

2020 Property Values and Assessment Practices Report

Assessment Year 2019

Property Tax Division

March 1, 2020

Per Minnesota Statutes, section 3.197, any report to the Legislature must contain, at the beginning of the report, the cost of preparing the report, including any costs incurred by another agency or another level of government.

This report cost \$8,100.



March 1, 2020

To Members of the Legislature of the State of Minnesota:

I am pleased to present to you this report on property values and assessment practices in Minnesota, the 18th annual version of this report. Since 2012, this report has been combined with the annual report related to agricultural properties and Green Acres, satisfying the requirements of both Minnesota Statutes, section 273.1108, and Minnesota Laws 2001, First Special Session, chapter 5, article 3, section 92.

This report provides a summary of assessed property values and assessment practices in Minnesota, with an emphasis on market values for 2a agricultural and 2b rural vacant land properties, and Green Acres value methodology and determinations.

Sincerely,

A handwritten signature in blue ink, reading 'Cynthia Bauerly'.

Cynthia Bauerly
Commissioner
Minnesota Department of Revenue

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Introduction

This is the 18th annual report to the Minnesota Legislature on property tax values and assessment practices in the state. The Legislature mandated this report from the Minnesota Department of Revenue in 2001. Since 2012, this report has been combined with the annual report about agricultural properties and Green Acres, satisfying the requirements of both Minnesota Statutes, section 273.1108, and Minnesota Laws 2001, First Special Session, chapter 5, article 3, section 92.

As required by those mandates, this report contains:

- Information by major types of property on a statewide basis and at various jurisdictional levels
- Recent market value trends
- Trend analysis of excluded market value
- Assessment quality indicators, including sales ratios and coefficients of dispersion for counties
- A summary of State Board Orders issued in 2019
- Green Acres value methodology and determinations
- Assessment and classification practices for class 2a agricultural and 2b rural vacant land property

This report provides an accurate description of the current state of property tax assessment and an overview of the department's responsibility to oversee the state's property tax assessment process. This report collects property value data for the purpose of monitoring and analyzing underlying value trends and assessment quality. This information and analysis informs government officials and the public about valuation trends within the property tax system.

Overview of the Minnesota Department of Revenue's Role

Property taxes are an important source of revenue for all local units of government in Minnesota, including counties, cities, townships, and school districts. The primary responsibility of the department's Property Tax Division is to ensure fair and uniform administration of, and compliance with, state property tax laws.

The Property Tax Division measures compliance with property tax laws through:

- The State Board of Equalization, which ensures that property taxpayers pay their fair share – no more and no less. The Department of Revenue, acting as the State Board of Equalization, has the authority to increase or decrease assessed market values in order to bring about equalization.
- Promotion of uniformity of administration among the counties to ensure that each taxpayer will be treated in the same manner regardless of where the taxpayer lives.
- Delivery of accurate and timely aid calculations, certifications, and actual aid payments.
- Education and information for county officials, including technical manuals, bulletins, answers to specific questions, and courses taught by division staff. These offerings provide county officials the support and training necessary to administer property tax laws equitably and uniformly.

The classification system is another part of the Minnesota Department of Revenue's efforts to measure assessment quality. The sales ratio study and State Board of Equalization use property classifications to

study value trends and accuracy of assessors' valuations. For the purposes of this report, the department has focused on the following major classification types:

- Residential
- Seasonal recreational residential (cabins)
- Apartments
- Commercial
- Industrial
- Agricultural and rural lands

Estimated Market Values and the Sales Ratio Study

Minnesota law requires that all property be valued at its market value. For property tax assessment purposes, the market value is rounded to the nearest \$100. Assessors are required to determine the value of the land, the value of the structures and improvements to the land, and the resulting total market value.

The “market value” used for property tax purposes is the “open market value,” which is the price a property would sell for under typical, normal, and competitive conditions. It is also called the estimated market value (EMV). The most common method to determine EMVs is the comparable sales approach.

To evaluate the accuracy and uniformity of assessments within the state (and to ensure compliance with property tax laws), the Minnesota Department of Revenue conducts annual **sales ratio studies**. These studies measure the relationship between appraised values and the actual sales price.

Sales Used for the 2019 Assessment Year

The number of sales decreased between the 2017 and 2018 sales ratio study years, though the number of good sales increased for some property types. The data comes from sales that occurred October 1, 2017 – September 30, 2018.

There were 139,803 Certificates of Real Estate Value (CRVs) received in the 2018 sales ratio study for the 2019 State Board of Equalization.. Of these, 89,406 were considered good, current-year, open-market sales. Both numbers decreased from the 2018 assessment (141,124 sales; 90,163 of them “good” sales).

Estimated market values increased for all major property types for the first time since the 2014 assessment. Overall estimated market values increased by 5.4%, continuing to increase at a faster rate than the previous two years (5.3% from 2017-2018 and 4.6% from 2016-2017).

Analysis of Sales Impacting Market Value Changes

Sales ratio studies measure the relationship between appraised values and the actual sales price. A sales ratio is the assessor's estimated market value of a property divided by its actual sales price, as seen here:

$$\text{Sales Ratio} = \frac{\text{Assessor's Estimated Market Value}}{\text{Sales Price}}$$

Equation 1

For example, assume a home was valued by the assessor at \$100,000. The home sold for \$105,000. The sales ratio would be calculated as follows:

$$\text{Sales Ratio} = \frac{\$100,000}{\$105,000} = 95\%$$

2019 Assessment Quality and Sales Ratio Studies on EMVs

The two primary measures of assessment quality are the sales ratio and the “coefficient of dispersion” (COD).¹ Assessment quality improved between the 2017 and 2018 sales ratio studies, as evidenced by a decrease in COD for all property types. (See Appendix A for the median sales ratios and CODs by property type for the 2017 and 2018 sales ratio studies - assessment years 2018 and 2019.)

- Sales ratios measure the **level of assessment** (how close appraisals are to market value on an overall basis). For the 2018 sales ratio study (for the 2019 assessment), the statewide median sales ratios for all property types were in the acceptable targeted range of 90 to 105%.
- Coefficients of dispersion measure the **uniformity of assessment** (how close individual appraisals are to the median ratio and each other). For the 2018 sales ratio study, the statewide coefficients for most property classes except agricultural were within the International Association of Assessing Officers’ (IAAO) acceptable ranges; a higher COD indicates a lack of uniformity in assessments.²

State Board Orders

The State Board of Equalization issues corrective orders when the median sales ratio for a property type is outside the 90 to 105% acceptable range. For the 2018 sales ratio study for the 2019 assessment, 8 counties were issued State Board Orders. In comparison, 13 counties were issued State Board Orders for the 2017 study for the 2018 assessment.

The Minnesota Department of Revenue’s appraisal staff works with assessors to identify areas of concern for future assessments to help avoid State Board Orders. These issues usually fall into three categories:

1. Low sales ratios in areas with a history of few sales
2. Sales ratios near the 90 to 105% range boundaries
3. Areas with uniformity concerns

(See Appendix A for a list of State Board Orders by county for the 2019 assessment, and see Appendix B for a detailed explanation of sales ratio studies used for these board orders.)

¹ As a general rule, sales ratios and coefficients of dispersion are more accurate in classes with more sales activity because a larger sales sample is more likely to reflect the range of values for all properties in the jurisdiction.

² The lower the COD, the more uniform are the assessments. A high coefficient suggests a lack of equality among individual assessments, with some parcels being assessed at a considerably higher ratio than others. Note that property types with smaller sample sizes tend to have lower sales ratios and higher CODs. This is an area of concern with smaller sales samples. The IAAO ranges are also provided in Appendix A.

Statewide Change in Value by Property Type

Statewide Change in Estimated Market Value by Property Type Assessment Years 2018 and 2019

Property Type ³	2018 Statewide Change in Value	2019 Statewide Change in Value
Agricultural / Rural Vacant Land ⁴	-0.6%	0.7%
Apartment	11.5%	11.9%
Commercial	1.3%	3%
Industrial	13.2%	8.8%
Residential (Non-Apartment)	7.2%	7.0%
Seasonal (Non-Commercial)	3.9%	3.4%
Other	5.3%	-0.6%
All Property Types	5.3%	5.4%

Table 1

Recent Trends

Apartments

For the fifth year in a row, apartments' estimated market values (EMVs) grew faster than all other property types, increasing by 11.9% in 2019. This continues a six-year trend where apartment EMVs rose by 10% or more statewide.

Looking geographically, much of this growth is driven by apartments in the seven-county metro area, where 81.8% of apartment EMV in

Percent Change in Apartment EMV Total Yearly EMV (\$/millions)			
Assessment	Twin Cities Metro Area	Rochester, Duluth, St. Cloud	Greater Minnesota ⁵
2017	14.9% \$30,240	13.6% \$1,865	7.1% \$5,241
2018	12.3% \$33,965	12.4% \$2,096	6.2% \$5,564
2019	12.2% \$38,093	21% \$2,536	6.9% \$5,948

Table 2

³ These property types are broad descriptions, and are based on statutory property tax classifications, which are described in detail in Appendix C.

⁴ This property type represents only agricultural and rural vacant land, and excludes the house, garage, and first acre. In previous reports this property type included values for parcels no smaller than 34.5 acres. Since the 2019 Assessment Practices report, all parcel acreages are included, except for the house, garage, and first acre.

⁵ Excluding the cities of Rochester, Duluth, and St. Cloud.

the state is found. Apartment growth in Rochester, Duluth, and St. Cloud has also been high, though the EMV share is much lower. Apartment EMV growth in the rest of Greater Minnesota has been steady and similar to other residential property types.

Agricultural Property

Agricultural property values increased in 2019 for the first year since 2014, albeit by less than 1%.

The increase in value is limited exclusively to non-homesteaded agricultural property. Homesteaded agricultural land EMV decreased by 0.7%, whereas non-homesteaded agricultural land EMV increased by 2.8%. This could be due to more agricultural homesteads owning more land over the first tier of value (\$1.88 million in 2019), or fewer homesteaded agricultural parcels in general.

Residential Property

Residential non-apartment EMV increased at a slightly slower rate than last year, though EMV is still increasing faster than most other property types.

Looking geographically, residential values grew at a similar rate across our three geographic areas. Metro values increased at a lower rate than last year, while EMV growth in the other two regions slowed.

Percent Change in Residential Non-Apartment EMV Total Yearly EMV (\$/millions)			
Assessment	Twin Cities Metro Area	Rochester, Duluth, St. Cloud	Greater Minnesota ⁵
2017	7.1% \$253,120	6.0% \$14,285	5.3% \$116,823
2018	7.5% \$272,100	7.0% \$15,281	6.5% \$124,360
2019	7.2% \$291,566	7.0% \$16,352	6.7% \$132,661

Residential values are heavily concentrated in the metro area, but in a smaller proportion compared to apartments. **Table 3**

Seasonal Recreational Residential Property

Seasonal properties' market values continue to grow more slowly than residential homestead values. Values increased slightly less than last year but still outpaced growth from 2015-2018.

Commercial/Industrial Property

For the 2020 Assessment Practices report, commercial property has been reviewed independently from industrial property. This is because current and historical data has shown that commercial property EMV is increasing at a much lower rate than that of industrial property.

Percent Change in Commercial and Industrial EMV for Assessment Year 2019				
Class	State Total	Twin Cities Metro Area	Rochester, Duluth, St. Cloud	Greater Minnesota ⁵
Commercial	3%	3.2%	3.3%	2.3%
Industrial	8.8%	9.7%	4.3%	6%

Table 4

Commercial Property

Commercial EMV increased at a higher rate than last year, but still lags behind every other major property type except for agricultural.

Properties that are considered commercial include properties such as office buildings, retail stores, malls, hotels, banks, restaurants, and service outlets. In 2019, the majority of the \$66 billion of statewide commercial EMV (70.3%) was within the metro area, 7% in Rochester, Duluth, and St. Cloud, and the remaining 22.7% in the rest of Greater Minnesota.

Growth is lower in Greater Minnesota, however it is still an improvement from 2018, when commercial EMV decreased. Overall, changes in commercial EMV have been varied over the past three years, both statewide and within different geographic areas.

Percent Change in Commercial EMV				
Assessment Year	State Total	Twin Cities Metro Area	Rochester, Duluth, St. Cloud	Greater Minnesota ⁵
2017	5.1%	6.1%	1.3%	3.2%
2018	1.3%	1.6%	3.5%	-0.3%
2019	3%	3.2%	3.3%	2.3%

Table 5

Industrial Property

While commercial EMV has been increasing at a relatively slow pace, industrial EMV has been growing at one of the highest rates of all major property types over the last three years.

The statewide estimated market value is the smallest of the major property types at \$23.9 billion in 2019, with 76.3% of the value located in the metro area. Only 2.5% of statewide EMV is located in Rochester, Duluth, and St. Cloud, which may result in more extreme yearly changes. The remaining 21.2% is located in the rest of Greater Minnesota. This distribution is relatively similar to that of commercial properties.

Percent Change in Industrial EMV				
Assessment Year	State Total	Twin Cities Metro Area	Rochester, Duluth, St. Cloud	Greater Minnesota ⁵
2017	7.9%	7.6%	29%	6.8%
2018	13.2%	12.2%	8%	17.6%
2019	8.8%	9.7%	4.3%	6%

Table 6

In 2019, industrial EMV growth was second only to apartments. Looking at historical data, industrial values increased at an even greater value in 2018 ahead of all other property types, including significant growth in Greater Minnesota. This is in contrast to commercial values, which had minimal growth in the metro area and a slight decrease in values in Greater Minnesota in 2018. (See Appendix E for detailed maps showing statewide market values, sales, and other assessment practices indicators.)

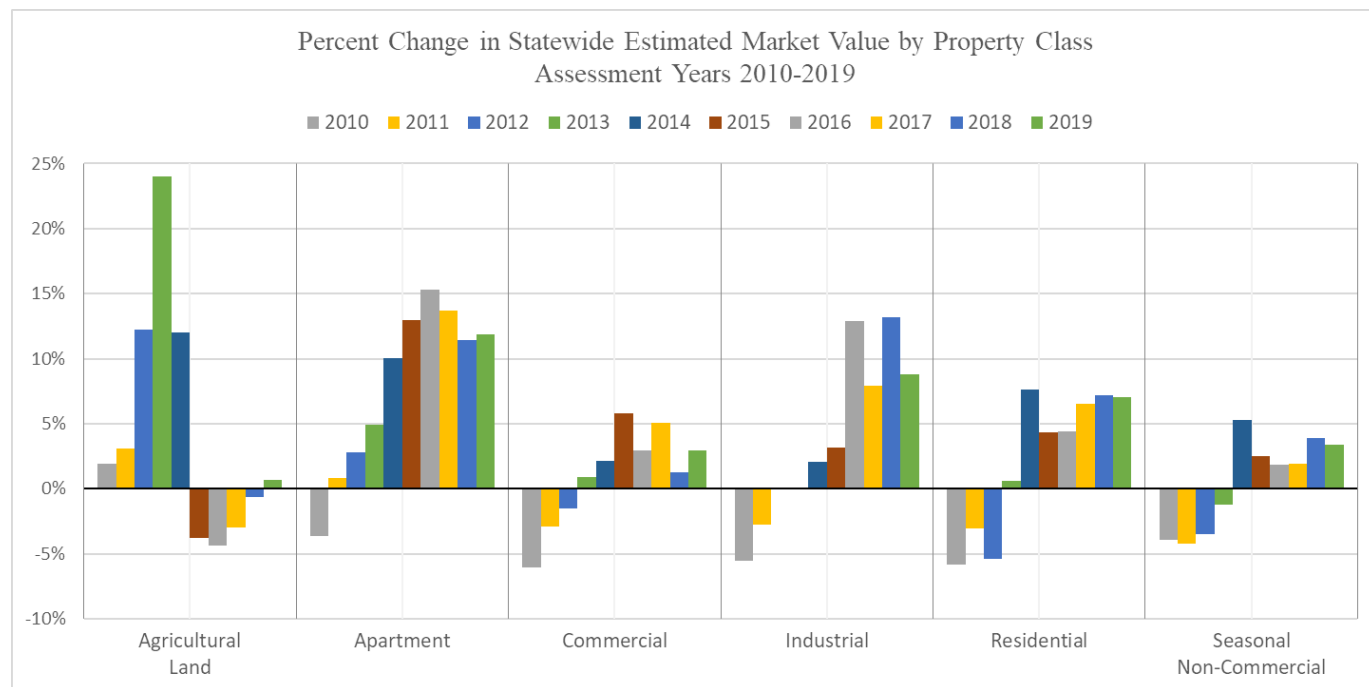


Chart 1

Taxable Market Value

In Minnesota, taxes are not directly based on the estimated market value. State property tax laws contain a number of exclusions, value deferrals, and exemptions that decrease the amount of the EMV that is subject to taxation.

Taxable Market Value (TMV) refers to the amount of value that is actually used in calculating property taxes. This often differs from EMV due to special programs and exclusions. Sample TMV calculations can be found in the Property Tax Administrator's Manual, available at www.revenue.state.mn.us.

Taxable market value not only decreases an individual property's tax burden, it also decreases the tax base for the taxing jurisdiction. The taxable market value is used to determine the tax base for levying authorities (cities, counties, towns, etc.).

For example, a given county's levy (budget) is spread among all classes of taxable property by determining the cumulative net tax capacity of all the properties. The net tax capacity (taxable market value multiplied by the class rate) of all taxable properties in a jurisdiction is the tax base.

A simple illustration of how property tax rates are determined is shown below:

$$\begin{array}{lcl} \text{Step 1:} & & \text{Total proposed budget} \\ & - & \text{All non-property tax revenue (state aids and fees)} \\ & \hline & = & \text{Property tax revenue needed} \\ \\ \text{Step 2:} & & \text{Property tax revenue needed} \\ & \div & \text{Total tax capacity of all taxable properties} \\ & \hline & = & \text{Local tax rate} \end{array}$$

When taxable market values change, the tax burden is redistributed within the jurisdiction. If the levy remains constant, property taxes for a single property may still change depending on changes in the classification rate and/or taxable market value of other properties in the jurisdiction. See Table 7 (next page) for some of the more common exclusions and deferrals that remove taxable value from the tax base.

Taxable Market Value Trends

As indicated in Table 7, continued growth in residential homestead values has reduced eligibility for the Homestead Market Value Exclusion. The exclusion has decreased consistently for the past six years, as market values for residential properties has continued to increase during the same time period.

The Homestead Exclusion for Veterans with a Disability has continued to increase by approximately 10% annually.

Plat Law exclusions continue to increase, indicating that there is continued development in Minnesota. This is a larger increase than last year's 7% increase and more in line with the more-than 10% increases that had taken place the previous four years.

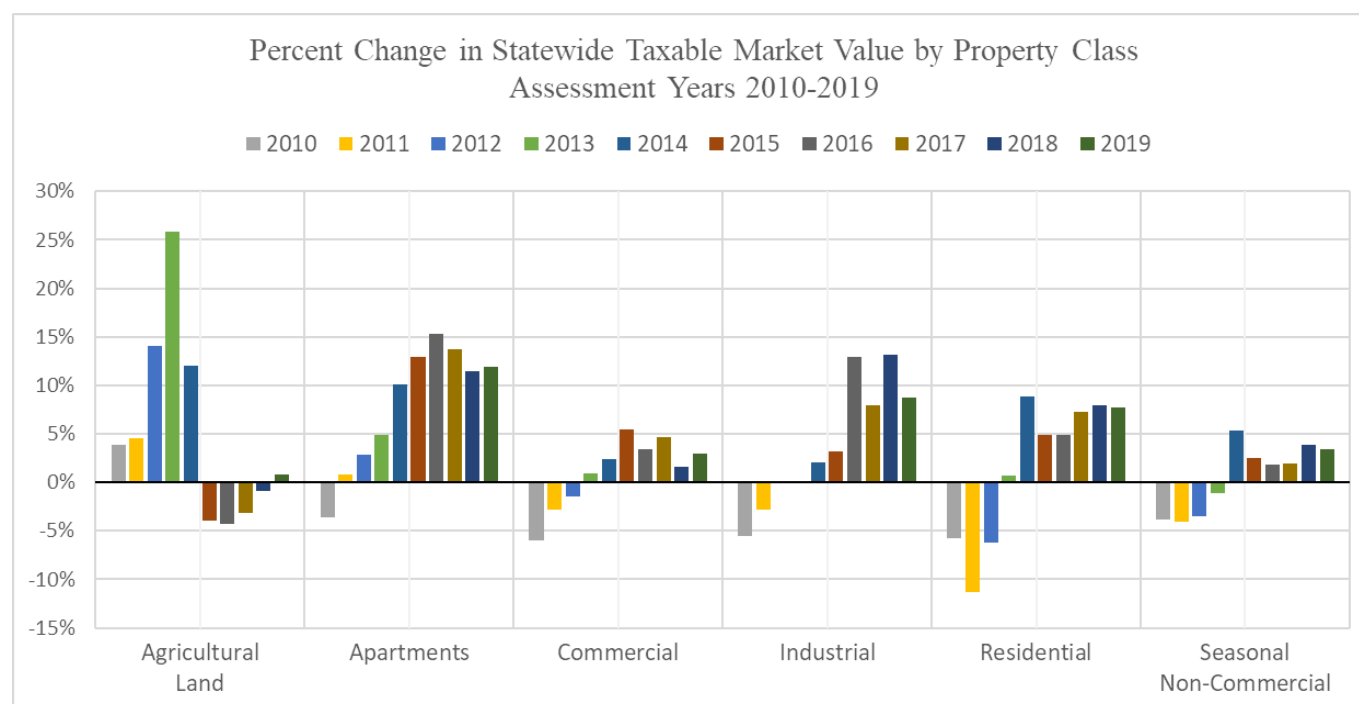
Green Acres deferrals are discussed further in the next section.

Value Exclusions and Deferrals

<i>All Values in Millions</i>			
Exclusion/Deferral	2018 Value	2019 Value	% Change
Homestead Market Value Exclusion	\$24,455	\$23,090	-5.6%
Veterans with a Disability Exclusion	\$2,682	\$3,014	12.4%
Green Acres ⁶	\$2,614	\$2,706	3.5%
Open Space	\$639	\$651	1.9%
Rural Preserve	\$614	\$663	8.0%
Plat Law	\$391	\$438	12.0%

Table 7

After including the various exclusions, deferrals, and special valuations, taxable market values for all classes of property increased from 2018-2019.



⁶ Green Acres and Rural Preserve values for 2018 have been revised to correct for a data reporting error.

Green Acres and Rural Preserve

Green Acres and Rural Preserve are property tax deferral programs that help keep farm property values from increasing due to non-agricultural influences such as development or recreational uses on nearby properties. The taxable market value of qualifying farm land is based on its agricultural use, rather than its highest and best use (which may be impacted by sales of nearby land for development or speculation).

The Department of Revenue determines a Green Acres value for tillable and non-tillable class 2a agricultural land for each county to reflect market and agricultural conditions. Counties use the Green Acres value when calculating property taxes. Rural Preserve provides a similar benefit for class 2b rural vacant land that is part of a farm. (See Appendix D for details about Green Acres and Rural Preserve values for the 2019 assessment.)

Green Acres taxable value increased for the first time since 2015, which is logical given the increasing value of agricultural land. The deferred value also increased, reflecting the continued increase in value of other property types and development pressure on agricultural land. However, deferred value increased by a smaller amount than in the past, likely reflecting that agricultural EMV grew with other property types.⁷

Overall, the percentage of deferred value increased, as the increase in agricultural EMV was not large enough to counteract the development pressure seen by the increases in EMV of other property types.

Rural Preserve taxable and deferred values both increased, resulting in an increase in percentage of value deferred.

Green Acres and Rural Preserve Deferrals

All Values in Millions

Green Acres	2017	2018⁸	2019
Taxable Value	\$12,069	\$11,897	\$12,180
Deferred Value	\$2,479	\$2,614	\$2,706
Percent Deferred*	17.0%	18.0%	18.2%
Rural Preserve	2017	2018	2019
Taxable Value	\$687	\$688	\$693
Deferred Value	\$593	\$614	\$663
Percent Deferred*	46.3%	47.2%	48.9%

* *Percent Deferred = Percentage of Total EMV (Deferred Value + Taxable Value) that received deferral*

Table 8

⁷ The percentage of deferred value typically has a negative correlation to agricultural property value (the deferred amount decreases when agricultural property EMV increases and vice versa). Conversely, the deferred value has a positive correlation to other property values (the deferred amount increases if other property EMV increases). Because all major property values increased this last year, these factors are pointing in opposite directions.

⁸ Green Acres and Rural Preserve values for 2018 have been revised to correct for a data reporting error.

Green Acres Values: 2019 Assessment Year Impact

For assessment year 2019 (taxes payable 2020), statewide taxable values of 2a agricultural land increased by about 0.7%, while the amount of value deferred under Green Acres increased by 0.2%. Data from the last three years is shown in Table 8.

Tax Distribution

Minnesota's property tax system has several components including classification, valuation, and special programs that reduce taxable value, credits, and different levies. These components determine which properties will pay a greater or lesser share of taxes.

Taxable Value

The nature of Minnesota's property tax system is that if the taxable value of one class of property decreases, it pays a smaller share of the overall tax burden and other property classes pay a larger share.

For example, agricultural and homesteaded properties have typically received preferential property tax treatment through classification rates and programs – such as Green Acres and the Homestead Market Value Exclusion – and through homestead credits and school bonding credits,

Conversely, commercial/industrial properties typically pay a greater share of taxes than residential or agricultural properties of equal value due to a higher class rate, lesser eligibility for special programs, and being subject to additional levies such as the state general tax. (See Appendix C for details about the classification rates used for the 2019 assessment.)

The impact of these components is clear when reviewing tax liability and effective tax rates. Based on preliminary estimates from the 2019 assessment year (taxes payable 2020):

- Agricultural property and rural vacant land represent about 17% of taxable property value and pay about 6% of net property taxes statewide. (See Table 9, next page.)
- Commercial property accounts for 9% of market value and pays 20% of property taxes.
- Industrial property accounts for 3% of market value and pays 7% of property taxes.

These numbers are affected by where the majority of each property type is located and the surrounding tax base, but they still provide insight into how different classifications contribute to the tax base.

2019 Trends

Agricultural and Residential Property

The market value share of agricultural property continued to decrease, as it has since 2014, despite the increase in EMV. Agricultural property makes up 17.3% of statewide market value share, down from 18.2% in 2018 and 20.9% in 2017.

This decrease is logical – given the low increase in EMV compared to the large increases in apartments and other residential properties – and corresponds with the decrease in net tax share of agricultural land by 0.1% since 2018.

Commercial and Industrial Property

For commercial property, market value share and net tax both continue to decrease. The share of net taxes paid by commercial properties decreased from 22.3% in 2017, to 20.7% in 2018, and 20% in 2019. Similarly, market value share decreased from 9.5% in 2017 to 9.1% in 2018, and 8.9% in 2019. This corresponds to the small increases of EMV in those years compared to other property types.

For industrial property, market value share and net tax share both fell in 2019 after increasing in 2018. While industrial EMV increased in 2019, the total EMV still remains the lowest of all property types; therefore even moderate increases in EMV may not significantly affect the overall share of market value or net tax. For example, in 2018 industrial EMV increased by over 13% – more than any other property type – but market value share only increased by 0.2%.

Both commercial and industrial property's overall market value and net tax has increased in dollars in the last two years as their EMVs have increased. Because there are no deferrals or exclusions dedicated to commercial or industrial properties, it is reasonable that as long as their EMVs increase, their overall market values and net taxes in dollars will also increase.

Net Tax Liability

Table 9 shows the net tax and tax share for each major property class.

Net Tax Liability and Tax Share by Property Class
Assessment Year 2019, Taxes Payable 2020 (Preliminary Estimates)

Properties by Class	Market Value (Millions)	Net Tax (Millions)	Market Value Share	Net Tax Share
Agricultural/Rural Vacant	\$128,372	\$644	17.3%	5.8%
Residential	\$415,814	\$5,647	56.1%	51.2%
Apartments	\$46,577	\$758	6.3%	6.9%
Seasonal (Non-Commercial)	\$28,401	\$283	3.8%	2.6%
Commercial	\$65,685	\$2,182	8.9%	19.8%
Industrial	\$23,867	\$803	3.2%	7.3%
All Other	\$32,126	\$711	4.3%	6.4%
Total Real and Personal	\$740,842	\$11,028	100.0%	100.0%

Table 9 Please note that due to rounding, there may be some small differences between the listed totals and sums of all classes.

Appendix A – Summary of 2019 State Board Orders

Sales Ratios and Coefficients of Dispersion

Property Type	Final Adjusted Median Ratio		Coefficient of Dispersion		Sample Size	
	2017	2018	2017	2018	2017	2018
<i>State Board Year</i>						
Residential/Seasonal	94.62	94.59	8.96	8.44	79,233	78,178
Apartment	94.78	93.62	13.12	11.59	556	568
Commercial/Industrial	95.14	95.00	17.02	16.87	1,656	1,674
Resorts	100.85	94.59	19.79	15.78	20	27
Agricultural 2a / Rural Vacant 2b	96.53	95.74	28.84	21.49	3,442	3,668

Table 10

The International Association of Assessing Officers (IAAO) recommends trimming the most extreme outliers from the sample before calculating the COD. The trimming method used by the Sales Ratio excludes sales outside of an interquartile range determined by jurisdiction. This eliminates a few extreme sales that would distort the COD. Per the IAAO, the acceptable ranges for the COD are as follows:

Coefficient of Dispersion (COD) Acceptable Ranges by Property Type

Property Type	Acceptable COD Range
Newer, homogenous residential properties	10.0 or less
Older residential areas	15.0 or less
Rural residential and seasonal properties	20.0 or less
Income producing: larger, urban area	15.0 or less
smaller, rural area	20.0 or less
Vacant land	20.0 or less
Depressed markets	25.0 or less

Table 11

State Board Orders by County for 2019 Assessment Year

County	Assessment District	Class	Percent Increase	Percent Decrease
Becker	Township of Evergreen	2b Rural Vacant Land Only	5%	
Dodge	Township of Mantorville	Residential Structures only; Seasonal Residential Recreational Non-Commercial Structures only	5%	
Fillmore	City of Wykoff	Residential Land and Structures; Seasonal Residential Recreational Non-Commercial Land and Structures.	5%	
Kittson	City of Karlstad	Residential Land Only	10%	
Lyon	City of Lynd	Residential Land and Structures	10%	
McLeod	City of Steward	Residential Structures Only; Seasonal Residential Recreational Non-Commercial Structures Only	5%	
Pennington	Township of Rocksbury	Residential Structures Only >\$200,000		-5%
Polk	City of East Grand Forks	Commercial Reassessment Land and Structures		

Appendix B – Sales Ratio Studies

12-Month Study

The 12-month study is mainly used to determine State Board of Equalization Orders. The 12 months encompass the period from October 1 of one year through September 30 of the following year. The dates are based on the dates of sale as indicated on the Certificate of Real Estate Value (CRV).

CRVs are filled out by the buyer or seller whenever property is sold or conveyed and filed with the county. The certificates include the sales price of the property, disclosure of any special financial terms associated with the sale, and whether the sale included personal property. The actual sales price from the CRV is then compared to what the county has reported as the market value.

The data contained in the report is based upon the 12-month study using sales from October 1, 2017, through September 30, 2018. These sales are compared with preliminary values for assessment year 2019, taxes payable 2020. The sale prices are adjusted for time and financial terms to the date of the assessment, which is January 2 of each year. For this study, the sales are adjusted to January 2, 2019.

In areas with few sales, it is very difficult to adjust for inflation or deflation because the sales samples are used to develop time trends. For example, based on an annual inflation rate of 3% (.25% monthly), if a house were purchased in August 2018 for \$200,000, it would be adjusted to a January 2019 value of \$202,500, or the sales price would be adjusted upward by 1.25% for the 5-month timeframe to January.

The State Board of Equalization orders assessment changes when the level of assessment (as measured by the median sales ratio) is below 90%, or above 105%. The orders are usually on a county-, city-, or township-wide basis for a particular classification of property. All State Board Orders must be implemented by the county. The changes will be made to the current assessment under consideration, for taxes payable the following year.

The equalization process (including issuing State Board Orders) is designed not only to equalize values on a county-, town-, or city-wide basis, but also to equalize values across county lines to ensure a fair valuation process across taxing districts, county lines, and property types. State Board Orders are implemented only after a review of values and sales ratios and discussions with the county assessors in the county affected by the State Board Orders, county assessors in adjacent counties, and the department.

A separate 9-month study is used by the Tax Court and is based on sales occurring between January 1 and September 30 of a given year. (It is the same as the 12-month study, but excludes the sales from October, November, and December.)

21-Month Study

The purpose of the 21-month study is to adjust values used for state aid calculations so that all jurisdictions across the state are equalized. In order to build stability into the system, a longer term of 21 months is used, which allows for a greater number of sales. While the 9- and 12-month studies compare the actual sales to the assessor's *estimated* market value, the 21-month study compares actual sales to the assessor's *taxable* market value. As with the 9- and 12-month studies, the sale prices are adjusted for time and terms of financing.

The 21-month study is used to calculate adjusted net tax capacities that are used in the foundation aid formula for school funding. It is also used to calculate tax capacities for Local Government Aid (LGA)

and various smaller aids such as library aid. This study is also utilized by bonding companies to rate the fiscal capacity of different governmental jurisdictions.

The adjusted net tax capacity is used to eliminate differences in levels of assessment between taxing jurisdictions for state aid distributions. All property is meant to be valued at its selling price in an open market, but many factors make that goal hard to achieve. The sales ratio study can be used to eliminate differences caused by local markets or assessment practices.

The adjusted net tax capacity is calculated by dividing the net tax capacity of a class of property by the sales ratio for the class. For example, the net tax capacity for residential properties is divided by the residential sales ratio to produce the residential adjusted net tax capacity. The process would be repeated for all of the property types. The total adjusted net tax capacity would be used in state aid calculations.

Appendix C – Classification Rates (2019 Assessment)

Class	Description	Tiers	Class Rate	State General Rate
1a	Residential Homestead	First \$500,000	1.00%	N/A
		Over \$500,000	1.25%	N/A
1b	Homestead of Persons who are Blind/Disabled [classified as 1a or 2a]	First \$50,000	0.45%	N/A
	[classified as 1a or 2a]	\$50,000 - \$500,000	1.00%	N/A
		Over \$500,000	1.25%	N/A
1c	Homestead Resort	First \$600,000	0.50%	N/A
		\$600,000 - \$2,300,000	1.00%	N/A
		Over \$2,300,000	1.25%	1.25%
1d	Housing for Seasonal Workers	First \$500,000	1.00%	N/A
		Over \$500,000	1.25%	N/A
2a	Agricultural Homestead - House, Garage, 1 Acre (HGA)	First \$500,000	1.00%	N/A
		Over \$500,000	1.25%	N/A
2a/2b	Agricultural Homestead - First Tier	First \$1,880,000	0.50%	N/A
2a/2b	Farm Entities Excess First Tier	Unused First Tier	0.50%	N/A
2a	Agricultural - Nonhomestead or Excess First Tier		1.00%	N/A
2b	Rural Vacant Land		1.00%	N/A
2c	Managed Forest Land		0.65%	N/A
2d	Private Airport		1.00%	N/A
2e	Commercial Aggregate Deposit		1.00%	N/A
3a	Commercial/Industrial/Utility (<i>not including utility machinery</i>)	First \$100,000	1.50%	N/A
		\$100,000 - \$150,000	1.50%	1.50%
		Over \$150,000	2.00%	2.00%
	Electric Generation Public Utility Machinery		2.00%	N/A
	All Other Public Utility Machinery		2.00%	2.00%
	Transmission Line Right-of-Way		2.00%	2.00%
4a	Residential Nonhomestead 4+ Units		1.25%	N/A
4b(1)	Residential Non-Homestead 1-3 Units		1.25%	N/A
4b(2)	Unclassified Manufactured Home		1.25%	N/A
4b(3)	Agricultural Non-Homestead Residence (2-3 units)		1.25%	N/A
4b(4)	Unimproved Residential Land		1.25%	N/A
4bb(1)	Residential Non-Homestead Single Unit	First \$500,000	1.00%	N/A
		Over \$500,000	1.25%	N/A
4bb(2)	Agricultural Non-Homestead Single Unit - (HGA)	First \$500,000	1.00%	N/A
		Over \$500,000	1.25%	N/A
4bb(3)	Condominium Storage Unit	First \$500,000	1.00%	N/A
		Over \$500,000	1.25%	N/A
4c(1)	Seasonal Residential Recreational Commercial (resort)	First \$500,000	1.00%	1.00%
		Over \$500,000	1.25%	1.25%

Class	Description	Tiers	Class Rate	State General Rate
4c(2)	Qualifying Golf Course		1.25%	N/A
4c(3)(i)	Non-Profit Community Service Org. (non-revenue)		1.50%	N/A
	Congressionally Chartered Veterans Organization (non-revenue)		1.00%	N/A
4c(3)(ii)	Non-Profit Community Service Org. (donations)		1.50%	1.50%
	Congressionally Chartered Veterans Organization (donations)		1.00%	1.00%
4c(4)	Post-Secondary Student Housing		1.00%	N/A
4c(5)(i)	Manufactured Home Park		1.25%	N/A
4c(5)(ii)	Manufactured Home Park (>50% owner-occupied)		0.75%	N/A
4c(5)(ii)	Manufactured Home Park (50% or less owner-occupied)		1.00%	N/A
4c(5)(iii)	Class I Manufactured Home Park		1.00%	N/A
4c(6)	Metro Non-Profit Recreational Property		1.25%	N/A
4c(7)	Certain Non-Comm. Aircraft Hangars and Land (leased land)		1.50%	N/A
4c(8)	Certain Non-Comm. Aircraft Hangars and Land (private land)		1.50%	N/A
4c(9)	Bed & Breakfast		1.25%	N/A
4c(10)	Seasonal Restaurant on a Lake		1.25%	N/A
4c(11)	Marina	First \$500,000	1.00%	N/A
		Over \$500,000	1.25%	N/A
4c(12)	Seasonal Residential Recreational Non-Commercial	First \$76,000	1.00%	0.40%
		\$76,000 - \$500,000	1.00%	1.00%
		Over \$500,000	1.25%	1.25%
4d	Low Income Rental Housing (Per Unit)	First \$150,000	0.75%	N/A
		Over \$150,000	0.25%	N/A
5(1)	Unmined Iron Ore and Low-Grade Iron-Bearing Formations		2.00%	2.00%
5(2)	All Other Property		2.00%	N/A

Appendix D – Green Acres and Rural Preserve Values

The Minnesota Agricultural Property Tax Law (referred to as “Green Acres”) helps insulate farm owners from rising land values due to non-agricultural influences on the land – such as nearby residential and commercial development, or seasonal cabin and resort properties.

Property enrolled in the Green Acres program is valued at its agricultural value rather than its highest and best use value (which may be impacted by development pressures). This provides a lower taxable value for qualifying properties and redistributes the tax burden to other properties in the same jurisdiction.

Only property classified as class 2a agricultural land under Minnesota Statutes section 273.13, subdivision 23 can qualify for Green Acres, and at least 10 contiguous acres must be used (unless it is a qualifying nursery or greenhouse).

Green Acres is a property tax deferral program. When a property is sold, transferred, or no longer qualifies for the program, the owner has to pay the difference in tax for the last three years of enrollment. When a property enrolled in Green Acres is sold to another person who may qualify for the program, the new owner must apply to the county assessor within 30 days of the purchase for the program to continue on the property.

Taxable Green Acres Value

Green Acres requires assessors to look at qualifying agricultural property in two ways.

- First, the assessor must value the property according to its highest and best use (as is done for all properties). This may include non-agricultural value influences.
- Then the assessor must determine the agricultural value of the property based on Department of Revenue guidance.
- If the agricultural value is below the highest and best use value, the assessor must use the agricultural value for tax purposes.

The Minnesota Department of Revenue establishes agricultural land values throughout the state in consultation with the University of Minnesota. (See Minnesota Statutes, section 273.111, subdivision 4.)

Analyzing Agricultural Sales

To establish these agricultural values, the department examines sales of agricultural land throughout the state. (See Minnesota Statutes, section 273.111, subdivision 4.)

The department looks at agricultural sales in each of the 87 counties to determine Green Acres values that reflect the agricultural economy in general. When determining Green Acres values, the department attempts to identify pure agricultural sales – sales that were not influenced by developmental pressure or other non-agricultural factors.

To identify pure agricultural sales, the department identifies areas where development pressure may affect the sale price of agricultural land. Properties from these areas are removed from the sales data. The remaining sales are used to determine Green Acres values for tillable and non-tillable land in each county.

Identifying Areas with Non-Agricultural Influences

The department has identified three variables that may indicate non-agricultural influences in a particular area, city, or town:

- Change in number of households
- Newly created non-agricultural parcels
- Annexations to cities and towns

These variables indicate the change in the previous three years for each city or town in Minnesota.⁹ Each variable is assigned a threshold that may indicate development pressure:

- More than five households in a city or town
- More than five new non-agricultural parcels in a city or town
- Any annexations (for all cities and towns in and surrounding the annexation)

Agricultural sales in areas that meet any two of the thresholds are flagged as sales with potential non-agricultural influence. These sales are referred to the department's regional Property Tax Compliance Officers (PTCOs) for further review.

Whenever a PTCO confirms that non-agricultural influence may have affected the price of a sale, it is removed from the sales data used to determine the Green Acres value. Sales are also removed if they include land on a lake or river, include non-agricultural land, or represent outliers in the data.

Determining Agricultural Values

After sales with potential non-agricultural influences are removed from the sales data, the remaining sales are used to determine each county's agricultural value, used for Green Acres purposes.

These values are calculated using a basic regression and the county's sales data from the previous 12 months – sale prices, tillable acres, and non-tillable acres. This regression estimates a value per acre for tillable land (β_1) and non-tillable land (β_2).

$$\text{Sale Price} = \beta_1 * \text{Tillable Acres} + \beta_2 * \text{Non - Tillable Acres}$$

Equation 2

The size and representativeness of sales data can vary by county and year to year. As a result, the Green Acres values calculated with a county's data for the previous 12 months may not always be reliable.

To get more data, the regression is run using two additional data sets: the previous 21 months of sales in each county, and the previous 12 months of sales in each agricultural region. If a county's 12-month value is questionable, the additional results are considered, prioritizing the 21-month results for the county over the 21-month results for the agricultural regions.

⁹ Data for the three variables comes from the Minnesota State Demographic Center, Metropolitan Council, Market Value by Parcel File, and Minnesota Geospatial Information Office.

If all three regressions fail to yield a consistent Green Acres value, the Property Tax Division's staff sets Green Acres values based on surrounding counties, counties with similar agricultural markets, and previous years' Green Acres values.

Rural Preserve

The Rural Preserve Property Tax Program complements Green Acres and provides similar property tax benefits for class 2b rural vacant land that is part of a contiguous farm enrolled in Green Acres (see Minnesota Statutes, section 273.114).

As with Green Acres, a portion of taxable value is deferred for qualifying land while it is enrolled in the program. The assessor determines two values for the land: a "highest and best use value" based on market conditions, and a value that is uninfluenced by non-agricultural factors such as residential or commercial development. The assessor must use whichever value is lower for property tax purposes.

This provides a lower taxable value for qualifying properties and redistributes the tax burden to other properties in the same jurisdiction. When a property is sold, transferred, or no longer qualifies for the program, the owner has to pay the difference in tax for the last three years of enrollment.

Taxable Rural Preserve Value

Rural Preserve values may be different than Green Acres values. Each year, the department issues a memo to notify counties of their Green Acres values for tillable and non-tillable agricultural lands. The department urges counties to use the following guidelines to calculate Rural Preserve values:

- For otherwise tillable lands, use the Green Acres tillable land value.
- For non-tillable lands that are otherwise pastureable, use their non-tillable Green Acres value.
- For unusable waste, wild land, swamp land, etc., use 50% of the **non-tillable** Green Acres value.

Examples

1. If the county has estimated the value of woods at \$2500 per acre because of recreational or other non-agricultural value influences, and the value for Rural Preserve is \$2200, the deferral is based on the \$300 per acre difference.
2. If a county has estimated the value of a swamp at \$1800 per acre because of recreational or other non-agricultural market value influences, and the value for Rural Preserve is \$2200, then the recommended Rural Preserve value for the **unusable** swamp land is \$1100 per acre (50% of \$2200), and the deferral is based on the \$700 difference in value.
3. If a county has valued a swamp at \$900 per acre due to lack of non-agricultural market influences, and the recommended value for Rural Preserve is \$2200 and 50% of that value is \$1100, there is no deferral. (The property may still be enrolled in the program, but the tax deferral only applies if the EMV set by the county exceeds the Rural Preserve value.)

Unusable wasteland often carries a very low estimated market value, which may not be high enough to receive a tax deferral under Rural Preserve (as shown in Example 3 above). However, there may be some areas of the state where recreational uses are affecting the market value of these unusable wastelands that are part of a farm.

County Average Value Per Acre – Assessment Year 2019

County	Tillable Value	Non-Tillable Value
Aitkin	1,500	900
Anoka	3,200	1,900
Becker	3,100	1,200
Beltrami	1,300	1,000
Benton	3,300	1,400
Big Stone	5,300	1,400
Blue Earth	7,300	1,700
Brown	7,500	1,600
Carlton	1,500	900
Carver	6,900	2,400
Cass	1,500	1,300
Chippewa	6,800	1,400
Chisago	3,200	1,900
Clay	3,700	1,100
Clearwater	1,300	1,000
Cook	800	800
Cottonwood	7,900	1,400
Crow Wing	2,100	1,400
Dakota	6,700	2,500
Dodge	7,500	2,100
Douglas	4,100	1,700
Faribault	7,400	1,400
Fillmore	6,100	2,400
Freeborn	6,600	1,400
Goodhue	6,900	2,300
Grant	5,500	1,700
Hennepin	6,700	2,500
Houston	5,600	2,500
Hubbard	2,800	1,400
Isanti	3,100	1,900
Itasca	1,200	900
Jackson	7,400	1,400
Kanabec	2,400	1,100
Kandiyohi	6,300	1,400
Kittson	2,000	800
Koochiching	800	800
Lac Qui Parle	5,000	1,400
Lake	900	900

County	Tillable Value	Non-Tillable Value
Lake of the Woods	1000	800
Le Sueur	7,200	2,500
Lincoln	5,300	1,400
Lyon	6,300	1,400
McLeod	6,000	1,800
Mahnomen	2,900	900
Marshall	2,100	800
Martin	7,400	1,400
Meeker	4,600	1,600
Mille Lacs	2,600	1,000
Morrison	2,800	1,300
Mower	7,200	1,400
Murray	7,100	1,400
Nicollet	7,500	1,800
Nobles	8,000	1,600
Norman	3,700	900
Olmsted	6,300	2,200
Otter Tail	3,100	1,400
Pennington	2,100	900
Pine	2,000	1,000
Pipestone	6,900	2,200
Polk	3,400	900
Pope	4,200	1,700
Ramsey	6,700	2,500
Red Lake	2,100	900
Redwood	7,300	1,500
Renville	7,300	1,400
Rice	7,000	2,500
Rock	8,800	2,200
Roseau	1,200	800
St. Louis	1000	900
Scott	7,200	2,500
Sherburne	3,300	1,900
Sibley	7,500	1,800
Stearns	4,600	1,900
Steele	6,500	1,600
Stevens	5,500	1,500
Swift	5,700	1,400
Todd	2,600	1,400
Traverse	5,600	1,300
Wabasha	6,300	2,400

County	Tillable Value	Non-Tillable Value
Wadena	2,000	1,100
Waseca	7,400	1,600
Washington	6,700	2,500
Watonwan	7,400	1,400
Wilkin	4,100	1,100
Winona	6,300	2,400
Wright	6,100	2,300
Yellow Medicine	6,200	1,400

Appendix E – Maps: Statewide Market Values and Assessment Practices Indicators

The following pages contain statewide charts and maps with information about Minnesota property values, sales ratio measures, and the Green Acres and Rural Preserve programs.

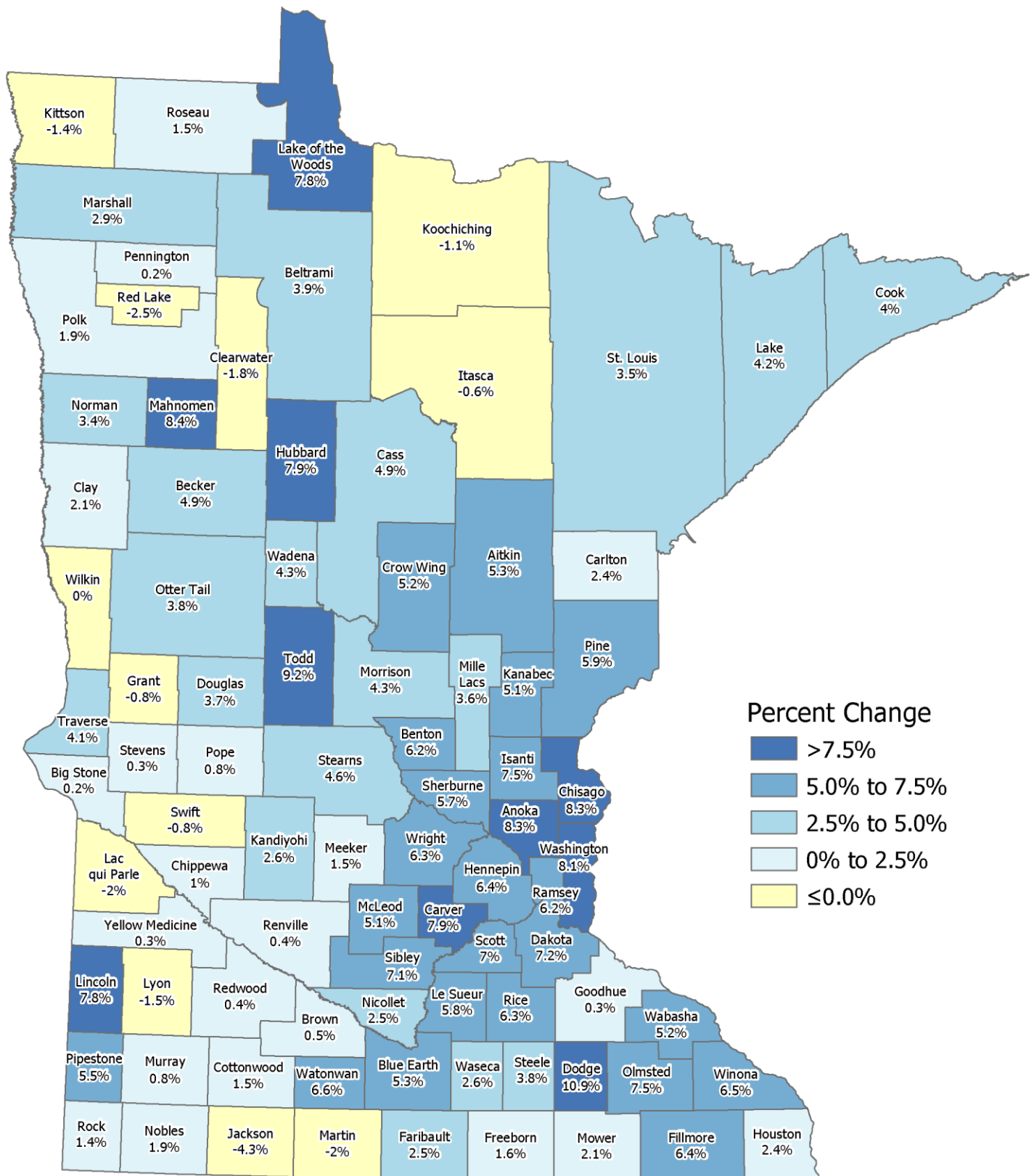
MAP 1 displays the percent change in estimated market value for each county from assessment years 2018 to 2019.

MAP 2 displays the real property sales per 100 parcels for each county for assessment year 2019.

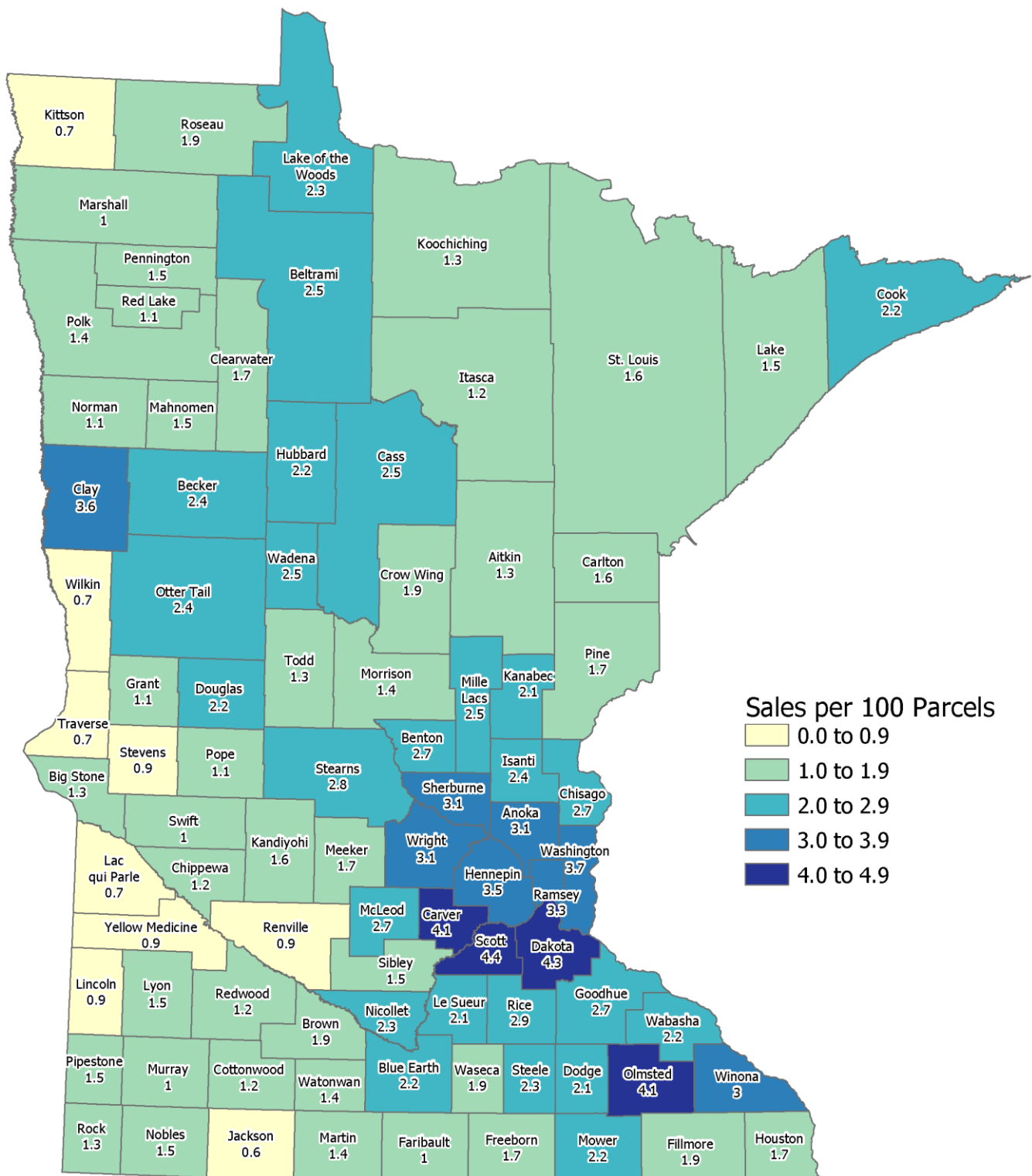
MAP 3 shows taxable tillable Green Acres/Rural Preserve values. Higher taxable values are shown in the southern portion of the state while lower taxable values are shown in the northeastern part of the state.

MAP 4 shows taxable non-tillable Green Acres/Rural Preserve values. Values to be used for non-tillable properties enrolled in Green Acres or Rural Preserve do not vary as widely as the values for tillable properties. The non-tillable values are closer to the tillable values in the northern half of the state.

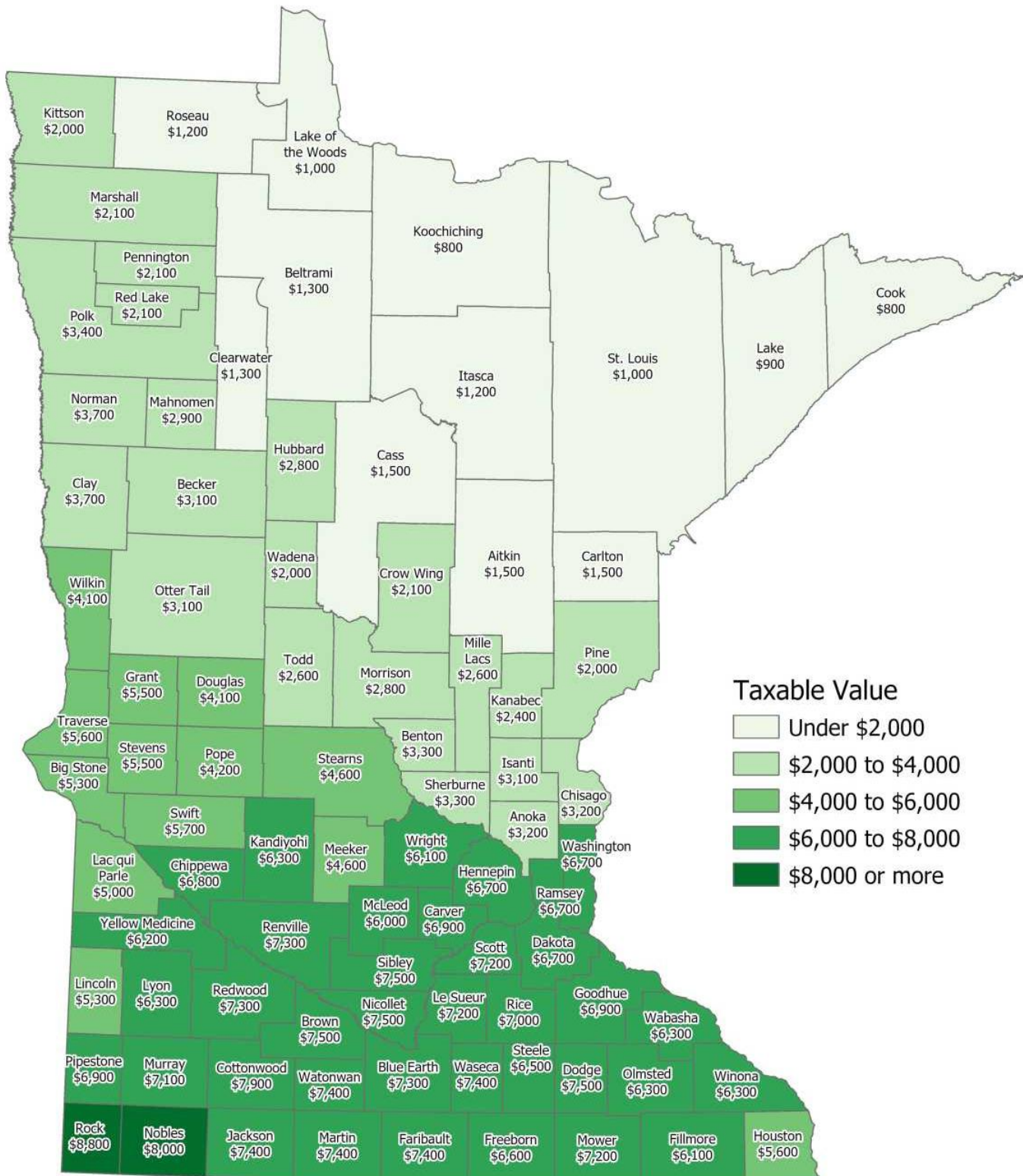
Map 1: Percent Change in Total Estimated Market Value 2018-2019



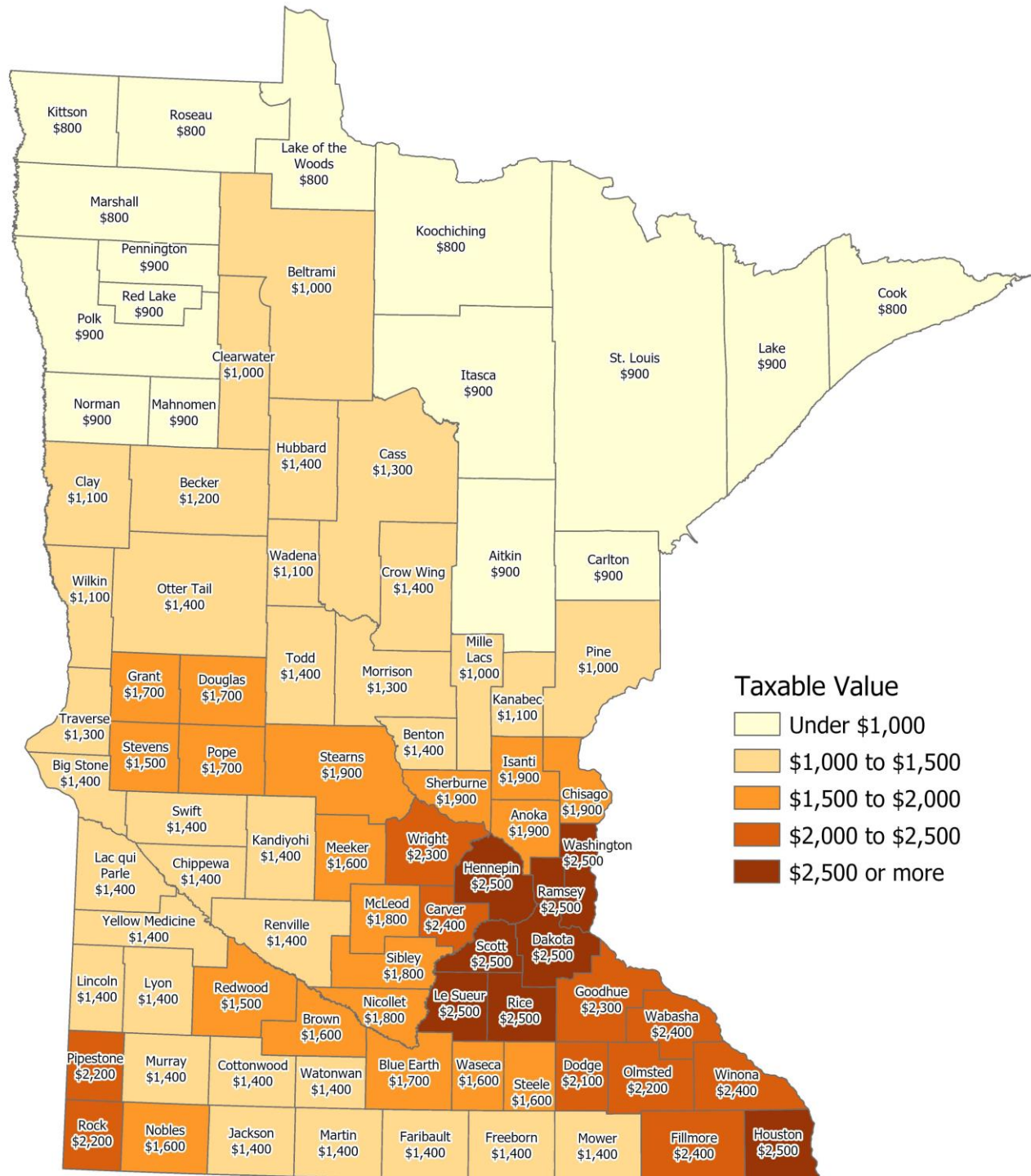
Map 2: Real Property Sales Per 100 Parcels in 2019



Map 3: Taxable Tillable Green Acres/Rural Preserve Value (2019 Assessment)



Map 4: Taxable Non-Tillable Green Acres/Rural Preserve Value (2019 Assessment)



Appendix F – Glossary

ADJUSTED MEDIAN RATIO The adjusted median ratio is calculated by multiplying the median ratio by one plus the overall percent change in value made by the local assessor between the prior and current assessment year. The change in assessor's value is also called local effort.

$$\text{Adjusted Median Ratio} = \text{Median Ratio} \times (1 + \text{Local Effort})$$

Equation 3

CERTIFICATE OF REAL ESTATE VALUE (CRV) A certificate of real estate value must be filed with the county auditor whenever real property is sold or conveyed in Minnesota. Information reported on the CRV includes the sales price, the value of any personal property, if any, included in the sale, and the financial terms of the sale. The CRV is eventually filed with the Property Tax Division of the Minnesota Department of Revenue.

CLASSIFICATION In Minnesota, property is classified according to its use on the assessment date – January 2. The classification system is used to identify a given property's classification rate, which in turn determines the share of the tax burden borne by that property. There are five main property tax classifications used in Minnesota. However, in reality, the breakdown of property tax classifications includes 44 specific statutory descriptions that result in different class rates based on value tiers and homestead benefits. A classification rate table is shown in Appendix C.

COEFFICIENT OF DISPERSION (COD) The coefficient of dispersion is a measurement of variability (the spread or dispersion) and provides a simple numerical value to describe the distribution of sales ratios in relationship to the median ratio of a group of properties sold. The COD is also known as the "index of assessment inequality" and is the percentage by which the various sales ratios differ, on average, from the median ratio.

ESTIMATED MARKET VALUE (EMV) The estimated market value is the assessor's estimate of what a property would sell for on the open market with a typically motivated buyer and seller without special financial terms. This is the most probable price, in terms of money, that a property would bring in an open and competitive market. The EMV for a property is finalized on the assessment date, which is Jan. 2 of each year.

MEDIAN RATIO The median ratio is a measure of central tendency. It is the sales ratio that is the midpoint of all ratios. Half of the ratios fall above this point and the other half fall below this point. The median ratio is used for the State Board of Equalization and the Minnesota Tax Court studies after all final adjustments.

NET TAX CAPACITY In Minnesota, property taxes are based on a property's net tax capacity, which is its taxable market value multiplied by its classification rate.

$$\text{Taxable Market Value} \quad \times \quad \text{Classification Rate} \quad = \quad \text{Net Tax Capacity (NTC)}$$

Equation 4

For example, consider a residential homestead with a Taxable Market Value of \$100,000:

$$\$100,000 \quad \times \quad 1.00\% \quad = \quad \$1,000 \text{ NTC}$$

SALES RATIO A sales ratio is the ratio comparing the market value of a property with the actual sales price of the property. The market value is determined by the county assessor and reported annually to the Department of Revenue. The actual sales price is reported on the Certificate of Real Estate Value (eCRV).

STATE BOARD OF EQUALIZATION The State Board of Equalization consists of the Department of Revenue, who has the power to review sales ratios for counties and make adjustments in order to bring estimated market values within the accepted range of 90 to 105 percent.

STATE BOARD ORDER A state board order is issued by the State Board of Equalization to adjust the market values of certain property within certain jurisdictions.

TAXABLE MARKET VALUE (TMV) The taxable market value is the value that a property is actually taxed on after all limits, deferrals, and exclusions are calculated. It may or may not be the same as the property's estimated market value or limited market value.

TRIMMING METHOD The trimming method used here is to exclude sales with ratios less than 0.5 or greater than 2. This eliminates a few extreme sales that would distort the COD.