Scope & Methodology

City of Lewiston Revaluation Project

A revaluation is a process that creates a solid base of inventory for tax purposes. The Maine Constitution states that all taxes upon real and personal estate, assessed by authority of this State, shall be apportioned and assessed equally according to the just value thereof.

In the City of Lewiston, the last revaluation took effect in 1988. Property values have changed in the last 36 years.

The purpose of the City of Lewiston conducting the revaluation, or "reval" is to comply with the State of Maine Revenue Services Department. The Revenue Services Department concluded that assessment valuations in the City are too low compared with the current sales of properties in Lewiston. The City of Lewiston has contracted with Tyler Technologies to conduct the City's revaluation project to update property assessments.

Valuation Approaches

Tyler uses the three accepted approaches or methods to arrive at value for real properties. The market or sales comparison approach estimates value by comparing similar properties to the property being appraised. The income approach estimates value by capitalizing the net operating income of a property. The cost approach provides an estimate of value based upon the replacement cost of the improvements, less depreciation, plus the value of the land. Using different units of comparison is not intended to produce higher values, just more valid and reliable values. In general, rate/square foot and rate/per unit (such as apartments and hotels/motels) will be the most common unit of comparison in the City.

All values used in the Valuation Maintenance Services project must be developed in compliance with nationally recognized professional mass appraisal standards, including Standard 6 of the Uniform Standards of Professional Appraisal Practice (USPAP Standards 5 & 6) as published by the Appraisal Standards Board.

Sales Comparison Approach

With this method of the Valuation Maintenance Services process, Tyler will use the analytical tools in City's CAMA system to develop markets for residential improved parcels, where possible. Therefore, both the cost and comparable sales approach will be considered when arriving at the final estimate of value. When applicable, up to five comparable sales for each subject will be available for review. This comparable sales approach allows us to better reflect market activity in this uncertain economy and explain the anomalies that may occur with bank sales, foreclosures, and other distressed sales. A market model is a statistical picture of the elements affecting sale price within the market area. By determining the relative effect of specified property characteristics on sale price, markets will be constructed and used to predict value for unsold properties.

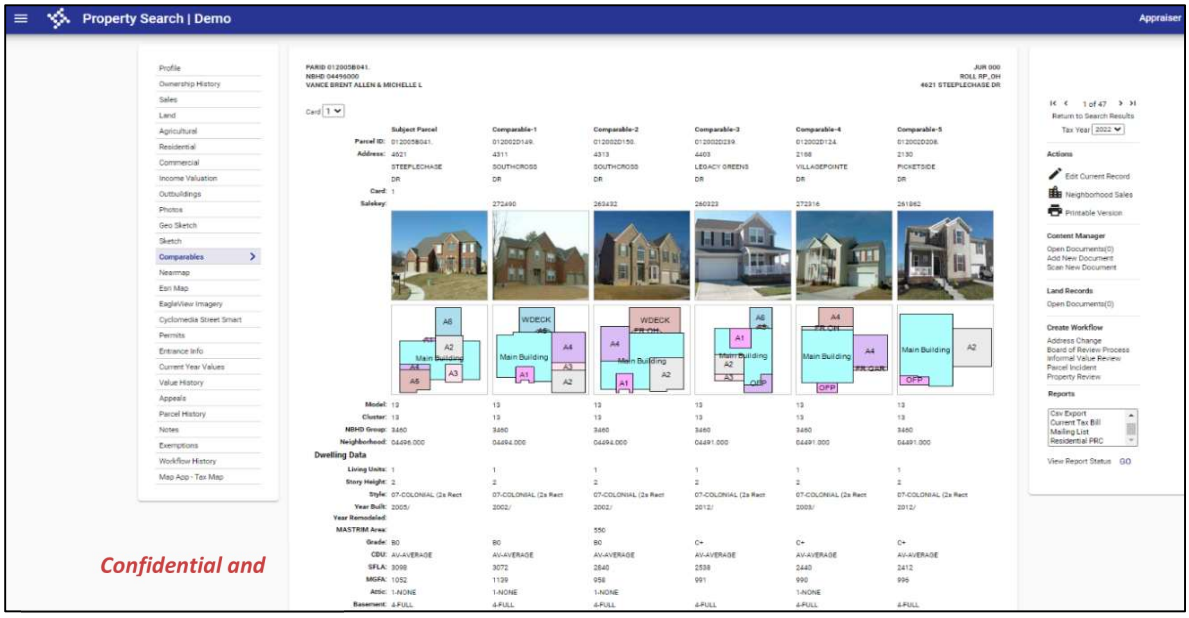


Figure 1: Example of comparable grid

Income Approach

With this method, the income and expense stream of a property is examined from an investor's point of view. The goal is to achieve a market value by estimating what an informed investor would pay for the income stream associated with a particular piece of real estate. Tyler shall either capitalize a single year's income expectancies at a market- derived capitalization rate or a capitalization rate that reflects a specified income pattern, return on investment, and change in the value of investment, or discount the annual cash flows for the holding period and the reversion at a specified yield rate. The income approach is typically applied to commercial properties, including apartments, restaurants, and shopping plazas.

Cost Approach

With this method, the probable selling price is calculated by estimating how much it would cost to provide a replacement building of similar condition, quality, and utility. Local construction costs are analyzed along with land sales to develop what is called the "replacement cost" method. This method is based on the premise that if land value is added to what it would cost to replace the building new – less an allowance for physical, functional, and economic depreciations – a rational estimate of the market value can be obtained. The cost approach is computed for all types of property. The cost approach is calibrated to the local market using local sales.

For the valuation of commercial and industrial properties, models will be calibrated to predict fair market value using two approaches, the income approach, and the cost approach. The income approach best reflects the actions and motivations of investors who buy certain types of commercial properties in the City but is not applicable for every type of property appraised (e.g., vacant lots, certain manufacturing, service stations).

Unlike residential properties, the appraisal of commercial and industrial properties requires using multiple units of comparison to arrive at an accurate value estimate. Units of comparison are those variables or characteristics that investors use in making decisions in purchasing commercial and industrial properties. Units of comparison enable appraisers to distill value to a specific rate such as rent/square foot so that comparison may be made with properties that are somewhat dissimilar.

Sales Verification and Validation

Tyler, in coordination with the Assessor, shall determine the validity of all residential sales in the City for the purposes of Valuation Maintenance Services. For vacant land, commercial/industrial, and special residential properties, sales will also be validated jointly by Tyler and the Assessor. A valid cost model requires sufficient, accurate, and verified market data. Tyler will analyze recent transactions to isolate bona fide, arms-length sales using standardized procedures based on IAAO and USPAP guidelines. Sales data will be screened to reflect typical market behavior, applying professional assessment judgment to identify data suitable for mass valuation.

Details of Cost Table Calibration and Index

Methodology

After Land Valuation and Sales Verification/Validation are completed, the local construction cost index study and the calibration of the residential depreciation tables can take place.

The local construction cost index is the ratio of the cost to construct a dwelling in one location compared with the cost to construct the same dwelling in another location at a given date. The cost schedules will be calibrated to closely reflect the region encompassing the City.

The cost index will be developed from an analysis of sales of newly constructed, average quality dwellings located within the City and/or sales of "relatively" new, average quality dwellings which have been properly adjusted for time. This is a four-step process that should be completed in the following order:

1. Develop a market trend based on re-sales of improved residential properties within the City.
2. Trend the construction costs for each new dwelling to be used in the index study to an estimate of the Valuation Maintenance Services date.
3. Calculate a cost ratio for each new dwelling by comparing the Tyler Enterprise Assessment CAMA system Replacement Cost New (RCN) to actual construction costs.
4. Analyze the individual cost ratios and correlate an overall local construction index.

In the event that a sufficient number of newly constructed, average quality dwellings are not available to adequately document the local index, supplemental sources may include Tyler's cost estimates of standard building plans.

Index Calculation

The calculation process to establish the local index is as follows:

1. If necessary, trend all sales to be used in the index study using the monthly trending factor established in the market trend analysis.
2. Subtract the land value estimate from each adjusted sales price. The result is the indicated dwelling or building residual value.

3. Obtain the Replacement Cost New for each dwelling through the CAMA system.
4. For each sample, divide the indicated dwelling residual value by the CAMA system "Base Value." The result is the index factor for the improvements.

Calibrating the Residential Depreciation Tables

The tables will be calibrated to reflect the local market conditions for the City. The calibration process is completed by analyzing verified sales which are contained in the sales history file.

Depreciation

The age life method considers how long a property will be considered economically viable, or the economic "life" of a property. Depreciation on a parcel level is based on multiple data elements which consider the age of the building, the structure and construction type of the building, and the observed condition and utility. The structure and construction type will form the basis of the expected life, and the observed physical and functional condition ratings will estimate the percentage of depreciation to determine the value of the building in its current condition.

Depreciation is defined by the IAAO as:

> *"Loss in value of an object, relative to its replacement cost new, reproduction cost new, or original cost, whatever the cause of the loss in value."*

Basically, depreciation is loss in value due to any cause. The three types of simple depreciation are:

1. Physical Depreciation

Physical depreciation is defined by the IAAO as "arising solely from a lowered physical condition of the property or a shortened life span as the result of ordinary use, abuse, and action of the elements." In general, physical depreciation is due to deterioration or "wear and tear" over time.

2. Functional Depreciation (or Functional Obsolescence)

Functional Obsolescence is defined by the IAAO as: "A decrease in the value of a property occasioned solely by shifts in demand from properties of this type to other types of property and/or to personal services." In general, functional depreciation is due to the loss of a building's ability to function as efficiently as a modern building (an old-style heating system versus a modern HVAC system).

3. Economic Depreciation

Economic depreciation is defined by the IAAO as: (1) "Depreciation due either (a) to an increase in supply of the property under consideration or (b) to a reduction in monetary demand for properties of the type under consideration unaccompanied by shifts in demand from such properties to other properties and/or personal services (preferred). (2) Depreciation of any sort other than physical depreciation." Economic depreciation is due to factors outside the property. The location of the property may also be a cause of economic depreciation.

Depreciation Schedules

Depreciation schedules or methods shall align with standard depreciation rates based on building classification. They must encompass residential, commercial, industrial, farm, and special-use buildings, with all schedules requiring approval of the Assessor.

Tyler shall develop and explain separately each depreciation on the property record card and/or worksheet if used. Land values shall be added to the depreciated improvement value. Compare the depreciated replacement cost of each property with the value produced via income analysis, or sales comparison, and develop obsolescence guides by type of property and location. Analysis should be reviewed with the Assessor and a copy shall be provided at the completion of the project.

Building Cost Schedules

Tyler shall develop building cost schedules, using the unit-in-place method based on square foot or cubic foot measurements, to determine replacement costs for residential, commercial, industrial, and farm properties. These schedules shall incorporate wages, labor efficiencies, overhead, profit, engineering and architectural fees, and all other direct and indirect construction costs. Before final approval, they must be validated against known sales, with all finalized schedules requiring Assessor approval before implementation.

The cost schedules shall be supported by a recognized valuation publication company such as Marshall and Swift, Means, etc.

Residential

Residential cost schedules shall classify buildings by type, model, and story height on a per square foot basis. These schedules must allow for adjustments to base specifications, including heating systems, bathrooms, porches, breezeways, garages (attached, detached, and basement), finished basements, and other common residential property improvements. Additionally, they shall include costs for in-ground swimming pools, barns, sheds, tennis courts, gazebos, hot tubs, and similar structures.

Commercial

Commercial building cost schedules shall be based on unit costs of materials in place and organized by square foot measurements. They must account for various story heights and include adjustments for construction components beyond base specifications.

Industrial and Special Purpose

Cost schedules for industrial and special-purpose structures shall be developed using unit costs of materials in place, charted on a per square foot basis. These schedules shall include all applicable additions and deductions for construction components beyond base specifications.

Farm

Cost schedules for farm structures shall be prepared for square foot and cubic foot costs for various types of farm buildings including, but not limited to, barns, sheds, silos, milk houses, coops, etc.

Sales Analyses

Tyler shall analyze residential and non-residential sales as determined by the Assessor. Sales will be categorized and converted into comparison units. No values will be set until the Assessor reviews and approves the analysis.

Sales analyses of all properties sold shall be performed as a means of sustaining the values derived. These analyses shall be done on the aggregate of all residential, commercial, industrial, public utility, vacant land, and special purpose properties.

The sales analyses shall include, at a minimum, sales ratios and coefficients of variance and dispersion. All sales that are part of the sales analyses shall be verified. A sales-assessment analysis with these same factors and measures shall also be done for all sales in a class and in each residential neighborhood. All sales that are a part of the sales analyses shall be verified. Tyler shall provide effective screening, confirmation of sales prices and desktop review inspection of sale property. Any additional requests for sales analyses by the Assessor shall also be performed.

A number of statistical tests that can be performed on the database once the data has been collected. The following reports are just a few that would be helpful in ensuring the accuracy of the City's project.

- Calculation of appraisal to sale median and coefficient of dispersion City-wide and by neighborhood, property class, value, style, age (year built), and building size.
- Calculation of the price related differential by class, City-wide, and other strata.
- Printouts of selected parcel data and comparison criteria to ensure uniformity.
- Other reports as requested by the Assessor or required by the State.

Land Valuation

Tyler shall appraise all land within the City, including residential, vacant, commercial, industrial, agricultural, special use, public utility, and tax-exempt properties. Experienced mass appraisers will analyze sales data for each neighborhood, using land residual or extraction methods when vacant sales are insufficient. Land values will reflect market conditions over at least a two-year period, set by Tyler and approved by the Assessor, who has final authority in case of disagreement. Tyler will build land tables for typical lot sizes and adjust for deviations, considering location, size, shape, topography, access, zoning, utilities, and other influences. Land values will be expressed per front foot, square foot, acreage, or fractional acreage as appropriate, and will inform the development of cost and other valuation models. Models will be stratified by neighborhood and property class, and wherever vacant land sales are lacking, comparative rates from similar areas will be used. Market analysis, neighborhood delineation, and unit-of-comparison determinations will guide the valuation process, ensuring all land is valued as if vacant and in accordance with standard appraisal practices.

Tyler will analyze vacant land sales for the various types and sizes of land found in City of Lewiston's neighborhoods and commercial areas. We will also study residual indications of land values. Based upon these analyses, tables will be developed for land valuation. This process is best described as an application of the sales comparison approach.

Neighborhood Delineation and Analysis

Neighborhood delineation is the study of external forces or influencers that affect property values and involves analyzing typical housing, economic, social, and demographic characteristics of geographically homogeneous areas. For mass appraisal purposes, a neighborhood is defined as a geographic area exhibiting a high degree of uniformity in residential amenities, land use, economic and social trends, and housing characteristics. Neighborhoods evolve over time through three main life cycle stages:

1. Improving – development and growth
2. Static – leveling of values
3. Declining – infiltration and decay

Cycles can repeat, as seen in older urban areas undergoing gentrification. In the CAMA system, neighborhoods are the largest geographic groupings where significant economic forces are generally uniform, typically including 50–75% of dwellings. Areas with inconsistent characteristics should be reconfigured, although minor deviations are permissible.

Significant characteristics in defining neighborhoods also include:

- Physical boundaries (natural: rivers, streams, woods; man-made: roads, railroads, power lines)
- Building characteristics (type, quality, age, condition)
- Type of occupancy (industrial, apartment, retail, office)
- Current zoning, including nonconformities and development rights
- Typical land size and land valuation
- Sale prices and local economic forces

Each parcel will be assigned a neighborhood code maintained in the CAMA system to guide analytical and valuation work.

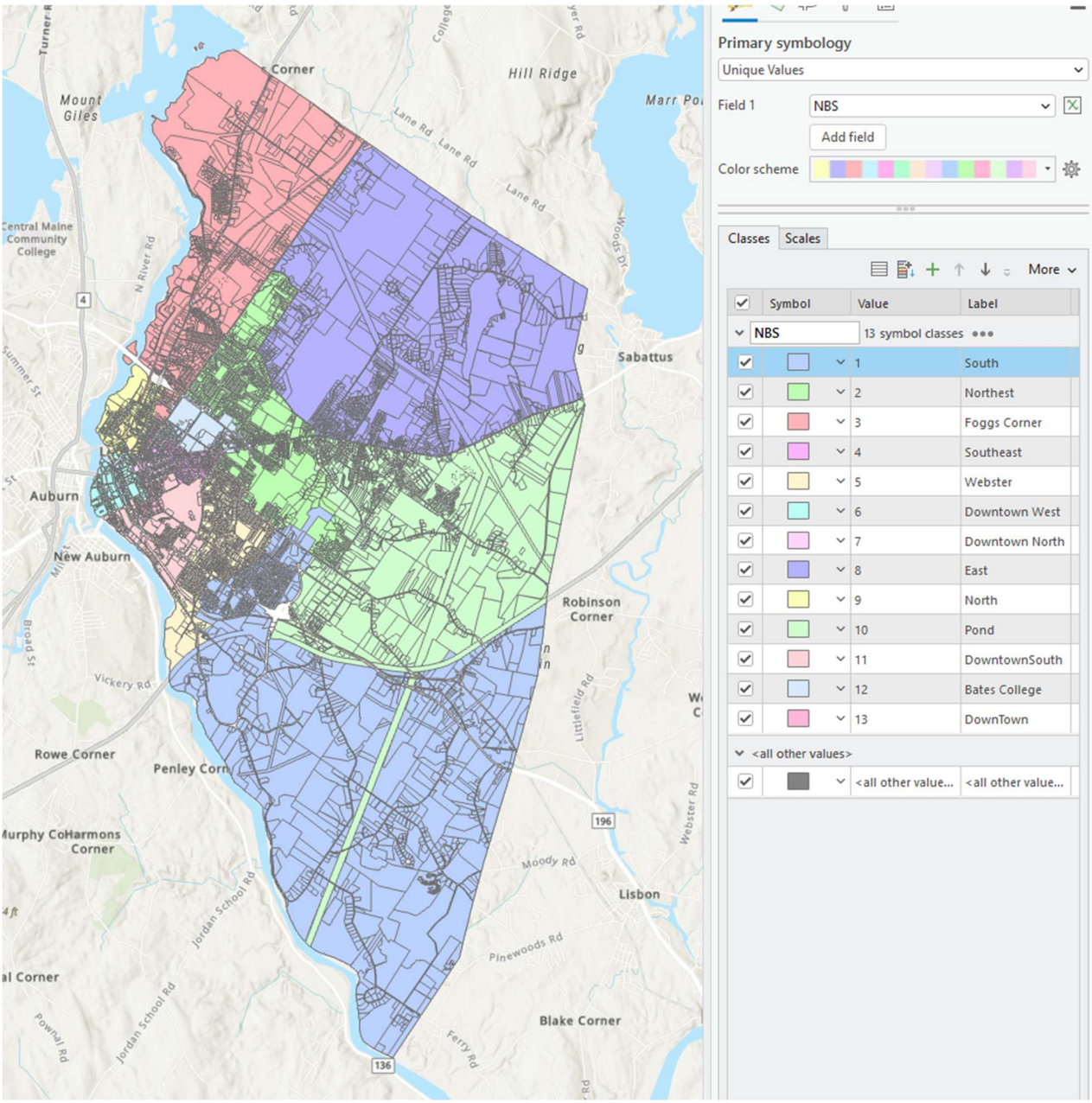
The delineation process will involve the following procedures:

- Establish base neighborhood delineation maps from the City's tax maps.
- Each defined neighborhood will be driven and analyzed in the field. Based on physical observation and the other factors previously mentioned, the neighborhood boundaries could be:
    - Deleted and the properties included in an adjoining neighborhood when economic conditions indicated they were similar, OR
    - Create a new neighborhood from part of an existing neighborhood where there was clear indication that the economic level of value and/or similarity is different from that of its original proposed neighborhood

Upon completion of the field review, the boundaries will be refined down to the parcel level as part of the computer database using the Tyler Enterprise Assessment system.

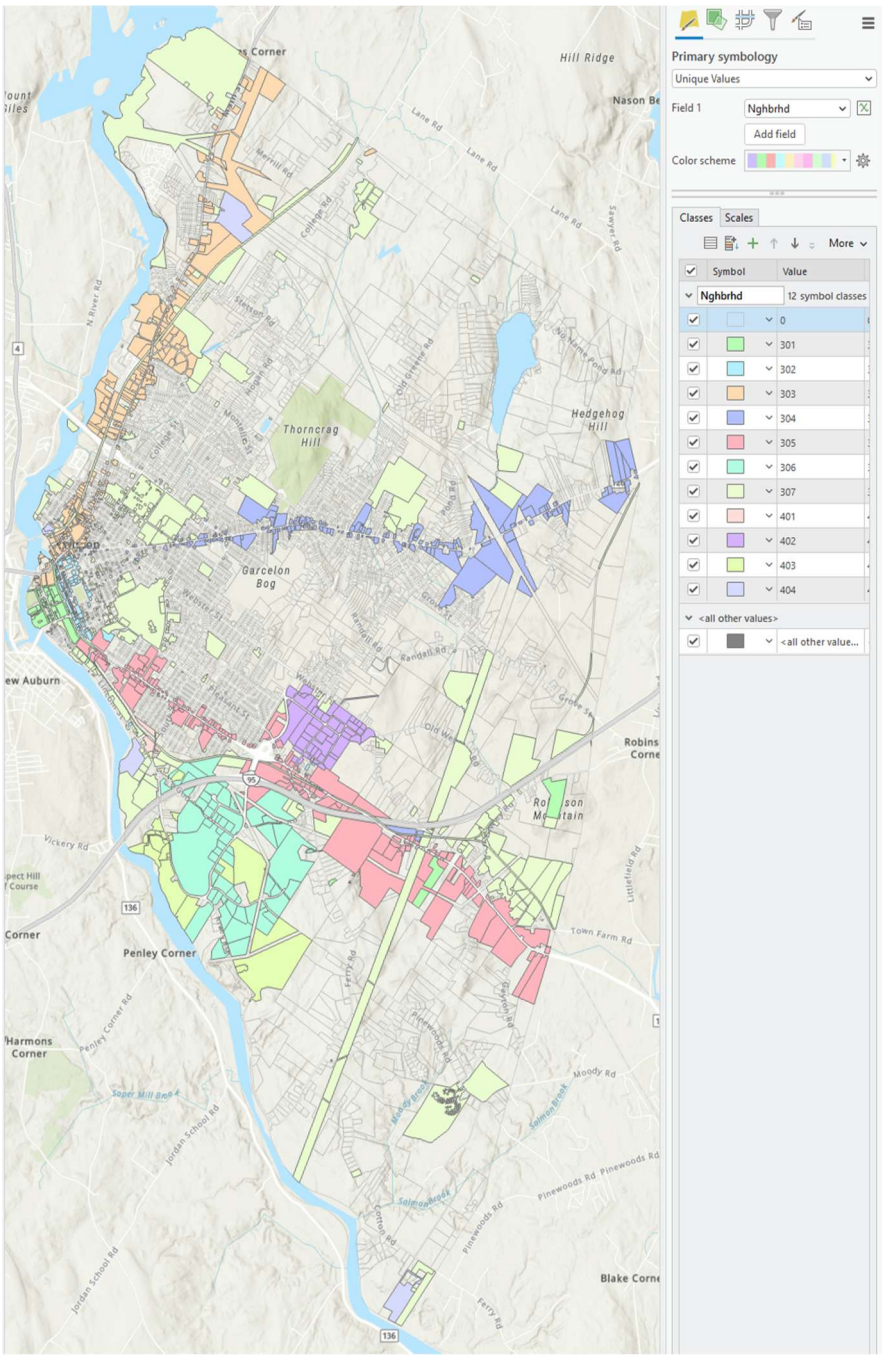
RESIDENTIAL NEIGHBORHOOD MAP – LEWISTON 2026

(PARCELS IN NBHD 1:SOUTH - NORTH OF I-95 = NBHD 14:ST CROIX ST TO FOCH ST)
FINAL DRAFT TO BE CREATED BY LEWISTON GIS DEPARTMENT



COMMERCIAL/INDUSTRIAL NEIGHBORHOOD MAP – LEWISTON 2026

FINAL DRAFT TO BE CREATED BY LEWISTON GIS DEPARTMENT



Assessor's Input

For each type of property, the Assessor will choose the default approach. The table below shows the methodologies that are most often used.

Table 1: Methodologies Most Often Used

Type of Property	Valuation Methodology
Residential	Cost and market
Commercial and industrial properties, including apartments	Cost and income
Special purpose properties	Cost
Exempt properties	Cost

The City's parcels will be analyzed with the following units of comparison:

1. Sale Price/acre
2. Income or Sale Price/square foot
3. Income or Sale Price/apartment unit
4. Income or Sale Price/parking space
5. Income or Sale Price/hotel room
6. Sale Price /nursing bed
7. Cost/square foot
8. Sale Price per square foot or acre of land

Sales Verification and Validation

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- Printouts of selected parcel data and comparison criteria to ensure uniformity.
- Other reports as requested by the Assessor or required by the State.

Performance Standards "Best Practices"

- By applying our mass appraisal methods and procedures to all designated parcels in the City, Tyler will achieve a high degree of uniformity and an equitable level of valuation between properties throughout.
- The appraised values resulting from Revaluation will conform to the following Standards for Ratio Studies established by the International Association of Assessing Officers (IAAO) and the Uniform Standards of Professional Appraisal Practice (USPAP Standards 5 & 6) as well as generally accepted standards within the mass appraisal industry.

Table 1: IAAO Standards for Ratio Studies

Property Type	Median ASR Level	COD	PRD	PRB
Single-family residential, including condos, in newer or more homogeneous areas	90% to 100%	5 to 10	.98 to 1.03	-.05 to .05
Income producing properties in smaller areas represented by smaller samples	90% to 100%	5 to 20	.98 to 1.03	-.05 to .05
Vacant land	90% to 100%	5 to 20	.98 to 1.03	-.05 to .05
All Properties	90% to 100%	5 to 15	.98 to 1.03	-.05 to .05

- ***Median:*** *A measure of central tendency. The value of the middle item in an uneven number of items arranged or arrayed according to size; the arithmetic average of two central items in an even number of items similarly arranged.*
- ***COD:*** *The Coefficient of Dispersion (COD) is the average deviation of a group of numbers from the median expressed as a percentage of the median. In ratio studies, the average percentage deviation from the median ratio.*
- ***PRD:*** *The Price-Related Differential (PRD) is the mean divided by the weighted mean. The statistic has a slight bias upward. Price- related differentials above 1.03 tend to indicate assessment regressivity; price-related differentials below 0.98 tend to indicate assessment progressivity.*
- ***PRB:*** *The Price-Related Bias(PRB) is the statistical measure used in ratio studies to evaluate vertical equity (equity between low- and high value properties) in property assessments. It identifies if assessments are regressive or progressive, with an acceptable standard range of -.05 to .05.*

Table 2: Preliminary Ratio Studies – Lewiston, ME 2026

PRELIMINARY RATIO STUDIES – LEWISTON 2026 (1/1/2024 – 12/31/2025)

Property Type	Count	Median ASR Level	COD	PRD	PRB
Single-family residential, including condos, two-three family homes	730	97.56%	7.44%	.998	.0259
Income producing properties in smaller areas represented by smaller samples	90	97.02%	6.43%	1.023	-.0266
Vacant land	44	95.6%	11.62%	1.025	-.0271
All Properties	864	97.34%	7.56%	1.001	.0125

Valuation Analysis

Tyler shall gather and analyze all construction and market data necessary to appraise the revalued properties. All data will be recorded on the individual property record cards and shall become the property of the City of Lewiston.

Value Review Guidelines

Tyler shall estimate each parcel's value by assessing land, building, other improvements, and total value. Valuation pretests will be conducted during the development of cost schedules, market adjustments, and capitalization factors. These tests, using sample properties selected by the Assessor, will refine valuation components.

All appraisals will be reviewed by the Assessor, incorporating market data available through. The final value testing process will determine unit land values, cost schedules, market modules, comparable sales, adjustments, market rent, expenses, and capitalization factors. Once approved, these elements will guide the City's Valuation Maintenance Services of real property.

Tyler will analyze general supporting data to serve as a basis for the development of guidelines for cost, market, and income using economic coefficients needed when applying the three approaches to value.

The guidelines that will be developed from this analyzed data will include replacement cost schedules, depreciation schedules, economic rent schedules, income capitalization rates, comparative property sale units, and unit land values.

Tyler's preferred method of building cost calibration is through the analysis of new construction sales. We will assess cost levels versus Marshall & Swift as a secondary approach if there are ample sales, or as the primary approach if there are not. We will also assess commercial and outbuilding rates versus Marshall & Swift. The first step in calibrating the value tables in the Tyler Enterprise Assessment system is to investigate the current setups, particularly with land. Once completed, Tyler will collaborate with the Assessor to create a plan for how to proceed. Our goal is to maintain as much of the current methodology as possible in order to maintain consistency and we will address any problems or concerns that are identified.

Tyler will complete a depreciation analysis using regression by extracting the percent good from each sale and plotting it against age. We adjust the resulting table to reflect the true current market for all ages and conditions of properties in City. Commercial depreciation is based on the economic life (i.e., 50-year life) and the appropriate table will be used based on the types of properties to be appraised.

Tyler shall prepare a report and deliver it to the Assessor's Office for approval showing the results of this comprehensive analysis. It shall contain a set of recommendations, including a proposed pricing schedule prepared by Tyler and encoded by Tyler based upon existing tables in the CAMA system.