(J) AND(K) require the Comptroller to certify alternative measures of school district wealth. These measures are reported for taxable values for maintenance and operation(M & O) tax purposes and for interest and sinking fund(I & S) tax purposes.For districts that have not entered into value limitation agreements, T1 through T4 will be the same as T7 through T10.

Value Taxable For M & O Purposes

T1	T2	T3	T4
1,632,237,558	1,600,468,316	1,632,237,558	1,600,468,316

T10 = T8 minus 50 % of the loss to the local optional percentage homestead exemption

THE PVS FOUND YOUR LOCAL VALUE INVALID, BUT LOCAL VALUE WAS CERTIFIED BECAUSE YOUR SCHOOL DISTRICT IS IN YEAR ONE OF THE GRACE PERIOD

061-907-02/Aubrey ISD

Category	Local Tax Roll Value	2021 WTD Mean Ratio	2021 PTAD Value Estimate	2021 Value Assigned
A - SINGLE-FAMILY	1,227,459,192	0.9458	1,297,799,949	1,227,459,192
B - MULTIFAMILY	17,084,196	N/A	17,084,196	17,084,196
C1 - VACANT LOTS	49,809,608	N/A	49,809,608	49,809,608
C2 - COLONIA LOTS	0	N/A	0	0
D1 ACRES - QUALIFIED OPEN-SPACE LAND	1,024,303	0.9209	1,112,264	1,024,303
D2 - FARM & RANCH IMP	19,298,526	N/A	19,298,526	19,298,526
E - NON-AG LAND AND IMPROVEMENTS	226,277,342	0.9005	251,279,669	226,277,342
F1 - COMMERCIAL REAL	102,699,864	0.8856	115,966,423	102,699,864
F2 - INDUSTRIAL REAL	1,388,572	N/A	1,388,572	1,388,572
G - ALL MINERALS	0	N/A	0	0
J - ALL UTILITIES	53,498,568	N/A	53,498,568	53,498,568
L1 - COMMERCIAL PERSONAL	47,330,354	N/A	47,330,354	47,330,354
L2 - INDUSTRIAL PERSONAL	902,866	N/A	902,866	902,866



Glenn Hegar
Texas Comptroller of Public Accounts



Property Tax Assistance

2021 ISD Summary Worksheet

061-Denton /Denton County

061-908/Sanger ISD

Category	Local Tax Roll Value	2021 WTD Mean Ratio	2021 PTAD Value Estimate	2021 Value Assigned
A - SINGLE-FAMILY	1,004,558,861	0.9438	1,064,376,839	1,004,558,861
B - MULTIFAMILY	46,813,535	N/A	46,813,535	46,813,535
C1 - VACANT LOTS	31,538,852	N/A	31,538,852	31,538,852
C2 - COLONIA LOTS	0	N/A	0	0
D1 ACRES - QUALIFIED OPEN-SPACE LAND	3,553,619	1.0031	3,542,740	3,553,619
D2 - FARM & RANCH IMP	11,929,818	N/A	11,929,818	11,929,818
E - NON-AG LAND AND IMPROVEMENTS	264,330,800	0.8820	299,694,785	264,330,800
F1 - COMMERCIAL REAL	167,197,760	0.7949	210,338,105	167,197,760
F2 - INDUSTRIAL REAL	1,664,351	N/A	1,664,351	1,664,351
G - ALL MINERALS	290,960	N/A	290,960	290,960
J - ALL UTILITIES	41,943,045	N/A	41,943,045	41,943,045

L1 - COMMERCIAL PERSONAL	140,384,716	0.9458	148,429,600	140,384,716
L2 - INDUSTRIAL PERSONAL	3,237,354	N/A	3,237,354	3,237,354
M1 - MOBILE HOMES	5,783,933	N/A	5,783,933	5,783,933
N - INTANGIBLE PERSONAL PROPERTY	0	N/A	0	0
O - RESIDENTIAL INVENTORY	1,570,550	N/A	1,570,550	1,570,550
S - SPECIAL INVENTORY	5,364,752	N/A	5,364,752	5,364,752
Subtotal	1,730,162,906	0	1,876,519,219	1,730,162,906
Less Total Deductions	196,843,455	0	213,007,508	196,843,455
Total Taxable Value	1,533,319,451	0	1,663,511,711	1,533,319,451

The taxable values shown here will not match the values reported by your appraisal district

See the ISD DEDUCTION Report for a breakdown of deduction values

Government code subsections 403.302(J) AND(K) require the Comptroller to certify alternative measures of school district wealth. These measures are reported for taxable values for maintenance and operation(M & O) tax purposes and for interest and sinking fund(I & S) tax purposes. For districts that have not entered into value limitation agreements, T1 through T4 will be the same as T7 through T10.

Value Taxable For M & O Purposes

T1	T2	T3	T4
1,566,266,921	1,533,319,451	1,566,266,921	1,533,319,451

T10 = T8 minus 50 % of the loss to the local optional percentage homestead exemption

THE PVS FOUND YOUR LOCAL VALUE INVALID, BUT LOCAL VALUE WAS CERTIFIED BECAUSE YOUR SCHOOL DISTRICT IS IN YEAR ONE OF THE GRACE PERIOD

061-908-02/Sanger ISD

Category	Local Tax Roll Value	2021 WTD Mean Ratio	2021 PTAD Value Estimate	2021 Value Assigned
A - SINGLE-FAMILY	1,004,558,861	0.9438	1,064,376,839	1,004,558,861
B - MULTIFAMILY	46,813,535	N/A	46,813,535	46,813,535
C1 - VACANT LOTS	31,538,852	N/A	31,538,852	31,538,852
C2 - COLONIA LOTS	0	N/A	0	0
D1 ACRES - QUALIFIED OPEN-SPACE LAND	3,553,619	1.0031	3,542,740	3,553,619
D2 - FARM & RANCH IMP	11,929,818	N/A	11,929,818	11,929,818
E - NON-AG LAND AND IMPROVEMENTS	264,330,800	0.8820	299,694,785	264,330,800
F1 - COMMERCIAL REAL	167,197,760	0.7949	210,338,105	167,197,760
F2 - INDUSTRIAL REAL	1,664,351	N/A	1,664,351	1,664,351
G - ALL MINERALS	290,960	N/A	290,960	290,960
J - ALL UTILITIES	41,943,045	N/A	41,943,045	41,943,045
L1 - COMMERCIAL PERSONAL	140,384,716	0.9458	148,429,600	140,384,716
L2 - INDUSTRIAL PERSONAL	3,237,354	N/A	3,237,354	3,237,354