The Williamson Central Appraisal District presents: Residential valuation.

The following presentation is provided to educate Williamson County residential property owners about the analysis & valuation phase of the appraisal year. Information will be provided about the mass appraisal process utilized to value residential property. The application of ratio studies and other common statistical measures used throughout the valuation process will also be explained. An overview of market areas and their importance on value will also be covered; followed by a brief demonstration of the method applied during the mass appraisal process.

Appraisal districts use of mass appraisal evolved out of the need to appraise many properties efficiently and equitably each year. The Texas Property Tax Code requires appraisal districts to maintain property records and assign yearly value to all property within each county. Mass appraisal provides appraisal districts the ability to accomplish such a large task in a proficient and unbiased manner.

The primary tool used to measure mass appraisal performance is the ratio study. This analysis compares appraised values to market values. Market values are usually represented by individual transactions, or sales prices. Each year, the appraisal district must research sales it is able to acquire and apply them in the mass appraisal process to value all property regardless of whether it sold or not. The ratios in a ratio study are referred to as appraisal-to-sale ratios. They are formed by dividing the district's calculated appraised values by the sale price of the same property. For example, a property valued by the appraisal district for $200,000 that sold for $210,000 has a ratio of 0.95, or 95 percent. Appraisal districts are expected to achieve a median ratio level of 100 percent of market value.

Texas Property Tax Code section 5.10 also directs the state Comptroller to conduct similar ratio studies to ensure appraisal districts are achieving ratios within required parameters. After the July 25th value certification date for appraisal districts, the Comptroller's office collects all of that tax year's sale and appraisal data from each district. The Property Tax Assistance Division then begins its own ratio study process to re-check values established by each appraisal district as compared to the sales collected. The Property Tax Assistance Division is required to report if districts are appraising by the state required level and uniformity. Results of the yearly studies may be viewed on the comptroller's website: https://comptroller.texas.gov/

Ratio studies performed by appraisal districts and the Comptroller measure two primary aspects of mass appraisal accuracy: level and uniformity. The level of appraisal shows whether the district has appraised typical properties at 100 percent of the legally required level. In Texas, that is the market value or sale price. The uniformity of appraisal indicates how much the percentage of market value varies from the required level within groups of properties. Two of the most common statistical measures used to test appraisal level and uniformity in the mass appraisal process are the median and the coefficient of dispersion.

The median is the midpoint, or middle ratio, when the ratios are arrayed in an ascending or descending order. The median separates the ratios into two equal groups so half of the array is

higher than the median and the other half is lower. The median is also the base from which the coefficient of dispersion is calculated. The COD measures how tightly or loosely the individual sample ratios are clustered around the median. A high COD indicates high variation which means few ratios are close to the median and there is low appraisal uniformity. A low COD indicates that there is low variation and the ratios are clustered tightly around the median which translates to high appraisal uniformity. As illustrated, the COD is calculated by first finding out the absolute deviation from the median each ratio has. Then, the average absolute deviation of the ratio group is determined, divided by the median, and then multiplied by 100 to convert the ratio to a percentage.

Accurate identification of market areas is a vital component in the development and utilization of an efficient and accurate mass appraisal system. A variety of forces influence property values. It is the appraiser's responsibility to identify groups of property that experience similar influences and define them as market areas. The market areas are commonly referred to as neighborhoods. Research on value influences in Williamson County has resulted in neighborhood delineation by geographic location, age or quality of a structure, or by various builders or model types. Appraisers assign numerical descriptors known as neighborhood codes to all property within identified areas of similar value influences. As illustrated, a single subdivision may contain many neighborhood codes as a result of the varying identified value influences. The assigning of neighborhood codes allows appraisers to efficiently and uniformly appraise all property in the defined group by the available known sales information.

Appraisers utilize software that enables rapid identification of known sales information and other pertinent property data within a requested neighborhood code. Texas is one of a few "non-disclosure" states which means that property transaction sale prices are not available to the public. Due to this, the appraisal district may only rely on sale information provided from owners who respond to sale questionnaires sent by the district, or other forms of sale information willingly provided by owners, realtors, or brokers. As illustrated, information for eleven known sales was found for neighborhood code G3x. In this instance, records indicate that 4 other properties within this neighborhood code sold in 2009, but the sale price was not made available. Since there is a relatively large sample of sales in this particular neighborhood code, the lack of the 4 unknown sale prices should not hinder the valuation. However, instances can occur where the number of unknown sales outnumbers the known sales. This could result in value conclusions not completely relative to the total actual sales or value trends that took place within the neighborhood code.

Once the available sale and property information is displayed, an appraiser may begin mass appraisal through a process of applying market modifiers to the properties in each defined neighborhood code. Market modifiers are also referred to as neighborhood factors. Factors are used to trend the components of a property's improvement value up or down as a result of the sales provided. A property record card illustrates how improvement components, as identified through prior property inspection, make up the total improvement value. The neighborhood

factor is the final valuation step used each year. The factor is used to modify the improvement value up or down so that when added to the land value, a final value is calculated that produces an acceptable appraisal to sale ratio as previously described.

This example shows that the prior year neighborhood factor of 98 is producing appraised values higher than the known sale prices. The ratio column is indicating the majority of the sales ratios are above the state required level. Further confirmation is provided by the median ratio of 107. The low COD of 3.89 reveals that there is a high level of uniformity in the valuation which means the ratios are closely grouped around the median. An appraiser will begin to adjust the new neighborhood factor to bring the median ratio down closer to the state required level. In this case, a new neighborhood factor of 89 produces an acceptable median ratio of 99 and a COD of 3.96. Observing the data for all properties in neighborhood code G3x further illustrates how the new factor of 89 will adjust all the properties around 3% downward. Each year, appraisers use as much sales information acquired to apply this process to around 1,000 neighborhood codes to reflect the changing market, and value approximately 130,000 residential properties in the county.

We hope this presentation provided a better understanding of the process used to value residential properties by explaining the following important elements: mass appraisal, ratio studies, statistical measures, and market areas. A demonstration of a tool utilized during valuation was also provided to further illustrate how the state required accuracy and uniformity is achieved.

Thank you for your interest in the appraisal process.