Cook County Assessor's Office: 2019 North Triad Assessment

Norwood Park Residential Assessment Narrative

March 11, 2019

# Norwood Park Residential Properties Executive Summary

- This is the current CCAO's first township-level report released in conjunction with the triennial re-assessment detailing our methods and performance statistics on the assessment process.

- Since the 2016 re-assessment, property values in Norwood Park have increased by about **25%.*** The median increase in assessed values for residential properties between the 2016 and 2019 re-assessments is **23%.**

- The CCAO met the legal requirement to assess residential properties at a 10% assessment ratio.

- The CCAO met the International Association of Assessing Officers (IAAO) standards for uniformity.

- The CCAO will continue its efforts to make assessments fair by improving residential modeling and data collection.

* According to the DePaul Institute for Housing Studies

Norwood Park Residential Properties Valuation Statistics

The aggregate assessed value of residential properties* in Norwood Park has increased from $237,387,306 in 2018 to $280,640,162 for the 2019 re-assessment.

- 2018 MEDIAN SALE PRICE $311,000

- MEDIAN CURRENT ASSESSED VALUE (AV) $31,100

- MEDIAN % CHANGE **   23%

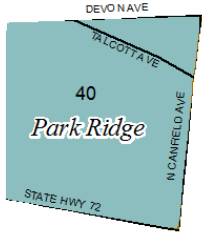- MEDIAN ASSSESSED VALUE (AV) CHANGE $6,069
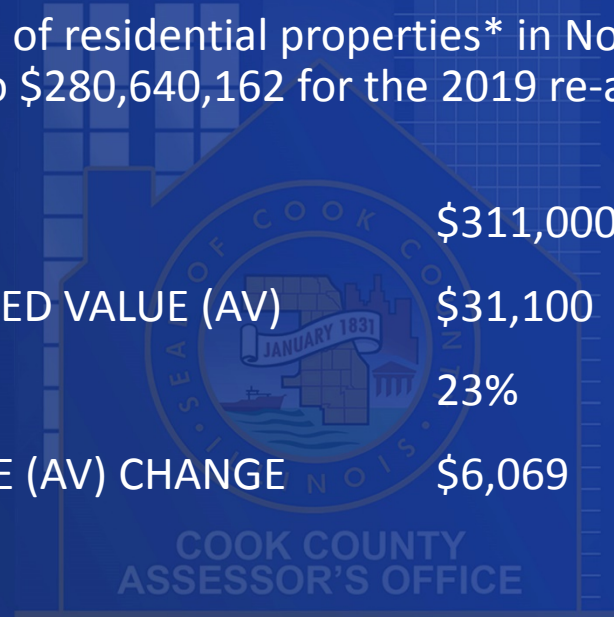
* Includes single-family, multi-family, condominiums, but excludes vacant land classes based on previously reported data from the Board of Review
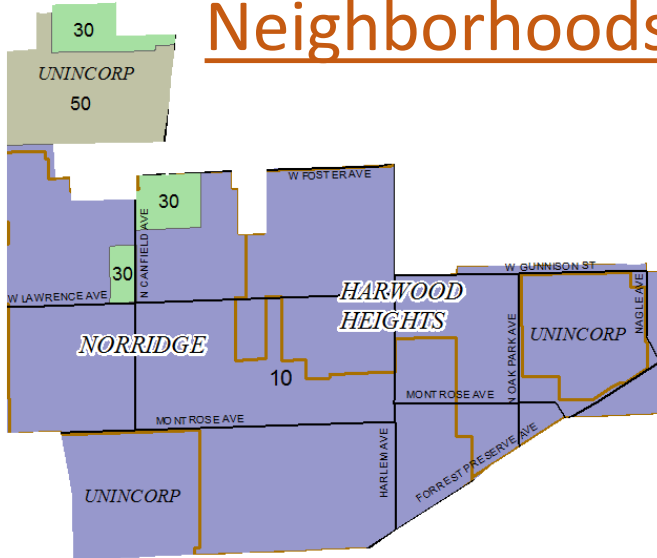** For 2016-2019 tax years. This statistic differs from the "change in median" statistic.

Norwood Park
# Methodology and Approach

Norwood Park Neighborhoods

Norwood Park is located on the northwest border of the City of Chicago, and with 8,983 single-family PINs it is the second smallest township in the north triad.

Due to the small size, our office combined sales data from both Norwood Park and Leyden townships in order to assess residential properties in this township. This created a sales database of 10,010 sales ranging from 2013 to the end of 2018. These sales are recorded by the Cook County Recorder of Deeds and reviewed by the Illinois Department of Revenue before entering our database.

Norwood Park
Methodology and Approach
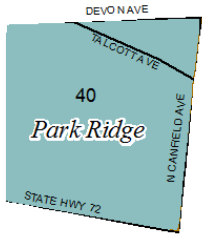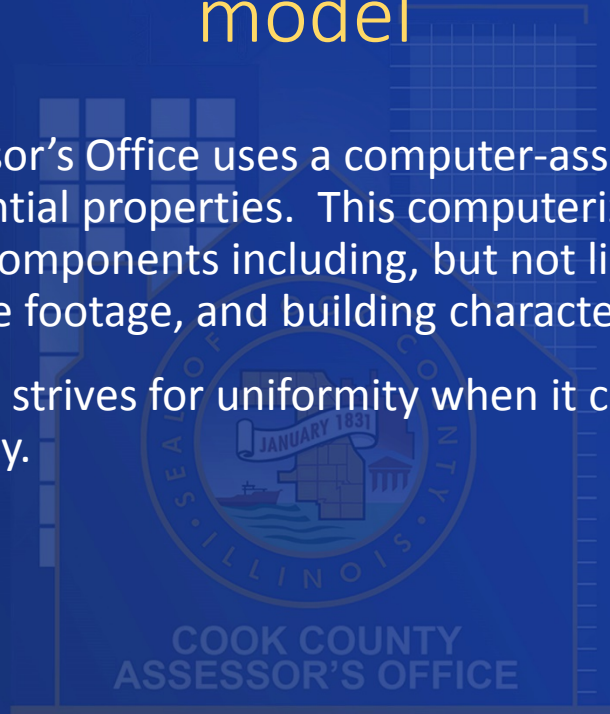

Norwood Park Neighborhoods
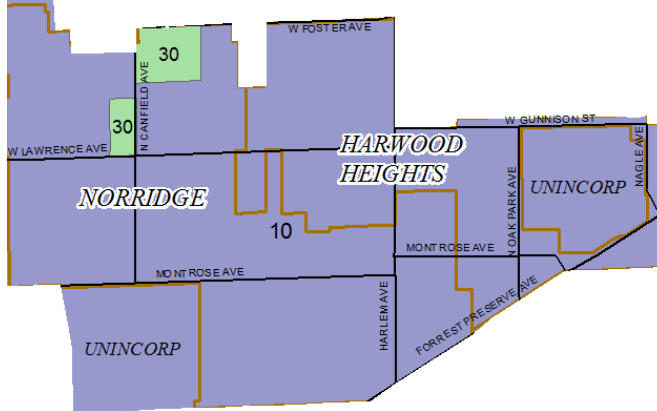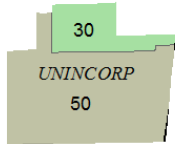
We are working on an in-depth report on the process of collecting data, deploying statistical models, and valuing property to be released later this year.

We've created this report in order to provide a high-level overview of the outcome of the residential valuation process for each township.

Why the CCAO uses a "mass appraisal" model

The Cook County Assessor's Office uses a computer-assisted mass appraisal method to value residential properties. This computerized model considers several different value components including, but not limited to, sales, land, location, building square footage, and building characteristics.

The assessment process strives for uniformity when it considers properties' size, age, location, and quality.

Norwood Park Single-Family Home Sales

Norwood Park Neighborhoods
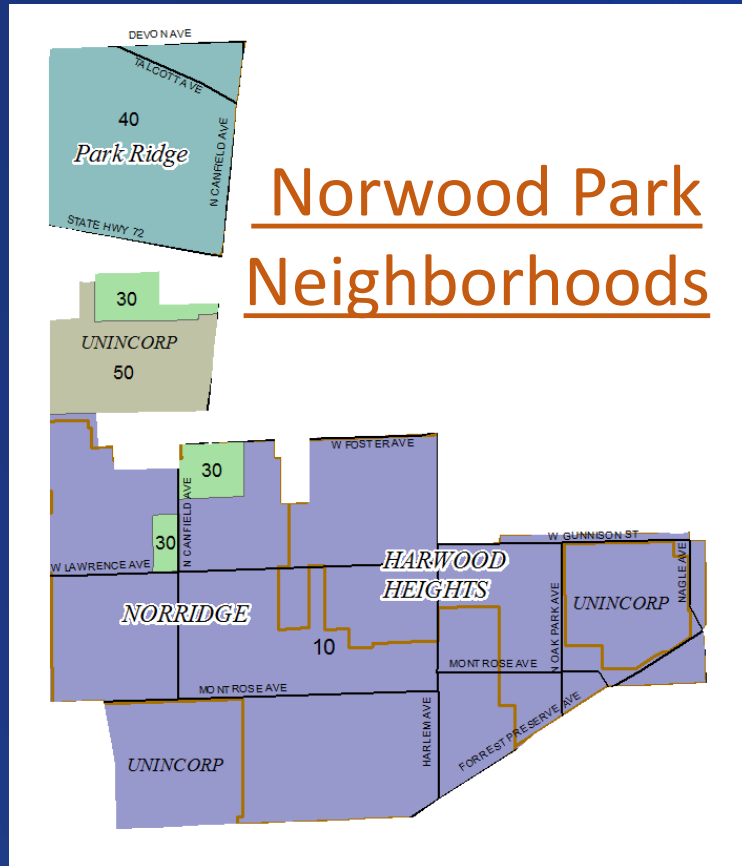
By Neighborhood

CCAO Neighborhood Code: 10

OVERALL MEDIAN SALES 2018 = $279,900

MEDIAN CHANGE % AND ACTUAL:
22% and $5,369

CCAO Neighborhood Code: 30

OVERALL MEDIAN SALES 2018 = $285,000

MEDIAN CHANGE % AND ACTUAL:
29% and $8,407

Note: Years listed above are calendar years.

Norwood Park Single-Family Home Sales
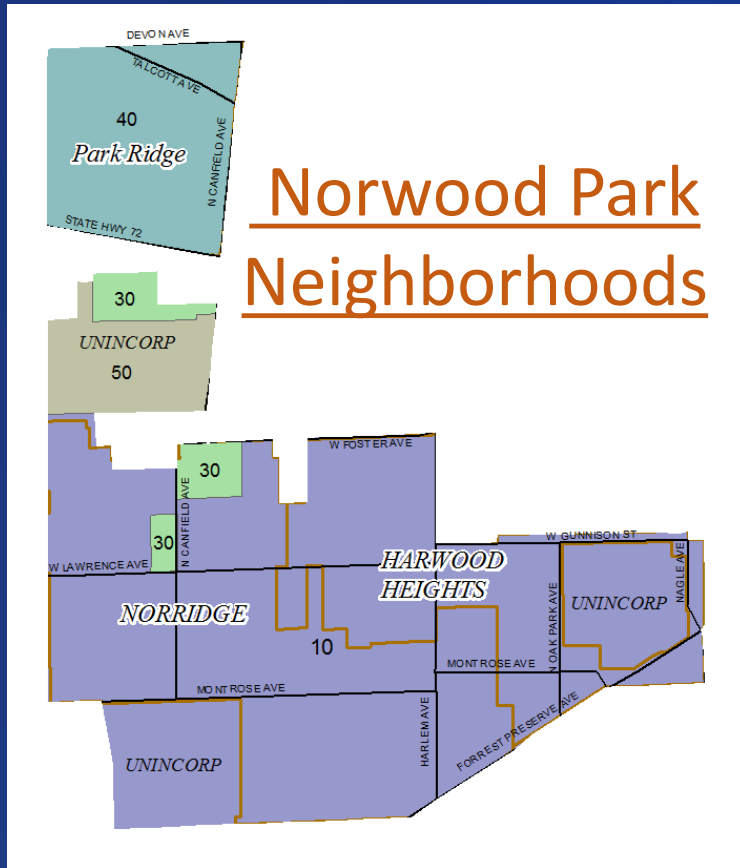
Norwood Park Neighborhoods

By Neighborhood

CCAO Neighborhood Code: 40

OVERALL MEDIAN SALES 2018: $370,000

MEDIAN CHANGE % AND ACTUAL:
27% and $8,486

CCAO Neighborhood Code: 50

OVERALL MEDIAN SALES 2018: $345,000

MEDIAN CHANGE % AND ACTUAL:
28% and $8,434

Home Sale Trends Affecting Re-Assessment

Like many Assessors across the country, the Cook County Assessor's Office uses computer-assisted mass appraisal methods to estimate the value of property. This involves two steps.

First, the office collects and stores characteristic information on every residential property in the county. This data must be constantly maintained and updated in order to stay current.

Second, the CCAO uses that data to estimate a series of linear regression models (OLS), selecting the model that best fits the sales data that we have. The CCAO then performs a number of post-modeling adjustments to fine-tune assessments, including an inspection of outliers for incorrect characteristic information.
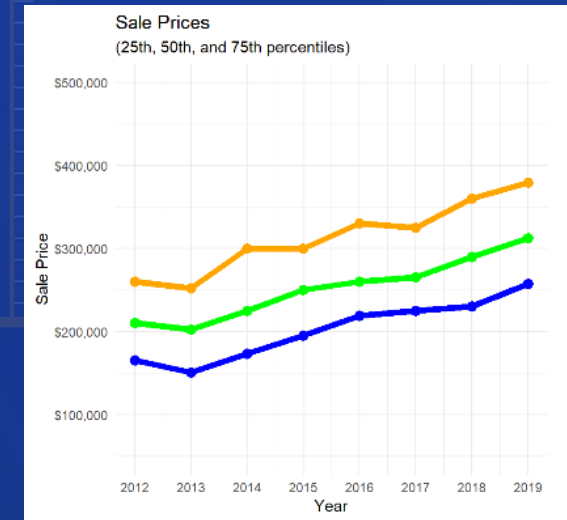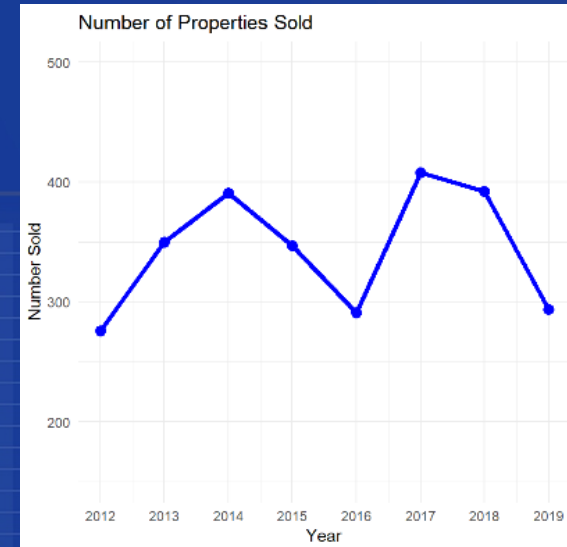
Home Sale Trends Affecting Re-Assessment

The charts on the right summarize the market trends in Norwood Park since tax year 2013 from the perspective of the CCAO's Data.

The top chart shows the number of residential sales in each year. While there has been some fluctuation in market volume over the period, we do not observe extreme volatility.

The bottom chart shows the trends in median sale prices for the township described above. In general, the increases in assessed values discussed in the previous section are consistent with observed market activity.

Number of Properties Sold

Sale Prices
(25th, 50th, and 75th percentiles)

Other Characteristics Affecting Re-Assessment

In addition to sales data, other factors—that are not sales-driven—affect the models we create for re-assessment. They are:

- Building square footage
- Land square footage
- Number of full bathrooms
- Number of rooms
- Finished basements
- Age
- Exterior wall construction
- Garage
- Location - Township and CCAO Neighborhood Codes

Our full models and the underlying code used in our calculations will be published after the north triad assessment is completed in the fall of 2019. We will also provide information on median ratio and assessed values later in the year.

Grading the Quality of Our Assessments

The International Association of Assessing Officers (IAAO) establishes a standard set of statistics that measure the quality and uniformity of assessments. In general, there are two ways to measure uniformity:

* Are similarly priced homes valued similarly? This speaks to *variability*.
* Are differently priced homes valued proportionately? This speaks to *vertical equity*. (Vertical equity measures the degree to which high-value properties are assessed at the same rate as low-value properties.)

 In the first case, if assessments are high quality, you would expect two homes that sold for $100,000 each to be valued at $100,000 each. The farther apart their assessments, the lower the quality of assessments.

In the second case, you would expect two homes that sold for $100,000 and $200,000 each to be valued at $100,000 and $200,000 respectively. If you instead saw values of $100,000 and $190,000, you would conclude that the assessments were slightly regressive, valuing higher value homes at systematically lower values.

Grading the Quality of Our Assessments

The IAAO has three metrics of uniformity: the Coefficient of Dispersion (COD), which measures variability, and Price-Related Differential (PRD) and Price-Related Bias (PRB), which both measure vertical equity.

Each of these statistics have ranges considered to indicate high-quality assessments.

- CODs between 5 and 15 indicate high-quality assessments.
- PRDs between .98 and 1.03 indicate high-quality assessments.
- PRBs between -.05 and .05 indicate high-quality assessments.

To summarize our performance in 2019 in the Norwood Park township:

- The CCAO met the IAAO standards for uniformity.
    - The CCAO met the standard for variability, measured by COD.
    - The CCAO met the IAAO standard for vertical equity measured by PRD, and came very close to meeting the desired PRB target range.*

*If *either* PRD *or* PRB falls within target range, the standard for vertical equity is met.

Grade 1: COD

Coefficient of Dispersion

This metric approximates the expected variability in the value estimate of similar homes. **CODs between 5 and 15 indicate high-quality assessments.**

Suppose you have two homes that both sold in the same year for $100,000, but the assessments on those homes were $8,500 and $11,500.

In this case, the COD for these properties would be 15, which is as high as it could be and still be considered a high-quality assessment. In general, if same-priced homes' assessments are more 'spread out,' CODs are high and assessment quality is lower.

Grade 1: COD

The graph below shows that our COD for the 2019 re-assessment for this township is 13. As it is between 5 and 15, it is within the IAAO standard for variability.
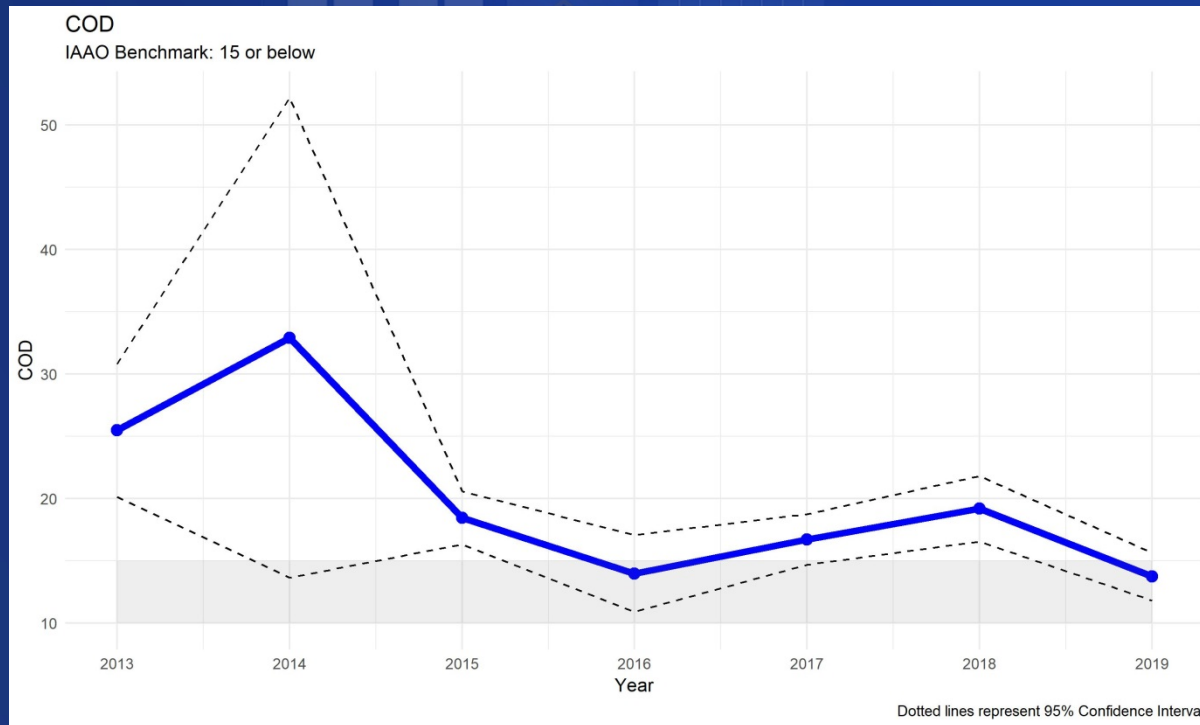
Grade 2: PRD

Price-Related Differential

PRD is a metric of vertical equity that measures the degree to which higher valued homes are assessed at the same rate as lower valued homes.

For example, assume a jurisdiction contains two homes, one worth $100,000 assessed at 12% and one worth $1,000,000 assessed at 8% of the fair market value.

The mean ratio would be 10% (12%+8% divided by 2) while the weighed mean ratio would be 8.4% (12%*100,000+8%*1,000,000 divided by 1,100,000). The resulting PRD (10% divided by 8.4%) would be 1.20, which indicates a very regressive system.
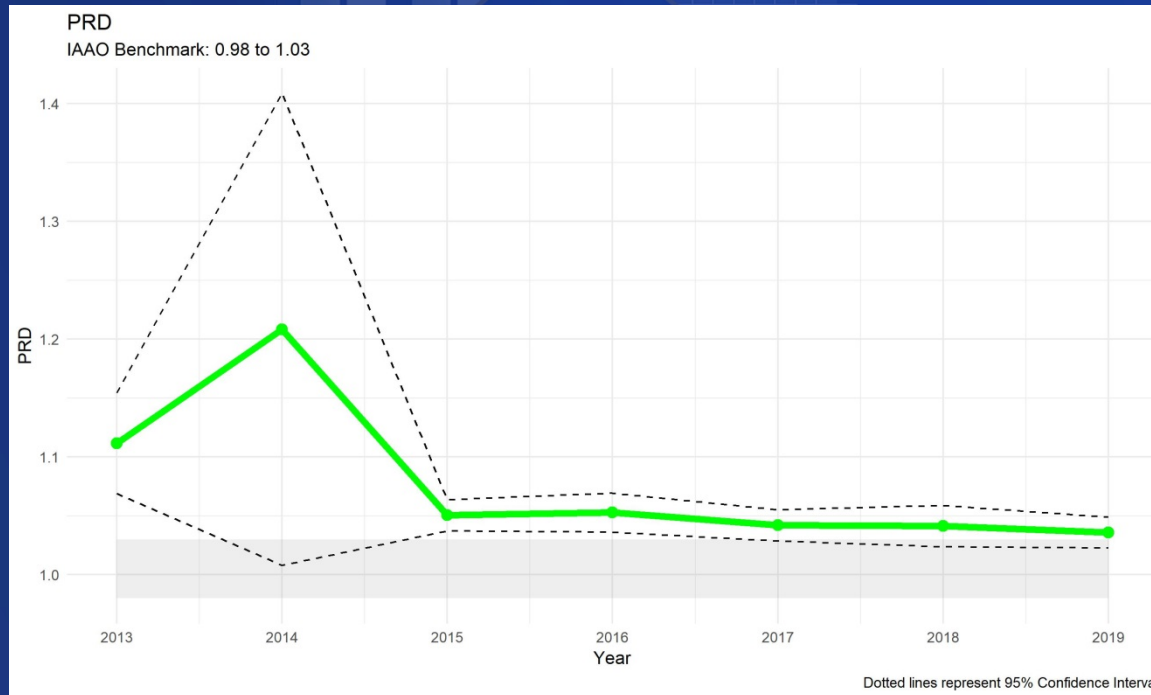
Grade 2: PRD

PRDs between .98 and 1.03 indicate high-quality assessments. The graph below shows that the PRD is 1.03059 for our 2019 assessments of this township, which is statistically still within the target range based on the confidence interval.

The vertical equity component of the uniformity goal is met.

Grade 3: PRB

Price-Related Differential

PRB is also a metric of vertical equity. This metric denotes the expected proportionate increase in the assessment level when comparing a home of twice the value.

For example, if the PRB is -0.25, and a $200,000 home is assessed at 10%, a $400,000 would home would be assessed at 7.5% (corresponding to the effective tax rate for the latter home being 25% less than former home).
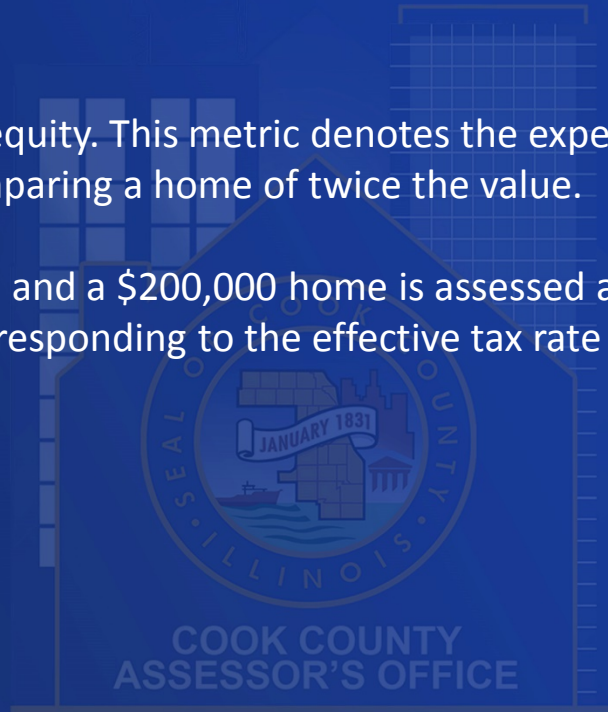
Grade 3: PRB

PRBs between -.05 and .05 indicate high-quality assessments. The graph below shows that the PRB for our 2019 assessment of this township is **.113.**

Though we met other IAAO standards, we didn't meet the target range for PRB. It is a goal for the CCAO to meet this standard in the future.
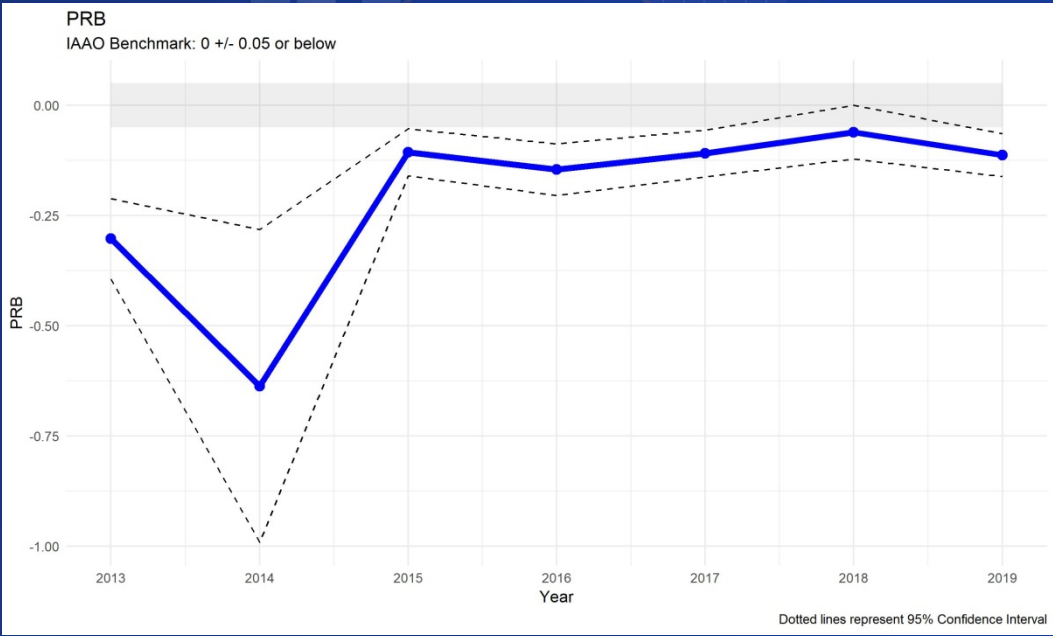
Norwood Park Residential Properties Conclusions

- With assessments that track market trends and meet the industry standards for compliance and uniformity, the CCAO has high confidence in the quality of the Norwood Park assessments.

- Norwood Park's assessment process benefits from a homogenous housing stock and a smaller total number of properties. Other townships have different sizes, characteristics and data. These qualities may impact the level of variability and vertical equity the CCAO achieves within other townships which are more heterogeneous.

- Improvements over time to both our modeling and data quality should make it possible for the CCAO to consistently achieve its goal of meeting or exceeding the IAAO standards.

- The CCAO will release its models and code in 2019 once the full assessment period is complete which will allow others to check its work.

Norwood Park Residential Properties Conclusions

The CCAO is involved in a years-long effort to improve the quality of its assessments.

First, we continue to build our ability to model and detect increasingly fine patterns in our data.

Second, and perhaps more importantly, we are working to improve the accuracy, timeliness, and granularity of our data and better identify these more granular, difficult-to-observe features of residential property.

The details of these efforts will be included in a future report.