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Duties

The Cook County Assessor's Office (CCAO) has three primary roles within the Cook County property tax system.

1. Valuing Property

For nearly 1.9 million parcels of residential and commercial properties, the primary duty of the Cook County Assessor's Office is to fairly and uniformly determine this:

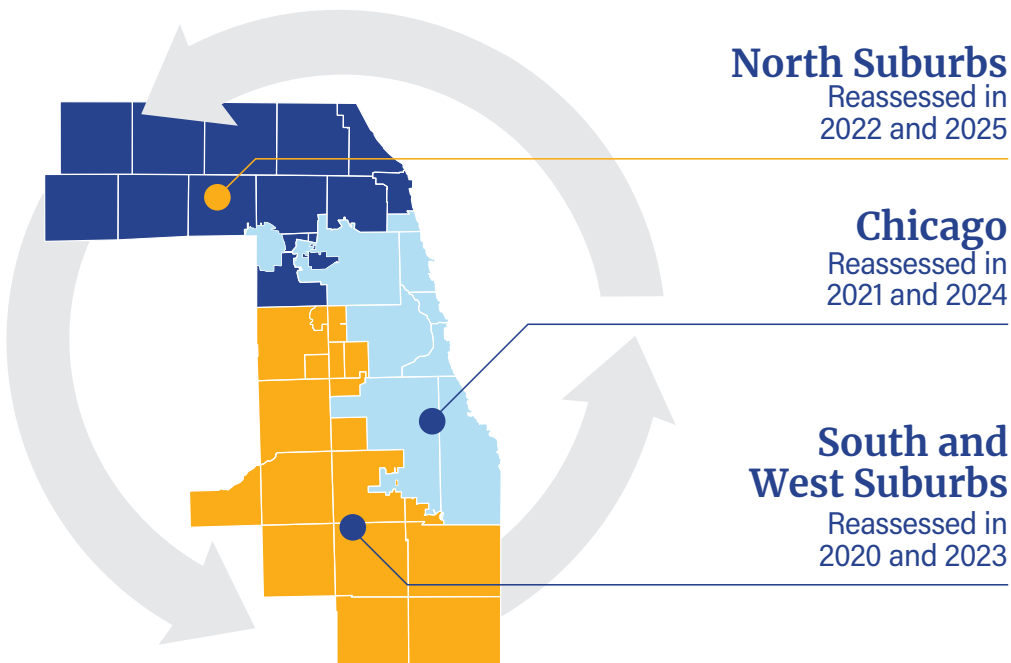
"What is this property worth as of January 1 of its assessment year?"

We use local real estate trends and other information to update a property's Fair Cash Value, often referred to as its Fair Market Value.

Cook County follows a triennial reassessment cycle. Townships in the north and northwest suburbs were reassessed in 2019 and 2022. Townships in the south and southwest suburbs were reassessed in 2020 and 2023. Townships in the City of Chicago were reassessed in 2021 and will be reassessed again in 2024.

Fair Cash Value (35 ILCS 200/1-50):
"The amount for which a property can be sold in the due course of business and trade, not under duress, between a willing buyer and a willing seller."

Cook County Triennial Reassessment Cycle



Properties can receive new assessments outside of their scheduled reassessment cycle. Specific events – such as new construction, a fire, or a change in occupancy status – can prompt an update to a property's characteristics by our field staff, possibly resulting in a new value for the property.

For all reassessments, the legal duty of the CCAO remains the same: to produce an updated market value for the property that is fair and accurate, relative to real estate activity. See the next sections for an explanation of how we fulfil this duty in residential and commercial valuations.

2. Property Assessment

The Assessed Value of a property is the taxable portion of its Fair Market Value. That percentage depends on the property's use. For residential properties, the Assessed Value is 10% of the Fair Market Value. For most commercial properties, the AV is 25% of the FMV.

To support economic development and affordable housing, the CCAO administers numerous incentive programs that reduce a property's taxable value. See Section 5.2 for more about incentives.

3. Property Tax-Saving Exemptions

The CCAO administers homestead exemptions that provide property tax savings for qualified homeowners, seniors, veterans, and persons with disabilities. The office also applies non-homestead property tax exemptions authorized and approved by the Illinois Department of Revenue. See Section 5.1 for more about exemptions.

The CCAO does not calculate tax rates or issue tax bills. We do, however, play a key role in the fairness of Cook County's property tax system. If the value of a property is not determined fairly, then tax rates and bills will not be fair either – not just for an individual property, but for neighboring properties too.

THIS IS NOT A BILL. THIS NOTICE INFORMS YOU OF A CHANGE IN YOUR PROPERTY'S ASSESSMENT.

Property Location: [REDACTED]

Reassessment Year: 2022
The estimated Fair Market Value of this property is: \$440,000

Mail to: [REDACTED]

Property Identification Number (PIN): 12-36-326-047-0000 Date: 09/16/2022

In a reassessment year, all properties in your region and some neighboring regions are reassessed. The Assessor uses real estate trends to estimate your home's market value, which is used to calculate its assessed value.

Current Characteristics

Township: Leyden Township	Land Sq. Footage: 5000
Neighborhood: 070	Bldg Sq. Footage: 2728
Property Age: 72	Exterior construction: Stucco
Class Code: 2-06: Greater than One Story Dwelling, greater than 62 years of age, between 2201 and 4999 SFLA	

No action is necessary. You can see more about your property's assessment and learn more about how the Assessor's Office estimated your home's value using local real estate trends at cookcountyassessor.com.

If any of the property characteristics above are not accurate, or the estimated market value listed above is not accurate, you can correct errors with an appeal. File an appeal online at cookcountyassessor.com by: 10/17/2022

For help in English, Español, and Polskim, please call the Assessor's Office at: (312) 443-7550

Find a list of current assessments on our website or in: Elm Leaves on September 29, 2022 (or a following issue).

Property Valuation & Assessment History

Year	Class	Estimated Market Value	Cook County Level of Assessment	Total Assessed Value (AV)	Notes
2022	2-06	\$440,000	10%	\$44,000	Reassessment year.
2021	2-06	\$350,330	10%	\$35,033	Not a reassessment year.
2020	2-06	\$350,330	10%	\$35,033	Not a reassessment year. COVID adjustment year.

For current property taxes, contact the Cook County Treasurer at cookcountytreasurer.com or (312) 443-5100.
For property deed history, tax history, or delinquencies, contact the Cook County Clerk at cookcountyclerk.gov or (312) 603-5656.

Reassessment Year: 2022
The estimated Fair Market Value of this property is: **\$440,000**

How Our Office Combines Experience, Data, and Technology to Estimate Your Home's Value

1 Collect market data

The CCAO collects data from the Illinois Department of Revenue about which homes have sold, their dates of sale, and their sale prices.



2 Conduct field inspections

The CCAO works with local municipalities to identify substantial changes in property characteristics, such as the addition of a garage. We verify and update those characteristics in our system.



3 Build models to estimate value

Characteristics affect sale values in different, often complex ways. In order to detect the many different ways that homes' physical characteristics and locations impact sale prices over time, we design a range of statistical and computer algorithms. These algorithms, called models, are similar to the kinds of models used by many private sector companies, like Zillow and Redfin. These models are designed to estimate hundreds of thousands of property values in a few hours.



4 Test models on market data

On average, some models are better at estimating sale prices than others. We test each model by providing it a set of homes and their characteristics and producing estimated values for each one. Then, for each model, we can compare these estimated values to actual sale prices.



6 Produce first estimates of all home values

During a reassessment, the CCAO must produce an estimated market value for every property in the triennial area. To accomplish this, we enter each property's characteristics and location into our best models, and the models return estimates of market value.



7 Review, correct, and verify

Our analysts examine estimated Fair Market Values for different property classes, neighborhood by neighborhood, to verify that the model has performed effectively and that values fall in a reasonable range. If necessary, they make corrections.



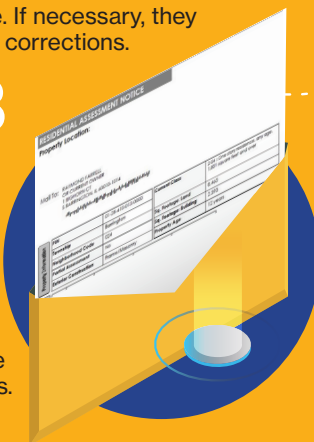
5 Select the best valuation models

We analyze each model's accuracy by comparing its estimates to actual sale prices. We also measure the model's fairness using international standards for uniformity. We select the models that most accurately and equitably predict fair cash values.



8 Mail values

After these extensive stages of computer-assisted analysis of real estate data, mass appraisal of home values, and analyst verification, we print these estimated Fair Market Values on reassessment notices and mail these notices to homeowners.



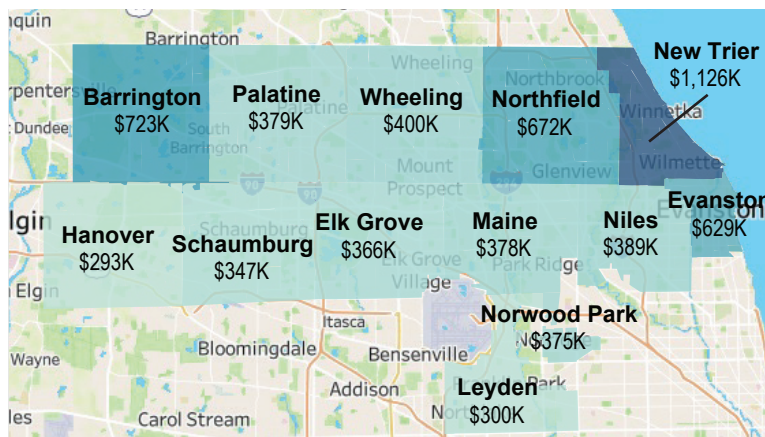
Your Home's Assessed Value: How the Assessor Follows the Market

Cook County is the largest market-based assessment jurisdiction in the United States. This means that during a reassessment year, the values of all properties are re-estimated based on recent trends in the real estate market. Buyers and sellers set prices for homes, and the CCAO aggregates these market trends to impartially estimate the Fair Market Value of all homes being reassessed.

Because reassessments are market-based, a home's Assessed Value doesn't depend on what its Assessed Value was in a prior year. It depends instead on recent sales trends of similar homes. A property's assessed value can change significantly from its prior reassessment due to changes in the local real estate market – even if there have been no changes to the home. In the north suburban reassessment in 2022, our office had access to sale data through the end of December 31, 2021.

Real Estate Trends: North Suburban Townships

Median sale prices in 2022



The north suburbs are home to 13 townships.

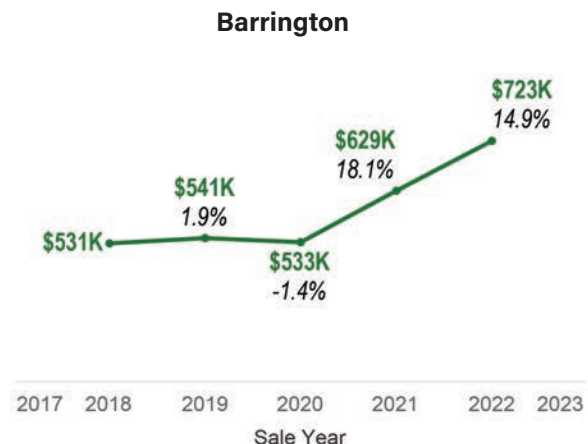
They are mapped to the left along with median single-family home sale prices in 2022. That year, single-family home sale prices were highest in New Trier.

How has the real estate market changed in each township?

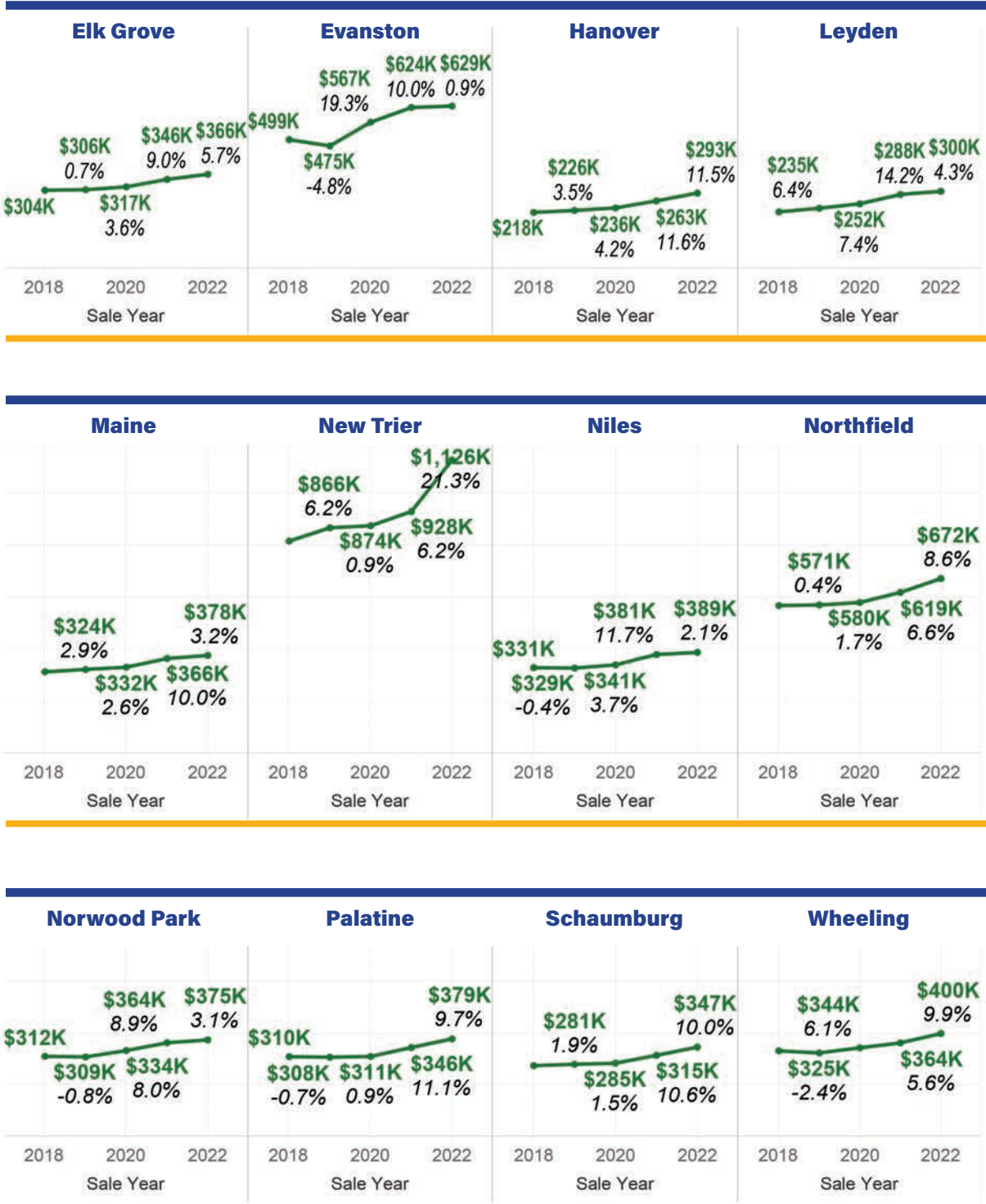
To the right, we show Barrington Township's median sale prices for single-family homes in each year, along with the percent change in sale price compared to the prior year.

Because the north suburbs were reassessed in 2019 and 2022, the 2022 reassessment captured multiple years of real estate growth that occurred during and after 2019.

The following page shows these sale price trends for each north suburban township.



Real Estate Trends: North Suburban Townships



Using sale data to estimate the Fair Market Value of your home - and the rest of your neighborhood:

Each individual home's value reflects a unique combination of characteristics, such as square footage, age, and location.

The CCAO develops an advanced statistical Automated Valuation Model ("the model"), combining it with the expertise of residential analysts and appraisers to analyze trends in sale prices. The CCAO uses these trends to estimate every home's current value, depending on its characteristics and location.

Some neighborhoods have higher sale prices than others. Smaller homes tend to have lower sale prices and larger homes tend to have higher sale prices.

The CCAO's model detects patterns in this data to estimate how much each characteristic may have pushed sale values up or down. In real estate, the rule is "location, location, location!" Because of this, the CCAO's Data team has prioritized adding location factors, such as school district, proximity

to Lake Michigan, and distance to transit stops, into our predictive model. Adding these location factors allows the model and our analysts to detect whether these factors affect real estate values. Sometimes a feature doesn't have a large impact.



Are you a condo owner?

Condos are assessed slightly differently. Condo units transact individually in the market, and the CCAO collects sale data and develops models of patterns. But condo owners own a percentage of the total building it is in. As such, we first determine the total value of the building, then calculate the condo's value based on its percentage of ownership. Your condominium association's Articles of Incorporation state the exact percentage of building ownership for your unit.

For each home...

1

We find trends in sales of homes that are similar to it, in and around its neighborhood.



2

We estimate the home's Fair Market Value, based on those similar homes.



Estimated Fair Market Value



Estimated Fair Market Value

Every year we test multiple different models, each using different statistical methods to calculate how combinations of characteristics are associated with changes in sale values. We test each of these models to see which one produces the most fair and accurate estimates. Once we have selected the best-performing statistical model, we use it to estimate the values of all individual homes – those with and without a recent sale – in a geographic area.

The CCAO's analysts review these estimates, neighborhood by neighborhood, and correct individual properties' assessments as needed. After our analysts complete all reviews and update these property values, the initial values for that township are complete and the CCAO mails an assessment notice to the property's owner, containing the home's characteristics and initial value estimated by the CCAO.

We publish every line of code used to produce and evaluate our models of these home values. You can review the code for our residential models on GitHub, a platform that hosts open-source code. We also regularly publish data sets to the Cook County Open Data Portal.

What happens after assessment notices are mailed to property owners?

The CCAO's goal is that the values we print on the assessment notices mailed to property owners are fair and accurate. One barrier to accurate assessment can be out-of-date data.

If the CCAO's property database reflects incorrect characteristics about a home, such as incorrect square footage, then even the best-performing model – one that produces estimates of values of other homes uniformly and accurately – can produce an estimate of value that is not within a reasonable range of the home's current value.

In 2022, the CCAO added a public access component to iasWorld, our new assessment system of record, which allows property owners and other members of the public to look up and verify characteristics for individual homes. Internally, we continue to improve the accuracy and granularity of our data so our models can detect subtle trends in real estate patterns.

Appeals are meant to correct errors.

Assessment appeals can be filed with the CCAO and, later, with the Cook County Board of Review. For each appeal filed at the CCAO, our analysts review evidence submitted with the appeal along with their own analysis. We decide whether an adjustment to the property's assessed value is merited.

We measure our performance at every step of the assessment process using international standards for high-quality assessment. In 2022, the CCAO met the standard for accuracy, uniformity, and equity in all 13 of the townships in the north suburban reassessment.

Details on these standards and our results are in the next section.

Measuring Fairness in Assessments

There are many ways to analyze assessment quality. Since 2019, we have measured our work against industry standards set by the International Association of Assessing Officers (IAAO).

The IAAO defines three standards that must be met to reach the standard for high-quality assessments: accuracy, uniformity, and equity.

We can measure how well we meet the IAAO's standards by comparing a property's estimated Fair Market Value to its recent sale price. This comparison is called a sales ratio.

Below is an explanation of how sales ratios can confirm fair valuations, as well as examples of over- and underassessment. It's important to note that sales ratios should be analyzed over large areas. It is not the case that all ratios for every property should always equal 1.0.

$$\text{sales ratio} = \frac{\text{Estimated Fair Market Value}}{\text{Recent Sale Price}}$$

A property's sales ratio is calculated by dividing its estimated Fair Market Value by a recent sale price

Here are some examples of sales ratios:



$$\frac{\$104,000}{\$100,000} = 1.04$$

- In 2022, the CCAO estimated this property's FMV as \$104,000. It sold in 2021 for \$100,000. Its ratio is 1.04, suggesting a fair, reasonable valuation.



$$\frac{\$104,000}{\$87,000} = 1.17$$

- This property's sales ratio is 1.17. This property is over-valued: Its estimated FMV is 17% higher than its actual sale value.



$$\frac{\$104,000}{\$135,000} = 0.80$$

- This property's sales ratio is 0.80. This property is under-valued: Its estimated FMV is 20% lower than its actual sale value.

IAAO Standards for High-Quality Assessments

Accuracy

Estimated values should be reasonably accurate. The typical median sales ratio should be within 0.9 and 1.1, indicating that estimated values are within 10% of sale prices.

- o Median sales ratios lower than 0.9 indicate under-assessment, while ratios higher than 1.1 indicate over-assessment. If this occurs, it indicates that some property owners may have paid more or less than their fair share of taxes.

Uniformity

Sales ratios should be uniform, or precise. Similar properties with substantially different sales ratios indicates non-uniformity. Take two homes with ratios of 0.8 and 1.2 – even though their average is 1.0, they are not uniform.

- o Uniformity is measured using a statistic called Coefficient of Dispersion. This measures how far away a typical property's ratio is from the median ratio. When most ratios are close to the median, assessments are uniform. When ratios vary, assessments are imprecise, or non-uniform.

Equity (*Vertical Equity*)

Assessments should be equally precise for properties that sold for \$100,000 and those that sold for \$1,000,000. The IAAO measures equity by analyzing whether sales ratios are systematically higher or lower based on properties' sale prices.

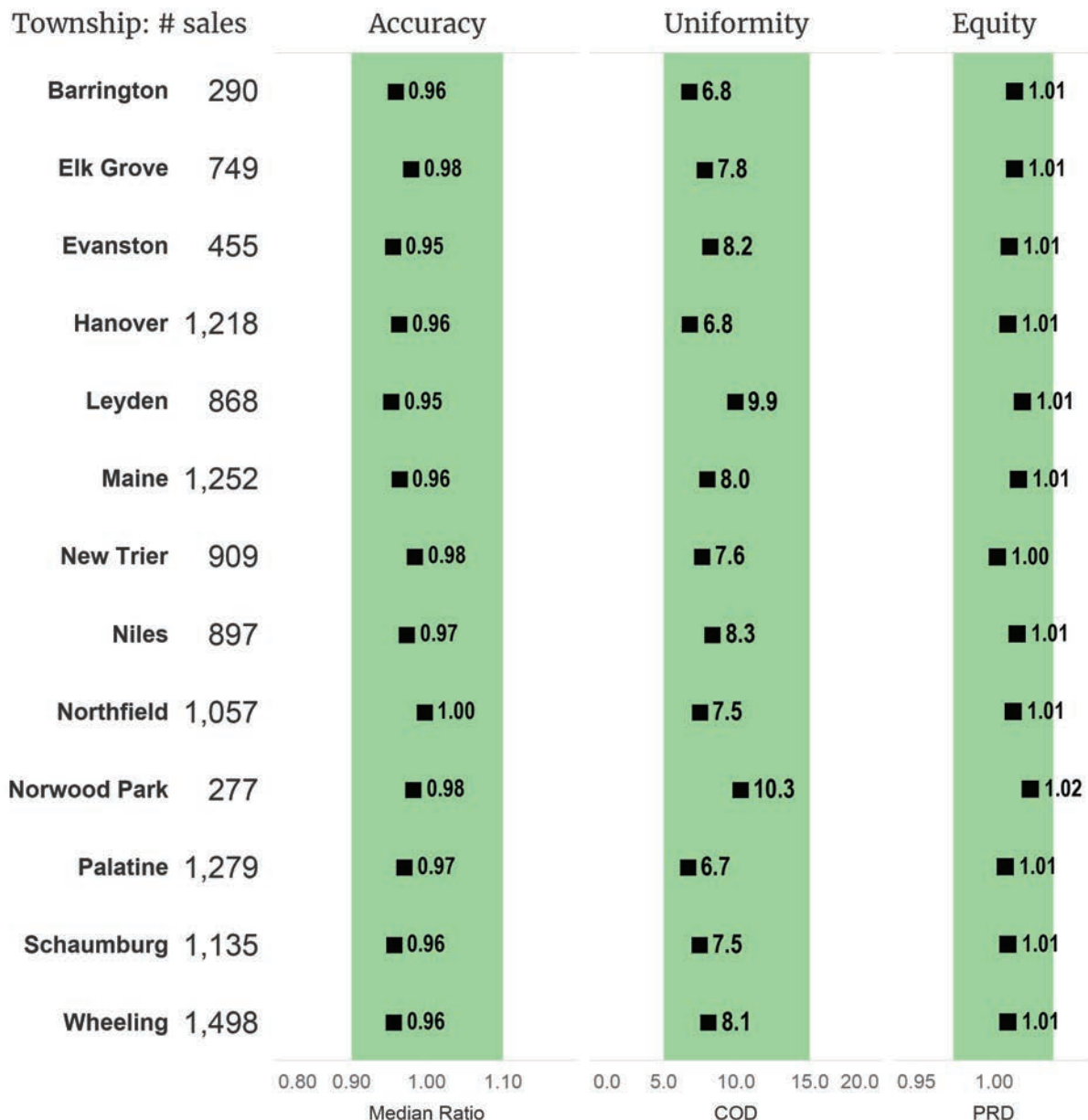
- o Regressivity occurs when properties with lower sale prices have higher sales ratios, on average, than properties with higher sale prices.
- o Progressivity occurs when properties with lower sale prices have lower sale ratios, on average, than properties with higher sale prices.
- o Equity is measured using two statistics: Price-Related Bias and Price-Related Dispersion. If one of these statistical tests meets IAAO standards, assessments meet the IAAO standards on equity.

Results: North Suburban 2022 Assessment Quality

The CCAO is committed to measuring the quality of its valuations. After the reassessment of each township, we publish reports that evaluate our single-family home assessments in accordance with the IAAO's standards.

The CCAO met IAAO standards for assessment accuracy, uniformity, and equity in all 13 townships. Below are the ratio study statistics for each township.

The below ratio study consists of 11,884 sales, comparing 2021 sale prices to 2022 assessments.



Commercial Property Valuation

As with residential property, the CCAO is charged with estimating the Fair Market Value of commercial and industrial property in a way that reflects the market.

A property is used for commercial purposes if it is used primarily for buying and selling goods and services, or for otherwise providing goods and services. Commercial use includes real estate used for hotels, retail, offices, or multi-family apartment buildings of more than six units. Industrial property is used primarily in manufacturing or in the extraction or processing of raw materials to create new physical products. Other industrial uses could involve the processing of materials for recycling or the transportation, storage, or distribution of goods for sale or leasing.

Commercial property value depends on more than just location and characteristics like square footage; it also depends on the building-associated income (like rent), expenses (like maintenance), and vacancy. These numbers often vary for different business types (for example, apartments versus offices) in each township.

Put simply, our office looks at commercial property the way a buyer would approach a market transaction: by examining its highest and best use through three valuation approaches:

- Income
- Sales comparison
- Cost

Our office primarily relies on the income approach, with secondary support and consideration from the sales comparison approach. Sales are closely examined as part of our inputs and validations. In cases of new construction, a cost approach may be developed to estimate the value of the improvements.

Primarily relying on the income approach allows the office to closely reflect market practice and conditions, which tend to analyze properties based

on income factors, and reflects changes in asset market conditions, such as interest rates and rates of return.

Outside of estimating new construction, the cost approach is less helpful, as many commercial properties routinely trade well above their net book values (gross cost of construction minus depreciation) and many commercial properties grow in value over time, even as their net book values decline.

Assessors are mass appraisers and must develop mathematical models that consider these approaches to valuation with reasonable accuracy. These models depend on the collection, verification, and analysis of market data. They also depend on the uniform application of this data to the applicable property types. In doing so, assessors reflect a market that considers the relationship between property value and other supply and demand factors.

How our analysts produce property values of a commercial property

First, our office determines a property's use by reviewing the property's history, including property class, tenants, business, and external/aerial photography of the parcel. It is important to understand the property characteristics in order to properly group the property with similar or like-kind property types.

Then we examine the income generated by the property. Most often, rent is the primary source of income for commercial property. Other incidental income streams may include fees from parking or advertising signage.

Next, we examine market-level vacancy based on location and property type. Some level of commercial property vacancy is normal and expected.

How we changed our vacancy policy

In 2020, our office adopted a new vacancy policy to help incentivize commercial development and ensure that fair vacancy rates are used in our calculations. Commercial property owners who have made a good-faith effort to lease vacant space will receive up to 24 months of full or partial vacancy reduction. Both commercial and residential property owners will also receive vacancy reductions in case of fire or natural disaster.

Finally, we look at expenses such as property taxes, insurance, repair and maintenance costs, property management fees, and service expenditures for professional services.

Capitalization Rates

Once we've been able to recreate a snapshot of a property's income statement based on market data, we use a standard valuation metric called a "capitalization rate" to convert income to value.

This capitalization rate (or cap rate) quantifies the relationship between a single year's Net Operating Income (income minus expenses) and the total property value. The rate is calculated as the Net Operating Income divided by the estimated value of that building. This is represented by the formula $Io/Ro = Vo$, where overall net income (I) to the property, divided by overall cap rate (R), equals overall value of the property (V).

Let's walk through a couple examples to demonstrate the valuation under the direct capitalization approach.

Example 1

Short form showing just the application of a cap rate to Net Operating Income

["NOI"] = \$10,000

Market cap rate = 8%

$(Vo = Io/Ro) \rightarrow Vo = \$10,000/.08 = \$125,000$ Fair Market Value

The level of assessment is then applied to the Fair Market Value to arrive at the Assessed Value. A commercial property assessed at a 25% level of assessment would result in an Assessed Value of \$31,250.

Example 2

Development of the direct capitalization income approach

Potential Gross Income ["PGI"]	\$100,000
- Vacancy	(\$5,000) or 5%
Effective Gross Income ["EGI"]	\$95,000
- Operating expenses	(\$30,000) or 30% ratio incl. real estate taxes
- Reserve for Replacements	(\$5,000)
Net Operating Income ["NOI"]	\$60,000
Market cap rate = 8%	

Estimated value using NOI and cap rate $Vo = Io/Ro = \$60,000/.08 = \$750,000$

Assessed Value at 25% level of assessment: \$187,500

How our office uses market indicators to assess commercial property

We don't have real-time income, expense, or vacancy information for every property, so we develop market estimates using reliable sources of data. We gather market data from many industry-specific sources. In addition, we speak with local investors, appraisers, and other market participants to develop a sense of market-specific trends.

While local trends may affect cap rates, by using industry-leading sources as a guide, we provide the predictability and confidence necessary to support Chicago and Cook County's commercial real estate market.

How we made our assessments more transparent

In 2021, our office began publishing commercial valuation methods. Starting with the City of Chicago, data used to calculate the assessment of every individual commercial property is now available online. This includes detailed information on apartment buildings, hotels, retail and office space and industrial buildings in Chicago. Each spreadsheet can be sorted and analyzed by property type and township. For each individual building, the data contains: property characteristic data, data pertaining to the estimated income, expense ratio, vacancy, net operating income (NOI) and capitalization rate and the estimated market value.

Before these reports, data was only available to property owners through a Freedom of Information Act request.