DEPARTMENT OF REVENUE

2019 Property Values and Assessment Practices Report

Assessment Year 2018

Property Tax Division

March 1, 2019

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.

DEPARTMENT OF REVENUE

March 1, 2019

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 17th 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,

Cynthia Bauerly
Commissioner

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Introduction

This is the 17th 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, including projections
- Trend analysis of excluded market value
- Assessment quality indicators, including sales ratios and coefficients of dispersion for counties
- Percentage of parcels that change in value each year
- A summary of State Board Orders issued in 2016
- 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 properties
- Agricultural and rural lands

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Estimated Market Values

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 2018 Assessment Year

The number of sales increased for all property classes between the 2016 and 2017 sales ratio study years. The data comes from sales that occurred October 1, 2016 – September 30, 2017.

There were 141,124 Certificates of Real Estate Value (CRVs) received in the 2017 sales ratio study for the 2018 State Board of Equalization.. Of these, 90,163 were considered good, current-year, open-market sales. Both numbers increased from the 2017 assessment (129,803 sales; 79,896 of them "good" sales).

Estimated market values also increased for all property types other than agricultural and rural vacant land. Overall estimated market values increased by 5.3%, continuing to increase at a faster rate than the previous two years (4.6% from 2016-2017 and 3.1% from 2015-2016).

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:

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

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:

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

2018 Assessment Quality and Sales Ratio Studies on EMVs

Assessment quality remained relatively consistent between the 2016 and 2017 sales ratio studies. This is reflected in both the sales ratio and the "coefficient of dispersion" (COD), the two primary measures of assessment quality. [1]

See Appendix A for the median sales ratios and CODs by property type for the 2016 and 2017 sales ratio studies (assessment years 2017 and 2018.)

- Sales ratios measure the **level of assessment** (how close appraisals are to market value on an overall basis). For the 2017 sales ratio study (for the 2018 assessment), the statewide median sales ratios for most 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 2017 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 2017 sales ratio study for the 2018 assessment, 13 counties were issued State Board Orders. For the 2016 study for the 2017 assessment, 13 counties were also issued State Board Orders.

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 2018 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 2017 and 2018

Property Type[3]	2017 Statewide Change in Value	2018 Statewide Change in Value
Agricultural / Rural Vacant Land[4]	-3.0%	-0.6%
Apartment	13.7%	11.5%
Commercial / Industrial	5.7%	4.1%
Residential Homestead	6.4%	7.1%
Residential Non-Homestead	6.8%	7.3%
Seasonal (Non-Commercial)	1.9%	3.9%
Other	4.9%	5.3%
All Property Types	4.6%	5.3%

Table 1

Recent Trends

- **Apartments:** For the fourth year in, a row apartments' estimated market value grew faster than all other property types, increasing by 11.5% in 2018. This continues a five year trend where apartment estimated market values increased by 10% or more statewide.

  Much of this growth is driven by apartments in the seven-county metro area, as shown in the table to the right. Apartments located in the metro area made up 81.6% of apartment estimated market value across the state, up from 77.3% in 2015.

Percent Change in Apartment EMV

Assessment	Greater MN	Metro
2014	4%	12%
2015	6%	15%
2016	8%	17%
2017	9%	15%
2018	8%	12%

Table 2

- **Agricultural property:** For the fourth straight year, agricultural property values continue to fall in estimated market value, but at a slower rate than previous years. The 0.6% decrease in value from 2017-2018 was a smaller decline than the 3.0% from 2016-2017 and the 4.4% decrease from 2015-2016.

[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. Beginning with the 2019 report, all parcel acreages are included, except for the house, garage, and first acre.

- **Residential homestead property:** Residential homestead values continue to increase at a greater rate than previous years, increasing by 7.1% in 2018. This growth was similar within the metro area (7.3%) and in Greater Minnesota (6.8%).
- **Seasonal recreational residential property:** Seasonal properties' values continue to grow more slowly than residential homestead values, but have been increasing faster over the last year.
- **Commercial/industrial property**: Commercial industrial property values continued to increase. However, they did so at a slower rate than in the three previous years. Commercial/industrial properties also had similar growth rates between the metro area and Greater Minnesota, with 4.2% growth in the metro compared to 3.7% in Greater Minnesota.
- **Residential non-homestead:** Residential non-homestead property values continue to increase at a slightly higher rate than homesteaded properties (7.3% compared to 7.1% this year, and 6.8% to 6.4% in 2017).

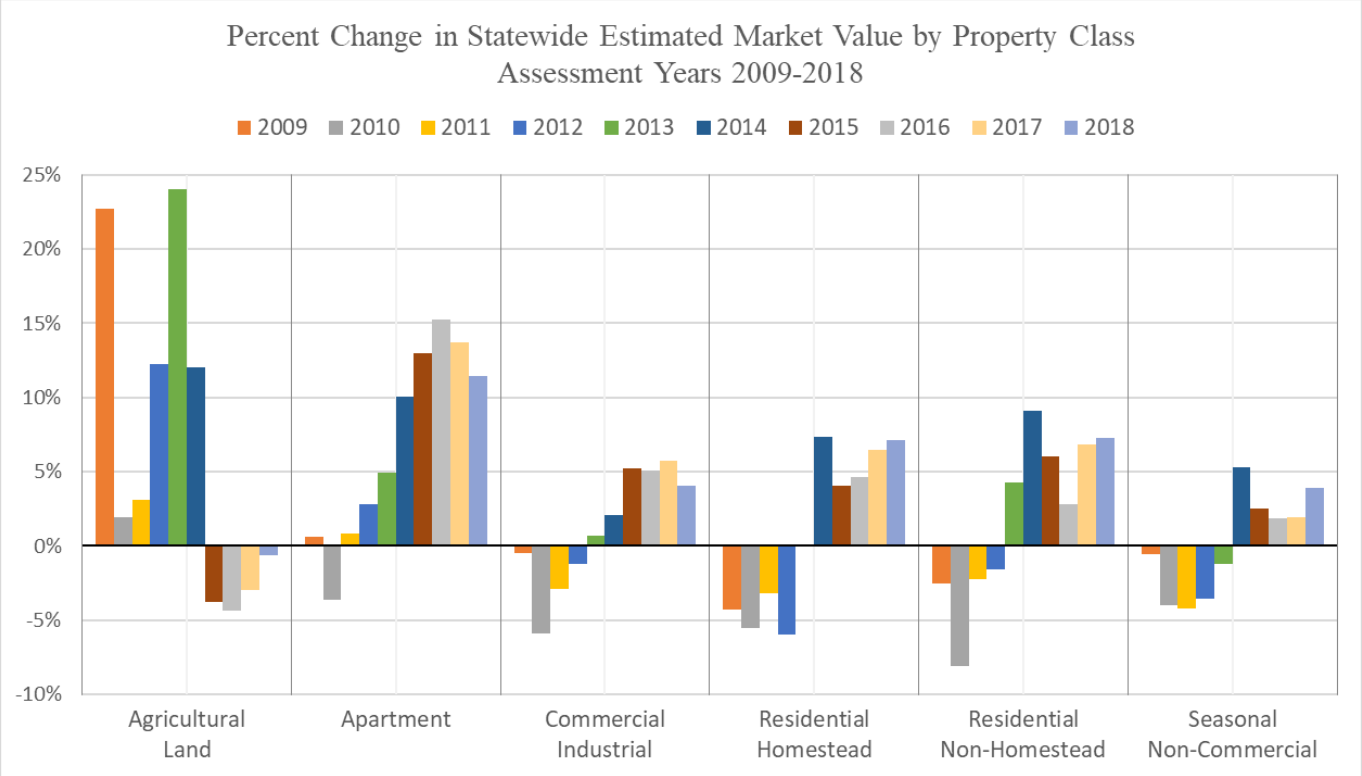


Chart 1

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:

Step 1:

Total proposed budget
– All non-property tax revenue (state aids and fees)
= Property tax revenue needed

Step 2:

Property tax revenue needed
÷ Total tax capacity of all taxable properties
= Local tax rate

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 3 (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 3, continued growth in residential homestead values has reduced eligibility for the Homestead Market Value Exclusion. The exclusion has decreased consistently for the past five years, as market values for residential properties has continued to increase during the same time period.

Typically, as residential values increase, development pressure subsequently increases the amounts deferred under the Green Acres program. In 2018, the total amount of value deferred under Green Acres was 15% more than in the 2017 assessment.

Value Exclusions and Deferrals

All Values in Millions			
Exclusion/Deferral	**2017 Value**	**2018 Value**	**% Change**
Homestead Market Value Exclusion	$25,766	$24,455	-5%
Veterans with a Disability	$2,384	$2,682	13%
Green Acres	$2,479	$2,844	15%
Open Space	$631	$639	1%
Rural Preserve	$593	$615	4%
Plat Law	$367	$391	7%

Table 3

After including the various exclusions, deferrals, and special valuations, taxable market values for all classes of property other than agricultural property increased from 2017-2018.

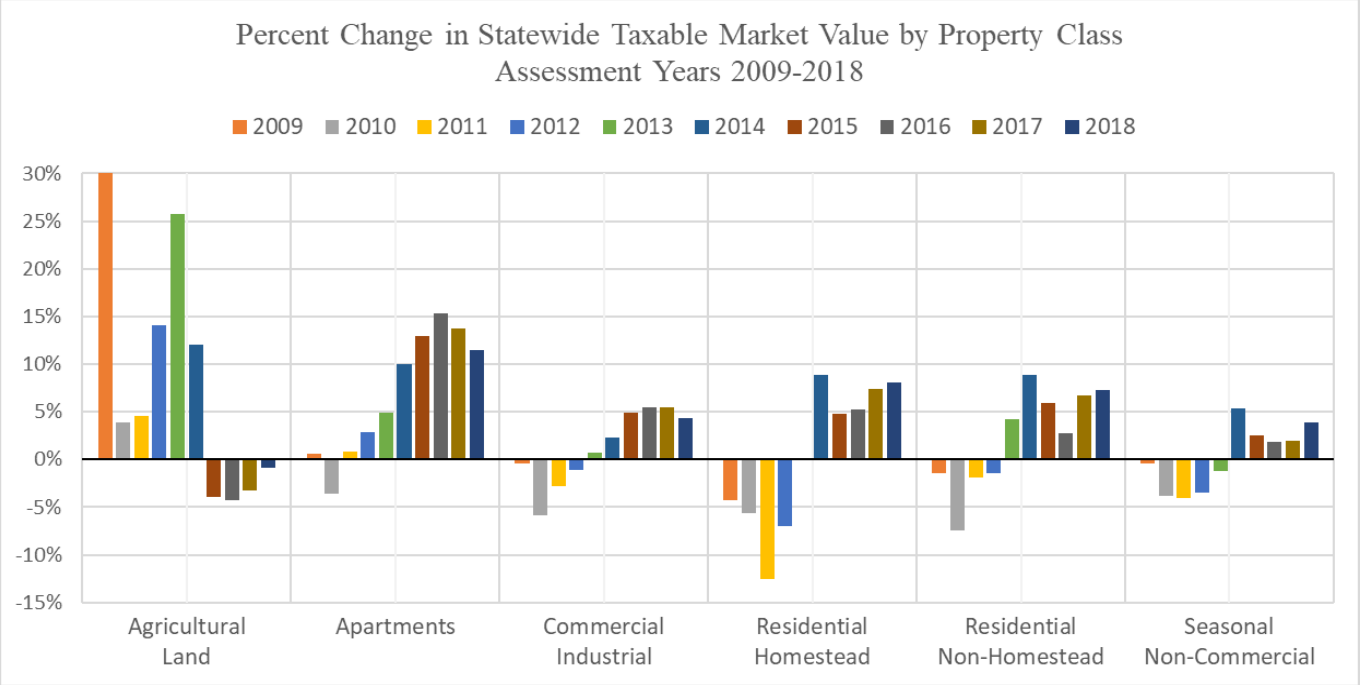


Chart 2

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. They ensure qualifying farm land has a taxable market value 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 2018 assessment.)

We would expect the percentage of deferred value to increase as long as agricultural property loses value and other property gains value. The percent of deferred value has increased every year for the past three years, going from 15.8% in 2016 to 17.0% in 2017, and up to 19.3% in 2018.

Green Acres Values: 2018 Assessment Year Impact

For assessment year 2018 (taxes payable 2019), statewide taxable values of 2a agricultural land decreased about 0.5 %, while the amount of value deferred under Green Acres increased 2.3%. The chart below shows changes for the last three assessment years.

Green Acres and Rural Preserve Deferrals

All Values in Millions

Green Acres	2016	2017	2018
Taxable Value	$12,247	$12,069	$11,896
Deferred Value	$2,301	$2,479	$2,844
Percent Deferred*	15.8%	17.0%	19.3%
Rural Preserve	**2016**	**2017**	**2018**
Taxable Value	$693	$687	$688
Deferred Value	$545	$593	$615
Percent Deferred*	44.0%	46.3%	47.2%

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

Table 4

Tax Distribution

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

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 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 2018 assessment.

The impact of these components is clear when reviewing tax liability and effective tax rates. Based on preliminary estimates from the 2018 assessment year (taxes payable 2019), agricultural property and rural vacant land represent about 18% of taxable property value and pay about 6% of property taxes (see Table 5, next page).

In comparison, commercial properties account for about 12% of taxable property and pay about 28% of property taxes. These represent the largest positive and negative disparities between market value and net tax share.

Another way to understand the impact is to compare effective tax rates (the percentage of a property's market value that will be paid in taxes). Using the most recent data available, the effective tax rate for agricultural homestead properties is 0.36%, and the effective tax rate for commercial/industrial properties is 3.63% – or 10 times the effective tax rate of an agricultural homestead of the same value.

2018 Trends

The market value share of agricultural property decreased from 20.9% in 2017 to 18.2% in 2018, due to declining agricultural land values. This continues a decreasing trend since 2015 in both the estimated market value and market value share of agricultural land.

Because some jurisdictions rely heavily on agricultural property for their tax base, the net tax share has decreased in that timeframe as well, but often to a lesser extent. 2018 saw agricultural land's net tax share decreased by 1.4%, due to decreasing market value share as well as the introduction of the school bond credit.

Commercial/industrial properties continue to have a large net tax share relative to their market value share, however both of these numbers have decreased. That the shift is likely the result of jurisdictions with a mixed tax base experiencing larger increases in apartment and residential property values relative to commercial/industrial properties.

The vast majority of commercial/industrial net tax comes from the metro area, which has seen values of apartments, residential non-homestead, and other property types rise faster than their counterparts in Greater Minnesota.

It is the nature of the property tax system that if the taxable value of a given class of property decreases, the other classes of property face an increase in the tax burden to account for the loss of tax base elsewhere.

See Appendix E for detailed maps showing statewide market values, sales, and other assessment practices indicators.

Net Tax Liability by Property Class

Assessment Year 2018, Taxes Payable 2019 (Preliminary Estimates)

Properties by Class	Market Value (Millions)	Net Tax (Millions)	Market Value Share	Net Tax Share
Agricultural/Rural Vacant	$127,399	$631	18.2%	6.0%
Residential Homestead	$332,976	$4,486	47.5%	42.8%
Residential Non-Homestead	$53,063	$751	7.6%	7.2%
Apartments	$41,622	$684	5.9%	6.5%
Seasonal (Non-Commercial)	$27,479	$274	3.9%	2.6%
Commercial/Industrial	$85,725	$2,921	12.2%	27.9%
All Other	$32,260	$740	4.6%	7.1%
Total Real and Personal	$700,524	$10,486	100%	100%

Table 5

Appendix A – Summary of 2018 State Board Orders

Sales Ratios and Coefficients of Dispersion

Property Type	Final Adjusted Median Ratio		Coefficient of Dispersion		Sample Size	
State Board Year	*2016*	*2017*	*2016*	*2017*	*2016*	*2017*
Residential/Seasonal	94.9	94.62	8.4	8.96	69,903	79,233
Apartment	93.5	94.78	11.7	13.12	463	556
Commercial/Industrial	95.9	95.14	16.2	17.02	1,447	1,656
Resorts	94.2	100.85	21.6	19.79	16	20
Agricultural 2a / Rural Vacant 2b	97.6	96.53	18.5	28.84	2,960	3,442

Table 6

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 7

State Board Orders by County for 2018 Assessment Year

County	Assessment District	Class	Percent Increase	Percent Decrease
Becker	Audubon Township	Residential Land Only and Seasonal Residential Recreational Non-Commercial Land Only	10%	
	Detroit Lakes City	Commercial Land and Structures (excluding general retail properties in excess of 40,000 sf)	5%	
	Frazee City	Residential Land Only	10%	
	Green Valley Township	Residential Land and Structures (on-water) and Seasonal Residential Recreational Non-Commercial Land and Structures (on water)		-5%
	Richwood Township	Residential Land and Structures =/< $300,000 and Seasonal Residential Recreational Non-Commercial Land and Structures =/< $300,000	15%	
Benton	Glendorado Township	Residential Structures Only and Seasonal Residential Recreational Non-Commercial Structures Only	5%	
	Langola Township	Residential Structures Only and Seasonal Residential Recreational Non-Commercial Structures Only	5%	
Houston	Caledonia City	Seasonal Residential Recreational Non-Commercial Structures Only	5%	
	Caledonia Township	Residential Structures Only and Seasonal Residential Recreational Non-Commercial Structures Only	5%	
	Eitzen City	Residential Land and Structures and Seasonal Residential Recreational Non-Commercial Land and Structures	5%	
	Mound Prairie Township	Residential Land and Structures and Seasonal Residential Recreational Non-Commercial Land and Structures	5%	

County	Assessment District	Class	Percent Increase	Percent Decrease
Isanti	Stanchfield Township	Residential Structures Only and Seasonal Residential Recreational Non-Commercial Structures Only	5%	
Mahnomen	Lake Grove Township	Agricultural 2a Land Only		-5%
McLeod	Sumter Township	Residential Structures Only and Seasonal Residential Recreational Non-Commercial Structures Only	5%	
Meeker	Cosmos City	Residential Land Only	20%	
Pennington	Clover Leaf Township	Agricultural 2a Land Only	5%	
	River Falls Township	Residential Land and Structures and Seasonal Residential Recreational Non-Commercial Land and Structures	5%	
	Thief River Falls City	Apartment Land and Structures	10%	
Polk	Erskine City	Residential Land and Structures =/< $65,000 and Seasonal Residential Recreational Non-Commercial Land and Structures =/< $65,000		-10%
	Grove-Park Tilden Township	Residential Land Only (on-water Cable Lake) and Seasonal Residential Recreational Non-Commercial Land Only (on-water Cable Lake)	15%	
	Woodside Township	Residential Land Only (on-water Cable Lake) and Seasonal Residential Recreational Non-Commercial Land Only (on-water Cable Lake)	15%	
Red Lake	Red Lake Falls City	Residential Structures Only =/< $55,000 and Seasonal Residential Recreational Non-Commercial Structures Only =/< $55,000		-15%
Wadena	Thomastown Township	Residential Land Only (on-water) and Seasonal Residential Recreational Non-Commercial Land Only (on water)	10%	

County	Assessment District	Class	Percent Increase	Percent Decrease
Wadena (continued)	Wadena Township	Residential Land Only (off-water) and Seasonal Residential Recreational Non-Commercial Land Only (off water)	10%	
Waseca	Janesville City	Residential Land Only and Seasonal Residential Recreational Non-Commercial Land Only	5%	
Watonwan	Butterfield City	Seasonal Residential Recreational Non-Commercial Structures Only		-20%

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). These certificates 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, 2016, through September 30, 2017. These sales are compared with preliminary values for assessment year 2018, taxes payable 2019. 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, 2018. 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 2017 for $200,000, it would be adjusted to a January 2018 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 (2018 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	Blind/Disabled Homestead	First $50,000	0.45%	N/A
	[classified as 1a or 2a]	$50,000 - $500,000	1.00%	N/A
	[classified as 1a or 2a]	Over $500,000	1.25%	N/A
1c	Ma & Pa 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	Mirgrant Housing	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 $1,900,000	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 (*not including utility machinery*)	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 $139,000	0.75%	N/A
		Over $139,000	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.[5] 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).

$$Sale\ Price\ =\ \beta 1\ *\ Tillable\ Acres\ +\ \beta 2\ *\ Non-Tillable\ Acres$$

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.

[5] 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 2018

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

County	Tillable Value	Non-Tillable Value
Lake of the Woods	800	700
Le Sueur	7,000	2,700
Lincoln	5,400	1,300
Lyon	6,400	1,300
Mcleod	6,000	1,900
Mahnomen	2,600	900
Marshall	2,200	700
Martin	7,900	1,400
Meeker	4,800	1,600
Mille Lacs	2,400	1,100
Morrison	3,000	1,300
Mower	7,000	1,300
Murray	6,400	1,300
Nicollet	8,100	1,900
Nobles	7,800	1,500
Norman	3,400	900
Olmsted	6,500	2,100
Otter Tail	3,100	1,500
Pennington	2,100	900
Pine	1,800	1,100
Pipestone	6,900	2,200
Polk	3,600	900
Pope	4,000	1,600
Ramsey	6,500	2,600
Red Lake	2,200	900
Redwood	7,300	1,600
Renville	7,700	1,300
Rice	6,400	2,700
Rock	9,300	2,200
Roseau	1,000	700
St. Louis	800	800
Scott	7,000	2,700
Sherburne	3,200	1,800
Sibley	7,400	1,800
Stearns	4,600	2,000
Steele	6,500	1,600
Stevens	5,400	1,500
Swift	5,900	1,400
Todd	2,400	1,500
Traverse	5,600	1,300
Wabasha	6,300	2,300

County	Tillable Value	Non-Tillable Value
Wadena	1,600	1,200
Waseca	7,300	1,700
Washington	6,500	2,700
Watonwan	7,900	1,400
Wilkin	3,900	1,100
Winona	6,200	2,300
Wright	6,000	2,400
Yellow Medicine	6,000	1,300

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.

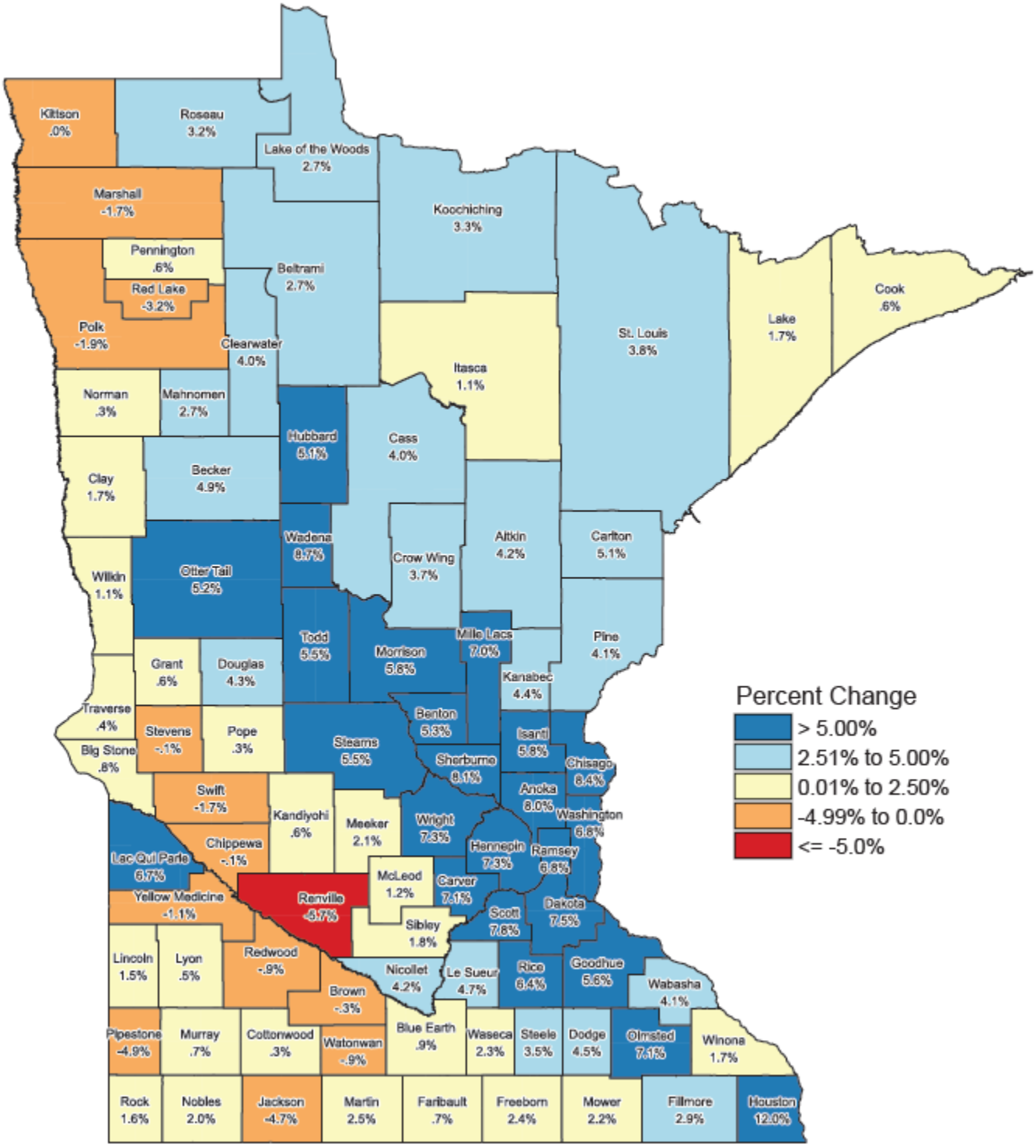
MAP 1 displays the percent change in estimated market value for each county from assessment years 2016 to 2017.

MAP 2 displays the average percentage that new construction composes of estimated market value for each county from assessment years 2016 to 2017.

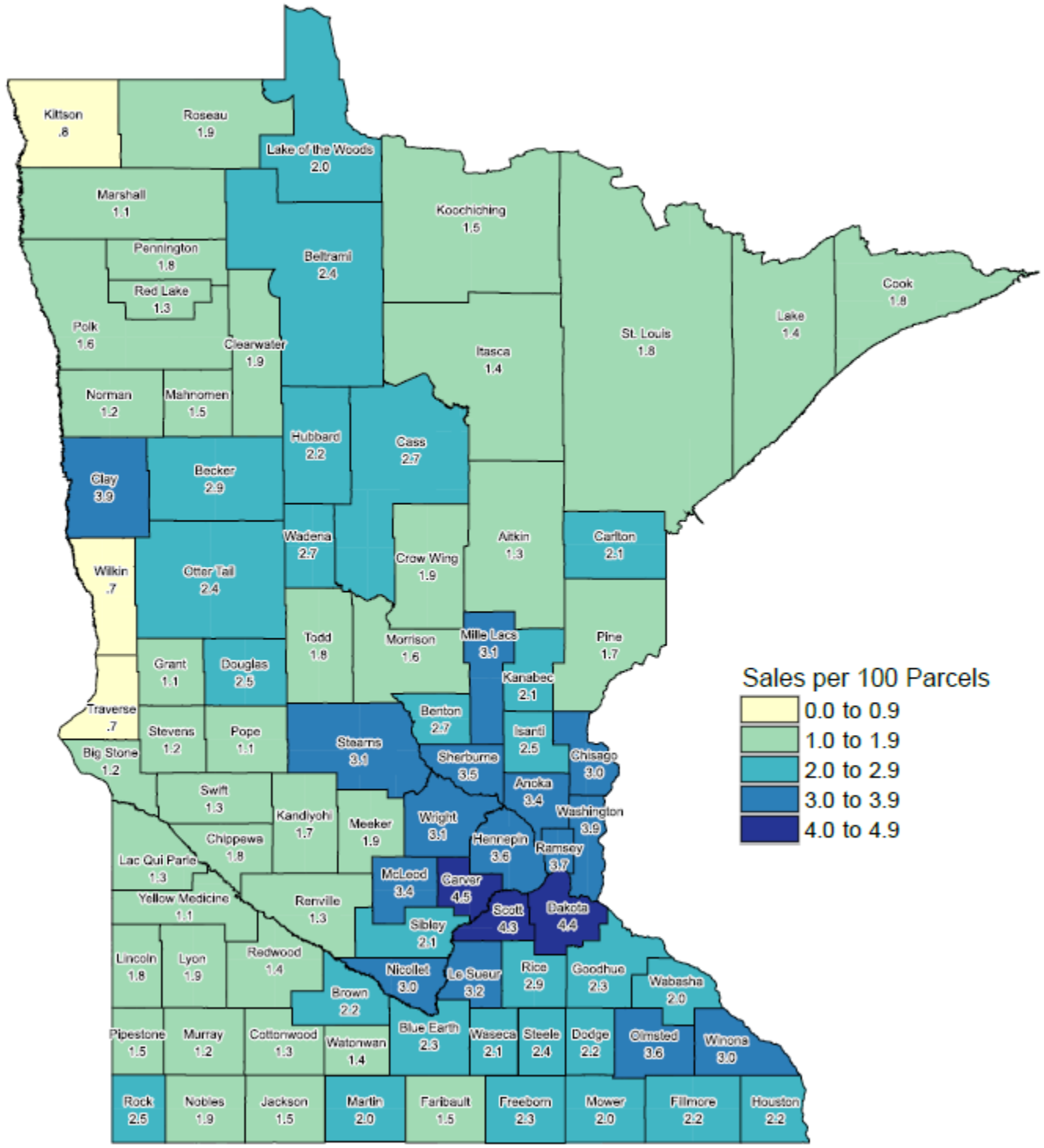
MAP 3 shows taxable tillable Green Acres/Rural Preserve values. Higher taxable values are shown in the southern portion of the state while lower taxable values are shown in the northeastern part of the state.

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.

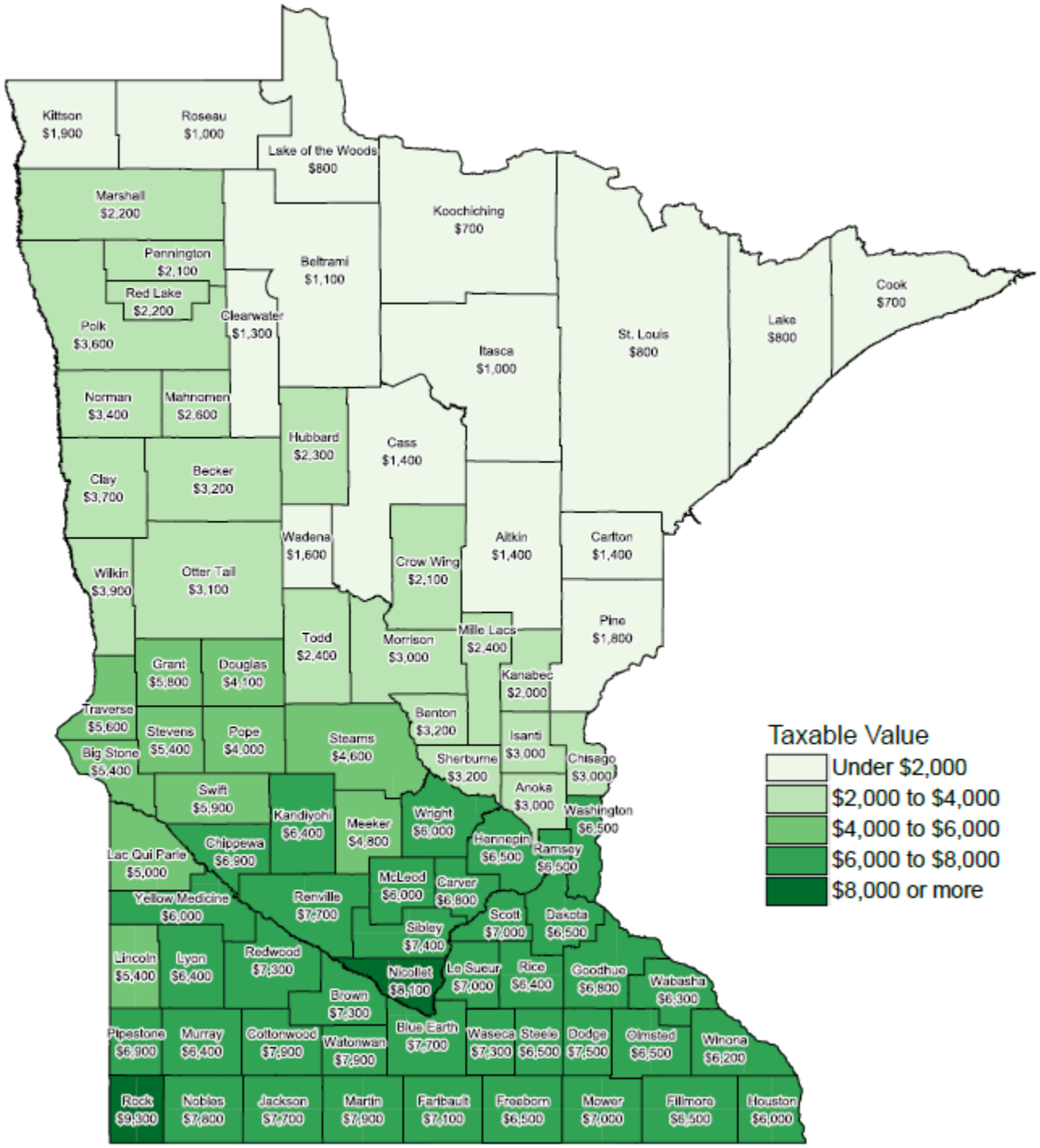
Map 1: Percent Change in Total Estimated Market Value 2017-2018



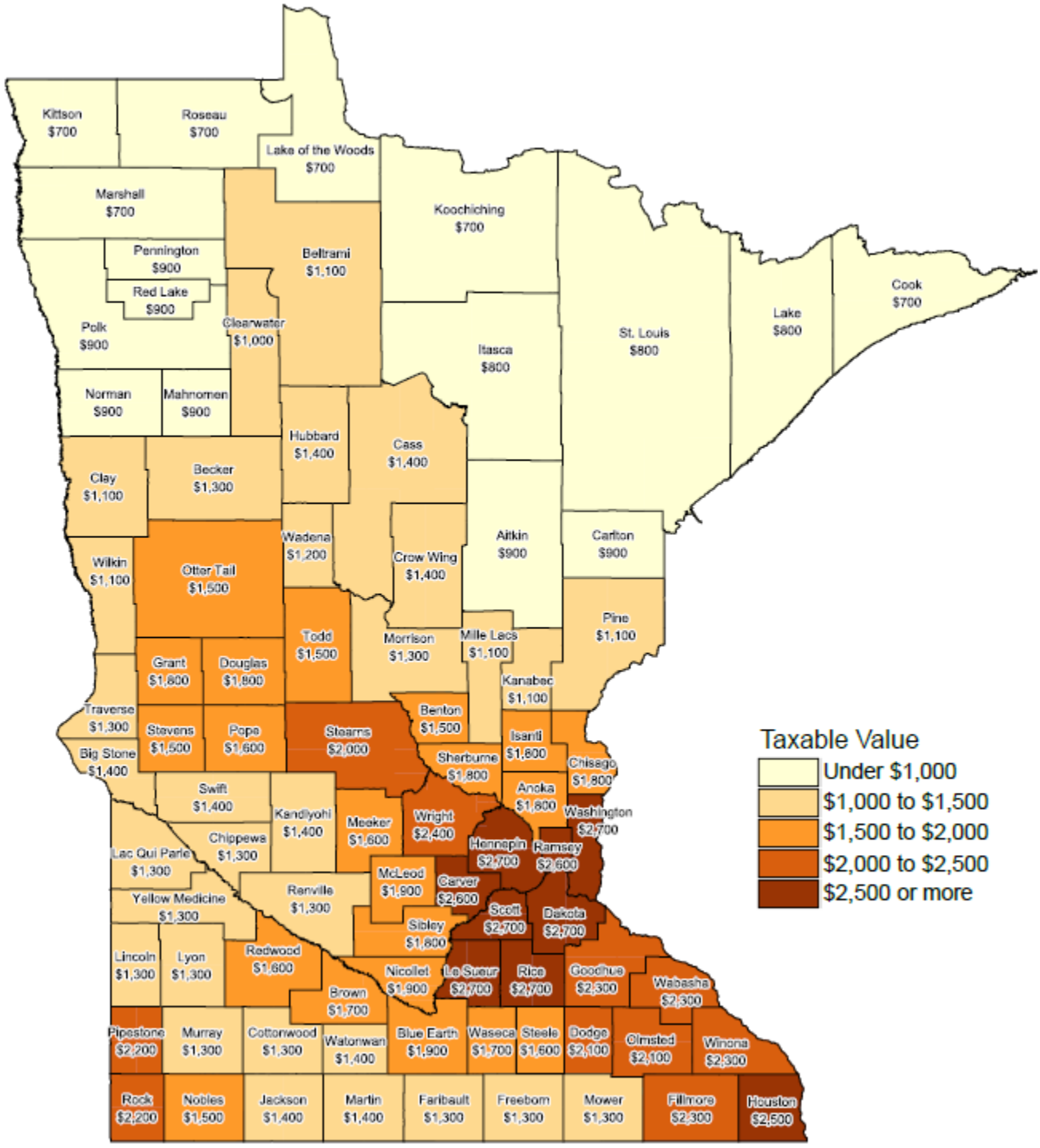
Map 2: Real Property Sales Per 100 Parcels in 2018



Map 3: Taxable Tillable Green Acres/Rural Preserve Value (2018 Assessment)



Map 4: Taxable Non-Tillable Green Acres/Rural Preserve Value (2018 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.

Adjusted Median Ratio = Median Ratio × (1 + 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.

Taxable Market Value × *Classification Rate* = *Net Tax Capacity (NTC)*

Equation 4

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

$100,000 × *1.00%* = *$1,000 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 rations less than 0.5 or greater than 2. This eliminates a few extreme sales that would distort the COD.