Montgomery Central Appraisal District

Presents:

Residential Valuation
Residential Valuation

- Mass Appraisal Process
- Ratio Study
- Statistical Measures
- Market Areas
- Neighborhoods
- Methods Demonstration
Mass Appraisal

- There are approximately 176,000 residential accounts in Montgomery County.
Ratio Study
Appraised Value / Market Value

• “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.
• “Market Values” are usually represented by:
  – Individual transactions
  – Sales prices of these transactions

• “Ratios” are appraisal-to-sale ratio

$100,000 \div $105,000 = 95\%

<table>
<thead>
<tr>
<th>Appraisal District Value</th>
<th>Sales Price</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>$100,000</td>
<td>$105,000</td>
<td>95%</td>
</tr>
</tbody>
</table>
Appraisal Districts are expected, by state law, to achieve a **MEDIAN** ratio level of **100%**
PTAD collects data from appraisal districts to perform the bi-annual Property Value Study. The results from these studies can be found at the Comptroller’s website: www.window.state.tx.us
Statistical Measures

1. Level
   • Are Properties appraised at 100% of market values?

2. Uniformity
   • What is the % of variance from the required level?
Statistical Measures

- Two most common statistical measures used to test appraisal level and uniformity
  - Median
    - The midpoint, or middle ratio, when the ratios are arrayed in an ascending or descending order.
    - Arranges the ratios into two equal groups, so half of the array is higher than the median while the other half is below the median.
  - Coefficient of Dispersion (COD)
    - Measures how tightly or loosely the individual sample ratios are clustered around the median.
    - High COD: Indicates a high variation around the median and there is a low level of appraisal uniformity.
    - Low COD: Indicates a low variation around the median and there is a high level of appraisal uniformity.
# Statistical Measures

## Median

<table>
<thead>
<tr>
<th>ACCT</th>
<th>App Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>91.93%</td>
</tr>
<tr>
<td>2</td>
<td>92.62%</td>
</tr>
<tr>
<td>3</td>
<td>92.84%</td>
</tr>
<tr>
<td>4</td>
<td>93.56%</td>
</tr>
<tr>
<td>5</td>
<td>93.80%</td>
</tr>
</tbody>
</table>
Statistical Measures

Coefficient of Dispersion

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.

<table>
<thead>
<tr>
<th>ACCT</th>
<th>App Ratio</th>
<th>Median</th>
<th>Absolute Deviation from Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>91.93%</td>
<td>92.84%</td>
<td>0.0091</td>
</tr>
<tr>
<td>2</td>
<td>92.62%</td>
<td>92.84%</td>
<td>0.0022</td>
</tr>
<tr>
<td>3</td>
<td>92.84%</td>
<td>92.84%</td>
<td>0.0000</td>
</tr>
<tr>
<td>4</td>
<td>93.56%</td>
<td>92.84%</td>
<td>0.0072</td>
</tr>
<tr>
<td>5</td>
<td>93.80%</td>
<td>92.84%</td>
<td>0.0096</td>
</tr>
</tbody>
</table>

- Total Deviation: 0.0282
- Divided by # of instances: 0.0056
- Average Absolute Deviation: 0.9284
- Divided by the median: 0.0061
- Equals COD: 0.6078
- Multiply by 100 to get %: COD
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 influences property values. It is the appraiser’s responsibility to identify groups of property that experience similar influences and define them as market areas. In Montgomery County market areas are delineated primarily on school district boundary lines. Being said school districts may be parsed into smaller market areas based on influencing factors. One such example is the Woodlands. Although the Woodlands is in Conroe ISD it is delineated into its own market area. Also neighborhoods with minimal sales information may be compared with comparable neighborhoods to determine if those neighborhoods should be adjusted.
Within market areas properties are further delineated into neighborhoods. Research on value influences in Montgomery County has resulted in neighborhood delineation by geographic location, age or quality of a structure, by various builders or model types, or other major influencing factors. Appraisers assign numerical descriptors known as neighborhood codes to all property within identified areas of similar value influences. As illustrated, a subdivision may contain various 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.
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.
Valuation Demonstration

• Where does the District get property sales prices?
  – Sellers
  – Purchasers
  – Real Estate Agents & Brokers
  – Sales Questionnaires
  – Any Other Reliable Sources
Valuation Demonstration

As illustrated, information for five known sales was found for neighborhood code Examp#1. The Montgomery Central Appraisal District weighs the number of confirmed sales prices against the total number of improved residential properties in a given neighborhood. If the number of sales is a fairly small percentage of the total number of improved properties the District may decide that there is not enough information determine whether all properties in that neighborhood should be adjusted. The District also looks at the historical number of sales within a given neighborhood. If the neighborhood is one in which the District receives very few sales then the District may adjust values on a very small percentage of sales.

<table>
<thead>
<tr>
<th>ACCT</th>
<th>NBHD</th>
<th>NBH%</th>
<th>Living Area</th>
<th>Yr Built</th>
<th>Class</th>
<th>Land</th>
<th>Imp</th>
<th>Appraised Value</th>
<th>CLSDTE</th>
<th>SP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Examp#1</td>
<td>150</td>
<td>2468</td>
<td>1999</td>
<td>6-</td>
<td>$33,660</td>
<td>$174,100</td>
<td>$207,760</td>
<td>2/5/10</td>
<td>$226,000</td>
<td></td>
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<tr>
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<td>2297</td>
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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.

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Valuation Demonstration

• 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 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.
Valuation Demonstration

Neighborhood Factor

Improvement Components
This example shows that the prior year neighborhood factor of 150 is producing appraised values lower than the known sale prices. The ratio column is indicating the majority of the sales ratios are below the state required level. Further confirmation is provided by the median ratio of 92.87. The low COD of 0.61 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 up closer to the state required level. In this case, a new neighborhood factor of 159 produces an acceptable median ratio of 97.56 and a COD of 0.60.
Valuation Demonstration

The Appraisal District is responsible for appraising properties at market value as of January 1\textsuperscript{st} of each tax year. To accomplish this task the District collects sales information from transactions that occurred during the twelve months preceding the appraisal date. It has been the District’s policy for many years to consider foreclosure or distressed transactions. These transactions are analyzed to determine if they are representative of or affecting the market in each neighborhood. This process is repeated annually for approximately 3,000 neighborhood codes to reflect the changing real estate market and value approximately 176,000 residential properties in the county.
Residential Valuation

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- Methods Demonstration
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....Market areas....and Neighborhoods. 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.