HOW THE TOWN OF YARMOUTH DETERMINES PROPERTY VALUES

All cities and towns in the Commonwealth of Massachusetts assess the value of property using a Mass Appraisal system. This system is a broad approach to predicting the value of properties that did not sell using the information collected about the properties that did sell. It is the application of a small database of information (the sold properties) to a large database of properties (the unsold properties).

As defined by the Massachusetts Department of Revenue, Mass Appraisal is the use of standardized procedures for collecting data and appraising property to ensure that all properties within a municipality are valued uniformly and equitably. Mass Appraisal is the processes of valuing a universe of properties as of a given valuation date using common data, a standardized procedure, and statistical testing. Unlike individual fee appraisal, which is intended to derive the market value of a single property, the goal of Mass Appraisal is to bring all properties to their full and fair market value, whether properties have sold recently or not, and thus to achieve equity among all property values.

The Department of Revenue requires cities and towns to revalue all properties every five years for certification according to specific requirements set by the Bureau of Local Assessment. The results of the revaluation process must meet statistical standards defined by the Department of Revenue. The Department of Revenue also requires that cities perform interim year adjustments, which are conducted between certification years. Waiting five years between revaluations leads to large adjustments, whereas revaluing every year and annually adjusting to market trends, generally results in smaller increments of change.

In Mass Appraisal, the universe of properties is defined as all properties in a city or town including single-family homes, two-family homes, three-family homes, condominiums, apartments, vacant land, commercial properties, industrial properties, and mixed-use properties. The process described in this document only addresses the mass appraisal of single-family homes and condominiums.

The valuation date for an assessment as defined in the laws of the Commonwealth is January 1st prior to the fiscal year, and the assessed value reflects estimated market value as of that date. For example, the assessment date for Fiscal Year 2023 is January 1, 2022. To determine the estimated market value of a parcel on January 1, 2022, the arms-length sales (between a willing buyer and a willing seller with no unusual circumstances) that occurred between January 1, 2021 and December 31, 2021 are analyzed.

The standardized procedure followed for determining full and fair market value involves using a model, defining parameters, and performing iterations of statistical analysis to validate the model results. To accomplish this, a sales database is created each year containing information about the sales that occurred in the year prior to the valuation date. This is the small database of information (the sold properties) which will be applied to the large database of properties (the unsold properties). The sales database is used to establish the criteria for applying the characteristics of sold properties to the unsold properties. The standardized procedure used is the following:

1. Create the Sales Analysis database: This is the data collection and verification stage. Actual sales of properties for twelve months prior to the valuation date are collected. Deeds for each sale are received from the Registry of Deeds. Attempts are made to gather any information about financing arrangements, types of transactions, and any special circumstances around each sale. A sales questionnaire is sent to the buyer of the property, the buyer or seller is contacted, and third-party sources, such as real estate brokers, contribute information about the sale. Sold properties are inspected whenever possible. Property card adjustments are made if necessary. At this point, the new assessment value for a sold property is set by the Assessors, and is usually quite close to the sale price.

2. Validate the sales: Sales which are considered verified (also called "qualified sales") are those that conform to specific criteria set forth by the Massachusetts Department of Revenue. These sales are called arms-length sales and must be between a willing buyer and a willing seller with no unusual circumstances. Any sales that do not represent the market are not considered valid to use in the model, as they may cause errors in the results. Such sales are "coded out". There are various non arms-length codes used by the Department of Revenue to identify a sale that cannot be considered part of the sales database. Some of these include sales between members of the same family, sale of property substantially changed after the assessment date but before the sale, sales resulting from court orders, foreclosure auctions, or bankruptcy, etc.

3. Verify that the sales meet the Department of Revenue requirements: The Department of Revenue requires that the sales database contain transactions that represent at least 2% of all properties, or a minimum of 20 sales in each class (single-family, condo, etc.). If there are fewer than 20 sales, more than 12 months of sales must be used, until 20 sales have been achieved. This can be twelve months prior to, or six months prior and six months following the valuation period. For the January 2022 valuation for fiscal year 2023 tax bills, there were 12,884 single-family homes in Yarmouth and 490 qualified sales (3.8%), and there were 1,809 condominiums and 113 qualified sales (6.25%).

4. Begin the statistical analysis by stratifying the sales: The sales data is analyzed by grouping sales into specific categories and computing measures of assessment level and uniformity. There are two calculations required by the Department of Revenue called the ASR (which measures assessment level), and the COD (which measures assessment uniformity). Each must fall within specified ranges for each class of property.

The ASR is the median assessment to sales ratio, and it measures actual differences between new assessments and sale prices. For all classes of property, the median assessment to sales ratio must be between 90% and 110%.

The COD is the coefficient of dispersion that occurs around the median assessment to sales ratio, and it measures the deviation between the new assessments and the sale prices. For single-family homes and condominiums, the coefficient of dispersion must be less than 10%.

The grouped sales, called "stratifications", report the median assessment to sales ratio and the coefficient of dispersion for each sale in each category. The categories are: land use (single-family, condo, etc.), neighborhood, house style (ranch, colonial, cape, etc.), actual year the house was built, lot size, and house size. Two other reports called price quartiles and date quartiles show the median assessment to sales ratio and the coefficient of dispersion grouped by the sale price and the sale date.

Each stratification report is intended to provide a different perspective of the same data, thus revealing discrepancies that require correction. If the ASR and COD values exceed the values required by the Department of Revenue, then this must be corrected.

5. Bring the ASR and the COD into compliance with the Department of Revenue requirements by changing the values of factors: To bring the new assessed values of sold properties closer to the sales prices of those properties, and thus achieve smaller ranges of ASR and COD values, factors are changed in the sales database. There are many factors which can be adjusted to correct the assessments. Some apply to all properties and others are property specific. The most dominant factors are the location of the property and the style of the house.

Location: Each year, the neighborhood boundaries are reviewed and modified if necessary. Sales in particular neighborhoods, when taken in the context of all characteristics of that neighborhood, contribute to the value of the neighborhood factor. As the stratification reports are run, and median assessment to sales ratios and the coefficients of dispersion are reviewed, the value of the neighborhood adjustment factor is evaluated. If changing the value of the factor for the sold

properties in a particular neighborhood improves the ASR and the COD and changing this factor does not cause the ASR and the COD to vary beyond required ranges in other stratifications, then this means the land value for that particular neighborhood has either risen or fallen, and the change to the neighborhood adjustment factor corrects this.

House Style:

The style of the house has an associated base rate per square foot assigned to it, which is used to adjust its value. Depending on sales, these base rates can change, and therefore are reviewed and adjusted each year as part of the sales analysis. If the base rate for a particular house style is changed, and all other stratifications maintain median assessment to sales ratios and coefficients of dispersion values within acceptable ranges, then such a change to the base rate can be considered a valid correction to the sales database.

6. Valuation of land: A property assessment is the sum of the land value and the structures value. The land value is determined either by land-only sales or by the "land residual method." The structures value is determined by state regulated cost tables adjusted for Yarmouth, and by weighted measures such as the construction grade of the house or how well it has been maintained.

- **Land Only Sales:** Determining the value of land is straightforward when a sale occurs which had no structures on it. That sale can be considered representative of the land value for properties in the neighborhood in which it is located. Properties where the structures are removed after the sale require additional information and judgment to determine the land value, and this may involve further study of trends in the neighborhood in which the sale occurred.
- **Land Residual Method:** In a Town like Yarmouth, where few land sales occur each year, a method called "land residual" is also used to determine land values. This method extracts the value of the land from the total property value by subtracting the value of the structures from the total sale price. The remaining value is considered the land only value.
- **Land Curve:** The land values are then plotted on a graph called the "land curve" and are used to set the price per square foot for each zoning category. The land curve also determines the discounts for parcels that are smaller than minimum zoning requirements where the property is located.

7. Use the model repeatedly, adjusting factors as necessary: At this stage, three principal parameters (neighborhood adjustment factor, house style base rate, and land price) are being analyzed and adjusted. Examples of other factors that may be changed are the site index, the condition factor, the effective age of the house, and

the construction grade of the structures. Even factors such as bedroom and bathroom count, interior wall material, building sub area sizes, outbuilding values, can all be changed to explain why a property sold for a particular price. Each time a new value for a factor is tried, another series of stratifications is run. All stratifications must yield the required range values for median assessment to sales ratios and coefficients of dispersion.

8. Run the final stratification: No matter how the data is divided, the adjustment of the selected factors should be arriving at the known sales price. The resulting analysis will show an approximately equal median assessment to sales ratio and coefficient of dispersion through all stratifications of the sales analysis database. At this point, the Department of Revenue requirements for certification have been met – the ASR is between 90% and 110%, and the COD is less than 10%.

9. Apply the sales analysis database to the entire universe of properties: The more carefully the sales data was researched and refined in each of the previous steps of this process, the better the model can predict the new assessment values of the unsold properties. It is time to apply the characteristics defined in the sold properties to the values of the unsold properties.

At this point, the Mass Appraisal process is over and the preliminary assessment data is reviewed by the Board of Assessors and submitted to the Massachusetts Department of Revenue for approval.

- *This information is meant to be a brief overview of the assessment process; the actual process may require additional information and documentation, as deemed required by the Massachusetts Department of Revenue and its Bureau of Local Assessments.*